



# The effect of packaging on consumer's appraisal

*This research studies the effect the colour of the packaging, the text claim and the logo claim on the packaging have on the appraisal of the consumer towards the Mini Breaks of Kellogg's.*

BSc Thesis, management and consumer studies:  
YSS 81812, Marketing and consumer behaviour  
group.

**Denise Laurentzen, 931216504010**  
**22-6-2015**

*First supervisor: B. Piqueras Fiszman*  
*Second supervisor: E van Kleef*

## Preface

This is a BSc thesis that studies the effect that the different elements of a packaging have on the appraisal of the consumer towards the Mini Breaks of Kellogg's. This thesis was written in the framework of my graduation at the bachelor study, management and consumer studies at the Wageningen University and research centre. I wrote my thesis at the marketing and consumer behaviour group of the university (MCB group).

At the 16<sup>th</sup> of March I started with writing my thesis and now at the 19<sup>th</sup> of June writing this preface is the last thing that I will have to do. Writing the whole thesis has taken me three whole months. Three months who had passed by before I knew it. Together with Frans Verhees, the coordinator of the MCB group, I found the person who would help me in this whole project namely my supervisor Betina Piqueras Fiszman. With her help I have found a topic that I am really interested in, namely the effect a packaging has on the way the consumer sees and thinks about the product. I started with a very broad topic in which I had to determine all the elements for my research. But after a week I came to the conclusion that it was too difficult for me. So with the help of Betina, who had already a complete finished survey for me, I started again. Now I had a topic in which I was interested in but also a topic for which the elements already were determined. So I could get started right away.

Now at the end of this period of three months I have made a complete BSc thesis in which I found an answer to the main question of this study. Of course, I would like to thank Betina for all her help, advice and feedback. If I had a question I could always send her an e-mail and if I did not know how to do something she always gave me some good advice. But she was also a person who let me do a lot of things on my own manner which I also appreciated of her. So thanks for that!

I would also like to thank the respondents who took the time to fill in my survey and also a big shout out to the people who, together with me, have spread the survey among their friends and family. Without their help I would not have the big amount of data which I am having now. So thank you all!

I hope that you all enjoy reading my BSc thesis.

Denise Laurentzen

Huissen, 19 June 2015.

## Abstract

The aim of this research is to study to what extent different forms of claims in combination with different packaging colours have an effect on the appraisal of the consumer towards the Mini Breaks of Kellogg's. Also will be looked at the effect the eating behaviour of the consumer has towards their appraisal of the product. This information is relevant for producers so that they can design a product format in such a way that it brings the most positive appearance towards the consumers. This can increase the sales of the product. The information has also a scientific relevance, because the information of this study can be used to try to change the behaviour of consumers. When you know how to get a special thought in the mind of the consumers with the help of elements of the packaging you can try to change the behaviour of consumers. This information is obtained by answering the following research question: What effect does the packaging have on the appraisal of the consumer towards the Mini Breaks of Kellogg's? In this study is looked at the appraisal based on the packaging and on the eating behaviour towards healthy and naturalness, fullness, losing weight and tastiness, this separation was made based on a factor analysis.

To find the appraisal of the consumer towards these elements, this study uses a survey. In this survey the 85 respondents were asked for their eating behaviour and to score eight different packings on different elements, based on their perception towards the product. These eight different packings are made of different combinations of colour, text claims and logo claims. There are two colours included in this research, namely a white packaging and a brown packaging. Besides that, there are two text claims included, namely the text: "not hungry until the next meal" and: "classic, classic, original recipe". At last there are two logo claims included in this study, namely a clock character and an original character. Because each combination of colour, text and logo is tested in the survey, the data shows the effect the individual elements have on the consumers' appraisal. The packings will be showed to the participants without the brand name and logo of Kellogg's.

With an Anova analysis the mean scores of the packings are compared. This data of this study shows that indeed the packaging has an effect on the appraisal of the consumer. So has the colour of the packaging a big impact on the way the consumer sees the product. A light coloured packaging is perceived significant healthier, more natural and better for you when you want to lose weight than a brown coloured packaging. About the text claim, the consumers think that they feel fuller for a longer time after eating the product which has a text claim about fullness on their packaging. The logo claim has any effect on the appraisal of the consumer towards the Mini Breaks. Besides that, there is not one element of the packaging which has an effect on the appraisal of the consumer towards taste. This can be explained of the fact that this research does not include sensory elements.

But also the eating behaviour of the consumer has an effect on the way they think about the product. Consumers who are not on a diet think more positive about the Mini Breaks. They find the Mini Breaks healthier and more natural than consumers who are on a diet and they also think that the Mini Breaks are better for you when you want to lose weight than the dieters. But the consumers who are on a diet think that the Mini Breaks are tastier than the consumers who are not on a diet.

## Table of contents

1.	Introduction .....	5
1.1	Context .....	5
1.2	Research topic.....	5
1.3	Purpose .....	6
1.4	Research questions .....	6
	Main question .....	6
	Sub questions .....	6
1.5	Definitions .....	7
1.6	Research strategy .....	7
1.7	Outline .....	8
2.	Literature overview .....	9
2.1	The effect of colour of the packaging .....	9
2.2	The effect of claims on the packaging .....	9
2.3	The effect of logo claims on the packaging .....	10
2.4	Best way to present the claim on the packaging.....	10
2.5	Hypothesis .....	11
3.	Justification of the research methods .....	12
3.1	The participants .....	12
3.2	Procedure .....	12
3.3	The questionnaire .....	13
3.4	Data analysis .....	13
4.	Results .....	15
4.1	Background of respondents .....	15
4.2	Significant difference on appraisal depending on the packings .....	15
	Healthy and Naturalness .....	17
	Fullness.....	17
	Lose weight.....	17
	Tasty .....	17
4.3	The eating behaviour of the respondents .....	17
4.4	Significant difference on appraisal depending on the eating behaviour .....	18
	Healthy and naturalness.....	19
	Fullness.....	19
	Lose weight.....	19
	Tasty .....	19
5.	Discussion.....	20
5.1	Relation with the literature.....	20
5.2	Limitations of this study.....	21
5.3	Recommendations .....	21

6. Conclusion.....	22
References.....	23
Appendix .....	26
Appendix 1: the eight packings .....	26
Appendix 2: the questionnaire.....	28
Appendix 3: The SPSS output .....	33
3.1: Anova tables.....	33
3.2: Factor analysis .....	47

# 1. Introduction

This chapter provides an introduction to this research. It deals with the context of this study, the topic of this research, the purpose and goal, the research questions with some definitions and the research strategy in short. At the end there is an outline for this report.

## 1.1 Context

The Packaging of a product is increasingly integral, because it can help sell them. The history of the packaging design is one of increasing sophistication, moving from being functional to being part of the product. The original purpose of a package was to create a protective barrier for the product and protect it in that way to anything in the environment that might pollute or damage it. Nowadays a package is about marketing, identity, instructions, compliance, sales, brand definition, enhancement and management (Brunner, 2007).

The packaging plays an important role on consumers' intention to purchase the product as it is the first thing a consumer notice of the product and therefor it may be the first contact between the consumer and the product (Dantas, Minim, Deliza & Puschmann, 2004). Consumers have to trade health, sensory and other non-sensory factors when they make the choice to buy a certain food product. The non-sensory factors that can have an influence on the choice of the consumer are the brand and price (Ares, Giménez & Deliza, 2010). The choice of the consumer is strongly affected by the brand name and brand logo on the packaging of the food product. Packaging can also be a non-sensory factor that influences the choice of the consumer. The packaging of a product is the last chance for producers to persuade the consumer to buy the product. Besides that, packaging is also a way to communicate information to the consumer. Therefor all the elements of the packaging have to be combined to attract the consumer (Ares, Besio, Giménez & Deliza, 2010).

Nowadays on a lot of food products you can find claims. A claim indicates the sign of an inspection and/or as indication of a certain quality (Nederlandse encyclopedie, 2015). It is a proven statement about the quality of the food product. The food must meet certain requirements in order to bear the claim (voedingscentrum, n.d.). The purpose of claims is to give consumers the possibility of choosing a product according to the best criteria, particularly regarding their health and wellbeing (Carrillo, Varela & Fiszman, 2012). The most known claims are nutrition and health claims. On the website of the European food safety authority it is stated that:

A nutrition claim states or suggests that a food has beneficial nutritional properties, such as "low fat", "no added sugar" and "high in fibre". A health claim is any statement on labels, advertising or other marketing products that health benefits can result from consuming a given food, for instance that a food can help reinforce the body's natural defences or enhance learning ability. (EFSA, 2015)

In Europe there is a law in which the use of claims is secured. Producers are only allowed to use a claim if this claim is on the European list of approved claims. Besides that, claims on food products should always be proved. For health claims there are other rules. They will be judge by the European Food Safety Authority, also called the EFSA. This is because health claims are not that clear as nutrition claims are. These laws are there for all the food products that you can find in shops but also for the foods that people use in restaurants, hospitals, schools and other institutions. The Dutch Food and Consumer Product Safety Authority (NVWA) supervise the claims that producers use for their products in the Netherlands (voedingscentrum, n.d.).

## 1.2 Research topic

This research will study the appraisal of consumers towards the Mini Breaks of Kellogg's, Kellogg's Mini Breaks are crispy multigrain snacks and most people are not very familiar with this product yet. This will be done with different forms of claims on different coloured

packings. In this way this study tries to understand the effect of different claims and different colours on the appraisal of consumers. Also questions about eating behaviour will be asked, so that the participants of the survey can be grouped based on their eating behaviour. What do consumers think about the Mini Breaks of Kellogg's and does that depend on their eating behaviour, on the packaging and what is stated on that. That is what does research wants to find out.

### 1.3 Purpose

The aim of this research is to get insight in the way and to what extent different forms of claims in combination with different packaging colours and the eating behaviour of consumers have an effect of the appraisal of the consumer towards the Mini Breaks of Kellogg's. This study will show if claims, packaging colour and eating behaviour have an effect on consumers and their appraisal and how this combination of claims and the packaging colour should look like.

The practical relevance of this research is that this information is very useful for producers. So that they know what kind of packaging colour in combination with what kind of claim have the most positive effect on the appraisal of the consumer towards the food product, in this case the Mini Breaks of Kellogg's. With this information the producers can design the product format in such a way that it brings the most positive appearance towards the consumers. This can increase the sales of the product because of the positive attitude the consumers have towards the product (Torres-Moreno, Tarrega, Torrescasana & Blanch, in press).

The scientific relevance is that the information of this study can be used to try to change the behaviour of consumers. When you know what the effect of the packaging is on the appraisal of consumers you can use that information to get a special thought in the mind of the consumer about a certain product. This can be thoughts about how full you get of the product or how healthy the product is. When you know how to get that thought in the mind of the consumer with the help of different elements of the packaging, you can try to change the behaviour of consumers. For example that consumers eat less so that they do not get overweight, what a big social problem is at this moment (Dom, 2014), just because there is a claim on the packaging which causes that consumers get a certain perception of that product in their mind.

### 1.4 Research questions

The purpose of this research will be achieved by answering the following main question and sub questions.

#### Main question:

- What effect does the packaging has on the appraisal of the consumer towards the Mini Breaks of Kellogg's?

#### Sub questions:

- What effect does the colour, text claim and logo claim on the packaging have on the appraisal of the consumer towards healthy and naturalness of the Mini Breaks of Kellogg's?
- What effect does the colour, text claim and logo claim on the packaging have on the appraisal of the consumer towards fullness of the Mini Breaks of Kellogg's?
- What effect does the colour, text claim and logo claim on the packaging have on the appraisal of the consumer towards losing weight with the Mini Breaks of Kellogg's?
- What effect does the colour, text claim and logo claim on the packaging have on the appraisal of the consumer towards the tastiness of the Mini Breaks of Kellogg's?
- Does the eating behaviour of the consumers have an effect on their appraisal towards all the elements of the Mini Breaks of Kellogg's?



## 1.5 Definitions

*Packaging:* Packaging means the materials that are used to wrap or protect goods (Oxford University Press, 2015). In this research is meant with packaging, the colour of the wrapping, the text that is stated on the packaging and the character that is on the packaging.

*Appraisal of the consumer:* The appraisal of the consumer aims the act of assessing something or someone, in this case the Mini Breaks (Oxford University Press, 2015). The thoughts the consumer has in their mind about the product. What they think about the product and what their feelings are towards the product.

*Text claim:* With text claim is intended the text that is stated on the packaging. In this research there are two sentences on the packaging of the Mini Breaks included. The first sentence is: “not hungry until the next meal” and the other sentence is: “classic, classic, original recipe”.

*Logo claim:* With logo claim is meant the character that is stated on the packaging. In this research there are two characters on the packaging of the Mini Breaks included. The first character is a clock and the second character is the sign of original.

*Eating behaviour:* With eating behaviour is meant the eating habits of the respondents in the field of (non-)dieting. How they act in, deal with and think about situations that are about eating habits. The consumers will be grouped based on their eating habits in these situations as non-dieters, sometimes-dieters or dieters.

*All the elements:* This term refers to the elements: healthy and naturalness, fullness, losing weight and tastiness. In the results section a factor analysis will explain these elements.

## 1.6 Research strategy

This research is looking for the effect the packaging colour, the claims and the eating behaviour of consumers have on the appraisal the consumer has towards the Mini Breaks of Kellogg's. To study this relationship, a survey is developed.

There are two colours included in this research, namely a white (light) coloured packaging and a brown (dark) coloured packaging. Besides that, there are two text claims included, namely the text: “not hungry until the next meal” and: “classic, classic, original recipe”. At last there are two logo claims included in this study, namely a clock character and an original character. Because of this, a total number of eight different packings combinations are used in the survey. The packings will be showed to the participants without the brand name and logo of Kellogg's on it. So that the brand name and logo can have no influence on the data that is collected in this research.

The participants of the survey have to answer questions about their perception towards the Mini Breaks depending on the packaging. So they have to answer the question: “the packaging shows that the Mini Breaks are...”. In this way the data shows how the consumer thinks about the Mini Breaks depending on different coloured packings with different combinations of claims on it. Because each combination of colour, text and logo is tested in the survey, the data shows the effect the individual element has on the perception of the consumer.

