

24/5/2017



NUDGING THE SNACK BAR



How nudges and occasion influence buying intention in the fast food environment

Patricia Biemans

Wageningen University
De Leeuwenborch
Hollandseweg 1, 6707 KN, Wageningen

Master Management, Economics and Consumer studies
Chair group: Marketing & Consumer Behaviour
Course code: MCB-80433 2016/2017

Author: Patricia Biemans
Contact: Patricia.Biemans@wur.nl
Student number: 940210066120

Supervisor: Dr ir E. van Kleef
Contact: Ellen.vankleef@wur.nl

Second examiner: Betina Piqueras Fiszman
Contact: Betina.piquerasfiszman@wur.nl

Abstract

Background: In order to stimulate the intake of vegetables in a fast food environment, a nudge can be applied. Nudging is changing choice structures in order to stimulate consumers to make better decisions, without forcing certain outcomes or incentives. To determine how consumers can be guided to select healthier options, this thesis examines the effect of manipulating the assortment structure by offering a meal bundle. Next to that, this thesis examines the effect of the occasion (snack bar) on the intention to purchase a particular meal.

Methods: Two studies were conducted in order to test the nudge and to test the effect of occasion on the intention to purchase a particular meal. A field study (study one) was applied to investigate if a nudge can stimulate the sale of salads in a snack bar. Choice structure was altered by offering a meal bundle combining fries with salad. Participants could order the meal bundle in condition one and the separate salad in condition two. Daily sales data were collected for a period of four weeks. On completion of the field study, customers (n=135) filled out a questionnaire and rated their levels of norm aliveness, salience and perceived value for money. A possible moderator, personal importance of health while eating out, was also measured in the questionnaire. A second study was conducted to measure the effect of occasion on the intention to purchase a particular meal consisting out of fries, a snack and a salad. Participants in the study (n=69) were exposed to this meal in three different occasions (work, snack bar and supermarket) and rated several statements regarding the perceived level of healthiness of the meal, the perceived level of indulgence of the meal and the desired frequency of consumption of the meal. Data were collected for a period of three weeks.

Results: Study one showed that the nudge did not lead to higher sales of salads in the snack bar. However, participants gave higher ratings to the perceived value for money and salience. The second study showed that participants were mostly inclined to buy the meal consisting out of fries, a snack and a salad in the snack bar compared to the canteen or the supermarket. Consumers rate this meal higher on healthiness and indulgence when it is presented in a snack bar. The levels of perceived indulgence, healthiness and the desired frequency have a positive influence on the appropriateness of a meal. Compared to the canteen or the supermarket, customers find the meal most appropriate in the snack bar. Higher levels of appropriation lead to a higher buying intention of the meal.

Conclusion: Overall, results suggest that a nudge in the form of a meal bundle did not increase the consumption of salads in a snack bar. The snack bar as an occasion influences buying intention and it is possible that the effects of the nudge were nullified by the influence of the occasion. These results point to the importance of extending our knowledge of nudges in order to encourage healthier consumption patterns.

Keywords: Nudging, Snack bar, Choice architecture, Salads, Meal-bundle, Occasion.

Preface

This MSc Thesis is part of the master program 'Management, Economics & Consumer Behaviour' at the University of Wageningen. This thesis was written within the department 'Marketing & Consumer Behaviour'.

I would like to give special thanks to my supervisor Ellen van Kleef, who supported me all the time during my thesis period. Her involvement and enthusiasm really helped me to get the most out of this thesis. Thanks to her I was able to conduct a unique experiment in a real snack bar, which was my first encounter with an experiment in the field.

Further, I would like to thank my second supervisor Betina Piqueras Fiszman for her open view on the Dutch culture and a critical view on my thesis.

Next to them, I would like to thank the owners of the snack bar 'The Knabbelaar' who helped me during the process and gave me the room to do this experiment in the first place. I have worked many years at this snack bar, and always with a lot of pleasure.

Last, I would like to thank my family, friends and fellow students for their support during the entire period.

List of tables and figures

Tables

Table 1: Characteristics of system 1 and system 2.

Table 2: Overview of planning experiment 1.

Table 3: The distribution of products chosen by the customers.

Table 4: Average scores and the significance level of the statements.

Table 5: Test of between-subjects effects.

Table 6: The Chronbach's alpha for the three concepts.

Table 7: The correlation between desired frequency of consumption, liking of products, gender, age, and diet.

Table 8: The influence of occasion on intention to buy.

Table 9: The influence of occasion on the perceived levels of healthiness, indulgence, and on desired frequency.

Table 10: The influence of occasion on the perceived appropriateness of a particular meal.

Figures

Figure 1: Conceptual model study 1.

Figure 2: The display in 'The Knabbelaar'.

Figure 3: Placement of the family bags.

Figure 4: Overview of the two conditions.

Figure 5: Placement of the signs in the meal bundle condition.

Figure 6: Placement of the signs in the single salad condition.

Figure 7: The frequency of gender in each condition.

Figure 8: Conceptual model study 2.

Figure 9: Overview of the flow of the questionnaire.

Figure 10: The frequency of visiting a snack bar.

Figure 11: The scores on liking products.

Figure 12: The scores on the desired frequency of consumption.

Table of contents

Abstract	2
Preface	3
List of tables and figures	4
Table of contents	5
1. Introduction	7
2. Theoretical background	10
2.1 The fast food environment	10
2.1.1 Entering the fast food restaurant	10
2.1.2 Health in the fast-food environment	11
2.2 Dual processing theory	11
2.2.1 System one	12
2.2.2 System two	12
2.3 Heuristics and nudging	13
2.4 Product bundling	15
2.4.1 Bundling as a marketing strategy	15
3. Study 1: The effect of a meal bundle on the intention to purchase a salad	16
3.1 Conceptual model and hypothesis study 1	16
3.2 Methodology experiment 1	19
3.2.1 Setting and context	19
3.2.2 Participants	20
3.2.3 Design	20
3.2.4 Measures	23
3.2.5 Data analysis	24
3.3 Results	25
3.3.1 Descriptive statistics	25
3.3.2 Hypotheses testing	26
3.4 Conclusion and discussion	28
4. Study 2: The influence of the situation on the effectiveness of a meal bundle	30
4.1 Conceptual model and hypothesis study 2	30
4.2. Methodology experiment 2	32

4.2.1 Participants	32
4.2.2 Design and procedure	32
4.2.3 Measures	33
4.2.4 Data analysis	34
4.3. Results	35
4.3.1 Descriptive statistics	35
4.3.2 Hypotheses testing	37
4.4. Conclusion and discussion	40
5. Overall conclusion and discussion	42
References	44
Attachements	52

1. Introduction

Obesity and other lifestyle-related diseases have been growing at enormous rates in the last few decades. In 2014, more than 1.9 billion adults were overweight (Body Mass Index 25-30¹). This is 39% of the total world population. Of these overweight adults, over 600 million were obese (13%). The number of people with obesity, a body mass index higher than 30, has more than doubled since 1980 (WHO, 2016).

Obesity and overweight are caused by an energy imbalance and a lack of physical activity. There has been an increase of intake of calorie-dense foods due to convenience and affordability of these foods (Wright, 2012). Next to that, there has been a decrease in physical activity due to changing forms of work, changing forms of transportation and the increasing urbanization (WHO, 2016; Wyatt et al., 2006). The consequences of this imbalance are increased risks factors for noncommunicable diseases such as cardiovascular diseases, diabetes, musculoskeletal disorders and some cancers (WHO, 2016).

In order to change this imbalance, people can limit their energy intake from fats and sugars and increase the consumption of healthy products. Fruit and vegetables, legumes, whole grains and nuts are considered as healthy products (Hung et al., 2004; Mirmiran et al., 2009; Rissanen et al., 2003, WHO, 2016). Eating more fruits and vegetables helps to control weight and can lead to eating fewer high-caloric foods (Serdula et al., 1996). Fruits and vegetables contain vitamins, minerals, fiber, energy and other components which are beneficial for one's health.

According to the World Health Organisation, the recommended amount of fruits and vegetables is over 400 grams per day (WHO, 2008). The average consumption of fruit and vegetables in 2013 in Europe was 341.81 g/day (Freshfel, 2015). Although the consumption of fruit and vegetables increased in 2013 by 5,6% compared to 2015, the amount consumed is still insufficient and there is an overall decreasing trend on the longer-term perspective (Freshfel, 2015). In the Netherlands, Voedingscentrum² recommends eating more than 250 grams of vegetables and 200 grams of fruit per day (Voedingscentrum 1a, 2016). Roughly a quarter of all people in the Netherlands meet the recommendations for fruit and vegetables (CBS, 2015).

The government and other instances can influence individuals by developing policies and making activity and healthy choices available, affordable and easily accessible (WHO, 2016). The number of interventions that target the health of individuals and communities has increased the past decade, and a lot of policy interventions have been implemented to change unhealthy lifestyles. Most of these interventions are based on education and knowledge and thus on the cognitive system (Wyatt et al., 2006; Voedingscentrum 1b, n.d; Barkley, 2012). This system is also called the analytic system or system two and it specialises in complex representation and thought (Evans & Curtis-Holmes, 2005; Meltcalfe &

¹ The Body Mass Index is an index for the weight in relation to the length of a person (Weight in Kg / (length in meter * length in meter)).

² Voedingscentrum is a Dutch non-profit organisation that supplies information about nutrition.

Mischel, 1999). Another possible way to increase the consumption of vegetables and fruits is to make use of the affective system, also called the heuristic system or system one. This system is the emotional, fast and stimulus controlled system. According to the dual processing theory, the brain uses these two systems (system one and system two) to make decisions (Meltcalfe & Mischel, 1999)

A way for governmental instances to influence the consumer towards a particular choice by using system one is by using nudges (Marteau, 2011; European Report 2016). A nudge is: "any aspect of the choice architecture that alters people's behaviour in a predictable way without forbidding any options or significantly changing their economic incentives" (Thaler & Sunstein, 2009).

An example of a well-known possibility to steer consumers in a particular way using choice structure is the meal bundle. Meal bundles are a frequently used marketing strategy to stimulate calorie intake and unhealthy consumption in the fast-food environment (Boyland et al., 2015; Stremersch, 2001). Bundling is the practice of marketing two or more products and services in a single package (Kwon & Jang, 2011). By altering the choice structure, people are triggered to prefer the meal bundle above the option to buy the items separately. Especially in the fast-food environment, the temptations to eat unhealthily are enormous. Not only does the menu offer little healthy options, but the atmosphere in the store and stimuli in this environment also cause individuals to consume unhealthy foods and therefore the healthy options are not chosen often (Mosavi & Gheadi, 2013; Wellard et al., 2012). Using meal bundles as a nudge can be a promising option to stimulate the intake of healthy products. Bundling vegetables with other products could lead to higher sales of vegetables and therefore could influence the consumption of these products, especially in the fast food environment.

However, not much research has been done about the usage of healthy nudges in snack bar surroundings. It is interesting to study if health nudges also work in places where the consumer typically has already decided to eat unhealthily, especially with the increasing adaptation of fast food in our regular diets (Chakraborty, 2012). This leads to the following research question for study one: **what is the influence of changing the choice structure by using a meal bundle on the sales of vegetables in a fast food environment?** Study one investigates the influence of altering the choice structure by a meal bundle on the consumption of vegetables in a fast-food environment, namely the snack bar. The meal bundle (option one) contains a bag of French fries and a single salad, sold for fifty cents above the normal bag price. The other option (option two) is to buy the single salad separately for the same price.

There are several possible reasons that could increase the intention to purchase a salad at the snack bar. First of all, it is possible that the menu bundle activates particular descriptive norms. The fries and salad offered in a bundle could be an indication to the customer that these two items are to be consumed together. The next possible construct is the salience of the cue. The menu bundle can increase the visibility of the option to take a salad, because people who look at the family bags also see the meal bundle. The last possible construct is the perceived value for money. The perceived value for money could be

increased due to the meal bundle, and therefore increase the sales of salads. A possible moderator is health behaviour while eating out. This because of the fact that people who are interested in health while eating out, could be more open for the option to take a salad.

Data for this study is obtained by register data and a questionnaire, taken in the snack bar. The key dependent variable is the number of salads sold. The questionnaire contains questions regarding the possible mediators and the moderator. The experiment consists out of two periods of two weeks. If the field experiment shows an effect of the nudge on the intake of vegetables, it can help stimulating the intake of vegetables and increase overall health. This can contribute to a healthier lifestyle and therefore could decrease the number of individuals suffering from a noncommunicable disease.

However nudges seem to be effective in many situations, there is also proof of nudges that have failed to significantly improve population health (Marteau et al., 2011). Literature indicates that a possible reason for this failing is a preference (Sustein, 2016; Van Kleef & Van Trijp, 2016). Nudges ought to be more effective when the consumer does not have a preference for a particular item, but is rather indifferent between items (VanKleef & Van Trijp, 2016). The occasion can have an influence on the level of indifference that consumers experience (Van Kleef & Van Trijp, 2016). Going to the snack bar is an occasion that could influence the level of intention to buy a meal. Therefore the research question for study 2 is:

What is the influence of the occasion where the decision is made on the intention to buy a particular meal? In this study, three different occasions will be tested: at home, at work, and in the snack bar. Expected is that occasion has an influence on intention. A possible moderator is the appropriateness of a meal. The appropriateness of a meal is influenced by the following factors in this study: perceived healthiness of a meal, perceived indulgence level of a meal, and the desired frequency of the consumption of the meal. Data for this study is obtained by an online questionnaire. The key dependent variable is the intention to buy a salad. The independent variable is the occasion.

