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“The Effect of Weekend on the Implicit and Explicit Attitude towards
(Un)Healthy Snacks”

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Abstract

In this study is investigated whether the difference in week and weekend days influences the implicit and explicit attitude of people towards (un)healthy snacks. The participants in the investigation were split into two groups, the first group taking part in the weekend (n = 24) and the second group on weekdays (n = 29). The experiment consisted of an Implicit Association Test to measure the implicit attitude and an online questionnaire to measure the explicit attitude. The results show that there is no correlation between the implicit and explicit measurements. However, both the explicit and the implicit attitude have a positive association with healthy snacks, this association is stronger for the implicit attitude. Furthermore, the findings do not show a significant effect for the difference in week and weekend days on both the implicit and explicit attitudes of people towards (un)healthy snacks.

Keywords: Implicit attitude, Explicit attitude, IAT, Weekend, Week Days, (un)healthy snacks.

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Introduction

In 2018, more than half of the adults were overweight in the Netherlands (CBS, 2018). This percentage is even higher in America, where two thirds of the population is overweight (CDC, 2017). Overweight not only causes health problems for people, but also increases costs for the government and employers: direct spending on health care for an obese adult is about 42% higher than for an adult with a healthy weight (Finkelstein, Trogon, Cohen & Dietz, 2009). In addition, the expenditure of emergencies on adults with obesity is 28% higher than that on adults with healthy weight, for severe obesity this is even 41% (Peitz et al., 2014). The study of the Global Burden of Disease showed that the daily diet of people is responsible for more deaths globally every year than smoking tobacco is (Afshin et al, 2019).

However, despite the increasing number of persons being overweight, people are more concerned about their weight, to exercise and to eat healthy. To be healthy is not the only reason, being thin is considered as a beauty ideal in the media (Engeln-Maddox, 2006; Evans, 2003). Research shows that the body size and attractiveness showed in media has an effect on a person's behavior towards weight loss (Pan & Peña, 2017). In addition, the internet and social media use has increased considerably in recent years. The amount of social media users is now around 60% in developed countries (Poushter, Bishop & Chwe, 2018). Research shows that an increase in social media usage a positive association with a negative body image has (Fardouly & Vartanian, 2016). The influence of the content of these media provides a driver for thinness (Fernandez, Pritchard, 2012). The Washington Post published the big number of 45 million people who are trying to lose weight each year (Searing, 2018). Despite all the attempts to lose weight, roughly 1% of obese women who attempt to lose weight will return to normal weight. For men, this number is even less than 1%. Which means that in almost all attempts, the person has either failed to lose weight or has gained weight again after the weight loss (Fildes et al., 2015).

Due to the low success rate in the attempts to lose weight, an increasingly more important topic of investigation is why people fail to lose weight (Baumeister & Heartherton, 1994; Frank, 2014;

Vohs & Heatherton, 2000). Several factors are associated with failed weight loss attempts, including automaticity and lack of self-control (Cohen & Farley, 2008; Hofmann, Rauch & Gawronski, 2007), impulsivity or impulsive purchasing (Baumeister, 2002; Nederkoorn, Braet, Eijs, Tanghe & Jansen, 2006; Sengupta & Zhou, 2007), genetics (O’Rahilly & Farooqi, 2006), and environmental factors (Gemson, Commisso, Fuente, Newman & Benson, 2008; Gorin et al., 2008; Hur, Bouchard & Eckert, 1998). A couple of these factors are driven by the automatic behavior and literature shows that in automatic behavior a difference can be made between the implicit and explicit attitude towards (un)healthy eating (Craeynest, Crombez, Koster, Haerens & Bourdeaudhuij, 2008; Maison, Greenwald & Bruin, 2001; Maison, Greenwald & Bruin, 2004; Richetin et al., 2007). Furthermore, research has been conducted into the influence of time on the attempts to lose weight. Results show a higher calorie intake and less physical activity in weekends relative to week days (Haines, Hama, Guilkey & Popkin, 2003; Racette et al, 2008; Thompson et al, 1986). However, it is not examined whether this factor influences the implicit or explicit attitude of people towards (un)healthy snacks. This study investigated whether the time of the week (week or weekend) influences the implicit or explicit attitude of people towards (un)healthy snacks. Therefore, the research question is as follows:

“To what extent does the difference between weekend-weekday influence the implicit and explicit attitude of people towards (un)healthy snacks?”

Literature Review

Explanations of the Failure Weight Loss Attempts

Several investigations have been conducted into the underlying explanations of the failure weight loss attempts. In this literature review the most important factors for diet failure are discussed. Based on existing literature, the factors are described, which drives them, and the effect they have on the failure of weight loss attempts.