Besides that, questions about the eating behaviour will be asked to the participants. Based on the answers, segmentation will be made. This segmentation will exist of three groups, namely non-dieters, sometimes-dieters and dieters. This segmentation shows if the eating behaviour of the consumers have an effect on their appraisal towards the Mini Breaks.



## 1.7 Outline

In chapter two, already existing literature on the topic of this research will be studied and some hypothesis will be formed. In chapter three, the research methods will be explained and a justification of the research methods that are chosen in this study will be given. In chapter four, the most important results of the research will be given and explained. In chapter five, the value of the results will be given and discussed in relation with the literature that is stated in the literature overview also the research will be reviewed and some recommendations for further research will be given. Finally, in chapter six the conclusions of this research will be given. At the end, the references and the appendix can be found.

## **2. Literature overview**

In this chapter the already existing literature on the topic of this research will be overviewed and studied. Also some hypothesis will be formed based on the literature in this section.

### **2.1 The effect of colour of the packaging**

Colour is considered as one of the most effective tools in advertising (Patil, 2012). In the study of Haller in 2013 is stated that it is the first thing that our brain registers, even before words and/or shapes. With this, colour attracts consumers and it can even shape their perceptions of the product. In this way a brand can create an effective visual identity and a unique position of the brand among their competitors (Labrecque & Milne, 2011). For consumers, colour communicates the quality of the product and has an impact on the product evaluations of the consumer (Gordon, Finlay & Watts, 1994).

Ares and Deliza showed in 2010 that both colour and shape significantly affected the associations the consumers have towards the expected liking and willingness to purchase of desserts. The associations the consumers have regarding the colour of the packaging were mainly related towards the flavour of the product. Besides the expected flavour, the colour also affected the texture expectations of the consumer, regarding the creaminess and softness of the product.

The study of Ares et al. in 2010 shows that the willingness to buy the food product really was influenced by the colour of the packaging and the presence of a picture of the food product, in this study milk dessert. A brown colour of the packaging and a picture of a milk dessert on the packaging showed positive part-worth utilities, what means that they significantly increased the willingness to buy of the consumers.

The two colours that are included in this study are a white (light) colour and a brown (dark) colour. A white colour is a total reflection of all the colours and therefore it can be linked to sincerity. The colour is associated with purity, cleanness, simplicity, hygiene, clarity, peace and happiness. The brown colour is related to seriousness, reliability, support, nature, earthiness, reliability and protection (Labrecque & Milne, 2011). The study of Ampuero and Vila in 2006 shows that products which are directed to the upper classes (products with a high price and based on elegant and refined aesthetics) require a cold, dark coloured packaging, mainly black. In contrast, accessible products (products for the price sensitive consumers) require a light coloured packaging, mainly white.

### **2.2 The effect of claims on the packaging**

A study of Williams in 2005 says that consumers see health claims as useful in general. Consumers prefer short, succinct wording rather than long and complex claims. They also prefer claims which are approved by the government. Consumers view a food product as healthier if it has a health claim on their packaging. The results of the study of Kozup, Creyer, and Burton (2003) also indicates that when favorable nutrition information or health claims are presented on the packaging of the food product, consumers have a more favorable attitude towards that food product, the nutrition attitudes and towards the purchase intentions of that product. Health claims has a high significant effect on the choice of the consumer for functional yoghurts (Ares et al., 2010).

Besides health claim, also other product information can be mentioned on the packaging. The information that is displayed on the packaging of the food product, which can include messages or claims, has a strong influence on the perception of the consumer towards the product. The information could have a clear influence on the expectations of the consumer towards the product (Miraballes, Fiszman, Gámbaro & Varela, 2014).

A study of Kole, Altintzoglou, Schelvis-Smit and Luten (2009) tested the influence of different kinds of product information labels on the product evaluation of the consumer. Information

about the product type, price, freshness and the advantages of fish farming could influence product evaluation. The fish product with a label as wild, highly priced or recently caught was evaluated more favourably than the fish product without a label. Information on the advantages of farming on the packaging had a negative effect on the product evaluation of the consumer. Carrillo, Varela and Fiszman (2012) found in a study that the information on the packaging of a biscuit had a strong influence on perception of the consumer towards the product. This information was clearly observed to have an influence on the expectations of the consumer.

But the study of Garretson and Burton (2000) shows that claims have no effect on the purchase intentions and that they do not affect product evaluations of the consumer. It also shows that there is a weak effect of inclusion of a health claim on consumers' disease risk perceptions. Also the study of Keller et al. in 1997 found that nutrition claims on the front of a packaging did not have a positive effect on the overall product evaluations and on the purchase intentions of the consumer.

### **2.3 The effect of logo claims on the packaging**

Besides the information/text claims there are also a lot of characters/logos who represent a claim. A study of Roberto et al. in 2011 shows that participants of their research who saw a cereal packaging with a SC logo (smart choices label in the United states in 2009) were better able to estimate the calories per serving. But besides that, no more differences on the perceptions of healthfulness, taste, purchase intentions and levels of vitamins and sugar occurred.

Although lower levels of calories or of nutrients were identified with a symbol on the front of the pack (FOP). A study of Emrich, Qi, Cohen, Lou and L'Abbe in 2015 shows that the calorie, saturated fat, sodium and sugar content of products that have a FOP symbol are no better than products without a FOP symbol according to the consumers. This suggests that such symbols are used more as a marketing tool to promote the product and feature more in the interest of selling product than really promoting healthier food choices.

The results of a study about choices logo of Steenhuis et al. (in press) showed that there is no significant difference between the amount the participants consume of the cake with a logo claim on the packaging and the cake without a logo claim on the packaging. Also on the perception of the participants on the tastefulness of the cake there is no significant difference between the logo claim condition and the no logo claim condition. But the respondents perceived the cake with a logo claim on the packaging as significant less unhealthy than the cake without a logo claim.

Fitness cues on a packaging are a common marketing practice. But food products that have a fitness cues on their packaging do not help consumers to become more fit. In fact the claims increased both serving size and the actual food consumption of the participants. The participants also felt less guilty after eating the product and they perceived themselves closer to their desired fitness level after they have consumed the food product (Koenigstrofer, Groeppel-Klein, Kettenbaum & Klicker, 2013).

Carrillo, Fiszman, Lähteenmäki and Varela (2014) found in a study that symbols without words on a packaging produce health associations in the mind of the consumer. Also are symbols on a packaging more important for consumers than verbal phrases. The verbal claims on the packaging have the most effect if they are presented as a benefit for the consumer.

### **2.4 Best way to present the claim on the packaging**

There are different ways to present a claim on the packaging. A study of Van Herpen and Van Trijp (2011) showed that consumers evaluated a nutrition table on a packaging

significant more positive than a MTL label (multiple traffic light label) which in turn was evaluated more positively than a logo claim. This is because consumers trust a nutrition table more and they also see a nutrition table as more understandable, even when the consumers know that a nutrition table is more difficult to use. They also perceive a nutrition table as less paternalistic. So the usage intentions were highest for the nutrition table. But healthy choices were low when these nutrition tables were used, in fact both the logo claim as the MTL label raised the choices of healthy options more. The logo claims works the most efficient, according to this study.

Kelly et al. (2009) found in a study that consumers have a strong support for the inclusion of nutrient information on total fat, saturated fat, sugar and sodium on the front of packages. They also prefer a consistent labelling format for all kind of products. Another founding of this research is that the TL system has the most effect compared to different front-of-pack labelling systems. A TL system means traffic light and uses colour-coding to indicate nutrient levels. There are two versions of a TL system, namely Traffic Light and Traffic Light + Overall Rating. With the TL system participants were five times more likely to identify healthier foods compared two other systems.

Claims have the most effect on the eating behaviour of consumers if the claim is present in such a way that it is easily legible and if it attracts the attention on the packaging (Assema, Glanz, Brug & Kok, 1991). Besides this, claims have more effect on consumers if the claim is short and clear. Because consumers prefer short, succinct wording claims rather than long and complex claims (Williams, 2005). In addition, the location of the information claim on the packaging contributed to the impact of the message, front-of-package is the most effective place to catch the attention of the consumer and therefor the best location for a claim (Carrillo, Varela & Fisman, 2012). A study of Wansink in 2003 shows that a combination of a short health claim on the front of the packaging with a complete health claim on the back of the packaging works best. In this way it leads consumers to more fully process it which increases the credibility of health claims.

## 2.5 Hypothesis

Based on these literature it can be expected that the data of this study will show that the colour has the most influence on the appraisal of the consumer towards the food product and then especially on the element taste. Since colour is the first thing the brain of the consumer notices. Besides that, the hypothesis is that also the text claim will have an effect on the way the consumer thinks about Mini Breaks. Because consumers perceived a product with a claim on it as more healthier, provided that the text claim is presented in a short and clear way on the front of the packaging and that is the case in this study. It can be expected that the logo claim will not have any effect on the appraisal of the consumer towards the Mini Breaks. As consumers do not perceived a food product with a logo claim on it as a better product.

### **3. Justification of the research methods**

In this chapter a justification of the research methods that are chosen in this study will be given. The participants, the procedure, the questionnaire and the design for the analysis will be discussed.

#### **3.1 The participants**

In total 188 respondents started with the survey but only 85 respondents finished the survey. Of these respondents there were 69 women (81%) and 16 men (19%). The average age of the respondents is 28.1 with a standard deviation of 13.83, in a range from 16-71. The average height in centimetres of the respondents is 172.5 with a standard deviation of 8.18 and the average weight in kilograms of the respondents is 69.5 with a standard deviation of 14.32. Based on this, the average BMI of the respondents is 23.56. This means that the respondents in general have a healthy weight.

These respondents were collected by asking people for their e-mail address and sending an e-mail to them and by posting messages on different Facebook pages.

#### **3.2 Procedure**

The data for this study were collected by a survey. In this survey different packings were used to test if the appraisal the consumers have towards a product depends on the packaging. The packings were from the Mini Breaks of Kellogg's because this is not a much known product and that indicates that the consumers do not have an opinion towards that product yet. Also for that reason, the brand name and the brand logo were removed from the packaging, to eliminate the fact that the consumers can have an opinion on forehand towards the brand. But also for the fact that that is it not about the effect a brand name and/or brand logo have on the appraisal of the consumer.

This study it is about the effect the colour, the text claim and the logo claim have on the appraisal of the consumer towards the product (the Mini Breaks). To test this effect the study included two versions of each element. So there are two colours included, namely a white (light) and a brown (dark) colour. Two different text claims, namely the text: "not hungry until the next meal" and: "classic, classic, original recipe". And two logo claims, namely a clock character and the sign of original character. Based on these three elements eight different packings were developed. Each packaging has a unique combination of the three elements that are tested in this study.

The combinations of elements on the packings are (see appendix 1 for the eight different packings):

- Dark colour, clock character and the text claim: not hungry until the next meal.
- Dark colour, clock character and the text: classic, classic, original recipe.
- Dark colour, original character and the text claim: not hungry until the next meal.
- Dark colour, original character and the text: classic, classic, original recipe.
- Light colour, clock character and the text claim: not hungry until the next meal.
- Light colour, clock character and the text: classic, classic, original recipe.
- Light colour, original character and the text claim: not hungry until the next meal.
- Light colour, original character and the text: classic, classic, original recipe.

The respondents had to score their appraisal towards the Mini Breaks for all these eight different packings. Each respondent saw the eight packings in a random order. Because each combination of colour, text claim and logo claim is tested in the survey, the data shows the effect the individual elements have on the appraisal of the consumer towards the product.

Also questions about the eating behaviour of the participants were asked. In this way the participants could be grouped based on their mean score for all the questions that were

about their eating behaviour. The participants were grouped as non-dieters, sometimes-dieters and dieters. This data shows what the relationship is between eating behaviour and the appraisal of the consumer towards the Mini Breaks.

### 3.3 The questionnaire

The survey that was used in this study was an online survey. So that the survey had a wide reach and in this way images could be added in the survey, what was very important for this research because the respondents had to score the different packings (see appendix 2 for the questionnaire).

The survey started with some useful information for the respondents about the procedure of participating in this study. After that, they were asked about their preference for kinds of snacks and how hungry and how full they felt at that moment.

Respondents were asked to score all the eight packings on different elements. These elements were: how many crackers of a bag of Mini Breaks would you eat to satisfy your hungry feelings until the next meal (there are eleven crackers in one bag), what kind of information does the packaging gave about the Mini Breaks, they had to indicate their answer on a scale from 1 to 7, 1 was for totally disagree and 7 for totally agree.

The kinds of information were:

- Making you feel full for a longer time
- Holding your appetite under control
- Holding your calorie intake under control
- Helping you to lose weight.

The participants also had to indicate which appraisal they have towards the Mini Breaks. They had to indicate their answer on a scale from 1 to 9, 1 was for an appraisal and 9 was for the opposite appraisal.

The appraisals were:

- Unhealthy – healthy
- Unnatural – natural
- Light – heavy
- Low-calorie – high-calorie
- Not tasty – tasty
- Not fattening – fattening

After the questions about the appraisal the participants had towards the Mini Breaks there were some general questions about the background of the participants. At the end the respondents were also asked about their eating behaviour, like are you on the lines currently. For the questions about their eating behaviour, respondents could choose between: never, rarely, sometimes, often and very often. The respondents were asked to what extent they deal with it.

### 3.4 Data analysis

To analyse the data, means and standard deviations were calculated. The mean scores for the eight packings on all the elements are compared with each other with help of an Anova analysis (Tukeys test) in SPSS. The analysis shows which packaging differs significant from the other packings and on which element. This analysis will be shown in a table, in which a letter indicates a significant difference (see appendix 3.1 for the SPSS output).

A same Anova analysis (Tukeys test) was done for testing the mean scores of the different segmentation groups of participants on all the elements. The segmentation was done based on the mean score a participant had on all the questions that were about their eating behaviour. Was that mean score between the one and two than the respondent was in the

first group of non-dieters, was the mean score between the two and the three than the respondent was in the second group of sometimes-dieters and was the mean score higher than 3 than the respondent was in the last group of dieters. So the Anova analysis shows which groups differs significant from the other groups and on which element. Also this analysis will be shown in a table, in which a letter indicates a significant difference (see appendix 3.1 for the SPSS output).