If the occasion plays a role in the eating-intention, this can contribute to our knowledge on eating intentions and bring practical insight into the influence of the occasions on eating-intention. It can also be a possible reason for a nudge to be less effective.

2. Theoretical background

To understand the influence of choice architecture on the purchase of vegetables in the snack bar, a theoretical framework has to be formed. In order to do so, this chapter describes the following: the fast food environment, the dual processing theory, nudging and product bundling.

2.1 The fast food environment

Modernization, urbanization, and globalization have led to the adaptation of fast foods in the regular diets. This is also called 'The McDonaldization of Society' (Ritzer, 2000). Despite the use of healthier products, the fast food environment is an environment that is created to increase unhealthy food consumption. Fast foods are convenient, attractive and eating out in fast food restaurants has become a regular practice (Chakraborty, 2012). Because of the increasing regularity of fast foods in our diet, this environment is worth investigating.

2.1.1 Entering the fast food restaurant

Fast food restaurants contain a lot of stimuli that affect consumer state and behaviour, and this makes it difficult for consumers to go for the healthy option (Mosavi & Gheadi, 2013). These stimuli can be caused by the store atmospherics: in-store elements that include visual, auditory, olfactory, tactile and gustatory elements that can unconsciously influence the consumer (Baker et al., 2002). One example of such a stimuli is the usage of colour. Yellow is a frequently used colour in fast food restaurants. It attracts attention, increases appetite and encourages consumers to eat (Singh, 2006). Other examples are the usage of artificial fresh-cooked food aromas and the usage of music to stimulate consumption (Lantos, 2015; Wansink, 2004).

Next to the visual, auditory, olfactory, tactile and gustatory elements, there are also other stimuli present in the fast food restaurants. These are called environmental stressors: noise, heat, air pollution, crowding and architectural dysfunction (Evans, 1984). Fast food restaurants are designed to serve as many people as possible as quick as possible, and this can create noise, heat and the feeling of being crowded.

All these stimuli together can create the feeling of being overwhelmed and being stressed. The phenomenon of the increase in the intensity of stimuli over the normal level is called sensory overload and this can cause stress (Lindenmuth et al., 1980). Because of the stress caused by this overload, individuals are triggered to make emotional decisions instead of rational decisions (Hammond, 2000).

Furthermore, this overload can provoke not only stress but the environmental stimuli can by themselves lead to a direct emotional reaction or association. This can drive consumers behavioural response (Mehrabian & Russel, 1974; Spence et al., 2014). For example, unconscious exposure to fast food stimuli, logos, in this case, increased average reading speed by 15 seconds. Another example is that participants who are primed with fast

food imagery are more impatient and have a bigger desire to complete tasks as quickly as possible compared to those who are not primed with fast food imagery. A third example is that fast food seems to make people impatient to a point where they could put their economic interests at risk (Zhong & Devoe, 2010).

2.1.2 Health in the fast-food environment

Consuming healthier products has been a dominant food trend the last few years and companies are formulating new products and reformulating existing products to comply with this new market (Kennell, 2016). This development is also present in the fast food world. The demand for healthy fast food has led to some changes in the fast food industry and in the last few years. The amount of healthier options in these restaurants have increased. Lower-calorie French fries, lower-fat burgers, and salads have taken their place on the menu (Amidor, 2013).

Despite all this effort to make fast food healthier, an investigation into the nutritional values of salt, calories and saturated fat (1996-2013) has shown little changes. The items researched were the four most popular fast food items: fries, cheeseburgers, grilled chicken and sandwiches, and regular cola. Another disturbing change is the enormous increase of portion sizes (Urban, 2014). Next to this, only 20% of the respondents of the Consumer Reports fast-food survey even considers the availability of a healthier menu option when choosing a restaurant. Only 19% of the participants stated that they ordered a healthy meal during their last dining experience. Women were more conscious about their food choice than man (Consumer Reports, 2014).

Another important aspect of the fast food environment is that there is a possibility that customers who are entering this environment already have made a decision to eat unhealthily. According to Rydel et al. (2008), one of the main reason for people to enter the fast food world is the fact that the items on the menu taste good. One of the least frequently reported reason for visiting a fast food restaurant was the fact that restaurants have nutritious foods to offer. This means that people enter the fast food environment with a particular goal: to eat fast food, and not to eat healthily.

2.2 Dual processing theory

Emotional decision-making is also called using system one thinking. Meltcalfe & Mischel (1999) divide decision-making methods into an emotional part (system one) and a cognitive part (system two). This is called the dual processing theory. The theory states that there exist a cool and cognitive system and an emotional hot system within ourselves that is used during the decision-making process. During this process, both systems compete for the control of the response that an individual may make (Meltcalfe & Mischel, 1999).

2.2.1 System one

System one is an implicit, emotional and heuristic system (Table 1). This means that decisions made from this system are based on emotions derived from a particular situation (Evans & Curtis-Holmes, 2005). This system is mostly used in situations where decisions have to be made quickly and there is a lot of stress and temptation caused by stimuli from the environment. This also holds for the fast food environment, where a lot of stimuli are prevalent.

One other example of such a situation is when consumers experience the feeling of stress in the form of time-pressure. When people are forced to make a decision within a particular amount of time the heuristic system dominates. Another example is when people have to deal with reasoning and decision making under a load that burdened their cognitive resources (Evans & Curtis-Holmes, 2005). Franssen & De Neys (2009), showed that problems that required analytic reasoning were negatively affected by the amount of working load. On the other side, decisions that were taken with the heuristic system were not affected by the amount working load. This shows that analytic thinking is resource demanding, whereas heuristic thinking is not. Therefore stress increases the use of system one and decreases the use of system two, since there are fewer resources (Hammond, 2000). This also holds for the fast-food environment. As stated before in-store elements and environmental stressors can increase stress levels and therefore provoke the usage of the heuristic system.

The heuristic system is a practical method, not guaranteed to be optimal, but sufficient for the problem at hand. This system is also associated with a lack of self-control and is most used in daily decisions and situations. Researchers state that the heuristic system is the older system and is evolutionary based, because some survival decisions require quick decision making (Gauffroy & Barrouillet, 2009). System one is also known to be the overpowering system in childhood and infancy. This is due to the later development of the working memory and general intelligence that system two requires to operate (Gauffroy & Barrouillet, 2009).

2.2.2 System two

System two is the analytic system (Table 1). It is evolutionarily recent and is known to be specific to humans. It uses cognition and requires in depth reasoning. System two provides nuance, flexibility, and precision (Tversky & Kahneman, 1975). This system corrects and adjusts the blindness that is associated with the heuristic system. It performs the slow and sequential thinking and uses the central working memory system. Because of this, it is slower than the heuristic system and has a limited capacity (Tsujii & Watanabe, 2009).

Table 1. Characteristics of system one and system two (Meltcalfe & Mischel, 1999)

System 1	System 2
Emotional / Heuristic	Cognitive/ Analytic
Go	Know
Simple	Complex
Reflexive	Reflective
Fast	Slow
Develops early	Develops late
Accentuated by stress	Attenuated by stress
Stimulus control	Self-control

Through life, both system one and two develop into more sophisticated processes as the brain develops and when the two systems agree, impressions turn into beliefs (Tversky & Kahneman, 1975). However, research indicates that most decisions and actions are normally initiative and in most cases done by system one (Kahneman, 2003).

2.3 Heuristics and nudging

Nudging is a possible way to steer consumers towards a choice using a particular choice structure. Since nudges rely on heuristics and heuristics are part of system one thinking, nudges can be effective in an environment where system one is often triggered, such as the fast food environment. There is a great variety in available nudges and the strategy of changing choice architectures is used in both the private and the governmental sector. Personal traits and situational factors like preference can play an important role in the effectiveness of nudges (Van Kleef & Van Trijp, 2016).

The need to make quick decisions in stressful situations can lead to the usage of so-called rules-of-thumbs. These are also called heuristics. A heuristic is a mental shortcut that helps make decisions and judgments quickly without having to spend a lot of time researching and analysing information (Dale, 2015). There are a lot of heuristics and so called rules-of-thumbs that one can use in the decision-making process.

Nudging is a way of using these rules-of-thumbs to guide customers to a particular "responsible" choice. As stated in the introduction, a nudge is: "any aspect of the choice architecture that alters people's behaviour in a predictable way without forbidding any options or significantly changing their economic incentives" (Thaler & Sunstein, 2009). According to Thaler & Sunstein (2009), a successful nudge is cheap to use, easy to refuse, transparent and it helps people to make the decision easier. It is a small and apparently insignificant detail that can have a major impact on people's behaviour. The diversity of existing nudges is large and they can serve different goals and occasions (Thaler & Sunstein, 2009).

Changing choice architectures is a well-known method in the private and the governmental sector. Some governmental institutions try to use nudges to stimulate the population to take the better option (Oullier et al., 2009). Governmental nudging is also referred to as the

government taking a libertarian paternalistic stand, because governmental institutions use nudging to steer consumers voluntarily towards healthier, safer or pro-social behaviour. Some examples are placing basket bins next to frequently used paths, colouring public stairs to stimulate exercise and reshaping lines on roads to slow drivers down (Thaler & Sustein, 2009; Esposito, 2015). Changing choice architectures is also a popular marketing strategy in the private sector. An example is placing products and brands in a prominent position in the stores and on the streets to expose the consumer to a brand or product as much as possible. This is also called the mere exposure effect. This phenomenon implies that people tend to develop a preference for items that they frequently see and become familiar with. By exposing people to their products and brands, marketers increase the preference for their product, even when the stimuli are perceived without awareness (Hekkert et al., 2013). Another marketing strategy that is often used in the private sector is the default option. Taking the default option, or the status quo (inaction), is usually more common than taking the non-status quo option for consumers. According to Jonson & Goldstein (2003), the bias in favour for inaction depends on the suggested norm. When inaction is the norm, the decision maker will be biased to choose the default action (Johnson & Goldstein, 2003). This makes the default option very tempting for decision-makers. The usage of meal bundle is an example of using the default option, since they indicate what the norm is in a particular situation.

Companies and marketers make great use of heuristics to tempt people into choosing their option. The downfall of these strategies used by the private sector is that they are not always used to promote what is best for the customer and they are not always transparent or easy to use or refuse (Thaler, 2015).

2.4 Product bundling

A frequently used form of using choice architecture as a marketing strategy is product bundling. Product bundling is “the practice of selling two or more products in a package”(Chen, 1997). It is a common practice and a lot of firms and agencies sell their goods in packages. A product bundle can consist out of different products, as well as out of multiple units of the same commodity (Adams & Yellen, 1976). Well-known examples are Microsoft packages, special menu deals and insurance packages (Bhargava. 2012). By bundling a product with a less preferred product, the consumer can be steered into buying the less preferred option.

2.4.1 Bundling as a marketing strategy

In the private sector, some firms offer their consumers a choice between the separate products or a bundle. This strategy is called the mixed bundling strategy since they mix products in bundles, but the option to buy them separately still exists. Another strategy is the pure bundling strategy. A company using this strategy only offers bundles and thus the consumer can only purchase the entire bundle or nothing (Bakes & Brynjolfsson, 1999).

Another possible categorisation of bundling is based on the sort of products. These categories are joint-bundling, leader bundling and mixed-leader bundling. Joint bundling is when two products are offered together for the bundled price. Leader bundling is offering a discount for a leader product when it is sold in conjunction with a non-leader product. The leader product is priced higher in most cases, whereas the second item is priced lower (Simon et al., 1999). This means that there is no option to buy the leader product separately. The mixed-leader bundling strategy is one where a variant of leader bundling strategy, however, the leader products can also be bought on its own (Guiltinan, 1987). Which bundling strategy to use is dependent on the firm using the strategy and the product categories the firm produces. In general, bundling items together makes consumers purchase items that they would not ordinarily purchase if they were sold individually (Sharpe & Stealin, 2010).

Product bundling has also become a common marketing tool in the food industry and has proven to be a successful business strategy (Simonin & Ruth, 1995). Meal bundling is a form of product bundling often used in restaurants. The menu card and the indicated meal bundles are seen as an important marketing tool that can influence choices in the restaurant (Reynolds et al., 2005). Wansink and Love (2014) call this menu psychology: the way in which people perceive, interpret and react to different menu elements. By altering the menu, for example positioning, price, graphics and colours, the consumer can be steered into consuming another option (Panitz, 2000).

3. Study 1: The effect of a meal bundle on the intention to purchase a salad

3.1 Conceptual model and hypothesis study 1

The meal bundle might be used as a nudge to stimulate the sale of salads in a snack bar. To test if the meal bundle can influence the sales of salad, the following hypothesis is formed: the salad offered in a meal bundle will be sold more often than a salad offered as a separate component. Altering the menu by meal bundling in the fast food environment has certain potential factors that could increase the sale of a product. These are: norm aliveness, perceived value for money, and salience of the cue.

Human behaviour is often guided by social norms present in a particular situation. This is controlled by the activation of behaviour that others expect from us (Cialdini & Trost, 1998). These norms are a persuasive form of a mechanism by which behaviour can be directed and therefore social norms can predict a variety of behaviour in social settings (Aarts & Dijksterhuis, 2003). People learn to behave in ways that they think other people approve of and this normative social influence is based on the need to be accepted by the people around us. This is also called the subjective norm. A second kind of norm occurs when we see other's behaviour (the majority) as a source of information and use it to define the norm. These are also referred to as descriptive norms (Aarts & Dijksterhuis, 2003). Particular situational norms can guide social behaviour automatically since they activate mental representations of normative behaviour and these representations provide the knowledge for acting in this situation. The meal bundle can be interpreted as a descriptive consumption norm and the default option, and this has shown to increase sales of the items by 28% (Sustein, 2016; Wansink et al., 2005). Since the meal bundle depicts a consumption norm, indicating that these two options (salad and fries) should be consumed together, the sales of salad can increase. This leads to the following hypothesis: the salad is seen as a more popular choice in a meal bundle compared to selling the salad separately.