Automatic behavior

The effect of automatic thinking processes on behavior is described, among other things, in the 2-system model of Strack & Deutsch, which consists of two processes. First, the reflective process produces behavior actions and decisions based on information of the value of facts. Second, the impulsive process produces behavior based on associative links and motivational orientations. (Strack & Deutsch, 2004). However, Metcalfe & Mischel (1999) described the reasoning of the 2-system model as the cool system, the reflective process, and the hot system, the impulsive process. The reflective component will be larger when the decision is considered to be of a certain level of importance or when the consumers are expecting to be held responsible for the decisions they make. The impulsive component on the other hand, which refers to the automatic process, will be larger when decisions are made through habits, motivational orientations or homeostatic dysregulation (Hofmann, Friese & Wiers, 2008; Strack & Deutsch, 2006). Homeostatic dysregulation means that because of a sudden absence of a basic need a quick change of setting is required. In other words, when a person is thirsty or hungry, the impulsive to eat or drink will be larger (Aarts, Dijksterhuis & De Vries, 2001; Ferguson & Bargh, 2004). In addition to the 2-system model of Strack & Deutsch, Kahneman explained behavior in another two-system model: the two ways of thinking. The first is the fast way of thinking, which is based on intuition without the direct control by our consciousness. This way of thinking is automatic, fast, and it requires little to no effort. The second one is the slow way of thinking, for which rules and reasoning is used. This kind of mental activities require a lot of attention and effort (Kahneman, 2011). These two ways of thinking can also be noticed in the mistakes made during the weight loss process (Ares, Mawad,

Gimédez & Maiche, 2014). In case of the well-considered choice, such as a Christmas dinner or a birthday, a person consciously decides to eat certain products. In case of the fast way of thinking, a person makes an ill-considered choice, such as the impulsive purchase or consumption of a snack.

In Bargh's work, "The Four Horsemen of Automaticity" are mentioned as character traits of automaticity. These characteristics are: (un)awareness, (un)intention, (non)efficiency, and (un)controllability (Bargh, 1994). He showed that most automatic processes could be divided into three categories: preconscious (no consciousness or intention needed), post conscious (only consciousness needed), and goal dependent (both consciousness and intention needed) (Bargh, 1989; Bargh, 1992). Research into the theoretical view of the automatic process investigated all the features of automaticity in existing literature separately and found a lot of assumptions and overlap between the features. Therefore, they conclude that the automatic process is often used as an umbrella name, but that the features of the automatic may differ per subject and must be defined more specifically (Moors & De Houwer, 2006). Previous research tested, within an experimental design, whether "eating" is an automatic process. To measure the features of "eating", the "Three Factors Eating Questionnaire", the "Self-Control Scale", the "Barret Impulsive Scale", and the "Yale Food Addiction Scale" were used (Moldovan & David, 2012). Considering that "eating" has the features uncontrollable, unaware and efficient, which are explanatory features of the automatic process, the results support the hypothesis of this study: "Eating Is an Automatic Behavior" (Moldovan & David, 2012; Verplanken & Aarts, 1999).

Some of the reasons why people are unable to lose weight, can therefore be explained by their automatic behavior. However, what drives that automatic behavior? Automatic behavior is mainly driven by the unconscious preferences of people, which is the unconscious attitude of people towards a sub- or object, and the environment of a person (Marteau, Hollands & Fletcher, 2012). Eagly & Chaiken (1995) described an attitude as a psychological tendency to evaluate specific situations or things in a particular manner. In addition, the accessibility of attitudes in our memory contributes to the relationship in which an attitude leads to certain behavior. Seeing unhealthy food or the advertising of it can, through an automatically activated attitude, cause an impulsive

action. This impulsive action can lead to buying or eating unhealthy food (Goodall & Slater, 2010). Some researchers consider attitudes to be the main determinants of human behavior (Bohner & Wänke, 2004). Therefore, attitudes are valuable in research in the motivations and behavior of individuals and groups (Aronson et al., 2004; Bohner & Wänke, 2004). Ajzen & Fishbein (2000) assumed that when beliefs are formed about a specific attribute object, attitudes arise automatically and suddenly. When a person is exposed to this attribute object, these attitudes become immediately available. Within the attitude of a person it is possible to look at the implicit and explicit attitude of an individual. To summarize, human behavior can be described as two processes, the reflective and the impulsive. The impulsive, also called the automatic process, is mainly driven by the attitude, which contains the explicit and implicit attitude, of a person towards a sub-or object.

The Explicit Attitude

The explicit attitude is a well-considered attitude, which is consciously confirmed and easy to report. Explicit attitudes are influenced by deliberate processing goals and can quickly adapt to new information. Because of that, explicit attitudes are consistent with fast learning and have a reasoning system based on standards or rules (Rydell & McConnell, 2006). An explicit response is therefore often based on cognitive resources, is controlled and made with awareness (Nosek, 2007). The MODE model of Fazio describes that the behavior of a person is led by the explicit attitude when this person has the ability or the motivation to think about something with awareness (Fazio, 1990).