At last, a factor analysis (component matrix) was done to see if all the different elements can be grouped into a couple of main factors. The Anova analysis will be discussed based on the factor analysis, so the significant differences among the packings will be discussed based on the main factors that the factor analysis shows (see appendix 3.2 for the SPSS output).



## 4. Results

In this chapter, the most important results, founded in the data which is collected with the survey, will be discussed. The results will be illustrated with tables.

### 4.1 Background of respondents

In total, 85 people filled in the survey completely. The mean score of hungry feelings the respondents had at the moment they filled in the survey is 36.1 (scale from 0 to 100) with a standard deviation of 26.48. The mean score of how full they felt at that moment is 49.7 (scale from 0 to 100) with a standard deviation of 24.21. A correlation analysis shows that there is a quit strong negative relation between hungry feelings and feelings of fullness. The Pearson correlation is -0,690 and is significant ( $p=0,000$ ).

Fruit (27%) and sweet drinks (26%) are the most popular snacks the respondents eat in between the meals. The respondents gave the importance of taste for a snack an average score of 7.4 (scale from 1, totally not important, to 9, very important) with a standard deviation of 1.25. The average score of importance of not getting feelings of hungry after eating a snack is 6.7 (scale from 1, totally not important, to 9, very important) and the standard deviation is 1.98.

A factor analysis shows that there are four mean factors for the elements where the respondents had to score the packings on. Table 2 is showing the factors with their elements from the survey.

*Table 1: factors with their elements*

Factor 1: healthy and naturalness	Elements: healthy, heavy, natural, high-calorie and fattening
Factor 2: fullness	Elements: fuller for a longer time and appetite under control
Factor 3: lose weight	Elements: calorie intake under control and helping you lose weight
Factor 4: tasty	Elements: amount of Mini Breaks that they would eat and tasty

### 4.2 Significant difference on appraisal depending on the packings

Most respondents do not know the Mini Breaks of Kellogg's (93%). The other respondents use the Mini Breaks ones per month or less, standard deviation is 0.258. So, in this case the respondents do not have an opinion towards the Mini Breaks on forehand.

In the next table (table 2) the mean scores of the different packings on the elements are given and compared with an Anova analysis. The letter the table shows indicates when there is a significant difference with one or more of the other packings.

*Table 2: significant difference of the packings.*

The packaging	Amount of Mini Breaks that they would eat	Making you full fuller for a longer time	Holding you appetite under control	Holding you calorie intake under control	Helping you to lose weight	Unhealthy - Healthy	Unnatural - Natural	Light – Heavy	Low- calorie – High-calorie	Not tasty- Tasty	Not-fattening – fattening
Dark, clock & claim	<b>A</b> Mean: 6.2 SD: 3.88	<b>A</b> Mean: 4.9 SD: 1.41	<b>A</b> Mean: 4.6 SD: 1.45	<b>A</b> Mean: 3.6 SD: 1.57	<b>A</b> Mean: 3.1 SD: 1.54	<b>A</b> Mean: 5.9 SD: 1.79	<b>A</b> Mean: 5.7 SD: 1.86	<b>A</b> Mean: 5.3 SD: 2.04	<b>A</b> Mean: 4.6 SD: 1.73	<b>A</b> Mean: 5.1 SD: 1.62	<b>A</b> Mean: 4.8 SD: 1.57
Dark, clock & no claim	<b>A</b> Mean: 6.3 SD: 3.98	<b>B</b> Mean: 4.2 SD: 1.57	<b>A</b> Mean: 4.1 SD: 1.46	<b>A</b> Mean: 3.6 SD: 1.48	<b>A</b> Mean: 3.1 SD: 1.45	<b>A</b> Mean: 5.6 SD: 1.91	<b>A</b> Mean: 5.5 SD: 1.88	<b>A</b> Mean: 5.4 SD: 2.04	<b>A</b> Mean: 5.0 SD: 1.85	<b>A</b> Mean: 5.2 SD: 1.60	<b>A</b> Mean: 5.0 SD: 1.58
Dark, original & claim	<b>A</b> Mean: 6.5 SD: 4.53	<b>A</b> Mean: 4.8 SD: 1.31	<b>A</b> Mean: 4.6 SD: 1.23	<b>A</b> Mean: 3.6 SD: 1.40	<b>A</b> Mean: 2.9 SD: 1.28	<b>A</b> Mean: 5.6 SD: 1.87	<b>A</b> Mean: 5.5 SD: 1.76	<b>A</b> Mean: 5.5 SD: 2.01	<b>A</b> Mean: 5.2 SD: 1.86	<b>A</b> Mean: 5.1 SD: 1.45	<b>A</b> Mean: 5.1 SD: 1.53
Dark, original & no claim	<b>A</b> Mean: 6.5 SD: 4.06	<b>B</b> Mean: 4.2 SD: 1.41	<b>A</b> Mean: 4.0 SD: 1.32	<b>A</b> Mean: 3.5 SD: 1.35	<b>A</b> Mean: 2.9 SD: 1.35	<b>A</b> Mean: 5.8 SD: 1.80	<b>A</b> Mean: 5.8 SD: 1.89	<b>A</b> Mean: 5.1 SD: 1.99	<b>A</b> Mean: 5.0 SD: 1.74	<b>A</b> Mean: 5.4 SD: 1.53	<b>A</b> Mean: 5.1 SD: 1.57
Light, clock & claim	<b>A</b> Mean: 7.0 SD: 4.20	<b>A</b> Mean: 4.7 SD: 1.45	<b>A</b> Mean: 4.6 SD: 1.31	<b>A</b> Mean: 4.0 SD: 1.43	<b>A</b> Mean: 3.5 SD: 1.52	<b>C</b> Mean: 6.4 SD: 1.79	<b>A</b> Mean: 6.2 SD: 1.85	<b>BCDE</b> Mean: 3.6 SD: 1.92	<b>D</b> Mean: 4.2 SD: 1.74	<b>A</b> Mean: 5.4 SD: 1.60	<b>CDE</b> Mean: 4.1 SD: 1.50
Light, clock & no claim	<b>A</b> Mean: 7.0 SD: 4.25	<b>BD</b> Mean: 4.1 SD: 1.57	<b>A</b> Mean: 4.1 SD: 1.41	<b>E</b> Mean: 4.2 SD: 1.45	<b>DE</b> Mean: 3.6 SD: 1.51	<b>CDE</b> Mean: 6.6 SD: 1.64	<b>CD</b> Mean: 6.5 SD: 1.84	<b>BCDE</b> Mean: 3.7 SD: 1.74	<b>CDE</b> Mean: 4.0 SD: 1.72	<b>A</b> Mean: 5.5 SD: 1.62	<b>CDE</b> Mean: 4.1 SD: 1.60
Light, original & claim	<b>A</b> Mean: 7.0 SD: 4.17	<b>A</b> Mean: 4.5 SD: 1.56	<b>A</b> Mean: 4.5 SD: 1.42	<b>E</b> Mean: 4.1 SD: 1.47	<b>DE</b> Mean: 3.7 SD: 1.51	<b>CD</b> Mean: 6.6 SD: 1.69	<b>CD</b> Mean: 6.4 SD: 1.66	<b>BCDE</b> Mean: 3.8 SD: 1.96	<b>CD</b> Mean: 4.2 SD: 1.79	<b>A</b> Mean: 5.7 SD: 1.59	<b>CDE</b> Mean: 4.2 SD: 1.60
Light, original & no claim	<b>A</b> Mean: 7.0 SD: 4.18	<b>BDF</b> Mean: 3.9 SD: 1.39	<b>BD</b> Mean: 3.9 SD: 1.35	<b>A</b> Mean: 4.0 SD: 1.50	<b>A</b> Mean: 3.4 SD: 1.56	<b>CD</b> Mean: 6.6 SD: 1.58	<b>CD</b> Mean: 6.5 SD: 1.67	<b>BCDE</b> Mean: 3.5 SD: 1.67	<b>CDE</b> Mean: 4.0 SD: 1.54	<b>A</b> Mean: 5.4 SD: 1.53	<b>CDE</b> Mean: 4.0 SD: 1.31

Note: mean ≠ letter, significant level according to Tukey's test:  $P < 0.05$ .

A means: No significant difference.

B means: Significant difference with packaging 1 (dark, clock & claim).

C means: Significant difference with packaging 2 (dark, clock & no claim).

D means: Significant difference with packaging 3 (dark, original & claim).

E means: Significant difference with packaging 4 (dark, original & no claim).

F means: Significant difference with packaging 5 (light, clock & claim).

### Healthy and Naturalness

Table 2 shows that the packings with the light colour are perceived significant different from the packings with the dark colour. This is the case for all the elements that are in the factor healthy and naturalness. The packings with a light colour are healthier, lower in calories, not fattening and more natural in the mind of the consumer. Especially for the element light – heavy is the difference between the two colours huge, here all the light packings are perceived lighter and they all differ significant from the dark packings.

### Fullness

The packings with no claim on it all significant differ from packaging one, a packaging with a claim on it, for the element make you feel fuller for a longer time (see table 2). Packings five and eight (both no claim) also differ significant from packaging three (claim). The respondents perceived that a packaging with a claim on it make you feel fuller for a longer time. For the element holding your appetite under control, only packaging eight (no claim) differs significant from packings one and three (both claim). Also for this element, the respondents perceived that packaging eight (no claim) does not hold your appetite under control as much as the packings one and three (both claim) do.

### Lose weight

For both elements of this factor, the only significant difference is between the dark packings three and four and the light packings six and seven. In this case respondents perceived packings six and seven better when you want to lose weight. These packings score higher on holding your calorie-intake under control and helping you to lose weight. The other packings do not significant differ from each other for this factor (see table 2).

### Tasty

For this factor there is not one combination of packings that significant differ from each other. All the packings are perceived the same for both elements of this factor (see table 2).

## 4.3 The eating behaviour of the respondents

27 respondents (32%) were totally not on the lines when they filled in the survey. The rest of the respondents are quite in the middle, average score is 3.1 (scale from 1, totally not on the lines, to 7, very much on the lines) with a standard deviation of 1.79.

Most respondents eat less than usual, because they have become a little heavier, (47%) and 20 respondents (24%) do that often (SD = 1.09). Also most respondents (34%) try to eat less at meals than that they would like, but here there are also respondents who do that never (24%) and rarely (27%)(SD = 1.03). The biggest group respondents refuses to eat or drink sometimes, because they are afraid to become heavier, (27%)(SD = 1.07). But most respondents (35%) do not hold on exactly what they eat (SD = 1.18). Also most respondents (42%) do not deliberately eat products that make them lose weight. But there are also respondents (27%) who do that sometimes (SD = 1.02). Most of the respondents do rarely (31%) or sometimes (28%) eat less the following days when they have eaten too much (SD = 1.11). The biggest group of the respondents eats less sometimes to avoid that they become heavier (33%). The second biggest group does that rarely (27%)(SD = 1.05). 24 respondents (28%) often try to take any snacks because they watch their weight. Besides that there are also respondents who do that sometimes (27%) and rarely (26%)(SD = 1.13). But most respondents (41%) never try not to eat in the evening because they watch their weight (SD = 1.37). And at last, most respondents do sometimes (34%) take their weight into account when they eat, about the same number do that rarely (25%) as often (22%)(SD = 1.09).

#### 4.4 Significant difference on appraisal depending on the eating behaviour

In the next table (table 3) the mean scores of the different dieters groups on all the elements are given and compared with an Anova analysis. The letter the table shows indicates when there is a significant difference with one or more of the other dieters groups.

*Table 3: significant difference of the dieters groups.*

Dieters group	Amount of Mini Breaks that they would eat	Making you full fuller for a longer time	Holding you appetite under control	Holding you calorie intake under control	Helping you to lose weight	Unhealthy - Healthy	Unnatural - Natural	Light – Heavy	Low-calorie – High-calorie	Not tasty - Tasty	Not fattening – fattening
Group 1: non-dieters	<b>A</b> Mean: 7.3 SD: 5.08	<b>A</b> Mean: 4.4 SD: 1.70	<b>A</b> Mean: 4.3 SD: 1.49	<b>A</b> Mean: 4.0 SD: 1.76	<b>A</b> Mean: 3.6 SD: 1.69	<b>A</b> Mean: 6.5 SD: 1.73	<b>A</b> Mean: 6.5 SD: 1.71	<b>A</b> Mean: 4.4 SD: 2.26	<b>A</b> Mean: 4.2 SD: 1.88	<b>A</b> Mean: 5.2 SD: 1.72	<b>A</b> Mean: 4.1 SD: 1.60
Group 2: sometimes-dieters	<b>A</b> Mean: 6.5 SD: 3.31	<b>A</b> Mean: 4.5 SD: 1.40	<b>A</b> Mean: 4.4 SD: 1.33	<b>A</b> Mean: 3.8 SD: 1.29	<b>B</b> Mean: 3.2 SD: 1.35	<b>A</b> Mean: 6.3 SD: 1.59	<b>A</b> Mean: 6.1 SD: 1.64	<b>A</b> Mean: 4.4 SD: 2.00	<b>A</b> Mean: 4.5 SD: 1.71	<b>A</b> Mean: 5.3 SD: 1.53	<b>A</b> Mean: 4.4 SD: 1.56
Group 3: dieters	<b>B</b> Mean: 6.1 SD: 4.13	<b>A</b> Mean: 4.3 SD: 1.41	<b>C</b> Mean: 4.1 SD: 1.35	<b>A</b> Mean: 3.7 SD: 1.40	<b>B</b> Mean: 3.1 SD: 1.43	<b>BC</b> Mean: 5.6 SD: 1.98	<b>BC</b> Mean: 5.4 SD: 2.01	<b>A</b> Mean: 4.7 SD: 1.99	<b>B</b> Mean: 4.8 SD: 1.78	<b>B</b> Mean: 5.5 SD: 1.47	<b>BC</b> Mean: 5.1 SD: 1.49

*Note: mean ≠ letter, significant level according to Tukey's test:  $P < 0.05$ .*

*A means: No significant difference.*

*B means: Significant difference with group 1 (non-dieters).*

*C means: Significant difference with group 2 (sometimes-dieters).*

### Healthy and naturalness

Table 3 shows that there is a significant difference between group three and the other two groups for most elements in this factor. The dieters group perceived the Mini Breaks as less healthy and less natural but also as higher in calories and as more fattening than the non-dieters and the sometimes-dieters. Except for the element light-heavy, for this element there is not a significant difference on the appraisal of the groups towards the Mini Breaks.