According to Wansink and Love (2014), another result from bundling is the increased visibility of the bundled products. When a consumer is looking for one of the bundled products, it also perceives the other, which increases the overall chances of a product to be seen. However, it is key that the target item is in the initial consideration set (Wansink & Love, 2014). Next to this, meal bundles stand out between other products that are sold separately, because bundles are often stressed in the information provided to the customer. This often results in increased sales, even if the price is consistent (Sharpe & Staelin, 2010). By using the meal bundle, the salad is more visible to the public and therefore gets more attention from consumers than other meal options. This leads to the following hypothesis: the salad is more salient in a meal bundle than when sold separately.

The last factor that could positively influence the sales of salads is the perceived value for money. The perception of value is an important factor in the decision-making process. The perceived value for money is the consumer's overall assessment of the utility of a product based on what is received and what is given (Wansink & Love, 2014). Wansink & Love (2014) concluded that consumers pay more attention to the price in fast food restaurants compared to in the more exclusive restaurants. So price perception could play an important role, particularly in the fast food environment. Equivalent deals may be evaluated differently by the consumer depending on how they are presented (Johnson et al., 1999). When one looks at bundled items, the integration or segregation of products can influence the price perception of consumers and thus their perceived value for money (Johnson, 1999). Bundling can create the perception of a higher perceived value for the customer without increasing the objective costs (Tjan, 2010). This is because bundling products creates less transparency in price and the consumer's perceived value differs from its real value (Tjan, 2010). Next to that, many bundles are sold at a discount relative to the individual prices, which lead consumers to view bundles as price promotions even when they are not (Sharpe & Staelin, 2010). A higher perceived value of the products can lead to a better customer satisfaction in most cases, which can increase the intention to buy and the number of sales (Kue et al., 2009). The hypothesis is: *the salad has a higher perceived value for money in a meal bundle, compared to selling it separately.*

To test if the three mediators can influence the sales of salad, the following hypothesis is formed: *the salad offered in a meal bundle will be sold more often than a salad offered as a separate component.*

To conclude, the hypotheses are:

- H1: The salad offered in a meal bundle will be sold more often than a salad offered as a separate component.
- H1a: *The salad in a meal bundle has a higher norm aliveness compared to the salad sold separately.*
- H1b: *The salad is more salient in a meal bundle than when sold separately.*
- H1c: *The salad has a higher perceived value for money in a meal bundle, compared to selling it separately.*

Health while eating out

Next to these three mechanisms, the degree in which people focus on their health while eating out can also affect the number of healthy products bought (Brug, 2008). This is a possible example of a personal trait that could influence the effectiveness of the nudge. When people pay attention to their health, they can be inclined to be influenced more by the nudge than people who do not pay any attention to their health, since they are more receptive to it. This leads to the second hypothesis:

- H2: *The positive effect of a meal bundle will be particularly pronounced for health conscious customers.*

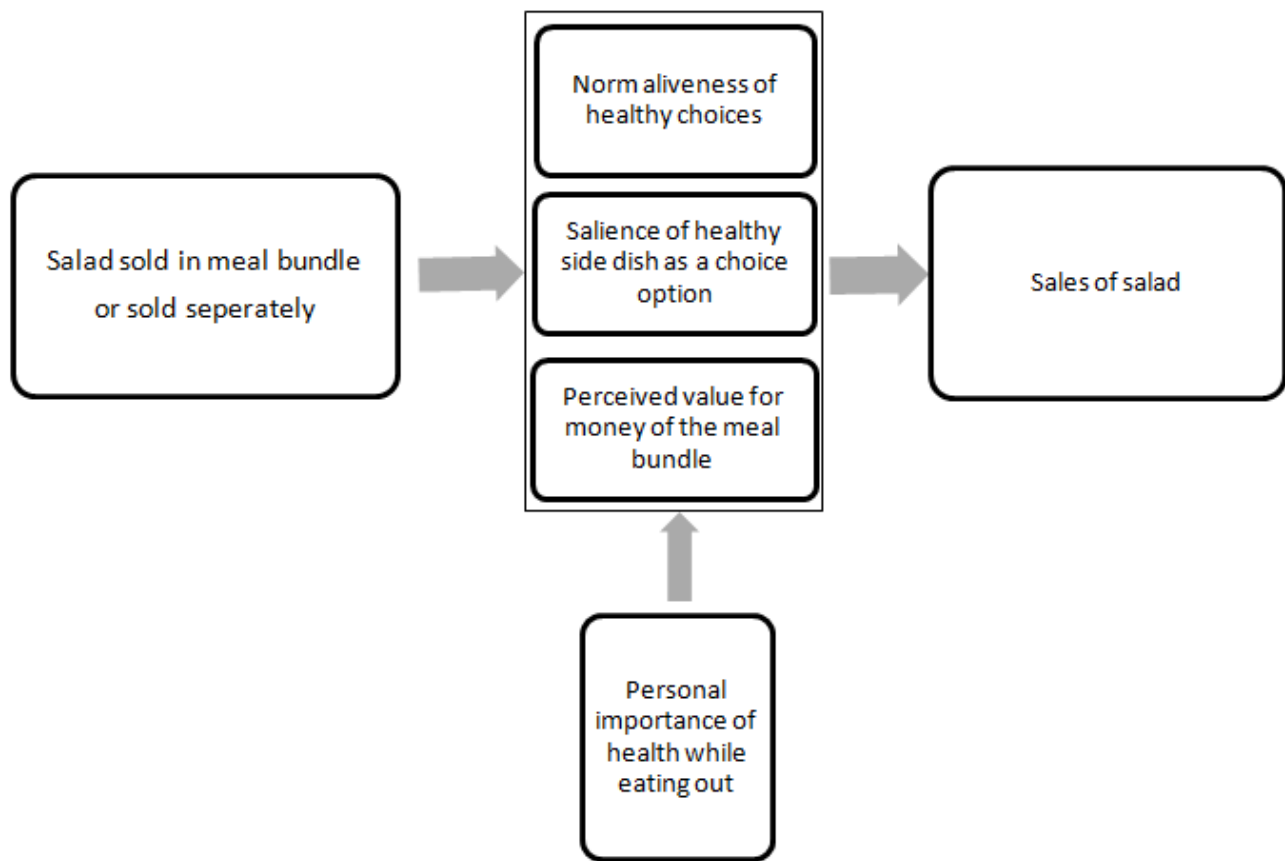


Figure 1. Conceptual model study 1.

3.2 Methodology experiment 1

In the current study, a field experiment in a snack bar was conducted to research the role of the meal bundle in stimulating consumers to eat more vegetables in the form of a single salad. The assumption was made that the meal bundle increases the number of salads bought. This was tested in an experiment. After the experiment consumers were asked to fill in a short questionnaire. The dependent variable was the number of salads sold and the independent variables were the scores on norm aliveness, the salience of the salad and perceived value for money. A possible moderator was the personal importance of health while eating out.

3.2.1 Setting and context

The setting for this experiment was a snack bar called "Cafeteria de Knabbelaar" settled in a village called Gemert. Gemert has around 16.000 inhabitants and is located in the center of the province Noord-Brabant. "Cafeteria de Knabbelaar" is a small snack bar, which can accommodate around 20 people, however, it has its focus on takeaway. The owners of the restaurant are originally from China, which resulted in some Chinese dishes on the menu.

The menu is displayed on signs that are located against the back wall (Figure 2). The family bags of chips and other special items are not on this sign. The family bags are located at two places: namely the back wall and the side wall (Figure 2 and 3). Special offers are spread through the snack bar.

The snack bar is open every day of the week. The opening times vary per day of the week. On Monday they are opened from 16:00 until 23:00. Tuesday, Wednesday and Thursday they are open from 12:00 - 23:00. Friday, Saturday and Sunday they are opened from 12:00- 24:00.



Figure 2. The display in "The Knabbelaar".



Figure 3. Placement of the family bags.

3.2.2 Participants

The survey was presented in Dutch. In both conditions participants decided while ordering to either go for the salad or not. After ordering, guests were presented with a questionnaire. In this questionnaire, participants were assured at the outset that their responses were anonymous. In average 40 participants visited the snack bar per day and in total 139 filled in the questionnaire. Participants aged below 16 were deleted from the data because of ethical reasons. The final number of valid questionnaires was 135. In total 75 males and 60 females participated in the study and filled in the questionnaire. The average age of the participants that filled in the survey was 43,64.

3.2.3 Design

A quasi-experimental design with two conditions was used to study the effect of the meal bundle on the sales of salads in the snack bar. In the first condition a meal bundle was offered, namely fries in combination with a single salad. The second condition was included as a control condition; there was no meal bundle offered and the salad was sold separately (Figure 4). An example of the salad was offered in both conditions so that the consumer had a visual of the salad.

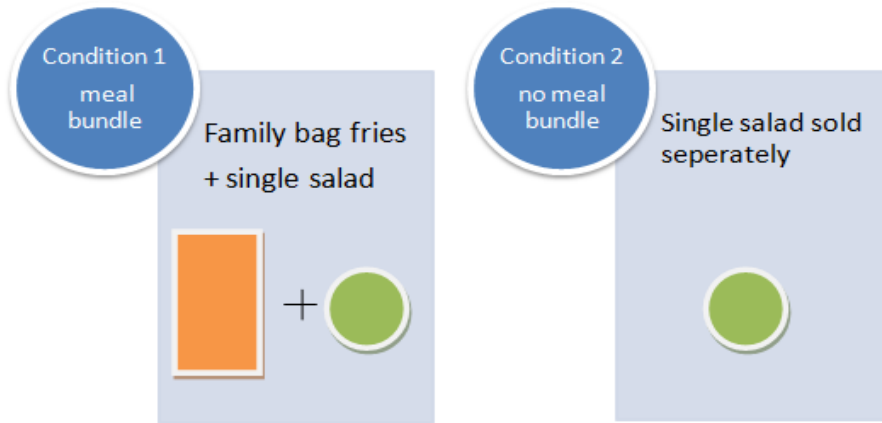


Figure 4. Overview of the two conditions.

The experiment was conducted for five weeks and took place from 9th of January till the 12th of February. The experiment consisted of two blocks. Each block consisted of two weeks; one week for the meal bundle condition and the other week for the separate sale of the salad. Between the two blocks, there was a week of inaction (23-29 January).

Table 2. Overview of planning experiment 1.

Week 1	Meal bundle condition
Week 2	Separate sale of the salad
Week 3	Week of inaction
Week 4	Meal bundle condition
Week 5	Separate sale of the salad

To promote the salad, a promotion sign was placed. The location of this sign differed between the conditions. The sign was placed directly on the family bags in the meal bundle condition (Figure 5). The sign stated: "Combo-deal: salad with fries only for 0.50 euro extra". When the salad was sold separately, the sign was placed below the bags (Figure 6). This sign stated: "Salad for only 0.50 euro."

The guests that visited the snack bar in the selected weeks were participants of the study. The customers were not aware of their participation in this study beforehand and when ordering. When they finished their order, they could fill in a questionnaire.



Figure 5. Placement of the signs in the meal bundle condition.



Figure 6. Placement of the signs in the single salad condition.

3.2.4 Measures

Two different sources of data were used. At first, the data from the register was used to obtain the number of salads sold. Each time a salad is sold, separately or combined, this is recorded in the cash register. This data is collected every night and send to the researcher by the owners of the snack bar.

Next to that, the questionnaire contained questions regarding the sale of salads and questions about their choices and the motives behind these choices. After ordering, guests were asked to fill in a short questionnaire. They were not specifically informed about the target of the study. All questions in the questionnaire were scored on a 5 point Likert scale: completely disagree, disagree, neutral, agree and completely agree.

The first question concerned the choices consumers made while ordering. There were several options for the consumer to choose from: "kroket", "visstick", "klein slaatje", "de combo-deal", "een zak friet" and "geen van deze opties". This question was asked to get more information on the sales of several products. The second question contained several statements, where the customer could score the items on a scale from "completely disagree" till "completely agree".

Norm aliveness

In order to measure if the salad was a popular choice the following statement was presented to the customer: "a lot of customers will buy the meal bundle with the salad".

Salience of the salad

The salience of the salad was measured by the following item: "the option to buy a salad caught my eye".

Perceived value for money

The last mediator, namely perceived value for money was measured by the following statement: "the salad offers me good value for my money".

Personal importance of health while eating out

In order to test the moderator, the personal importance of health while eating out, the following statement was presented: "I find health important while eating out."

Descriptive statements

The questionnaire also contained a statement to find out if people want healthy choices in the snack bar: "I would like to see more healthy options in the snack bar". At the end of the questionnaire, participants gave an indication of the frequency that they visit the snack bar on average and completed personality and demographic measures (age and gender). Because of the fact that consumers have limited time after ordering, the number of items on this questionnaire was kept as small as possible.

3.2.5 Data analysis

Cash register sales data

The data of the cash register was used to test the first hypothesis. The rest of the hypotheses cannot be tested by this data source. For this study, the key dependent variable is the number of salads sold. The independent variable is the condition: the salad as part of a meal bundle or sold separately. Data were analysed by using SPSS 20.0 statistical package. A significance level of $P < 0.05$ was used during this study.

Questionnaire data

Not all guests of the snack bar filled out a questionnaire after their order. Overall, there were 139 guests that have filled out a questionnaire. Some cases were excluded from the analysis, because of the age of the participants ($\text{Age} < 16$, $n=4$). This left 135 cases. The experiment consisted out of two groups. These groups are referred to as the meal bundle group and the single salad group. The name of the group corresponds to the condition of the experiment this group was in.

Data were analysed by using SPSS 20.0 statistical package. Univariate analysis of variance with condition (single salad or meal bundle) as independent variable and the statements from the questionnaire as dependent variables was used in order to check hypothesis 1a, 1b, 1c and 2. A significance level of $P < 0.05$ was used during this study.

3.3 Results

3.3.1 Descriptive statistics

The average age of the sample was: 43,64 (SD=15,57). As a randomisation check, an ANOVA with age as dependent variable and condition as independent variable showed no significant main effect for age ($F=(1)=0.377$, $p=0.540$). The average age of the participants in the meal bundle conditions was 42,80 (SD=15,28). The average age for the single salad condition was 44,45 (SD=15,93).

More males (55,6%) than females (44,4%) have participated in this study. In total 75 males participated and 60 females participated. There was no significant difference in the distribution of males and females across the two conditions ($\chi^2=(1)0.073$, $p=0.863$). The distribution of males and females is graphically displayed in figure 7. The distribution of the products chosen is displayed in table 3.

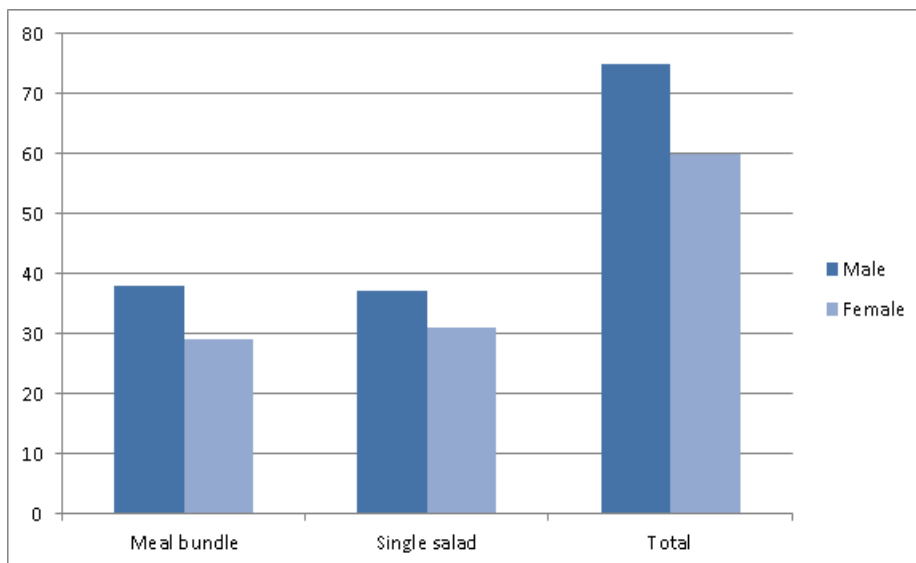


Figure 7. The frequency of gender in each condition.

Table 3. The distribution of products chosen by the customers.

Product	Frequency	Percent
Kroket	14	10,4
Visstick	2	1,5
Klein slaatje	4	3,0
Salad	2	1,5
Bag of fries	66	48,9
None of the above	47	34,8

3.3.2 Hypotheses testing

Register data

Hypothesis H1 was: the salad offered in a meal bundle will be sold more often than a salad offered as a separate component. It was expected that the number of salads sold was higher in the meal bundle condition. Since the number of salads sold was so low (two in the first week, zero in the other three weeks), that there is no possibility to run a statistic analysis on these numbers. Therefore, H1 cannot be accepted.

Questionnaire data

To test the hypotheses H1a, H1b, H1c and 2 seven statements were provided in the questionnaire. Table 3 shows the average scores of the statements after ordering. Univariate analysis of variance with condition (single salad or meal bundle) as independent variable and the statements from the questionnaire as dependent variable revealed two main effects: salience of the salad ($F(1) = 16,207$, $P < 0.05$) and perceived value for money ($F(1) = 5,516$, $P < 0.05$). This means that the salad is more salient in the meal bundle condition compared to sold separately and that the salad in a meal bundle is considered to be better value for money compared to sold separately. The other statements did not significantly differ between the two conditions. This means that the salad is not seen as a more popular choice in a meal bundle compared to selling the salad separately ($F(1) = 0.557$, $P > 0.05$).

Table 4. Average scores and the significance level of the statements.

Constructs	Condition 1:	Condition 2:
	Meal bundle (n=67)	Single salad (n=68)
Norm aliveness	2,46 (1.03)a	2,59 (0.92)a
Salience of the salad	3,18 (1.28)a	2,32 (1.19)b
Perceived value for money	3,49 (1.12)a	3,04 (1.10)b

*Numbers represents mean on 5-point Likert scales.

** Values with a subscript not sharing the same letter are significantly different ($P < 0.05$)

Health while eating out

In order to test the effect of the moderator (personal importance of health while eating out), the group is divided into two groups. People who find health important (4 or 5 on the scale) and people who are neutral or do not find health important while eating out (1,2 or 3). This factor was multiplied by the condition (meal bundle or sold separately). The test of between-subjects effects showed no significant levels ($p < 0.05$) (Table 4). This means that the personal importance of health while eating out has no effect on the three mediators (norm aliveness, the salience of the salad and perceived value).

Table 5. Test of between-subjects effects.

Health importance * Condition	Sum of squares	df	F	Sig.
Norm aliveness	0.013	1	0.008	0.928
Salience of the salad	0.013	1	0.008	0.928
Perceived value for money	0.028	1	0.024	0.878

Responses are measured on 5-point Likert scales.

*=P < 0.05.

Comments and remarks from guests

There was room on the bottom of the questionnaire for the guests to give suggestions or comments. Some guests did and the most relevant comments were selected and written down:

1. "I come here to eat fries once a week, to treat myself".
2. "I eat healthy six days a week, so I think it is okay to eat unhealthy once a week".
3. "I come here to eat fries, not to eat salad..."

3.4 Conclusion and discussion

Overweight is a big problem in modern society. The intake of vegetables can decrease overweight and therefore prevent noncommunicable diseases such as cardiovascular diseases, diabetes, musculoskeletal disorders and some cancers (Serdula et al., 1996; WHO, 2016).

The aim of this study was to investigate how a meal bundle can be used as a nudge to stimulate the intake of vegetables in a snack bar setting. The nudge would be successful if the number of people that choose the salad was significantly higher when the meal bundle was added to the menu. In this study, two manipulations were tested. The first condition was the meal bundle condition. In the second condition, the salad was offered as a separate item. The key dependent variable was the number of salads sold. Mediators influencing this process were: norm aliveness, the salience of the salad and perceived value of the salad. A possible moderator was the personal importance of health while eating out. It was expected that the number of salads sold was higher in the meal bundle condition.

The present study showed that a nudge in the form of a meal bundle did not increase the number of salads sold in a snack bar. However, the nudge did lead to increased salience of the salad and an increased perceived value for money of the salad. The level of personal importance of health while eating out did not have a significant effect on the salience of the salad, the perceived value of money of the salad or on the norm aliveness.

Existing literature shows that nudges have proven to be effective in many different situations (Duffy & Verges, 2008; Goldstein et al., 2008; Nolan et al., 2008). However, effects of nudging may vary depending on personal traits and environmental conditions (Van Kleef & Van Trijp, 2016). According to Sunstein (2016), there are two main reasons for the failure of nudges. The first reason involves personal preference on the part of the chooser (Sunstein, 2016). This is also called a preference differential (Van Kleef & van Trijp, 2016). According to Van Kleef and Van Trijp (2016), nudges can make a difference, but probably only in occasions where consumers are indifferent between available options. This indifference can be due to consumers not understanding their preferences, holding these preferences weakly or because consumers are not able to perform the trade-offs necessary when they are in a situation with competing preferences (Willis, 2013). Personal traits and environmental conditions can have an influence on this preference differential (Van Kleef & Van Trijp, 2016). According to Sunstein (2016), the second reason involves successful "counter nudges," which persuade people to choose in a way that confounds the efforts of choice architects. In most cases, it is because self-interested actors have the incentive and the opportunity to use a counter nudge, to steer people into their preferred way (Sunstein, 2016). Going to the snack bar could be an occasion where the consumer is not indifferent between healthy and unhealthy.

There are several areas in which the internal and external validity could be increased. First of all, this field experiment was conducted for several weeks in one snack bar. In order to investigate the effectiveness of the nudge further and to strengthen the results, an experiment of bigger scale must be conducted. This means that both the length of the experiment and the sample size of the experiment have to be increased. Secondly, not all customers were aware of the special deal with the salad. The salad was not an item on the menu before and was not present on the menu board. The salad was visible in the showcase, and a sign was placed near the family bags (either on the bags or underneath the bags). In order to make the results more valid, the salad should be more salient. This could be done in several ways. Examples are: a more salient sign (bigger/bolder), multiple signs, and the personnel asking if the customer would like a salad as a side dish. Next to that, not all customers filled in a questionnaire. The questionnaires were spread inside the snack bar and customers could take one to fill in. In order to increase the number of completed questionnaires, the personnel could have handed the questionnaires directly to the customers after the order was taken with a request to fill them in. This would increase sample size and therefore increase external validity. Several items in the questionnaire were measured with only one question per item. The small amount of questions was due to the limited time the customer had after ordering. In order to increase internal validity, the number of questions per construct has to be increased. There are several customers who ordered by telephone. This means that they could have not seen the special deal. Despite the fact that they did not order at the counter, they were able to see the signs on the walls and fill in the questionnaire while waiting in some cases.

As mentioned in the results section, some guests indeed indicated that their goal was to eat unhealthily in this particular occasion. It is interesting to check whether the occasion plays a role on the eating-intention of a particular product. In order to check if occasion has an influence on purchase intention, a follow-up study is needed.

This study has shown that nudges are clearly not a "magical" and unconditioned way to steer consumers towards a desired choice. In order to make nudges more successful, more research has to be done in real life conditions.

4. Study 2: The influence of the situation on the effectiveness of a meal bundle

4.1 Conceptual model and hypothesis study 2

As mentioned before, there are several reasons for a nudge not to work. One possible reason is the preference for appropriate food in a particular occasion. Some participants of the previous study indeed mentioned that they only came to the snack bar with a specific goal: to eat fries and snacks and therefore to eat unhealthily. It is interesting to see if the occasion has an influence on buying intention. In order to check this, a follow-up study was conducted.

This second study investigates the influence of the occasion on intention. Therefore the following hypothesis is formed: The intention to buy a meal consisting out of fries, a snack and a side salad is higher in the snack bar than in the supermarket and at work.

Expected is that the occasion, in this case the snack bar, where the decision to buy is made can positively influence the perceived levels of indulgence, healthiness and desired frequency of a meal. This means that customers give higher ratings on the levels of these three constructs when the decision is made in the snack bar. Hypotheses 2a is: the snack bar occasion has a positive influence on the perceived level of indulgence of a meal consisting out of fries, a snack and a side salad. H2b is: the snack bar occasion has a positive influence on the perceived level of healthiness of a meal consisting out of fries, a snack and a side salad. And h2c is: The snack bar occasion has a positive influence on the desired frequency of consumption of a meal consisting out of fries, a snack and a side salad.

The perceived levels of indulgence, healthiness and the desired frequency are expected to have a positive influence on the appropriateness of a meal. First of all, the level of healthiness of a meal can influence the appropriateness of a meal in a particular situation. In some occasions it is more appropriate to eat unhealthy than in other occasions (De Ridder et al., 2013). Directly linked with this is the level of indulgence of a meal. In some occasions, one has a goal to indulge themselves. Some meals have a higher level of indulgence than others and therefore some meals are more or less appropriate in a particular situation. The last factor of appropriateness is the desired frequency. At some occasions, meals are consumed more frequent than others, and this could influence the appropriateness of a meal in a particular occasion. Therefore H3a, 3b, and 3c are: the perceived levels of indulgence, perceived levels of health and the desired frequency have a positive influence on the level of appropriateness of a meal in the snack bar.

A number of studies point to the importance of understanding food consumption by using appropriateness measures (Schutz, 1988; Elzerman et al., 2011). Shutz (1988) stated that appropriateness as an aspect of food attitudes makes a significant contribution to the understanding of food behaviour. Appropriateness is learned during childhood and the appropriateness of a food combination is affected by experience and expectations of a dish (Elzerman et al., 2011). The fourth hypothesis is: the perceived appropriateness of a meal

consisting out of fries, a snack and a side salad is higher in the snack bar than in the supermarket or at work.

Despite the current changes in our food patterns, the occasion remains an important influence on food selection (Marshall, 1993). If the level of appropriateness of a meal is too low, this could lead to less consumption of a particular meal. Therefore the last hypothesis is: a higher level of appropriateness of a meal has a positive influence on buying intention.

To conclude:

- H1: The intention to buy a meal consisting out of fries, a snack and a side salad is higher in the snack bar than in the supermarket or at work.
- H2a: *The snack bar occasion has a positive influence on the perceived level of indulgence of a meal consisting out of fries, a snack and a side salad.*
- H2b: *The snack bar occasion has a positive influence on the perceived level of healthiness of a meal consisting out of fries, a snack and a side salad.*
- H2c: *The snack bar occasion has a positive influence on the desired frequency of consumption of a meal consisting out of fries, a snack and a side salad.*
- H3a: *A higher level of perceived indulgence of a meal in the snack bar has a positive influence on the level of appropriateness of a meal in the snack bar.*
- H3b: *A higher level of perceived health of a meal in a snack bar has a positive influence on the level of appropriateness of a meal in the snack bar.*
- H3c: *A higher level of desired frequency of consumption of a meal in the snack bar has a positive influence on the level of appropriateness of a meal in the snack bar.*
- H4: The perceived appropriateness of a meal consisting out of fries, a snack and a side salad is higher in the snack bar than in the supermarket or at work.
- H5: A higher level of appropriateness of a meal has a positive influence on buying intention.