### Fullness

For this factor table 3 do not shows a big significant difference between the three groups. The only significant difference is in the element: holding your appetite under control, where group three significant differs from group two. The sometimes-dieters think that the Mini Breaks hold your appetite more under control than the dieters. For the other element there is not a significant difference between the groups.

### Lose weight

Also for this factor there is not a big significant difference between the groups. Only for the element: helping you to lose weight, group two and group three differ significant from group one. The non-dieters are much more positive about that the Mini Breaks help you to lose weight than the sometimes-dieters and dieters are. For the other element there is not a significant difference between the three groups (see table 3).

### Tasty

In this factor, group three do significant differ with group one for both the elements. The non-dieters would eat more Mini Breaks than the dieters would eat but the dieters perceived the Mini Breaks as tastier than the non-dieters. The sometimes-dieters are in the middle and show only a significant difference with group 3 for the element taste (see table 3).

## 5. Discussion

In this chapter the results of this study will be compared with previous studies that are in the literature overview. Also some weak points of the research methods and results will be discussed and requirements for following up studies will be given.

This study tried to find the effect the packaging of the Mini Breaks of Kellogg's has on the appraisal the consumer have towards this product. And indeed, the results show that the packaging has an effect on the appraisal of the consumer towards the Mini Breaks. Especially the colour has a huge impact on the way the consumer sees the product.

### 5.1 Relation with the literature

Some outcomes of this study are in line with the literature that is discussed in section two but there are also outcomes that are complete the opposite of the literature. Colour has the most impact on the appraisal of the consumer towards the Mini Breaks. This is because colour is the first thing the brain of the consumer notice of the packaging (Haller, 2013). The colour attracts the consumer and shapes the appraisal of the consumer (Labrecque & Milne, 2011). Therefore colour is the best advertising tool of the packaging (Patil, 2012). The claim on the packaging has some effect on the appraisal of the consumer towards the Mini Breaks. This is just in the middle of the literature, wherein is stated that claims also do have (Williams, 2015) (Kozup et al., 2003) (Ares et al., 2010) (Miraballes et al., 2014) (Kole et al., 2009) (Carrillo et al., 2012) as do not have (Garretson & Burton, 2000) (Keller et al., 1997) an effect on the consumer. The logo claim does have any effect on the appraisal of the consumer towards the Mini Breaks, just as it is stated in the literature (Roberto et al., 2011) (Emrich et al., 2015) (Steenhuis et al., in press) (Koenigstrofer et al., 2013).

But in the literature is stated that colour has the most effect on the associations the consumer has towards the flavour of the product (Ares & Deliza, 2010). This study shows in fact that the packaging in total has any effect on the appraisal towards taste. This can be because this study did included and not focus on sensory perceptions. In this study colour has the most effect on the appraisal of the consumer towards healthiness and naturalness of the product. The packaging with the light colour is perceived healthier and more natural than the one with the dark packaging. In the literature is stated as reason for that, that a light colour is more suited for an accessible product and the Mini Breaks are in fact an accessible product (Ampuero & Vila, 2006). Also associate the consumer a light colour with purity, what is related to healthy and naturalness. In that same article is stated that the consumer associates a brown packaging with nature (Labrecque & Milne, 2011), but in this study this does not hold on for the results. The consumer perceived the packaging with the dark brown colour as less healthy and less natural.

Also stated in the literature is that consumers perceived a product as more healthy if it has a health claim on the packaging (Williams, 2005). The results of this study do not show that. It can be that the consumers did not perceive the claim as a health claim. But the claim has an effect on the appraisal of the consumer towards the product. Especially towards the appraisal of fullness. The consumers really think that the product which has the claim on it make you feel full for a longer time. The claim just mentions that sentence and it is showed on the front of the packaging. So the claim should be short, clear and should be on the front of the packaging will it have an effect on the appraisal of the consumer, just as stated in the literature (Assema et al., 1991) (Williams, 2005) (Carrillo et al., 2012). But the literature that show that claims do not have an effect, do not match the results of this study (Garretson & Burton, 2000) (Keller et al., 1997).

For the logo claim the results of previous studies that are done (Roberto et al., 2011) (Emrich et al., 2015) (Steenhuis et al., in press) (Koenigstrofer et al., 2013) and the results of this study are the same. A logo claim has any effect on the appraisal of the consumer towards the food product. Consumers do not perceived the Mini Breaks as better on all the elements

if it has a logo claim on the packaging. This can be that they did not understand the logo claim or maybe they did not notice the logo claim at all. So the difference between the clock character and the original character do not hold on for the consumer and their appraisal.

## **5.2 Limitations of this study**

A limitation of this research is that the respondents who participated in this study saw all the packings, even in a random order, so it can be that they give a socially desirable answer. That in fact they noticed the difference on all the packings and that they gave the answer that they thought this study was looking for. But it is also possible that they did not notice any difference among all the packings at all and that they therefor gave for each question the same answer. Also possible is that the participants got a bit tired of all the packings that they saw with each time the same questions and that they did not fill in the questionnaire seriously and because of that they gave each time the same answer.

Of course it is also possible that the participants of this study have all their own response style. So it might be possible that someone always gives the highest or lowest score and some other person gives always a score in the middle. Every respondent has their own interpretation of the questions and the scores and the answers they could give. But with an amount of 85 respondents in this study this effect of differences in response style should not have a big impact on the data and on the conclusion.

But the conclusion is based on the answers of 85 respondents and the differences that are noticed in the data are significantly tested. So this indicates that the results are justified.

## **5.3 Recommendations**

Through this study, more ideas for following up studies arise. It is possible to repeat this study with other colours, text claims and logo claims to see if the results are the same or just completely different. If another colour, text claim or logo claim have an effect on the appraisal of the consumer towards the product on a different element. A lot of different combinations of these three elements can be made.

Also is it a good idea to include the sensory perceptions of the product, to see if that makes any differences in the appraisal the consumer have towards the product. Separate the consumers in groups and let the consumers taste, smell, see and feel the product in real-life, but each group sees a different packaging. Maybe than the colour of the packaging do have an effect on the appraisal towards the flavour of the product.

More study can be done towards the relation between the eating behaviour of the consumer and their appraisal towards the product and then especially the relation between the eating behaviour and the packaging. Does the dieters group perceived the colour in a different way than consumers who are not on a diet. Also can be looked for a reason why there is a difference between the appraisal towards the Mini Breaks of the three groups. That is something this research does not include, so for following up research this can a good idea.



## 6. Conclusion

In this section the most important links between the results will be given and conclusions that can be found in the data will be discussed. Also an answer on the main question will be provided.

The data of this study shows that the packaging does have an effect on the appraisal the consumer have towards the Mini Breaks of Kellogg's. Especially the colour of the packaging has a huge impact on how the respondents think about the Mini Breaks. The packaging with the light white colour is perceived significant healthier and more natural than the packaging with the dark brown colour. The consumers also think that the packaging with the light white colour is better for consumption when you want to lose weight than they think about the packaging with the dark brown colour. The text claim and the logo claim have no effect on the appraisal of the consumer for both these elements. But the consumers do think that they feel fuller for a longer time after eating the Mini Breaks that have a text claim about fullness on their packaging. For this element the colour and the logo claim have no effect on the appraisal of the consumer. For the opinion of the consumer towards the taste of the Mini Breaks the packaging makes totally not any differences. The colour, text claim and the logo claim do not show any significant difference for this element.

But besides the packaging, the eating behaviour of the consumers has also an effect on their appraisal towards the Mini Breaks. Consumers who are not on a diet think more positive about the Mini Breaks. They find the Mini Breaks healthier and more natural than consumers who are on a diet and they also think that the Mini Breaks are better for you when you want to lose weight than the dieters. But the consumers who are on a diet think that the Mini Breaks are tastier than the consumers who are not on a diet. For the appraisal towards fullness, the eating behaviour of the consumers makes no difference.

So, as main conclusion can be concluded that the packaging of the Mini Breaks of Kellogg's has an effect on the appraisal of the consumer towards this product. The colour makes that consumers think that the product is healthier, more natural and better for you when you want to lose weight and the text claim on fullness makes that consumers think that they feel fuller for a longer time after eating this product.

## References

- Ampuero, O., & Vila, N. (2006). Consumer perceptions of product packaging. *Journal of Consumer Marketing*, 23(2), 102-114.
- Ares, G., Besio, M., Giménez, A., & Deliza, R. (2010). Relationship between involvement and functional milk desserts intention to purchase. Influence on attitude towards packaging characteristics. *Appetite*, 55, 298-304.
- Ares, G., & Deliza, R. (2010). Studying the influence of package shape and colour on consumer expectations of milk desserts using word association and conjoint analysis. *Food Quality and Preference*, 21, 930-937.
- Ares, G., Giménez, A., & Deliza, R. (2010). Influence of three non-sensory factors on consumer choice of functional yogurts over regular ones. *Food Quality and Preference*, 21(4), 361-367.
- Assema, P. van., Glanz, K., Brug, J., & Kok, G. (1991). Effects of health claims on eating habits of the Dutch population. *The European Journal of Public Health*, 6(4), 281-287.
- Brunner, L. (2007). Consuming Desires. Retrieved from <http://www.graphicrepro.co.za/assets/2/pdf/37-FMCG.PDF>
- Carrillo, E., Fiszman, S., Lähteenmäki, L., & Varela, P. (2014). Consumers' perception of symbols and health claims as health-related label messages. A cross-cultural study. *Food Research International*, 62, 653-661.
- Carrillo, E., Varela, P., & Fiszman, S. (2012). Packaging information as a modulator of consumers' perception of enriched and reduced-calorie biscuits in tasting and non-tasting tests. *Food Quality and Preference*, 25(2), 105-115.
- Dantas, M. I. S., Minim, V. P. R., Deliza, R., & Puschmann, R. (2004). The Effect of Packaging on the Perception of Minimally Processed Products. *Journal of international food & agribusiness marketing*, 16(2), 71-83.
- Dom, J. (2014, January 03). Wereldwijd steeds meer overgewicht. Retrieved from <http://www.nu.nl/gezondheid/3666894/wereldwijd-steeds-meer-overgewicht.html>
- EFSA, Nutrition and health claims. (2015, February 09). Retrieved from <http://www.efsa.europa.eu/en/topics/topic/nutrition.htm>
- Emrich, T., Qi, Y., Cohen, J., Lou, W., & L'Abbe, M. (2015). Front-of-pack symbols are not a reliable indicator of products with healthier nutrient profiles. *Appetite*, 84, 148-153.
- Garretson, A.J., & Burton, S. (2000). Effects of Nutrition Facts Panel Values, Nutrition Claims, and Health Claims on Consumer Attitudes, Perceptions of Disease-Related Risks, and Trust. *Journal of Public Policy & Marketing*, 19(2), 213-227.
- Gordon, A., Finley, K., & Watts, T. (1994). The psychological effects of colour in consumer product packaging. *Canadian Journal of Marketing Research*, 13, 3-11.
- Haller, K. (2013, March 29). Business branding... does colour really matter? [Blog post]. Retrieved from <http://karenhaller.co.uk/blog/business-branding-does-colour-really-matter/>

Van Herpen, E., & Van Trijp, H. (2011). Front-of-pack nutrition labels. Their effect on attention and choices when consumers have varying goals and time constraints. *Appetite*, 57, 148-160.

Kelly, B., Hughes, C., Chapman, K., Chun-Yu Louie, J., Dixon, H., Crawford, J., Slevin, T. (2009). Consumer testing of the acceptability and effectiveness of front-of-pack food labelling systems for the Australian grocery market. *Health Promotion International*, 24(2), 120-129.

Keller, B.S., Landry, M., Olson, J., Velliquette, M.A., Burton, S., & Craig Craig, J. (1997). The Effects of Nutrition Package Claims, Nutrition Facts Panels, and Motivation to Process Nutrition Information on Consumer Product Evaluations. *Journal of Public Policy & Marketing*, 16(2), 256-269.

Koenigstorfer, J., Groeppel-Klein, A., Kettenbaum, M., & Klicker, K. (2013). Eat fit. Get big? How fitness cues influence food consumption volumes. *Appetite*, 65, 165-169.

Kole, A. P. W., Altintzoglou, T., Schelvis-Smit, R. A. A. M., & Luten, J. B. (2009). The effects of different types of product information on the consumer product evaluation for fresh cod in real life settings. *Food Quality and Preference*, 20(3), 187-194.

Kozup, C.J., Creyer, H.E., & Burton, S. (2003). Making Healthful Food Choices: The Influence of Health Claims and Nutrition Information on Consumers' Evaluations of Packaged Food Products and Restaurant Menu Items. *Journal of Marketing*, 67(2), 19-34.

Labrecque, L., & Milne, G. (2011). Exciting red and competent blue: the importance of colour. *Academy of Marketing Science*, 40, 711-727.

Miraballes, M., Fiszman, S., Gámbaro, A., & Varela, P. (2014). Consumer perceptions of satiating and meal replacement bars, built up from cues in packaging information, health claims and nutritional claims. *Food Research International*, 64, 456-464.

Nederlandse encyclopedie. (2015). Retrieved from <http://www.encyclo.nl/begrip/keurmerk>

Oxford University Press (2015). Oxford Dictionaries language matters. Retrieved from <http://www.oxforddictionaries.com/definition/english/appraisal>

Oxford University Press (2015). Oxford Dictionaries language matters. Retrieved from <http://www.oxforddictionaries.com/definition/english/packaging>

Patil, D. (2012). Colouring consumer's psychology using different shades the role of perception of colours by consumers in consumer decision making process: a micro study of select departmental stores in Mumbai city, India. *Journal of Business and Retail Management Research*, 7(1), 60-73.