In order to investigate if the occasion does play a role on eating intention the following model was created:

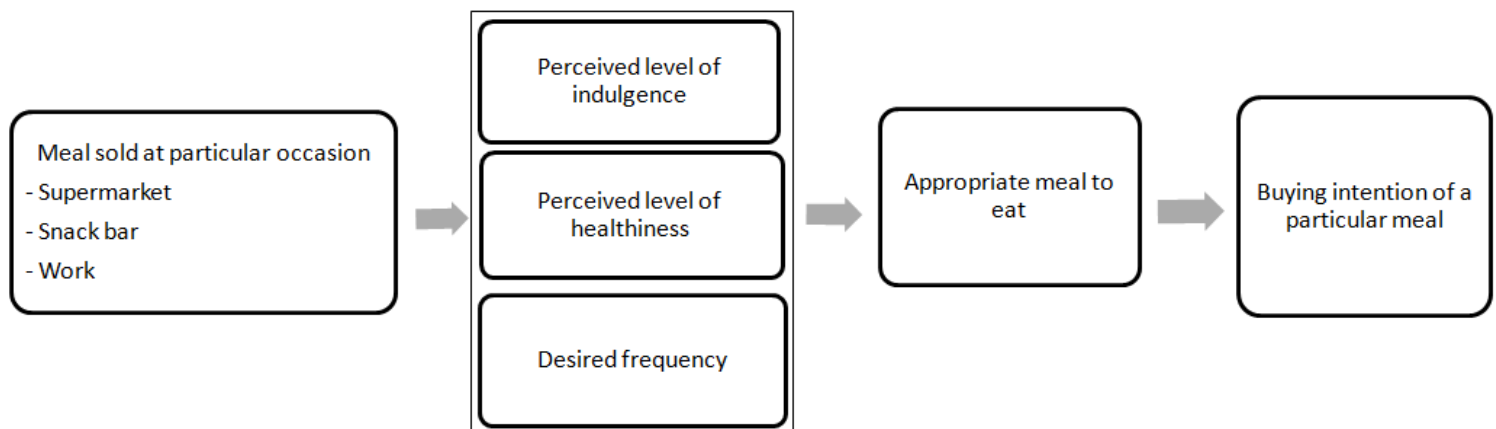


Figure 8. Conceptual model study 2.

4.2. Methodology experiment 2

4.2.1 Participants

The survey was spread via Facebook. In this questionnaire, participants were assured at the outset that their responses were anonymous (informed consent). Incomplete questionnaires were deleted from the dataset (11). The final number of valid questionnaires was 69. In total 27 males (39,13%) and 42 females (60,87%) participated in the study. The average age of the participants that filled in the online survey was 29,94. The survey was presented in Dutch.

4.2.2 Design and procedure

An online experiment was conducted to research the role of occasion on the intention to buy a particular meal. The assumption was made that the occasion influences the buying intention. This was tested in an online experiment. The dependent variable was the intention to buy, and the independent variable was the occasion: at home, at work or the snack bar.

A within-subjects design with three conditions was used to study the effect of the occasion on buying intention. The conditions were presented in a random order, and all conditions were presented to the participant. The conditions were: at the supermarket, in the canteen and the snack bar. The same questions were asked in each one of the three conditions. People were asked to participate and fill in an online questionnaire via Facebook. The questionnaire was online and available between the 28th of March and the 18th of April.

The questionnaire contained questions regarding the intention to buy the meal and questions about their choices and motives behind these choices. After the informed consent, the respondent is asked to rate several statements in three different conditions: at work, at the supermarket or the snack bar. The three conditions were presented in a random order to the respondents. At the beginning of each condition, the condition was briefly explained by a text and a graphic display. After this, the respondent is asked to rate several statements on a 7-point Likert scale (totally disagree, disagree, somewhat disagree, neutral, somewhat agree, agree, totally agree.) The statements did not vary between conditions. After the statements, a few descriptive questions were asked. These concerned frequencies of going to the snack bar and eating particular items, linking particular items (fries, snacks, and salad) and gender, age, diet and nationality.

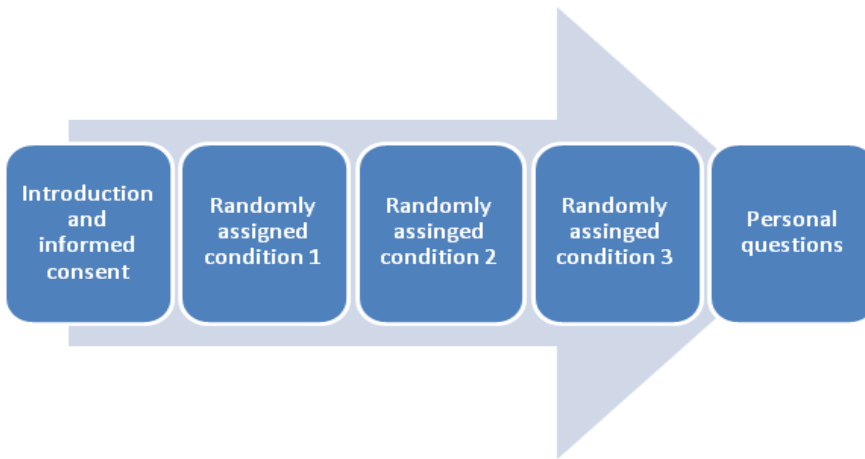


Figure 9. Overview of the flow of the questionnaire.

4.2.3 Measures

Intention to buy

To test the intention to buy the meal in the situation the following statements were formulated: "I would buy this meal in this situation" and "this meal looks appetizing".

Appropriateness

The statement "This meal is appropriate for this situation" was formulated in order to measure the appropriateness of the meal in a particular situation.

Perceived level of healthiness

In order to measure the perceived level of healthiness of the meal, the next two statements were formulated: "This meal is healthy" and "This meal is a responsible option".

Desired frequency

To be able to measure the desired frequency the following statements were formulated: "I could eat this meal more than once a week" and "I would only select this meal occasionally". The scores for the statement "I would only select this meal occasionally" were reverse coded in order to compare the results.

The perceived level of indulgence

The perceived level of indulgence was measured by the following statements: "This is a meal to indulge myself with" and "I would indulge myself with this meal on this particular moment".

Descriptive measures

Age, gender, and nationality are measured in order to check for validity. Frequency of consumption and liking of fries, snacks and salads are measured to correct results for these factors.

Internal consistency

In order to check the internal consistency of the statements in the questionnaire, the Cronbach's alpha (α) is determined. The scores on the statements were reversed when needed. Results are reliable when $\alpha > 0.7$. The results of a reliability analysis (SPSS) are shown in table 6.

Table 6. The Cronbach's alpha for the three concepts.

Construct	Statements	Chronbach's alpha
Health	This meal is healthy	0.775
	This meal is a responsible option	
Indulgence	I would indulge myself with this meal on this particular moment	0.841
	This is a meal to indulge myself with	
Frequency	I could eat this meal more than once a week	0.476
	I would only select this meal occasionally (REV CODED)	

To test the hypothesis, the average scores for the perceived level of indulgence and perceived level of healthiness were calculated. Further test will be based on these averages. Cronbach's alpha was not high enough for desired frequency. Both items were tested separately for the results.

4.2.4 Data analysis

A one-way ANOVA (repeated measures) model was used in order to test the hypotheses H1, H2a, H2b, H2c, and H4. In order to test H3a, H3b, H3c, and H5, a linear regression model was used. Data were analysed by using SPSS 20.0 statistical package. A significance level of $P < 0.05$ was used during this study.

4.3. Results

4.3.1 Descriptive statistics

The average age of the sample was: 29,94 (SD= 1,79). More females (60,9%) than males (39,1%) have participated in this study. In total 27 males participated and 42 females participated. Within the group of 69 participants, 7 participants were vegetarian or vegan (10,1%). There was one participant that did not have the Dutch nationality (1,4%). Once a month is the most chosen frequency for people to visit the snack bar (Figure 10).

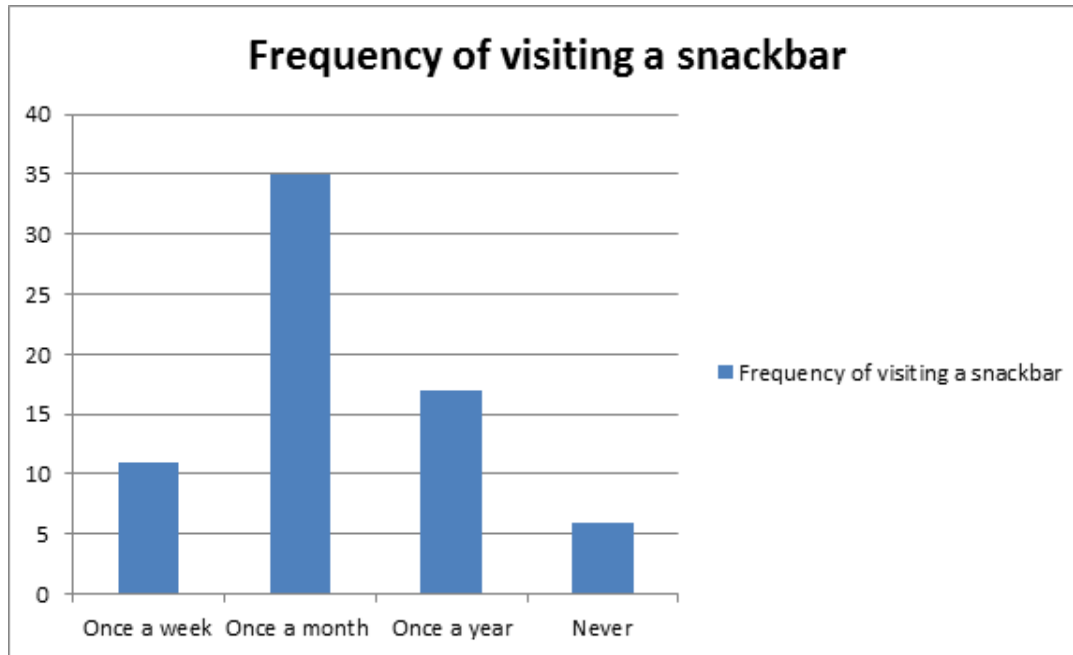


Figure 10. The frequency of visiting a snack bar.

The scores for the scores on liking products (fries, snack, and salad) and the scores on the quantity of consumption of these products are displayed in figure 11. The items for liking were rated on a 7-point Likert scale (totally disagree, disagree, somewhat disagree, neutral, somewhat agree, agree, totally agree). The items for consumption frequency of the three items were rated on a 5 point scale (once a month or less, 2-3 times a month, one time a week, 2-3 times a week, every day). The scores for consumption frequency are displayed in figure 12.

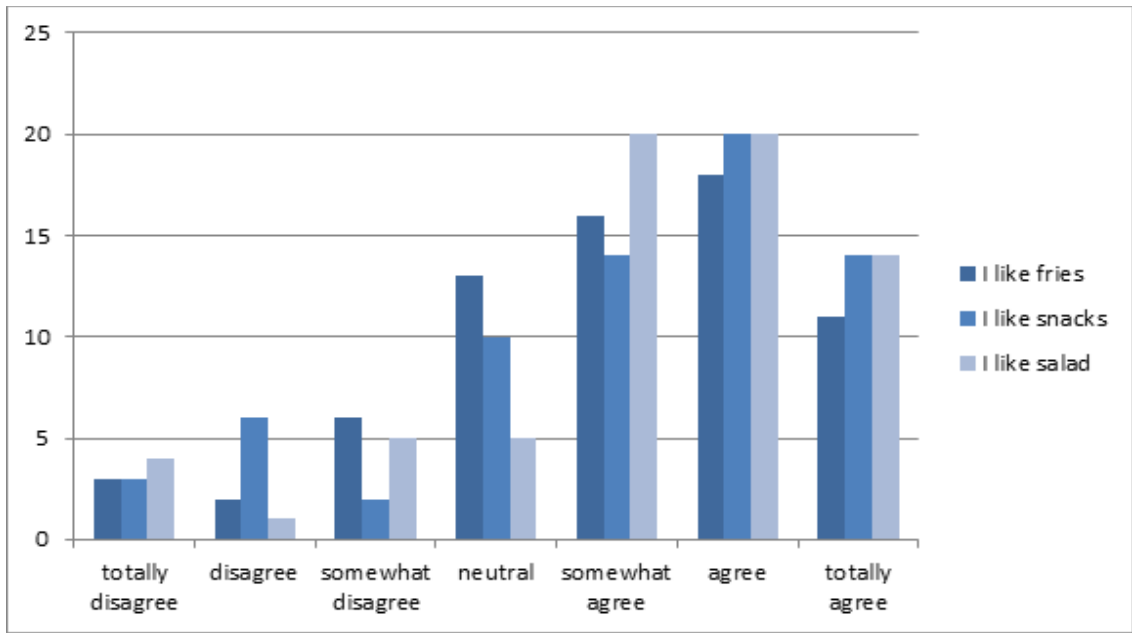


Figure 11. The scores on liking products.