Roberto, C., Shivaram, M., Martinez, O., Boles, C., Harris, J., & Brownell, K. (2012). The Smart Choices front-of-package nutrition label. Influence on perceptions and intake of cereal. *Appetite*, 58, 651-657.

Steenhuis, I. H. M., Kroeze, W., Vyth, E. L., Valk, S., Verbauwen, R., & Seidell, J. C. (in press). The effects of using a nutrition logo on consumption and product evaluation of a sweet pastry. *Appetite*, 1-5.

Torres-Moreno, M., Tarrega, A., Torrecasana, E., & Blanch, C. (in press). Influence of label information on dark chocolate acceptability. *Appetite*, 1-7.

Voedingscentrum. (n.d.). Voedingscentrum, encyclopedie. Retrieved from <http://www.voedingscentrum.nl/encyclopedie/claims.aspx>

Wansink, B. (2003). How Do Front and Back Package Labels Influence Beliefs About Health Claims? *Journal of Consumer Affairs*, 37(2), 305-316.

Williams, P. (2005). Consumer Understanding and Use of Health Claims for Foods. *Nutrition Reviews*, 63(7), 256-264.

## Appendix

### Appendix 1: the eight packings







## Appendix 2: the questionnaire

Fijn dat u mee wilt doen aan dit onderzoek voor mijn bachelor scriptie! Deze vragenlijst maakt deel uit van een project over eetgedrag en verzadiging. Het invullen van de vragenlijst zal ongeveer 10 tot 15 minuten duren. We verloten een Hema cadeau kaart onder de deelnemers. Er zijn geen goede of foute antwoorden, wilt u invullen wat als eerste bij u opkomt? Als deelnemer aan dit onderzoek blijft u geheel anoniem. Er zijn geen risico's of voordelen verbonden aan het invullen van de vragenlijst. U kunt op ieder moment beslissen om te stoppen met invullen. Voor eventuele vragen kunt u contact opnemen met Denise Laurentzen (denise.laurentzen@wur.nl). Door op 'ja' te klikken geeft u aan dat u bovenstaande hebt gelezen en ermee instemt;

☐ ja, ik doe mee aan dit onderzoek

Neemt u regelmatig een tussendoortje naast de maaltijden? Zo ja, wat eet en drinkt u dan zoal? Meerdere antwoorden zijn mogelijk.

- ☐ nee, ik neem geen tussendoortjes naast de maaltijden
- ☐ fruit
- ☐ hartige snacks (zoals chips, cheese)
- ☐ zoete snacks (zoals koeken, chocolade, repen)
- ☐ dranken (zoals frisdrank, smoothies, vruchtensap)
- ☐ zuivelproducten (zoals yoghurt drank, milkshake)
- ☐ anders, namelijk.....

Hoe hongerig voelt u zich op dit moment?

\_\_\_\_\_.

Hoe vol voelt u zich op dit moment?

\_\_\_\_\_.

Hier ziet u een Mini Breaks cracker (op ware grootte). Op de volgende pagina's volgen vragen over mogelijk geschikte verpakkingen van deze cracker. Uw mening over de acht verschillende verpakkingen die u te zien krijgt, geeft nuttige informatie aan de productontwikkelaars.



Hier ziet u een zakje Mini Breaks. Er zitten ongeveer 11 crackers in een zakje. Bekijk deze foto (op ware grootte) en geef hieronder uw mening.

Hoeveel van deze crackers van deze verpakking zou u eten om uw honger te stillen tot de volgende maaltijd?



Als u naar het pak crackers kijkt, in welke mate brengt deze verpakking dan de volgende aspecten over?

	Zeer mee oneens	-	-	-	-	-	Zeer mee eens
maken dat je je langer vol voelt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
je trek onder controle houden	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
je calorie inname onder controle houden	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
helpen je gewicht te verliezen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Beantwoord de volgende vragen over wat de verpakking overbrengt over de crackers in het zakje. De verpakking maakt duidelijk dat deze crackers zijn.....

	1	2	3	4	5	6	7	8	9
Ongezonder : gezonder	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Onnatuurlijk : natuurlijk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Licht : zwaar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
calorie-arm : calorie-rijk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
niet lekker : lekker	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
niet dikmakend : dikmakend	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Wat is uw geslacht?

- ☐ Man  
☐ Vrouw

Wat is uw lengte in centimeters?

\_\_\_\_\_ Lengte

Wat is uw leeftijd in jaren?

\_\_\_\_\_ Leeftijd

Hoe belangrijk is smaak voor u als u een tussendoortje wilt eten?

	1	2	3	4	5	6	7	8	9
Helemaal niet belangrijk : Heel erg belangrijk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Hoe belangrijk vindt u dat een tussendoortje voorkomt dat u snel weer gevoelens van honger krijgt?

	1	2	3	4	5	6	7	8	9
Helemaal niet belangrijk : Heel erg belangrijk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Hoe vaak eet u Mini Breaks crackers?

- ☐ nooit, ik ben niet bekend met deze crackers
- ☐ ongeveer 1 keer per maand of minder
- ☐ ongeveer 2-3 keer per maand
- ☐ ongeveer 1 keer per week
- ☐ ongeveer 2-3 keer per week of vaker

Wat is uw gewicht in kilo's?

\_\_\_\_\_ Gewicht

Bent u op dit moment aan het lijnen?

	1	2	3	4	5	6	7
Helemaal niet : Heel erg	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

De volgende vragen gaan over voedingsgedrag. In hoeverre bent u het met de volgende stellingen eens?

	nooit	zelden	soms	vaak	heel vaak
Wanneer u iets zwaarder bent geworden, eet u dan minder dan gewoonlijk?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Probeert u minder te eten tijdens maaltijden dan dat u eigenlijk zou willen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hoe vaak weigert u eten of drinken omdat u bang bent dat u zwaarder wordt?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Houdt u exact bij wat u eet?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eet u opzettelijk producten waarvan u afvalt?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wanneer u teveel hebt gegeten, eet u dan de daarop volgende dagen minder?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eet u opzettelijk minder om te voorkomen dat u zwaarder wordt?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hoe vaak probeert u geen tussendoortjes te nemen omdat u op uw gewicht let?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hoe vaak probeert u 's avonds niet te eten omdat u op uw gewicht let?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Houdt u rekening met uw gewicht wanneer u eet?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Aan Wageningen Universiteit worden vaker studies verricht waarvoor wij op zoek zijn naar deelnemers. Mogen wij u hiervoor af en toe (maximaal 1 keer per maand) benaderen per e-mail? Zo ja, geef hieronder uw e-mailadres op (niet-wur adres is ook ok):

Als u mee wilt doen aan de verloting van de Hema cadeaukaart, geef dan hier uw e-mailadres op:

Hartelijk dank voor u deelname aan het onderzoek! Wij waarderen dit zeer. Klik op het pijltje naar rechts om de vragenlijst in te sturen.

## Appendix 3: The SPSS output

### 3.1: Anova tables

#### Multiple Comparisons

Dependent Variable: Hoeveel van deze crackers van deze verpakking zou u eten om uw honger te stillen tot de...

Tukey HSD

(I) packaging	(J) packaging	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	-,094	,640	1,000	-2,04	1,85
	3,00	-,247	,640	1,000	-2,19	1,70
	4,00	-,388	,640	,999	-2,33	1,56
	5,00	-,812	,640	,910	-2,76	1,13
	6,00	-,753	,640	,938	-2,70	1,19
	7,00	-,741	,640	,943	-2,69	1,20
	8,00	-,718	,640	,952	-2,66	1,23
2,00	1,00	,094	,640	1,000	-1,85	2,04
	3,00	-,153	,640	1,000	-2,10	1,79
	4,00	-,294	,640	1,000	-2,24	1,65
	5,00	-,718	,640	,952	-2,66	1,23
	6,00	-,659	,640	,970	-2,60	1,29
	7,00	-,647	,640	,973	-2,59	1,30
	8,00	-,624	,640	,978	-2,57	1,32
3,00	1,00	,247	,640	1,000	-1,70	2,19
	2,00	,153	,640	1,000	-1,79	2,10
	4,00	-,141	,640	1,000	-2,09	1,80
	5,00	-,565	,640	,988	-2,51	1,38
	6,00	-,506	,640	,994	-2,45	1,44
	7,00	-,494	,640	,994	-2,44	1,45
	8,00	-,471	,640	,996	-2,42	1,47
4,00	1,00	,388	,640	,999	-1,56	2,33
	2,00	,294	,640	1,000	-1,65	2,24
	3,00	,141	,640	1,000	-1,80	2,09
	5,00	-,424	,640	,998	-2,37	1,52
	6,00	-,365	,640	,999	-2,31	1,58
	7,00	-,353	,640	,999	-2,30	1,59
	8,00	-,329	,640	1,000	-2,27	1,62
5,00	1,00	,812	,640	,910	-1,13	2,76
	2,00	,718	,640	,952	-1,23	2,66
	3,00	,565	,640	,988	-1,38	2,51
	4,00	,424	,640	,998	-1,52	2,37
	6,00	,059	,640	1,000	-1,89	2,00
	7,00	,071	,640	1,000	-1,87	2,02
	8,00	,094	,640	1,000	-1,85	2,04
6,00	1,00	,753	,640	,938	-1,19	2,70
	2,00	,659	,640	,970	-1,29	2,60
	3,00	,506	,640	,994	-1,44	2,45
	4,00	,365	,640	,999	-1,58	2,31
	5,00	-,059	,640	1,000	-2,00	1,89
	7,00	,012	,640	1,000	-1,93	1,96
	8,00	,035	,640	1,000	-1,91	1,98
7,00	1,00	,741	,640	,943	-1,20	2,69
	2,00	,647	,640	,973	-1,30	2,59
	3,00	,494	,640	,994	-1,45	2,44
	4,00	,353	,640	,999	-1,59	2,30
	5,00	-,071	,640	1,000	-2,02	1,87
	6,00	-,012	,640	1,000	-1,96	1,93
	8,00	,024	,640	1,000	-1,92	1,97
8,00	1,00	,718	,640	,952	-1,23	2,66
	2,00	,624	,640	,978	-1,32	2,57
	3,00	,471	,640	,996	-1,47	2,42
	4,00	,329	,640	1,000	-1,62	2,27
	5,00	-,094	,640	1,000	-2,04	1,85
	6,00	-,035	,640	1,000	-1,98	1,91
	7,00	-,024	,640	1,000	-1,97	1,92

### Multiple Comparisons

Dependent Variable: feelfullforalongtime

Tukey HSD

(I) packaging	(J) packaging	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	,70588*	,22429	,036	,0239	1,3878
	3,00	,08235	,22429	1,000	-,5996	,7643
	4,00	,69412*	,22429	,043	,0122	1,3761
	5,00	,25882	,22429	,944	-,4231	,9408
	6,00	,81176*	,22429	,008	,1298	1,4937
	7,00	,41176	,22429	,596	-,2702	1,0937
	8,00	1,01176*	,22429	,000	,3298	1,6937
2,00	1,00	-,70588*	,22429	,036	-1,3878	-,0239
	3,00	-,62353	,22429	,102	-1,3055	,0584
	4,00	-,01176	,22429	1,000	-,6937	,6702
	5,00	-,44706	,22429	,487	-1,1290	,2349
	6,00	,10588	,22429	1,000	-,5761	,7878
	7,00	-,29412	,22429	,895	-,9761	,3878
	8,00	,30588	,22429	,873	-,3761	,9878
3,00	1,00	-,08235	,22429	1,000	-,7643	,5996
	2,00	,62353	,22429	,102	-,0584	1,3055
	4,00	,61176	,22429	,116	-,0702	1,2937
	5,00	,17647	,22429	,994	-,5055	,8584
	6,00	,72941*	,22429	,026	,0475	1,4114
	7,00	,32941	,22429	,824	-,3525	1,0114
	8,00	,92941*	,22429	,001	,2475	1,6114
4,00	1,00	-,69412*	,22429	,043	-1,3761	-,0122
	2,00	,01176	,22429	1,000	-,6702	,6937
	3,00	-,61176	,22429	,116	-1,2937	,0702
	5,00	-,43529	,22429	,523	-1,1172	,2467
	6,00	,11765	,22429	1,000	-,5643	,7996
	7,00	-,28235	,22429	,913	-,9643	,3996
	8,00	,31765	,22429	,850	-,3643	,9996
5,00	1,00	-,25882	,22429	,944	-,9408	,4231
	2,00	,44706	,22429	,487	-,2349	1,1290
	3,00	-,17647	,22429	,994	-,8584	,5055
	4,00	,43529	,22429	,523	-,2467	1,1172
	6,00	,55294	,22429	,212	-,1290	1,2349
	7,00	,15294	,22429	,997	-,5290	,8349
	8,00	,75294*	,22429	,019	,0710	1,4349
6,00	1,00	-,81176*	,22429	,008	-1,4937	-,1298
	2,00	-,10588	,22429	1,000	-,7878	,5761
	3,00	-,72941*	,22429	,026	-1,4114	-,0475
	4,00	-,11765	,22429	1,000	-,7996	,5643
	5,00	-,55294	,22429	,212	-1,2349	,1290
	7,00	-,40000	,22429	,632	-1,0819	,2819
	8,00	,20000	,22429	,987	-,4819	,8819
7,00	1,00	-,41176	,22429	,596	-1,0937	,2702
	2,00	,29412	,22429	,895	-,3878	,9761
	3,00	-,32941	,22429	,824	-1,0114	,3525
	4,00	,28235	,22429	,913	-,3996	,9643
	5,00	-,15294	,22429	,997	-,8349	,5290
	6,00	,40000	,22429	,632	-,2819	1,0819
	8,00	,60000	,22429	,132	-,0819	1,2819
8,00	1,00	-1,01176*	,22429	,000	-1,6937	-,3298
	2,00	-,30588	,22429	,873	-,9878	,3761
	3,00	-,92941*	,22429	,001	-1,6114	-,2475
	4,00	-,31765	,22429	,850	-,9996	,3643
	5,00	-,75294*	,22429	,019	-1,4349	-,0710
	6,00	-,20000	,22429	,987	-,8819	,4819
	7,00	-,60000	,22429	,132	-1,2819	,0819

\*. The mean difference is significant at the 0.05 level.