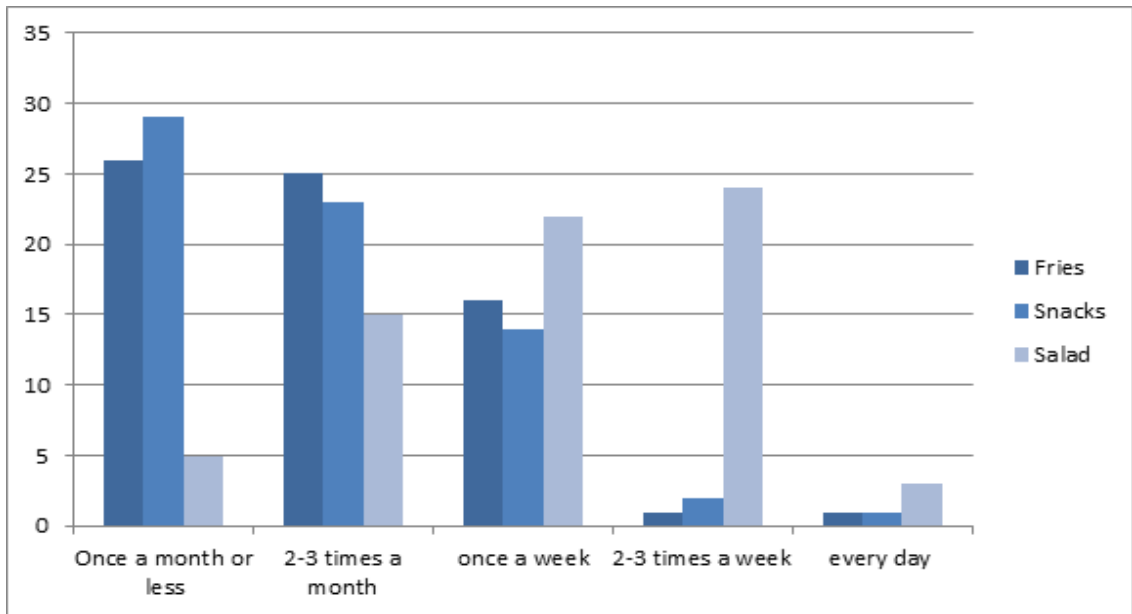


Figure 12. The scores on the frequency of consumption.

Correlation between items

There was a significant correlation between the liking of products and the frequency of consumption. All other factors did not correlate significantly (Table 7).

Table 7. The correlation between frequency of consumption, liking of products, gender, age, and diet.

	Frequency of consumption	Liking of products	Gender	Age	Vegan/Vegetarian
Frequency of consumption	1	0.388*	-0.032	0.231	0.188
Liking of products	0.338*	1	-0.017	0.018	0.074
Gender	-0.032	-0.017	1	-0.039	-0.073
Age	0.231	0.018	-0.039	1	0.122
Vegetarian	0.188	0.074	-0.073	0.122	1

4.3.2 Hypotheses testing

A repeated measured ANOVA with a Greenhouse-Geisser correction determined that the level of buying intention differed statistically significantly between occasions ($F(1,985)= 67.216$, $P < 0.05$). This means that there is a significant difference between occasions. Post hoc tests using the Bonferroni correction revealed that there was a slight difference between the influence of the conditions supermarket and canteen on the intention to buy a particular meal, which was not statistically significant ($P= 0.099$). However, the snack bar condition did significantly differ from the canteen and the supermarket condition ($P<0.05$). We can conclude that buying intention of a meal consisting out of fries, a snack and a salad was highest in the snack bar occasion. Results are shown in table 8.

Table 8. The influence of occasion on buying intention.

Constructs	Snack bar	Work/canteen	Supermarket
Buying intention	5.12(1.6)a	3.09(1.6)b	2.58(1.5)b

*Numbers represents mean on 7-point Likert scales.

** Values with a subscript not sharing the same letter are significantly different ($P<0.05$)

In order to test H2a, H2b and H2c, a one-way ANOVA (repeated measures) with the scores for occasion as the independent variable and the perceived levels of healthiness, indulgence, and desired frequency as the dependent variable was executed. Results are shown in table 9.

Levels of perceived healthiness differ significantly between occasions ($F(1,858)=3,383$, $P<0.05$). Levels of perceived indulgence also differ between occasions ($F(1,618) =106.7$, $P<0.05$). The levels of frequency (for both constructs) did not differ between conditions. Results show that the perceived levels of healthiness of a meal and indulgence of a meal are highest in the snack bar occasion.

Table 9. The influence of occasion on the perceived level of healthiness, indulgence, and desired frequency.

Constructs	Snack bar	Work/canteen	Supermarket
Perceived level of healthiness of the meal	2.15 (1.2)a	1.87 (0.9)b	1.90 (0.9)c
Perceived level of indulgence level of the meal	7.06 (2.3)a	4.30 (1.8)b	4.07 (1.9)c
Desired frequency of consumption of the meal			
- I could eat this meal more than once a week	2.46 (1.6)a	2.29 (1.4)a	2.00 (1.4)a
- I would only select this meal occasionally	5.01 (1.7)a	5.13 (1.6)a	5.29 (1.6)a

*Numbers represents mean on 7-point Likert scales.

** Values with a subscript not sharing the same letter are significantly different ($P<0.05$)

In order to test hypothesis 3a, 3b and 3c, a simple linear regression was calculated. A linear regression with the perceived level of indulgence, perceived level of healthiness and the two statements for frequency as independent variables and with the level of appropriateness as dependent variable established that the perceived levels of these three constructs could statistically significantly predict the appropriateness of a meal ($F(4)=6.51$, $p<0.05$).

Hypotheses 4: 'The perceived appropriateness of a meal consisting out of fries, a snack and a side salad is higher in the snack bar than in the supermarket or at work", was tested by a repeated measure ANOVA with a Greenhouse-Geisser correction. This test determined that there was a statistically significant difference of the level of perceived appropriateness of a particular meal between occasions ($F(1.998)=101,380$, $P < 0.05$).

This means that the perceived appropriateness of a meal differs between occasions.

Post hoc tests using the Bonferroni correction revealed that there was a significant difference between all three of the conditions. Results show that the perceived level of appropriateness of a meal consisting out of fries, a snack and a salad is highest in the snack bar condition. The scores on perceived appropriateness are second highest for the canteen occasions and lowest for the supermarket occasion. Results are shown in table 10.

Table 10. The influence of occasion on the perceived appropriateness of a particular meal.

Constructs	Snack bar	Work/canteen	Supermarket
Perceived appropriateness	5.59 (1.3)a	2.96(1.5)b	2.58(1.5)c

*Numbers represents mean on 7-point Likert scales.

** Values with a subscript not sharing the same letter are significantly different ($P < 0.05$)

The last hypothesis (H5) was tested with a linear regression with the appropriateness of a meal as independent variable and buying intention as dependent variable. This showed a significant and positive effect on buying intention ($F(1)=318.438$, $p < 0.05$). It accounted for 60,6% of the explained variability.

4.4. Conclusion and discussion

The role of the snack bar as an occasion on eating intention was unclear in the previous study. This study was conducted in order to investigate if and how occasion can influence the intention to buy a particular meal (fries, snack, and salad). In this study, three occasions were tested in an online experiment: the supermarket, the snack bar, and the canteen. Respondents were asked to rate a meal on several statements in the three different occasions.

Results have shown that the intention to buy a particular meal differs significantly in the snack bar compared to the canteen or the supermarket. The intention to buy the meal consisting out of fries, a snack and a salad was the highest in the snack bar condition, followed up by the canteen condition. This means that customers had the highest intention to buy this meal in the snack bar condition. Participants had the least intention to buy the meal in the supermarket condition. Results have also shown that occasion has an influence on the perceived level of healthiness and on the perceived level of indulgence of a meal. This means that where one buys influences how healthy and how indulgent one finds a meal. When a meal (consisting out of fries, a snack and a salad) was bought in the snack bar, the meal was considered to be healthier and more indulgent compared to the same meal bought in a canteen or in the supermarket. Next to that, the levels of indulgence, perceived level of healthiness and frequency have a positive influence the level of appropriateness. Customers find the meal most appropriate in the snack bar condition. The meal was less appropriate to consume at work or in the supermarket. Furthermore, results have shown that appropriateness has a positive influence on buying intention.

As mentioned in the literature section, several stimuli and cues can influence the consumer state (Mosavi & Gheadi, 2013). The stimuli that are present in the snack bar can differ from those on other occasions, such as the supermarket or the canteen at work. The difference in these stimuli between occasions can be a reason for the different desired levels of indulgence, healthiness, and desired frequency of a meal. These influence the perceived appropriateness of a meal and thus lead to differences in buying intention. Another possible explanation is the reason that drives people to go to a particular occasion. Consumers could have made a decision to go to a particular occasion, because they have a preference for the particular food that is served on the occasion. If one desires a particular meal one often goes to the occasion where that meal is appropriate since the food at this occasion can conform with the desired level of healthiness, the desired frequency of consumption and with the desired level of indulgence. Literature has shown that If food is served in an inappropriate occasion it can decrease intention and therefore consumption (Cardello et al., 2000).

There are several areas on which the internal and external validity could be increased. First of all, the questionnaire was spread via Facebook. This means that only Facebook users were able to do the test. Age 25 to 34, at 29.7% of the users, is the most common age demographic on Facebook (Zephoria, 2017). Out of all women active on the internet, 76% uses Facebook. Out of all men active on the internet, 66% uses Facebook (Zephoria, 2017). These divisions of age and gender are also present in the demographic results of the

participants. In order to increase the external validity of the results, the test should be spread via multiple channels. Next to that, some items in the questionnaire were not clear to the participants. The online experiment consisted out of three conditions: in the supermarket, at work or the snack bar. The same meal was offered at all three conditions. Since the meal could not be bought cooked at the supermarket, this could have been confusing to the participants. Another item that could be unclear to the participants was the following statement: 'This meal is a responsible option '. As the word responsible is mostly interpreted as being healthy, it could also have been interpreted in another way. Thirdly, the Cronbach's alpha for the construct desired frequency was not high enough. Another statement should be added to measure desired frequency better and to increase internal validity.

In order to investigate the mechanism that lies behind the influence of occasion on the perceived level of health, indulgence and desired frequency, more qualitative research has to be done. Another interesting research topic is to investigate how predetermined preferences can influence on buying intention.

Nevertheless, one can conclude that the occasion where the decision is made has a big influence on buying intention and therefore can be a very important aspect in the decision-making process.

5. Overall conclusion and discussion

Nudges can be a solution for steering consumers into the right direction and helping consumers making healthier choices in order to decrease overweight and related diseases. However, more real life experiments are needed to confirm the success and investigate the failures of nudges (Van Kleef & Van Trijp, 2016).

Study one showed that bundling makes the salad more salient and customers think that the salad has a higher perceived value when it is bundled. This was in line with existing literature (Wansink & Love, 2014). However, bundling the salad with the fries did not depict a strong consumption norm towards the customers. The salad was not seen as a more popular choice in the bundle. A possible explanation for is the influence of occasion. As mentioned in literature, human behaviour is often guided by social norms present in a particular occasion or situation (Cialdini & Trost, 1998). Fast food restaurants contain a lot of descriptive norms in the form of stimuli (Mosavi & Gheadi, 2013). It is possible that the descriptive norms in the snack bar are stronger than the descriptive norms of a nudge in the form of a meal bundle. Another result from study one was that the positive effect of a meal bundle was not particularly pronounced for health conscious customers. This again could be due to the occasion. Some customers mentioned in their survey that they would allow themselves to eat unhealthy once in a while, and that they came to the snack bar to treat themselves. This means that it is possible that even health conscious customers do not want to eat healthy in this occasion.

The main result of this study was that bundling a salad with fries did not increase the amount of salads sold. Literature showed that consumers in the fast food restaurant are affected by a lot of stimuli that affect consumer state and behaviour (Mosavi & Gheadi, 2013). These stimuli cause stress and therefore people are inclined to make emotional decisions (Hammond, 2000). However, it is possible that these stimuli (also nudges) only work when the signals they send do not differ too much with the original goal of the consumer. This means that for nudges to work effectively, their goal should be aligned with the original goal (Van Kleef & Van Trijp, 2016). Consumer reports (2014) showed that consumers entering a fast food environment did not have the goal to eat healthy. Therefore, it is possible that the nudge of study one did not align with the goal of the consumer entering the snack bar occasion. This could have nullified the effects of the nudge.

A second study was conducted to investigate the influence of occasion on buying intention. This study showed that the occasion influences the perceived levels of indulgence and healthiness of a particular meal. The meal consisting out of fries, a snack and a salad was considered to be healthier when it was bought in the snack bar, compared to the canteen or the supermarket. This could be a confirmation of the fact that the descriptive norms in the snack bar are to eat unhealthy, since customers in the snack bar find this meal relatively healthy among other choices. Customers also find the meal consisting out of fries, a snack and a salad more indulgent in the snack bar than in the other two occasions. This is in line with the fact that people entering this environment had a particular goal to eat unhealthy. Indulgence is often related with eating unhealthy (Lee et al., 2016).

The occasion did not influence the desired frequency of consumption of the consumers. Consumers did not want to consume the meal more often in the snack bar occasion compared to the two other occasions. Study one showed that the snack bar is mostly visited once a month. It is possible that people only want to indulge themselves once in a while, and that the snack bar as an occasion does not influence this number, but is solely the place to do so.

Study two also showed that these factors have a direct influence on the appropriateness of a meal and the level of appropriateness has an influence on buying intention. This means that if a meal is appropriate for a particular situation and it confirms with the consumption norms, this would increase buying intention in this situation (Cardello et al., 2000; Aarts & Dijksterhuis, 2003). Study one has shown that the combo deal did not change the descriptive norms in this situation. The reason for this is that the salad could be seen as to inappropriate in this occasion. Since study two confirmed the important influence of appropriateness on buying intention, it could be the case that the salad was to inappropriate for the occasion, resulting into ineffectiveness of the nudge.