### Multiple Comparisons

Dependent Variable: appetiteundercontrol  
Tukey HSD

(I) packaging	(J) packaging	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	,48235	,20994	,296	-,1560	1,1207
	3,00	-,02353	,20994	1,000	-,6619	,6148
	4,00	,54118	,20994	,166	-,0972	1,1795
	5,00	,12941	,20994	,999	-,5089	,7677
	6,00	,44706	,20994	,397	-,1913	1,0854
	7,00	,11765	,20994	,999	-,5207	,7560
	8,00	,71765*	,20994	,015	,0793	1,3560
2,00	1,00	-,48235	,20994	,296	-1,1207	,1560
	3,00	-,50588	,20994	,238	-1,1442	,1324
	4,00	,05882	,20994	1,000	-,5795	,6972
	5,00	-,35294	,20994	,700	-,9913	,2854
	6,00	-,03529	,20994	1,000	-,6736	,6030
	7,00	-,36471	,20994	,663	-1,0030	,2736
	8,00	,23529	,20994	,952	-,4030	,8736
3,00	1,00	,02353	,20994	1,000	-,6148	,6619
	2,00	,50588	,20994	,238	-,1324	1,1442
	4,00	,56471	,20994	,127	-,0736	1,2030
	5,00	,15294	,20994	,996	-,4854	,7913
	6,00	,47059	,20994	,328	-,1677	1,1089
	7,00	,14118	,20994	,998	-,4972	,7795
	8,00	,74118*	,20994	,010	,1028	1,3795
4,00	1,00	-,54118	,20994	,166	-1,1795	,0972
	2,00	-,05882	,20994	1,000	-,6972	,5795
	3,00	-,56471	,20994	,127	-1,2030	,0736
	5,00	-,41176	,20994	,509	-1,0501	,2266
	6,00	-,09412	,20994	1,000	-,7324	,5442
	7,00	-,42353	,20994	,471	-1,0619	,2148
	8,00	,17647	,20994	,991	-,4619	,8148
5,00	1,00	-,12941	,20994	,999	-,7677	,5089
	2,00	,35294	,20994	,700	-,2854	,9913
	3,00	-,15294	,20994	,996	-,7913	,4854
	4,00	,41176	,20994	,509	-,2266	1,0501
	6,00	,31765	,20994	,800	-,3207	,9560
	7,00	-,01176	,20994	1,000	-,6501	,6266
	8,00	,58824	,20994	,096	-,0501	1,2266
6,00	1,00	-,44706	,20994	,397	-1,0854	,1913
	2,00	,03529	,20994	1,000	-,6030	,6736
	3,00	-,47059	,20994	,328	-1,1089	,1677
	4,00	,09412	,20994	1,000	-,5442	,7324
	5,00	-,31765	,20994	,800	-,9560	,3207
	7,00	-,32941	,20994	,769	-,9677	,3089
	8,00	,27059	,20994	,903	-,3677	,9089
7,00	1,00	-,11765	,20994	,999	-,7560	,5207
	2,00	,36471	,20994	,663	-,2736	1,0030
	3,00	-,14118	,20994	,998	-,7795	,4972
	4,00	,42353	,20994	,471	-,2148	1,0619
	5,00	,01176	,20994	1,000	-,6266	,6501
	6,00	,32941	,20994	,769	-,3089	,9677
	8,00	,60000	,20994	,083	-,0383	1,2383
8,00	1,00	-,71765*	,20994	,015	-1,3560	-,0793
	2,00	-,23529	,20994	,952	-,8736	,4030
	3,00	-,74118*	,20994	,010	-1,3795	-,1028
	4,00	-,17647	,20994	,991	-,8148	,4619
	5,00	-,58824	,20994	,096	-1,2266	,0501
	6,00	-,27059	,20994	,903	-,9089	,3677
	7,00	-,60000	,20994	,083	-1,2383	,0383

\*. The mean difference is significant at the 0.05 level.



### Multiple Comparisons

Dependent Variable: calorieintakeundercontrol

Tukey HSD

(I) packaging	(J) packaging	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	,03529	,22350	1,000	-,6443	,7148
	3,00	,00000	,22350	1,000	-,6796	,6796
	4,00	,11765	,22350	1,000	-,5619	,7972
	5,00	-,35294	,22350	,763	-1,0325	,3266
	6,00	-,57647	,22350	,165	-1,2560	,1031
	7,00	-,52941	,22350	,259	-1,2090	,1501
	8,00	-,40000	,22350	,627	-1,0796	,2796
2,00	1,00	-,03529	,22350	1,000	-,7148	,6443
	3,00	-,03529	,22350	1,000	-,7148	,6443
	4,00	,08235	,22350	1,000	-,5972	,7619
	5,00	-,38824	,22350	,663	-1,0678	,2913
	6,00	-,61176	,22350	,113	-1,2913	,0678
	7,00	-,56471	,22350	,186	-1,2443	,1148
	8,00	-,43529	,22350	,518	-1,1148	,2443
3,00	1,00	,00000	,22350	1,000	-,6796	,6796
	2,00	,03529	,22350	1,000	-,6443	,7148
	4,00	,11765	,22350	1,000	-,5619	,7972
	5,00	-,35294	,22350	,763	-1,0325	,3266
	6,00	-,57647	,22350	,165	-1,2560	,1031
	7,00	-,52941	,22350	,259	-1,2090	,1501
	8,00	-,40000	,22350	,627	-1,0796	,2796
4,00	1,00	-,11765	,22350	1,000	-,7972	,5619
	2,00	-,08235	,22350	1,000	-,7619	,5972
	3,00	-,11765	,22350	1,000	-,7972	,5619
	5,00	-,47059	,22350	,412	-1,1501	,2090
	6,00	-,69412*	,22350	,041	-1,3737	-,0146
	7,00	-,64706	,22350	,075	-1,3266	,0325
	8,00	-,51765	,22350	,286	-1,1972	,1619
5,00	1,00	,35294	,22350	,763	-,3266	1,0325
	2,00	,38824	,22350	,663	-,2913	1,0678
	3,00	,35294	,22350	,763	-,3266	1,0325
	4,00	,47059	,22350	,412	-,2090	1,1501
	6,00	-,22353	,22350	,974	-,9031	,4560
	7,00	-,17647	,22350	,994	-,8560	,5031
	8,00	-,04706	,22350	1,000	-,7266	,6325
6,00	1,00	,57647	,22350	,165	-,1031	1,2560
	2,00	,61176	,22350	,113	-,0678	1,2913
	3,00	,57647	,22350	,165	-,1031	1,2560
	4,00	,69412*	,22350	,041	,0146	1,3737
	5,00	,22353	,22350	,974	-,4560	,9031
	7,00	,04706	,22350	1,000	-,6325	,7266
	8,00	,17647	,22350	,994	-,5031	,8560
7,00	1,00	,52941	,22350	,259	-,1501	1,2090
	2,00	,56471	,22350	,186	-,1148	1,2443
	3,00	,52941	,22350	,259	-,1501	1,2090
	4,00	,64706	,22350	,075	-,0325	1,3266
	5,00	,17647	,22350	,994	-,5031	,8560
	6,00	-,04706	,22350	1,000	-,7266	,6325
	8,00	,12941	,22350	,999	-,5501	,8090
8,00	1,00	,40000	,22350	,627	-,2796	1,0796
	2,00	,43529	,22350	,518	-,2443	1,1148
	3,00	,40000	,22350	,627	-,2796	1,0796
	4,00	,51765	,22350	,286	-,1619	1,1972
	5,00	,04706	,22350	1,000	-,6325	,7266
	6,00	-,17647	,22350	,994	-,8560	,5031
	7,00	-,12941	,22350	,999	-,8090	,5501

\*. The mean difference is significant at the 0.05 level.

### Multiple Comparisons

Dependent Variable: loseweight  
Tukey HSD

(I) packaging	(J) packaging	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	,01176	,22525	1,000	-,6731	,6966
	3,00	,16471	,22525	,996	-,5202	,8496
	4,00	,20000	,22525	,987	-,4849	,8849
	5,00	-,35294	,22525	,770	-1,0378	,3319
	6,00	-,52941	,22525	,268	-1,2143	,1555
	7,00	-,58824	,22525	,154	-1,2731	,0966
	8,00	-,34118	,22525	,800	-1,0261	,3437
2,00	1,00	-,01176	,22525	1,000	-,6966	,6731
	3,00	,15294	,22525	,998	-,5319	,8378
	4,00	,18824	,22525	,991	-,4966	,8731
	5,00	-,36471	,22525	,739	-1,0496	,3202
	6,00	-,54118	,22525	,242	-1,2261	,1437
	7,00	-,60000	,22525	,136	-1,2849	,0849
	8,00	-,35294	,22525	,770	-1,0378	,3319
3,00	1,00	-,16471	,22525	,996	-,8496	,5202
	2,00	-,15294	,22525	,998	-,8378	,5319
	4,00	,03529	,22525	1,000	-,6496	,7202
	5,00	-,51765	,22525	,296	-1,2025	,1672
	6,00	-,69412*	,22525	,044	-1,3790	-,0092
	7,00	-,75294*	,22525	,020	-1,4378	-,0681
	8,00	-,50588	,22525	,326	-1,1908	,1790
4,00	1,00	-,20000	,22525	,987	-,8849	,4849
	2,00	-,18824	,22525	,991	-,8731	,4966
	3,00	-,03529	,22525	1,000	-,7202	,6496
	5,00	-,55294	,22525	,217	-1,2378	,1319
	6,00	-,72941*	,22525	,028	-1,4143	-,0445
	7,00	-,78824*	,22525	,012	-1,4731	-,1034
	8,00	-,54118	,22525	,242	-1,2261	,1437
5,00	1,00	,35294	,22525	,770	-,3319	1,0378
	2,00	,36471	,22525	,739	-,3202	1,0496
	3,00	,51765	,22525	,296	-,1672	1,2025
	4,00	,55294	,22525	,217	-,1319	1,2378
	6,00	-,17647	,22525	,994	-,8614	,5084
	7,00	-,23529	,22525	,967	-,9202	,4496
	8,00	,01176	,22525	1,000	-,6731	,6966
6,00	1,00	,52941	,22525	,268	-,1555	1,2143
	2,00	,54118	,22525	,242	-,1437	1,2261
	3,00	,69412*	,22525	,044	,0092	1,3790
	4,00	,72941*	,22525	,028	,0445	1,4143
	5,00	,17647	,22525	,994	-,5084	,8614
	7,00	-,05882	,22525	1,000	-,7437	,6261
	8,00	,18824	,22525	,991	-,4966	,8731
7,00	1,00	,58824	,22525	,154	-,0966	1,2731
	2,00	,60000	,22525	,136	-,0849	1,2849
	3,00	,75294*	,22525	,020	,0681	1,4378
	4,00	,78824*	,22525	,012	,1034	1,4731
	5,00	,23529	,22525	,967	-,4496	,9202
	6,00	,05882	,22525	1,000	-,6261	,7437
	8,00	,24706	,22525	,957	-,4378	,9319
8,00	1,00	,34118	,22525	,800	-,3437	1,0261
	2,00	,35294	,22525	,770	-,3319	1,0378
	3,00	,50588	,22525	,326	-,1790	1,1908
	4,00	,54118	,22525	,242	-,1437	1,2261
	5,00	-,01176	,22525	1,000	-,6966	,6731
	6,00	-,18824	,22525	,991	-,8731	,4966
	7,00	-,24706	,22525	,957	-,9319	,4378

\*. The mean difference is significant at the 0.05 level.

### Multiple Comparisons

Dependent Variable: healthy  
Tukey HSD

(I) packaging	(J) packaging	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	,34118	,27046	,913	-,4812	1,1635
	3,00	,29412	,27046	,959	-,5282	1,1164
	4,00	,12941	,27046	1,000	-,6929	,9517
	5,00	-,49412	,27046	,602	-1,3164	,3282
	6,00	-,70588	,27046	,154	-1,5282	,1164
	7,00	-,68235	,27046	,187	-1,5047	,1400
	8,00	-,65882	,27046	,226	-1,4812	,1635
2,00	1,00	-,34118	,27046	,913	-1,1635	,4812
	3,00	-,04706	,27046	1,000	-,8694	,7753
	4,00	-,21176	,27046	,994	-1,0341	,6106
	5,00	-,83529*	,27046	,043	-1,6576	-,0130
	6,00	-1,04706*	,27046	,003	-1,8694	-,2247
	7,00	-1,02353*	,27046	,004	-1,8459	-,2012
	8,00	-1,00000*	,27046	,006	-1,8223	-,1777
3,00	1,00	-,29412	,27046	,959	-1,1164	,5282
	2,00	,04706	,27046	1,000	-,7753	,8694
	4,00	-,16471	,27046	,999	-,9870	,6576
	5,00	-,78824	,27046	,071	-1,6106	,0341
	6,00	-1,00000*	,27046	,006	-1,8223	-,1777
	7,00	-,97647*	,27046	,008	-1,7988	-,1541
	8,00	-,95294*	,27046	,011	-1,7753	-,1306
4,00	1,00	-,12941	,27046	1,000	-,9517	,6929
	2,00	,21176	,27046	,994	-,6106	1,0341
	3,00	,16471	,27046	,999	-,6576	,9870
	5,00	-,62353	,27046	,292	-1,4459	,1988
	6,00	-,83529*	,27046	,043	-1,6576	-,0130
	7,00	-,81176	,27046	,056	-1,6341	,0106
	8,00	-,78824	,27046	,071	-1,6106	,0341
5,00	1,00	,49412	,27046	,602	-,3282	1,3164
	2,00	,83529*	,27046	,043	,0130	1,6576
	3,00	,78824	,27046	,071	-,0341	1,6106
	4,00	,62353	,27046	,292	-,1988	1,4459
	6,00	-,21176	,27046	,994	-1,0341	,6106
	7,00	-,18824	,27046	,997	-1,0106	,6341
	8,00	-,16471	,27046	,999	-,9870	,6576
6,00	1,00	,70588	,27046	,154	-,1164	1,5282
	2,00	1,04706*	,27046	,003	,2247	1,8694
	3,00	1,00000*	,27046	,006	,1777	1,8223
	4,00	,83529*	,27046	,043	,0130	1,6576
	5,00	,21176	,27046	,994	-,6106	1,0341
	7,00	,02353	,27046	1,000	-,7988	,8459
	8,00	,04706	,27046	1,000	-,7753	,8694
7,00	1,00	,68235	,27046	,187	-,1400	1,5047
	2,00	1,02353*	,27046	,004	,2012	1,8459
	3,00	,97647*	,27046	,008	,1541	1,7988
	4,00	,81176	,27046	,056	-,0106	1,6341
	5,00	,18824	,27046	,997	-,6341	1,0106
	6,00	-,02353	,27046	1,000	-,8459	,7988
	8,00	,02353	,27046	1,000	-,7988	,8459
8,00	1,00	,65882	,27046	,226	-,1635	1,4812
	2,00	1,00000*	,27046	,006	,1777	1,8223
	3,00	,95294*	,27046	,011	,1306	1,7753
	4,00	,78824	,27046	,071	-,0341	1,6106
	5,00	,16471	,27046	,999	-,6576	,9870
	6,00	-,04706	,27046	1,000	-,8694	,7753
	7,00	-,02353	,27046	1,000	-,8459	,7988

\*. The mean difference is significant at the 0.05 level.