Nudges and the theory behind it are a relatively new phenomenon, and therefore a lot research is needed (Leonard et al., 2008). More and more research shows that nudges are less promising than expected, because of other factors influencing the chooser (Sustein, 2016). This thesis showed an example of a failure of a nudge. It is important to do further research not only into the success, but also into failures of nudges to better understand the effectiveness of nudges. A follow-up study must be conducted in order to check if the occasion is the reason for the nudge not to work. When more information is available about nudges, more effective nudges can be produced and these can be used to guide the consumer towards more responsible choices.

References

- Aarts, H., & Dijksterhuis, A. (2003). The silence of the library: environment, situational norm, and social behavior. *Journal of personality and social psychology*, 84(1), 18.
- Adams, W. J., & Yellen, J. L. (1976). Commodity bundling and the burden of monopoly. *The quarterly journal of economics*, 475-498.
- Alemanno, A., & Sibony, A. L. (Eds.). (2015). *Nudge and the law: A European perspective*. Bloomsbury Publishing.
- Allom, V., & Mullan, B. (2012). Self-regulation versus habit: The influence of self-schema on fruit and vegetable consumption. *Psychology & Health*, 27(sup2), 7-24.
- Amidor, T. (2013). *Has fast food become healthier*. Retrieved December 6, 2016, from: <http://health.usnews.com/health-news/blogs/eat-run/2013/10/21/has-fast-food-become-healthier>
- Ayers, S., Baum, A., McManus, C., Newman, S., Wallston, K., Weinman, J., West, R. (Eds.). (2007). *Cambridge Handbook of Psychology, Health and Medicine*. Cambridge: Cambridge University Press.
- Azar, O. H. (2014). The default heuristic in strategic decision making: When is it optimal to choose the default without investing in information search? *Journal of Business Research*, 67(8), 1744-1748.
- Baker, J., Parasuraman, A., Grewal, D., & Voss, G.B. (2002). The influence of multiple store environment cues on perceived merchandise value and patronage intentions. *Journal of Marketing*, 66(2), 120-141.
- Bakos, Y., & Brynjolfsson, E. (1999). Bundling information goods: Pricing, profits, and efficiency. *Management science*, 45(12), 1613-1630.
- Barkley, Z. R. (2012). *An educational intervention to increase fruit and vegetable consumption in parents of obese and overweight children*. University of North Florida.
- Bhargava, H. K. (2012). Retailer-driven product bundling in a distribution channel. *Marketing Science*, 31(6), 1014-1021.
- Baumeister, R. F., Schmeichel, B. J., & Vohs, K. D. (2007). Self-regulation and the executive function: The self as controlling agent,[in:] *Social Psychology: Handbook of Basic Principles*, ed. AW Kruglanski, ET Higgins.

- Boyland, E. J., Kavanagh-Safran, M., & Halford, J. C. (2015). Exposure to 'healthy'fast food meal bundles in television advertisements promotes liking for fast food but not healthier choices in children. *British Journal of Nutrition*, 113(06), 1012-1018.
- Brug, J. (2008). Determinants of healthy eating: motivation, abilities and environmental opportunities. *Family practice*, 25 (suppl 1), i50-i55.
- Cardello, A. V., Schutz, H., Snow, C., & Leshner, L. (2000). Predictors of food acceptance, consumption and satisfaction in specific eating situations. *Food Quality and Preference*, 11(3), 201-216.
- Centraal Bureau voor de Statistiek (2016). *Leefstijl, preventief onderzoek; persoonskenmerken; 2010-2013*. Retrieved November 2, 2016, from: <http://statline.cbs.nl/StatWeb/publication/?PA=81177ned>
- Centraal Bureau voor de Statistiek (2015). *Nederland eet onvoldoende groente, fruit en vis*. Retrieved November 11, 2016, from: <https://www.cbs.nl/nl-nl/nieuws/2015/17/nederland-eet-onvoldoende-groente-fruit-en-vis>
- Chakraborty, N. (2012). *A socio-psychological analysis of eating behaviors at fast food restaurants* (Doctoral dissertation, University of Toledo).
- Cialdini, R. B., & Trost, M. R. (1998). Social influence: Social norms, conformity and compliance.
- Chen, Y. (1997). Equilibrium product bundling. *Journal of Business*, 85-103.
- Consumer Reports. (2014). *Can healthy and fast food go together?* Retrieved December 6, 2016, from: <http://www.consumerreports.org/cro/magazine/2014/08/can-healthy-and-fast-food-go-together/index.htm>
- Dale, S. (2015). Heuristics and biases The science of decision-making. *Business Information Review*, 32(2), 93-99.
- De Ridder, D., De Vet, E., Stok, M., Adriaanse, M., & De Wit, J. (2013). Obesity, overconsumption and self-regulation failure: The unsung role of eating appropriateness standards. *Health Psychology Review*, 7(2), 146-165.
- Duffy, S., & Verges, M. (2009). It matters a whole lot: Perceptual affordances of waste containers influence recycling compliance. *Environment and Behavior*, 41(5), 741-749.

- Elzerman, J. E., Hoek, A. C., van Boekel, M. A., & Luning, P. A. (2011). Consumer acceptance and appropriateness of meat substitutes in a meal context. *Food Quality and Preference*, 22(3), 233-240.
- Evans, Jonathan St. B.T., & Curtis-Holmes, Jodie. (2005). Rapid responding increases belief bias: Evidence for the dual-process theory of reasoning. *Thinking & Reasoning*, 11(4), 382-389.
- Evans, G. W. (1984). *Environmental stress*. CUP Archive.
- European Report. (2016). *Behavioural insights applied to policy*. Retrieved November 16, from http://publications.jrc.ec.europa.eu/repository/bitstream/JRC100146/kjna27726enn_new.pdf
- Freshfel. (2015). *New Fresfel consumption monitor shows slight recovery in consumption, although overall trend remains downward*. Retrieved November 15, 2016, from [http://www.freshfel.org/docs/2015/Press Releases/20150610 - Consumption Monitor.pdf](http://www.freshfel.org/docs/2015/Press%20Releases/20150610%20-%20Consumption%20Monitor.pdf)
- Gauffroy, C., & Barrouillet, P. (2009). Heuristic and analytic processes in mental models for conditionals: An integrative developmental theory. *Developmental Review*, 29, 249-282.
- Goldstein, N. J., Cialdini, R. B., & Griskevicius, V. (2008). A room with a viewpoint: Using social norms to motivate environmental conservation in hotels. *Journal of consumer Research*, 35(3), 472-482.
- Guiltinan, J. P. (1987). The price bundling of services: A normative framework. *The Journal of Marketing*, 74-85.
- Hammond, K. R. (2000). *Judgments under stress*. Oxford University Press on Demand.
- Hekkert, P., Thurgood, C., & Whitfield, T. A. (2013). The mere exposure effect for consumer products as a consequence of existing familiarity and controlled exposure. *Acta psychologica*, 144(2), 411-417.
- Huck, S., & Wallace, B. (2010). The impact of price frames on consumer decision making. *Report*, 1226, 1.
- Hung, H. C., Joshipura, K. J., Jiang, R., Hu, F. B., Hunter, D., Smith-Warner, S. A., ... & Willett, W. C. (2004). Fruit and vegetable intake and risk of major chronic disease. *Journal of the National Cancer Institute*, 96(21), 1577-1584.
- Johnson E., Goldstein, D. (2003). Do defaults save lives? *Science*, 302, pp. 1338-1339

- Johnson, M. D., Herrmann, A., & Bauer, H. H. (1999). The effects of price bundling on consumer evaluations of product offerings. *International Journal of Research in Marketing*, 16(2), 129-142.
- Kahneman, D. (2003). Maps of bounded rationality: Psychology for behavioral economics. *The American economic review*, 93(5), 1449-1475.
- Kennel, B. (2016). *Healthy food trends drive new products*. Retrieved December 6, 2016, from http://www.huffingtonpost.com/brian-kennell/healthy-food-trends-drive_b_8222388.html
- Kothe, E. J., Mullan, B. A., & Butow, P. (2012). Promoting fruit and vegetable consumption. Testing an intervention based on the theory of planned behaviour. *Appetite*, 58(3), 997-1004.
- Kuo, Y. F., Wu, C. M., & Deng, W. J. (2009). The relationships among service quality, perceived value, customer satisfaction, and post-purchase intention in mobile value-added services. *Computers in human behavior*, 25(4), 887-896.
- Kwon, S., & Jang, S. S. (2011). Price bundling presentation and consumer's bundle choice: The role of quality certainty. *International Journal of Hospitality Management*, 30(2), 337-344.
- Lantos, G. P. (2015). *Consumer behavior in action: Real-life applications for marketing managers*. Routledge.
- Lee, Y. K., Weaver, K., & Garcia, S. M. (2016). I'll Have Fries with That: Increasing Choice Complexity Promotes Indulgent Food Choices. *Psychology & Marketing*, 33(7), 505-515.
- Leonard, T. C. (2008). Richard H. Thaler, Cass R. Sunstein, Nudge: Improving decisions about health, wealth, and happiness. *Constitutional Political Economy*, 19(4), 356-360.
- Lindenmuth, J. E., Breu, C. S., & Malooley, J. A. (1980). Sensory overload. *AJN The American Journal of Nursing*, 80(08), 1456.
- Marshall, D. (1993). Appropriate meal occasions: understanding conventions and exploring situational influences on food choice. *International Review of Retail, Distribution and Consumer Research*, 3(3), 279-301.
- Marteau T., Ogilvie, D., Roland, M., Suhrcke, M. (2011). Judging nudging: can nudging improve population health. *Br. Med. J*, 342, 263.

- Mehrabian, A., & Russell, J. A. (1974). *An approach to environmental psychology*. the MIT Press.
- Metcalf, J., Mischel, W. (1999). A hot/cool system analysis of delay of gratification: Dynamics of willpower. *Psychological Review*, 106 ,3–19.
- Mirmiran, P., Noori, N., Zavareh, M. B., & Azizi, F. (2009). Fruit and vegetable consumption and risk factors for cardiovascular disease. *Metabolism*, 58(4), 460-468.
- Mosavi, S. A., & Ghaedi, M. (2013). Behavioral intention in the luxury fast food restaurant. *African Journal of Business Management*, 7(18), 1845.
- Mullan, B., Allom, V., Brogan, A., Kothe, E., & Todd, J. (2014). Self-regulation and the intention behaviour gap. Exploring dietary behaviours in university students. *Appetite*, 73, 7-14.
- Nielsen. (2015). We are what we eat: healthy eating trends around the world. PDF. Retrieved December 6, 2016, from: <https://www.nielsen.com/content/dam/nielsen-global/eu/nielseninsights/pdfs/Nielsen%20Global%20Health%20and%20Wellness%20Report%20-%20January%202015.pdf>
- Nolan, J. M., Schultz, P. W., Cialdini, R. B., Goldstein, N. J., & Griskevicius, V. (2008). Normative social influence is underdetected. *Personality and social psychology bulletin*, 34(7), 913-923.
- Oullier, O., Cialdini, R., Thaler, R. and Mullainathan, S. (2009). 'Improving Public Health Prevention with a Nudge', in O. Oullier and S. Sauneron (eds), *Improving Public Health Prevention with Behavioural, Cognitive and Neuroscience*. Paris: Centre for Strategic Analysis, pp. 38–46.
- Panitz, B. (2000). Does your menu attract or repel diners. *Reading between the lines: The psychology of menu design*. *Restaurants USA*, 8, 81-87.
- Raghunathan, R., Naylor, R. W., Hoyer, W. D. (2006). The unhealthy = tasty intuition and its effects on taste inferences, enjoyment, and choice of food products. *Journal of Marketing*, 70(4), pp. 170-184.
- Rissanen, T. H., Voutilainen, S., Virtanen, J. K., Venho, B., Vanharanta, M., Mursu, J., & Salonen, J. T. (2003). Low intake of fruits, berries and vegetables is associated with excess mortality in men: the Kuopio Ischaemic Heart Disease Risk Factor (KIHD) Study. *The Journal of nutrition*, 133(1), 199-204.

- Rydell, S. A., Harnack, L. J., Oakes, J. M., Story, M., Jeffery, R. W., & French, S. A. (2008). Why eat at fast-food restaurants: reported reasons among frequent consumers. *Journal of the American Dietetic Association*, 108(12), 2066-2070.
- Schutz, H.G. (1988). Beyond preference: appropriateness as a measure of contextual acceptance of food. *Food Acceptability*, London: Elsevier applied science, 115-134.
- Serdula, M. K., Byers, T., Mokdad, A. H., Simoes, E., Mendlein, J. M., & Coates, R. J. (1996). The association between fruit and vegetable intake and chronic disease risk factors. *Epidemiology*, 7(2), 161-165.
- Sharpe, K. M., & Staelin, R. (2010). Consumption effects of bundling: consumer perceptions, firm actions, and public policy implications. *Journal of Public Policy & Marketing*, 29(2), 170-188.
- Sheeran, P. (2002). Intention—behavior relations: A conceptual and empirical review. *European review of social psychology*, 12(1), 1-36.
- Simon, H., & Wuebker, G. (1999). Bundling—A powerful method to better exploit profit potential. In *Optimal Bundling* (pp. 7-28). Springer Berlin Heidelberg.
- Simonin, B. L., & Ruth, J. A. (1995). Bundling as a strategy for new product introduction: Effects on consumers' reservation prices for the bundle, the new product, and its tie-in. *Journal of Business Research*, 33(3), 219-230.
- Singh, S. (2006). Impact of color on marketing. *Management decision*, 44(6), 783-789.
- Sniehotta, F. F., Scholz, U., & Schwarzer, R. (2005). Bridging the intention—behaviour gap: Planning, self-efficacy, and action control in the adoption and maintenance of physical exercise. *Psychology & Health*, 20(2), 143-160.
- Spence, C., Puccinelli, N. M., Grewal, D., & Roggeveen, A. L. (2014). Store atmospherics: a multisensory perspective. *Psychology & Marketing*, 31(7), 472-488.
- Stremersch, S. (2001). *To bundle or not to bundle?* Marketingprofs Website. Retrieved November 28, 2016, from: <http://www.marketingprofs.com/2/bundling.asp>
- Sunstein, C. R. (2016). Nudges That Fail. *Browser Download This Paper*.

- Thaler, R. (2015). The power of nudges, for good and bad. *The New York Times*. Retrieved November 28, from: http://www.nytimes.com/2015/11/01/upshot/the-power-of-nudges-for-good-and-bad.html?_r=0
- Tjan, A. (2010). *The pros and cons of bundled pricing*. Retrieved December 6, 2016, from: <https://hbr.org/2010/02/the-pros-and-cons-of-bundled-p>
- Triandis, H. C. (1979). Values, attitudes, and interpersonal behavior. In *Nebraska symposium on motivation*. University of Nebraska Press.
- Tsujii, T., & Watanabe, S. (2009). Neural correlates of dual-task effect on belief-bias syllogistic reasoning: a near-infrared spectroscopy study. *Brain research*, 1287, 118-125.
- Tversky, A., & Kahneman, D. (1975). Judgment under uncertainty: Heuristics and biases. In *Utility, probability, and human decision making* (pp. 141-162). Springer Netherlands.
- Urban, L. E. (2014). Temporal trends in fast-food restaurant energy, sodium, saturated fat, and trans fat content, United States, 1996–2013. *Preventing chronic disease*, 11.
- Van Kleef, E., Van Trijp, H. (2016) *Methodological challenges of research in nudging*.
- Voedingscentrum 1a (n.d.) *Groente en fruit*. Retrieved November 11, 2016, from: <http://www.voedingscentrum.nl/nl/gezond-eten-met-de-schijf-van-vijf/hoeveel-en-wat-kan-ik-per-dag-eten-/groente-en-fruit.aspx>
- Voedingscentrum 1b (n.d.) *Over het Voedingscentrum*. Retrieved November 11, 2016, from: <http://www.voedingscentrum.nl/nl/service/over-ons.aspx>
- Wansink, B. (2004). Environmental factors that increase the food intake and consumption volume of unknowing consumers*. *Annu. Rev. Nutr.*, 24, 455-479.
- Wansink, B., Van Ittersum, K., & Painter, J. E. (2005). How descriptive food names bias sensory perceptions in restaurants. *Food quality and preference*, 16(5), 393-400.
- Wellard, L., Glasson, C., & Chapman, K. (2012). Sales of healthy choices at fast food restaurants in Australia. *Health Promotion Journal of Australia*, 23(1), 37-41.
- Willis, L. E. (2013). When nudges fail: Slippery defaults. *The University of Chicago Law Review*, 1155-1229.
- World Health Organization Factsheets. (2016). *Obesity and overweight*. Retrieved November 2, 2016, from: <http://www.who.int/mediacentre/factsheets/fs311/en/>

- World Health Organization. (2008). WHO European Action Plan for Food and Nutrition 2007-2012. WHO: Copenhagen, Denmark.
- Wright, S. (2012). *Causes of obesity. Journal Abdominal Imaging, 37(5), 730.*
- Wyatt, S. B., Winters, K. P., & Dubbert, P. M. (2006). Overweight and obesity: prevalence, consequences, and causes of a growing public health problem. *The American journal of the medical sciences, 331(4), 166-174.*
- Zhong, C. B., & DeVoe, S. E. (2010). You Are How You Eat Fast Food and Impatience. *Psychological Science, 21(5), 619-622.*
- Zephoria (2016) *The top 20 valuable Facebook Statistics - updated April 2016.* Retrieved April 4, 2017, from: <https://zephoria.com/top-15-valuable-facebook-statistics/>

Attachements

1. Questionnaire study 1

- Combo deal

Beste deelnemer,

Allereerst hartelijke dank voor uw tijd en aandacht om mee te werken aan dit onderzoek. Deze vragenlijst draagt bij aan een onderzoek naar consumentengedrag, waarbij wij graag inzicht willen vergaren in hoe de keuze constructie kan bijdragen aan de keuzes van de gasten.

Het invullen van deze vragenlijst zal ongeveer 5 minuten duren. Gegevens worden niet aan derden verstrekt en worden vertrouwelijk behandeld. Voor eventuele vragen kunt u contact opnemen met de onderzoeksleider (Patricia.Biemans@wur.nl). Als u bovenstaande tekst heeft gelezen en akkoord gaat, kunt u beginnen met de vragenlijst.

Welke van deze opties heeft u zojuist besteld?

- ☐ Kroket
- ☐ Visstick
- ☐ Klein slaatje (met huzarensalade)
- ☐ De combo-deal
- ☐ Zak friet
- ☐ Geen van deze opties

Hieronder volgen een aantal stellingen. Kruis aan wat voor u van toepassing is.

	Helemaal mee oneens	Een beetje mee oneens	Neutraal	Een beetje mee eens	Helemaal mee eens
Veel klanten zullen kiezen voor de combo-deal met de salade					
De optie om een combo-deal te nemen viel me op.					
De combo-deal friet en salade biedt waar voor mijn geld.					
Ik vind dat salade en friet bij elkaar passen					
De optie om een salade te nemen was verleidelijk.					
Ik vind gezondheid belangrijk wanneer ik buiten de deur eet of eten afhaal.					
Ik zou graag meer gezondere keuzes willen zien in de snackbar					

Algemene informatie

	Eens per jaar	Eens per maand	Eens per week	2-3 keer per week	Vaker dan 3 keer per week
Hoe vaak bezoekt u een snackbar gemiddeld?					

Geslacht

- ☐ man
- ☐ vrouw

Leeftijd jaar

Als u nog opmerkingen heeft na het invullen van deze vragenlijst kunt u die hier invullen

.....
.....

Bedankt voor het invullen!

- *Separate salad*

Beste deelnemer,

Allereerst hartelijke dank voor uw tijd en aandacht om mee te werken aan dit onderzoek. Deze vragenlijst draagt bij aan een onderzoek naar consumentengedrag, waarbij wij graag inzicht willen vergaren in hoe de keuze constructie kan bijdragen aan de keuzes van de gasten.

Het invullen van deze vragenlijst zal ongeveer 5 minuten duren. Gegevens worden niet aan derden verstrekt en worden vertrouwelijk behandeld. Voor eventuele vragen kunt u contact opnemen met de onderzoeksleider (Patricia.Biemans@wur.nl). Als u bovenstaande tekst heeft gelezen en akkoord gaat, kunt u beginnen met de vragenlijst.

Welke van deze opties heeft u zojuist besteld?

- ☐ Kroket
- ☐ Visstick
- ☐ Klein slaatje (met huzarensalade)
- ☐ Eenpersoons salade (alleen groenten)
- ☐ Zak friet
- ☐ Geen van deze opties

Hieronder volgen een aantal stellingen. Kruis aan wat voor u van toepassing is.

	Helemaal mee oneens	Een beetje mee oneens	Neutraal	Een beetje mee eens	Helemaal mee eens
Veel klanten zullen kiezen voor de eenpersoons salade.					
De optie om een salade te nemen viel me op.					
De salade biedt waar voor mijn geld. (1 euro voor een eenpersoons salade)					
Ik vind dat salade en friet bij elkaar passen					
De optie om een salade te nemen was verleidelijk.					
Ik vind gezondheid belangrijk wanneer ik buiten de deur eet of eten afhaal.					
Ik zou graag meer gezondere keuzes willen zien in de snackbar					

Algemene informatie

	Eens per jaar	Eens per maand	Eens per week	2-3 keer per week	Vaker dan 3 keer per week
Hoe vaak bezoekt u een snackbar gemiddeld?					

Geslacht ☐ man
 ☐ vrouw

Leeftijd jaar

Als u nog opmerkingen heeft na het invullen van deze vragenlijst kunt u die hier invullen

.....
.....

Bedankt voor het invullen!

2. Questionnaire study 2: Occasion

Fijn dat u mee wilt doen aan dit onderzoek van Wageningen Universiteit! Deze vragenlijst gaat over uw voorkeur voor verschillende maaltijden. Het invullen van de vragenlijst zal ongeveer 10 minuten duren. De gegevens zullen anoniem behandeld worden. 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 Patricia (Patricia.Biemans@wur.nl)

Door op 'ja' te klikken geeft u aan dat u bovenstaande heeft gelezen en ermee instemt:

☐ ja, ik doe mee aan dit onderzoek

In deze vragenlijst gaat het over eten kiezen in drie situaties: - in de supermarkt- op het werk of school- in de snackbar. Lees de situatie door. Daarna volgen enkele stellingen over de gerechten die bij de desbetreffende situatie horen. Vul in wat voor u van toepassing is.

Stelt u voor: U bent in de supermarkt en u gaat beslissen wat u gaat eten met het avondeten. Het volgende gerecht is friet met een kroket, fritessaus en een salade.



Geef aan of u het eens bent met de volgende stellingen. Bedenk goed: u bent op dit moment in de supermarkt en gaat beslissen wat u gaat eten met het avondeten.

	Totaal mee oneens	Oneens	Een beetje mee oneens	Neutraal	Een beetje mee eens	Mee eens	Totaal mee eens
Deze maaltijd zou ik vaker dan een keer per week kunnen eten.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deze maaltijd zou ik gebruiken om mezelf te verwennen op dit moment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deze maaltijd is gezond.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik zou deze maaltijd kopen in deze situatie.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deze maaltijd is geschikt voor deze situatie.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dit is een verwen maaltijd.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deze maaltijd zou ik slechts heel af en toe kiezen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deze maaltijd ziet er lekker uit.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deze maaltijd is verantwoord.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Stelt u voor: u bent in de snackbar en u gaat beslissen wat u gaat eten met het avondeten. Het volgende gerecht is friet met een kroket, fritessaus en een salade.



Geef aan of u het eens bent met de volgende stellingen. Bedenk goed: u bent op dit moment in de snackbar en gaat beslissen wat u gaat eten met het avondeten.

	Totaal mee oneens	Oneens	Een beetje mee oneens	Neutraal	Een beetje mee eens	Mee eens	Totaal mee eens
Deze maaltijd zou ik vaker dan een keer per week kunnen eten.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deze maaltijd zou ik gebruiken om mezelf te verwennen op dit moment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deze maaltijd is gezond.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik zou deze maaltijd kopen in deze situatie.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deze maaltijd is geschikt voor deze situatie.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dit is een verwen maaltijd.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deze maaltijd zou ik slechts heel af en toe kiezen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deze maaltijd ziet er lekker uit.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deze maaltijd is verantwoord.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Stelt u voor: u bent in de kantine op uw werk of school en u gaat beslissen wat u gaat eten op dat moment. Het volgende gerecht is friet met een kroket, fritessaus en een salade.



Geef aan of u het eens bent met de volgende stellingen. Bedenk goed: u bent op dit moment de kantine op uw werk en u gaat beslissen wat u gaat eten als lunch.

	Totaal mee oneens	Oneens	Een beetje mee oneens	Neutraal	Een beetje mee eens	Mee eens	Totaal mee eens
Deze maaltijd zou ik vaker dan een keer per week kunnen eten.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deze maaltijd zou ik gebruiken om mezelf te verwennen op dit moment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deze maaltijd is gezond.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik zou deze maaltijd kopen in deze situatie.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deze maaltijd is geschikt voor deze situatie.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dit is een verwen maaltijd.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deze maaltijd zou ik slechts heel af en toe kiezen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deze maaltijd ziet er lekker uit.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deze maaltijd is verantwoord.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Hoe vaak gaat u gemiddeld naar de snackbar?

- ☐ Vaker dan eens per week
- ☐ Eens per week
- ☐ Eens per maand
- ☐ Eens per jaar
- ☐ Nooit

Klik aan hoe vaak u de volgende voedingsmiddelen eet.

	1 keer per maand of minder	2 tot 3 keer per maand	1 keer per week	2 tot 3 keer per week	elke dag
Friet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gefrituurde snack	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Salade	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Geef aan in hoeverre u het eens bent met de volgende beweringen.

- _____ Friet vind ik erg lekker
- _____ Gefrituurde snacks vind ik erg lekker
- _____ Salade vind ik erg lekker

Wat is uw geslacht?

- ☐ Man
- ☐ Vrouw

Wat is uw leeftijd?

_____ Leeftijd

Bent u vegetariër of veganist?

- ☐ Ja
- ☐ Nee

Wat is uw nationaliteit?

- ☐ Nederlands
- ☐ Anders

Aan Wageningen Universiteit worden vaker studies verricht waarvoor wij op zoek zijn naar deelnemers. Mogen wij je hiervoor af en toe (maximaal 1 keer per maand) benaderen per e-mail? Zo ja, schrijf hieronder uw e-mailadres (niet nodig indien u al op deze lijst staat):
Als u nog opmerkingen hebt voor de onderzoekers, kunt u deze hieronder schrijven:

Hartelijk dank voor uw deelname aan het onderzoek! Klik op het pijltje rechts om de vragenlijst in te sturen.