### Multiple Comparisons

Dependent Variable: natural  
Tukey HSD

(I) packaging	(J) packaging	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	,15294	,27645	,999	-,6876	,9935
	3,00	,18824	,27645	,997	-,6523	1,0288
	4,00	-,16471	,27645	,999	-1,0053	,6758
	5,00	-,58824	,27645	,398	-1,4288	,2523
	6,00	-,81176	,27645	,067	-1,6523	,0288
	7,00	-,76471	,27645	,105	-1,6053	,0758
	8,00	-,80000	,27645	,075	-1,6406	,0406
2,00	1,00	-,15294	,27645	,999	-,9935	,6876
	3,00	,03529	,27645	1,000	-,8053	,8758
	4,00	-,31765	,27645	,946	-1,1582	,5229
	5,00	-,74118	,27645	,130	-1,5817	,0994
	6,00	-,96471*	,27645	,012	-1,8053	-,1242
	7,00	-,91765*	,27645	,021	-1,7582	-,0771
	8,00	-,95294*	,27645	,014	-1,7935	-,1124
3,00	1,00	-,18824	,27645	,997	-1,0288	,6523
	2,00	-,03529	,27645	1,000	-,8758	,8053
	4,00	-,35294	,27645	,907	-1,1935	,4876
	5,00	-,77647	,27645	,095	-1,6170	,0641
	6,00	-1,00000*	,27645	,008	-1,8406	-,1594
	7,00	-,95294*	,27645	,014	-1,7935	-,1124
	8,00	-,98824*	,27645	,009	-1,8288	-,1477
4,00	1,00	,16471	,27645	,999	-,6758	1,0053
	2,00	,31765	,27645	,946	-,5229	1,1582
	3,00	,35294	,27645	,907	-,4876	1,1935
	5,00	-,42353	,27645	,790	-1,2641	,4170
	6,00	-,64706	,27645	,273	-1,4876	,1935
	7,00	-,60000	,27645	,371	-1,4406	,2406
	8,00	-,63529	,27645	,296	-1,4758	,2053
5,00	1,00	,58824	,27645	,398	-,2523	1,4288
	2,00	,74118	,27645	,130	-,0994	1,5817
	3,00	,77647	,27645	,095	-,0641	1,6170
	4,00	,42353	,27645	,790	-,4170	1,2641
	6,00	-,22353	,27645	,993	-1,0641	,6170
	7,00	-,17647	,27645	,998	-1,0170	,6641
	8,00	-,21176	,27645	,995	-1,0523	,6288
6,00	1,00	,81176	,27645	,067	-,0288	1,6523
	2,00	,96471*	,27645	,012	,1242	1,8053
	3,00	1,00000*	,27645	,008	,1594	1,8406
	4,00	,64706	,27645	,273	-,1935	1,4876
	5,00	,22353	,27645	,993	-,6170	1,0641
	7,00	,04706	,27645	1,000	-,7935	,8876
	8,00	,01176	,27645	1,000	-,8288	,8523
7,00	1,00	,76471	,27645	,105	-,0758	1,6053
	2,00	,91765*	,27645	,021	,0771	1,7582
	3,00	,95294*	,27645	,014	,1124	1,7935
	4,00	,60000	,27645	,371	-,2406	1,4406
	5,00	,17647	,27645	,998	-,6641	1,0170
	6,00	-,04706	,27645	1,000	-,8876	,7935
	8,00	-,03529	,27645	1,000	-,8758	,8053
8,00	1,00	,80000	,27645	,075	-,0406	1,6406
	2,00	,95294*	,27645	,014	,1124	1,7935
	3,00	,98824*	,27645	,009	,1477	1,8288
	4,00	,63529	,27645	,296	-,2053	1,4758
	5,00	,21176	,27645	,995	-,6288	1,0523
	6,00	-,01176	,27645	1,000	-,8523	,8288
	7,00	,03529	,27645	1,000	-,8053	,8758

\*. The mean difference is significant at the 0.05 level.

### Multiple Comparisons

Dependent Variable: heavy  
Tukey HSD

(I) packaging	(J) packaging	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	-,11765	,29547	1,000	-1,0160	,7807
	3,00	-,25882	,29547	,988	-1,1572	,6395
	4,00	,12941	,29547	1,000	-,7690	1,0278
	5,00	1,38824*	,29547	,000	,4899	2,2866
	6,00	1,52941*	,29547	,000	,6310	2,4278
	7,00	1,43529*	,29547	,000	,5369	2,3337
	8,00	1,75294*	,29547	,000	,8546	2,6513
2,00	1,00	,11765	,29547	1,000	-,7807	1,0160
	3,00	-,14118	,29547	1,000	-1,0395	,7572
	4,00	,24706	,29547	,991	-,6513	1,1454
	5,00	1,50588*	,29547	,000	,6075	2,4043
	6,00	1,64706*	,29547	,000	,7487	2,5454
	7,00	1,55294*	,29547	,000	,6546	2,4513
	8,00	1,87059*	,29547	,000	,9722	2,7690
3,00	1,00	,25882	,29547	,988	-,6395	1,1572
	2,00	,14118	,29547	1,000	-,7572	1,0395
	4,00	,38824	,29547	,894	-,5101	1,2866
	5,00	1,64706*	,29547	,000	,7487	2,5454
	6,00	1,78824*	,29547	,000	,8899	2,6866
	7,00	1,69412*	,29547	,000	,7957	2,5925
	8,00	2,01176*	,29547	,000	1,1134	2,9101
4,00	1,00	-,12941	,29547	1,000	-1,0278	,7690
	2,00	-,24706	,29547	,991	-1,1454	,6513
	3,00	-,38824	,29547	,894	-1,2866	,5101
	5,00	1,25882*	,29547	,001	,3605	2,1572
	6,00	1,40000*	,29547	,000	,5016	2,2984
	7,00	1,30588*	,29547	,000	,4075	2,2043
	8,00	1,62353*	,29547	,000	,7252	2,5219
5,00	1,00	-1,38824*	,29547	,000	-2,2866	-,4899
	2,00	-1,50588*	,29547	,000	-2,4043	-,6075
	3,00	-1,64706*	,29547	,000	-2,5454	-,7487
	4,00	-1,25882*	,29547	,001	-2,1572	-,3605
	6,00	,14118	,29547	1,000	-,7572	1,0395
	7,00	,04706	,29547	1,000	-,8513	,9454
	8,00	,36471	,29547	,921	-,5337	1,2631
6,00	1,00	-1,52941*	,29547	,000	-2,4278	-,6310
	2,00	-1,64706*	,29547	,000	-2,5454	-,7487
	3,00	-1,78824*	,29547	,000	-2,6866	-,8899
	4,00	-1,40000*	,29547	,000	-2,2984	-,5016
	5,00	-,14118	,29547	1,000	-1,0395	,7572
	7,00	-,09412	,29547	1,000	-,9925	,8043
	8,00	,22353	,29547	,995	-,6748	1,1219
7,00	1,00	-1,43529*	,29547	,000	-2,3337	-,5369
	2,00	-1,55294*	,29547	,000	-2,4513	-,6546
	3,00	-1,69412*	,29547	,000	-2,5925	-,7957
	4,00	-1,30588*	,29547	,000	-2,2043	-,4075
	5,00	-,04706	,29547	1,000	-,9454	,8513
	6,00	,09412	,29547	1,000	-,8043	,9925
	8,00	,31765	,29547	,962	-,5807	1,2160
8,00	1,00	-1,75294*	,29547	,000	-2,6513	-,8546
	2,00	-1,87059*	,29547	,000	-2,7690	-,9722
	3,00	-2,01176*	,29547	,000	-2,9101	-1,1134
	4,00	-1,62353*	,29547	,000	-2,5219	-,7252
	5,00	-,36471	,29547	,921	-1,2631	,5337
	6,00	-,22353	,29547	,995	-1,1219	,6748
	7,00	-,31765	,29547	,962	-1,2160	,5807

\*. The mean difference is significant at the 0.05 level.

### Multiple Comparisons

Dependent Variable: highcalorie  
Tukey HSD

(I) packaging	(J) packaging	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	-,24706	,26798	,984	-1,0618	,5677
	3,00	-,41176	,26798	,787	-1,2265	,4030
	4,00	-,21176	,26798	,994	-1,0265	,6030
	5,00	,57647	,26798	,383	-,2383	1,3912
	6,00	,70588	,26798	,146	-,1089	1,5207
	7,00	,57647	,26798	,383	-,2383	1,3912
	8,00	,75294	,26798	,094	-,0618	1,5677
2,00	1,00	,24706	,26798	,984	-,5677	1,0618
	3,00	-,16471	,26798	,999	-,9795	,6501
	4,00	,03529	,26798	1,000	-,7795	,8501
	5,00	,82353*	,26798	,045	,0088	1,6383
	6,00	,95294*	,26798	,010	,1382	1,7677
	7,00	,82353*	,26798	,045	,0088	1,6383
	8,00	1,00000*	,26798	,005	,1852	1,8148
3,00	1,00	,41176	,26798	,787	-,4030	1,2265
	2,00	,16471	,26798	,999	-,6501	,9795
	4,00	,20000	,26798	,996	-,6148	1,0148
	5,00	,98824*	,26798	,006	,1735	1,8030
	6,00	1,11765*	,26798	,001	,3029	1,9324
	7,00	,98824*	,26798	,006	,1735	1,8030
	8,00	1,16471*	,26798	,000	,3499	1,9795
4,00	1,00	,21176	,26798	,994	-,6030	1,0265
	2,00	-,03529	,26798	1,000	-,8501	,7795
	3,00	-,20000	,26798	,996	-1,0148	,6148
	5,00	,78824	,26798	,066	-,0265	1,6030
	6,00	,91765*	,26798	,015	,1029	1,7324
	7,00	,78824	,26798	,066	-,0265	1,6030
	8,00	,96471*	,26798	,008	,1499	1,7795
5,00	1,00	-,57647	,26798	,383	-1,3912	,2383
	2,00	-,82353*	,26798	,045	-1,6383	-,0088
	3,00	-,98824*	,26798	,006	-1,8030	-,1735
	4,00	-,78824	,26798	,066	-1,6030	,0265
	6,00	,12941	,26798	1,000	-,6854	,9442
	7,00	,00000	,26798	1,000	-,8148	,8148
	8,00	,17647	,26798	,998	-,6383	,9912
6,00	1,00	-,70588	,26798	,146	-1,5207	,1089
	2,00	-,95294*	,26798	,010	-1,7677	-,1382
	3,00	-1,11765*	,26798	,001	-1,9324	-,3029
	4,00	-,91765*	,26798	,015	-1,7324	-,1029
	5,00	-,12941	,26798	1,000	-,9442	,6854
	7,00	-,12941	,26798	1,000	-,9442	,6854
	8,00	,04706	,26798	1,000	-,7677	,8618
7,00	1,00	-,57647	,26798	,383	-1,3912	,2383
	2,00	-,82353*	,26798	,045	-1,6383	-,0088
	3,00	-,98824*	,26798	,006	-1,8030	-,1735
	4,00	-,78824	,26798	,066	-1,6030	,0265
	5,00	,00000	,26798	1,000	-,8148	,8148
	6,00	,12941	,26798	1,000	-,6854	,9442
	8,00	,17647	,26798	,998	-,6383	,9912
8,00	1,00	-,75294	,26798	,094	-1,5677	,0618
	2,00	-1,00000*	,26798	,005	-1,8148	-,1852
	3,00	-1,16471*	,26798	,000	-1,9795	-,3499
	4,00	-,96471*	,26798	,008	-1,7795	-,1499
	5,00	-,17647	,26798	,998	-,9912	,6383
	6,00	-,04706	,26798	1,000	-,8618	,7677
	7,00	-,17647	,26798	,998	-,9912	,6383

\*. The mean difference is significant at the 0.05 level.

# Multiple Comparisons

Dependent Variable: tasty  
Tukey HSD

(I) packaging	(J) packaging	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	-,03529	,24051	1,000	-,7666	,6960
	3,00	,01176	,24051	1,000	-,7195	,7430
	4,00	-,29412	,24051	,925	-1,0254	,4372
	5,00	-,23529	,24051	,977	-,9666	,4960
	6,00	-,37647	,24051	,771	-1,1077	,3548
	7,00	-,55294	,24051	,296	-1,2842	,1783
	8,00	-,27059	,24051	,951	-1,0019	,4607
2,00	1,00	,03529	,24051	1,000	-,6960	,7666
	3,00	,04706	,24051	1,000	-,6842	,7783
	4,00	-,25882	,24051	,962	-,9901	,4725
	5,00	-,20000	,24051	,991	-,9313	,5313
	6,00	-,34118	,24051	,849	-1,0725	,3901
	7,00	-,51765	,24051	,382	-1,2489	,2136
	8,00	-,23529	,24051	,977	-,9666	,4960
3,00	1,00	-,01176	,24051	1,000	-,7430	,7195
	2,00	-,04706	,24051	1,000	-,7783	,6842
	4,00	-,30588	,24051	,909	-1,0372	,4254
	5,00	-,24706	,24051	,970	-,9783	,4842
	6,00	-,38824	,24051	,742	-1,1195	,3430
	7,00	-,56471	,24051	,269	-1,2960	,1666
	8,00	-,28235	,24051	,939	-1,0136	,4489
4,00	1,00	,29412	,24051	,925	-,4372	1,0254
	2,00	,25882	,24051	,962	-,4725	,9901
	3,00	,30588	,24051	,909	-,4254	1,0372
	5,00	,05882	,24051	1,000	-,6725	,7901
	6,00	-,08235	,24051	1,000	-,8136	,6489
	7,00	-,25882	,24051	,962	-,9901	,4725
	8,00	,02353	,24051	1,000	-,7077	,7548
5,00	1,00	,23529	,24051	,977	-,4960	,9666
	2,00	,20000	,24051	,991	-,5313	,9313
	3,00	,24706	,24051	,970	-,4842	,9783
	4,00	-,05882	,24051	1,000	-,7901	,6725
	6,00	-,14118	,24051	,999	-,8725	,5901
	7,00	-,31765	,24051	,891	-1,0489	,4136
	8,00	-,03529	,24051	1,000	-,7666	,6960
6,00	1,00	,37647	,24051	,771	-,3548	1,1077
	2,00	,34118	,24051	,849	-,3901	1,0725
	3,00	,38824	,24051	,742	-,3430	1,1195
	4,00	,08235	,24051	1,000	-,6489	,8136
	5,00	,14118	,24051	,999	-,5901	,8725
	7,00	-,17647	,24051	,996	-,9077	,5548
	8,00	,10588	,24051	1,000	-,6254	,8372
7,00	1,00	,55294	,24051	,296	-,1783	1,2842
	2,00	,51765	,24051	,382	-,2136	1,2489
	3,00	,56471	,24051	,269	-,1666	1,2960
	4,00	,25882	,24051	,962	-,4725	,9901
	5,00	,31765	,24051	,891	-,4136	1,0489
	6,00	,17647	,24051	,996	-,5548	,9077
	8,00	,28235	,24051	,939	-,4489	1,0136
8,00	1,00	,27059	,24051	,951	-,4607	1,0019
	2,00	,23529	,24051	,977	-,4960	,9666
	3,00	,28235	,24051	,939	-,4489	1,0136
	4,00	-,02353	,24051	1,000	-,7548	,7077
	5,00	,03529	,24051	1,000	-,6960	,7666
	6,00	-,10588	,24051	1,000	-,8372	,6254
	7,00	-,28235	,24051	,939	-1,0136	,4489



### Multiple Comparisons

Dependent Variable: fattening  
Tukey HSD

(I) packaging	(J) packaging	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	-,27059	,23559	,946	-,9869	,4457
	3,00	-,30588	,23559	,899	-1,0222	,4104
	4,00	-,38824	,23559	,721	-1,1045	,3281
	5,00	,64706	,23559	,111	-,0692	1,3634
	6,00	,61176	,23559	,159	-,1045	1,3281
	7,00	,56471	,23559	,244	-,1516	1,2810
	8,00	,74118*	,23559	,037	,0249	1,4575
2,00	1,00	,27059	,23559	,946	-,4457	,9869
	3,00	-,03529	,23559	1,000	-,7516	,6810
	4,00	-,11765	,23559	1,000	-,8339	,5987
	5,00	,91765*	,23559	,003	,2013	1,6339
	6,00	,88235*	,23559	,005	,1661	1,5987
	7,00	,83529*	,23559	,010	,1190	1,5516
	8,00	1,01176*	,23559	,001	,2955	1,7281
3,00	1,00	,30588	,23559	,899	-,4104	1,0222
	2,00	,03529	,23559	1,000	-,6810	,7516
	4,00	-,08235	,23559	1,000	-,7987	,6339
	5,00	,95294*	,23559	,002	,2366	1,6692
	6,00	,91765*	,23559	,003	,2013	1,6339
	7,00	,87059*	,23559	,006	,1543	1,5869
	8,00	1,04706*	,23559	,000	,3308	1,7634
4,00	1,00	,38824	,23559	,721	-,3281	1,1045
	2,00	,11765	,23559	1,000	-,5987	,8339
	3,00	,08235	,23559	1,000	-,6339	,7987
	5,00	1,03529*	,23559	,000	,3190	1,7516
	6,00	1,00000*	,23559	,001	,2837	1,7163
	7,00	,95294*	,23559	,002	,2366	1,6692
	8,00	1,12941*	,23559	,000	,4131	1,8457
5,00	1,00	-,64706	,23559	,111	-1,3634	,0692
	2,00	-,91765*	,23559	,003	-1,6339	-,2013
	3,00	-,95294*	,23559	,002	-1,6692	-,2366
	4,00	-1,03529*	,23559	,000	-1,7516	-,3190
	6,00	-,03529	,23559	1,000	-,7516	,6810
	7,00	-,08235	,23559	1,000	-,7987	,6339
	8,00	,09412	,23559	1,000	-,6222	,8104
6,00	1,00	-,61176	,23559	,159	-1,3281	,1045
	2,00	-,88235*	,23559	,005	-1,5987	-,1661
	3,00	-,91765*	,23559	,003	-1,6339	-,2013
	4,00	-1,00000*	,23559	,001	-1,7163	-,2837
	5,00	,03529	,23559	1,000	-,6810	,7516
	7,00	-,04706	,23559	1,000	-,7634	,6692
	8,00	,12941	,23559	,999	-,5869	,8457
7,00	1,00	-,56471	,23559	,244	-1,2810	,1516
	2,00	-,83529*	,23559	,010	-1,5516	-,1190
	3,00	-,87059*	,23559	,006	-1,5869	-,1543
	4,00	-,95294*	,23559	,002	-1,6692	-,2366
	5,00	,08235	,23559	1,000	-,6339	,7987
	6,00	,04706	,23559	1,000	-,6692	,7634
	8,00	,17647	,23559	,995	-,5398	,8928
8,00	1,00	-,74118*	,23559	,037	-1,4575	-,0249
	2,00	-1,01176*	,23559	,001	-1,7281	-,2955
	3,00	-1,04706*	,23559	,000	-1,7634	-,3308
	4,00	-1,12941*	,23559	,000	-1,8457	-,4131
	5,00	-,09412	,23559	1,000	-,8104	,6222
	6,00	-,12941	,23559	,999	-,8457	,5869
	7,00	-,17647	,23559	,995	-,8928	,5398

\*. The mean difference is significant at the 0.05 level.

### Multiple Comparisons

Dependent Variable: Hoeveel van deze crackers van deze verpakking zou u eten om uw honger te stillen tot de...

Tukey HSD

(I) nondietersordierter	(J) nondietersordierter	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	,879	,393	,065	-,04	1,80
	3,00	1,135*	,407	,015	,18	2,09
2,00	1,00	-,879	,393	,065	-1,80	,04
	3,00	,255	,376	,776	-,63	1,14
3,00	1,00	-1,135*	,407	,015	-2,09	-,18
	2,00	-,255	,376	,776	-1,14	,63

### Multiple Comparisons

Dependent Variable: feelfullforalongtime

Tukey HSD

(I) nondietersordierter	(J) nondietersordierter	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	-,13068	,14166	,626	-,4634	,2021
	3,00	,07887	,14689	,853	-,2662	,4239
2,00	1,00	,13068	,14166	,626	-,2021	,4634
	3,00	,20955	,13568	,271	-,1091	,5282
3,00	1,00	-,07887	,14689	,853	-,4239	,2662
	2,00	-,20955	,13568	,271	-,5282	,1091

### Multiple Comparisons

Dependent Variable: appetiteundercontrol

Tukey HSD

(I) nondietersordierter	(J) nondietersordierter	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	-,06013	,13101	,890	-,3679	,2476
	3,00	,25967	,13585	,136	-,0594	,5788
2,00	1,00	,06013	,13101	,890	-,2476	,3679
	3,00	,31981*	,12548	,030	,0251	,6145
3,00	1,00	-,25967	,13585	,136	-,5788	,0594
	2,00	-,31981*	,12548	,030	-,6145	-,0251

\*. The mean difference is significant at the 0.05 level.

### Multiple Comparisons

Dependent Variable: calorieintakeundercontrol

Tukey HSD

(I) nondietersordierter	(J) nondietersordierter	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	,14536	,13952	,551	-,1824	,4731
	3,00	,28497	,14467	,121	-,0548	,6248
2,00	1,00	-,14536	,13952	,551	-,4731	,1824
	3,00	,13961	,13363	,549	-,1743	,4535
3,00	1,00	-,28497	,14467	,121	-,6248	,0548
	2,00	-,13961	,13363	,549	-,4535	,1743

### Multiple Comparisons

Dependent Variable: loseweight  
Tukey HSD

(I) nondietersordierter	(J) nondietersordierter	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	,37500*	,14033	,021	,0454	,7046
	3,00	,46280*	,14551	,004	,1210	,8046
2,00	1,00	-,37500*	,14033	,021	-,7046	-,0454
	3,00	,08780	,13440	,791	-,2279	,4035
3,00	1,00	-,46280*	,14551	,004	-,8046	-,1210
	2,00	-,08780	,13440	,791	-,4035	,2279

\*. The mean difference is significant at the 0.05 level.

### Multiple Comparisons

Dependent Variable: healthy  
Tukey HSD

(I) nondietersordierter	(J) nondietersordierter	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	,26610	,16751	,251	-,1274	,6596
	3,00	,94643*	,17370	,000	,5384	1,3544
2,00	1,00	-,26610	,16751	,251	-,6596	,1274
	3,00	,68033*	,16044	,000	,3035	1,0572
3,00	1,00	-,94643*	,17370	,000	-1,3544	-,5384
	2,00	-,68033*	,16044	,000	-1,0572	-,3035

\*. The mean difference is significant at the 0.05 level.

### Multiple Comparisons

Dependent Variable: natural  
Tukey HSD

(I) nondietersordierter	(J) nondietersordierter	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	,39441	,16986	,053	-,0046	,7934
	3,00	1,07813*	,17613	,000	,6644	1,4918
2,00	1,00	-,39441	,16986	,053	-,7934	,0046
	3,00	,68371*	,16268	,000	,3016	1,0658
3,00	1,00	-1,07813*	,17613	,000	-1,4918	-,6644
	2,00	-,68371*	,16268	,000	-1,0658	-,3016

\*. The mean difference is significant at the 0.05 level.

### Multiple Comparisons

Dependent Variable: heavy  
Tukey HSD

(I) nondietersordierter	(J) nondietersordierter	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	-,00852	,19679	,999	-,4708	,4537
	3,00	-,38244	,20406	,147	-,8617	,0969
2,00	1,00	,00852	,19679	,999	-,4537	,4708
	3,00	-,37392	,18848	,117	-,8166	,0688
3,00	1,00	,38244	,20406	,147	-,0969	,8617
	2,00	,37392	,18848	,117	-,0688	,8166

### Multiple Comparisons

Dependent Variable: highcalorie  
Tukey HSD

(I) nondietersordierter	(J) nondietersordierter	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	-,32197	,16904	,138	-,7190	,0751
	3,00	-,61310*	,17528	,001	-1,0248	-,2014
2,00	1,00	,32197	,16904	,138	-,0751	,7190
	3,00	-,29113	,16190	,171	-,6714	,0891
3,00	1,00	,61310*	,17528	,001	,2014	1,0248
	2,00	,29113	,16190	,171	-,0891	,6714

\*. The mean difference is significant at the 0.05 level.

### Multiple Comparisons

Dependent Variable: tasty  
Tukey HSD

(I) nondietersordierter	(J) nondietersordierter	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	-,12879	,14858	,661	-,4778	,2202
	3,00	-,36458*	,15407	,048	-,7265	-,0027
2,00	1,00	,12879	,14858	,661	-,2202	,4778
	3,00	-,23580	,14231	,223	-,5701	,0985
3,00	1,00	,36458*	,15407	,048	,0027	,7265
	2,00	,23580	,14231	,223	-,0985	,5701

\*. The mean difference is significant at the 0.05 level.

### Multiple Comparisons

Dependent Variable: fattening  
Tukey HSD

(I) nondietersordierter	(J) nondietersordierter	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	-,29025	,14703	,119	-,6356	,0551
	3,00	-,94122*	,15246	,000	-1,2993	-,5831
2,00	1,00	,29025	,14703	,119	-,0551	,6356
	3,00	-,65097*	,14082	,000	-,9818	-,3202
3,00	1,00	,94122*	,15246	,000	,5831	1,2993
	2,00	,65097*	,14082	,000	,3202	,9818

\*. The mean difference is significant at the 0.05 level.

### 3.2: Factor analysis

**Component Matrix<sup>a</sup>**

	Component			
	1	2	3	4
Hoeveel van deze crackers van deze verpakking zou u eten om uw honger te stillen tot de volgende...	,128	-,284	-,234	,818
feelfullforalongertime	-,092	,836	-,121	,034
appetiteundercontrol	,035	,851	-,029	-,018
calorieintakeundercontrol	,595	,151	,642	,000
loseweight	,499	,085	,760	,026
healthy	,759	,367	-,215	,193
heavy	-,639	,436	,203	,311
natural	,656	,447	-,237	,149
highcalorie	-,692	,429	,221	,135
tasty	,090	,291	-,384	-,404
fattening	-,827	,086	,127	,036

Extraction Method: Principal Component Analysis.

a. 4 components extracted.

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,215	29,228	29,228	3,215	29,228	29,228
2	2,334	21,219	50,447	2,334	21,219	50,447
3	1,417	12,880	63,327	1,417	12,880	63,327
4	1,010	9,185	72,512	1,010	9,185	72,512
5	,935	8,499	81,012			
6	,668	6,074	87,086			
7	,372	3,378	90,464			
8	,315	2,864	93,327			
9	,270	2,458	95,786			
10	,250	2,272	98,058			
11	,214	1,942	100,000			

Extraction Method: Principal Component Analysis.