Measurement of Explicit Attitude in Literature

The explicit attitude can be measured by what a person indicates to find or think, for example, by a questionnaire with direct questions such as: “which do you favor, A or B?” A person's explicit attitude towards food can be measured by asking different type of questions. In the study by Roefs & Janssen (2002), the explicit attitude is measured by assessing the palatability of certain foods on

a 9-point scale. In addition, they used a 7-point scale to ask questions about the person's eating habits of the same products. Food can also be assessed on self-reported behavior (the frequency of usage) or the feeling towards certain products (Maison, Greenwald & Bruin, 2001). A study by Swanson, Rudman & Greenwald (2001) uses a 7-point scale with opposite adjectives for each product (good-bad, sexy-unsexy etc.). In a study on the implicit and explicit attitude towards high- and low-calorie food, the participants had to assess the products for pleasantness on a 7-point scale (Czyzewska & Graham, 2008). In conclusion, the explicit attitude of a person is measured in various areas, such as the eating behavior, the feeling towards, and the palatability of a particular sub-object.

The Implicit Attitude

Implicit attitudes have an associative reasoning system. Implicit attitudes change slowly in response to new information and are moved by repeated contact between an attitude object and connected judgements (Rydell & McConnell, 2006). Stanley and colleagues show that behavior can automatically and through sources which are beyond the reach of awareness, be influenced by implicit attitudes (Stanley, Phelps & Banaji, 2008). Greenwald and Banaji formulated that "implicit attitudes are manifested as actions or judgements that are under the control of automatically activated evaluation, without the performer's awareness of causation" (Greenwald & Banaji, 1995).

Measurement of Implicit Attitude in Literature

Reliability of the Implicit Association Test

To compute the implicit attitude of people, the Implicit Association Test (IAT) has been used the most since 1998 to measure the degree of connection between concepts in our memory, or the implicit attitude of a person (Greenwald, McGhee & Schwartz, 1998). Using the measured difference in response time, the strength of the association between two target concepts (healthy and unhealthy snacks) and two attribute concepts (positive and negative words) can be displayed. Several studies reveal that the IAT is a reliable and valid method, both on incremental and

predictive level, with a good ratio of internal consistency and test-retest stability (Greenwald & Farnham, 2000; Greenwald & Nosek, 2001; Richetin, Perugini, Prestwich & Gorman, 2007).

Furthermore, research shows that the IAT is not susceptible to fraud and that there is almost none to none correlation between the explicit measurements and the test (Banse, Seise & Zerbes, 2001; Wilson & Scior, 2014), which indicates no linear connection between implicit and explicit attitudes. One would expect that the explicit and implicit attitude of a person would be related, since they both reflect the same person's attitude towards the same subject. However, there are a number of reasons why these attitudes can differ. The first reason; implicit and explicit measurements involve different processes, and because of the difference with regards to cognitive effort may not display the same results (Dovidio, Kawakami & Beach, 2001). Secondly, implicit measurements are generally not influenced, while explicit measurement may be influenced by socially desirable outcomes (Fazio & Olson, 2003). Another reason may be that the individual does not want to report their actual attitude or that the individual is unable to accurately report his attitude (Nosek, Hawkins & Frazier, 2011). At last, it is possible that the structure investigated by the implicit measure is completely independent of the structure investigated by the explicit measure (Hofmann, Gawronski & Gschwendner, 2005). To sum up, the IAT is a valid and reliable method on both an incremental and predictive level. The IAT often has little or no correlation with the explicit measurements, which means that there is no equal increase (or decrease) between the implicit and explicit attitudes.

Topic Related Use of the IAT

In recent years, the IAT has been used to compute the implicit attitude of people towards food several times. A research regarding predictable behavior in food choices, indicates that the IAT is a good measurement method of behavioral food choices for both predictive and incremental validity (Richetin et al., 2007). Furthermore, another study investigated whether the IAT could predict the online purchase of (un)healthy food products. The results indicate that implicit attitudes have a significant effect on the purchase of (un)healthy products (Prestwich, Hurling & Baker, 2011). An experiment comparing implicit attitudes towards juices and soda, furnishes the

proof that the IAT serves as a tool to predict consumer behavior. The IAT proves the significant differences between the indicated responses to the various drinks (Maison, Greenwald & Bruin, 2001). The second investigation of Maison, Greenwald & Bruin (2001), the implicit attitudes of women towards low and high-calorie products are examined. This study showed that the implicit attitude correlated with the women's diet activity, and that implicit attitude showed a positive association towards low-calorie products.

In addition, a couple experiments have been conducted into consumer behavior with regard to the preference in brands. First, the preference of yoghurt brands, for which users are certainly aware of their preference. This showed that, as expected, the implicit attitude was correlated with the explicit attitude, and that the IAT measured significant differences between the yoghurt brands that matched the indicated preferences (Maison, Greenwald & Bruin, 2004). The second experiment investigated two competing brands, that were difficult to distinguish from each other. This showed that the differences were not significant for the people who could not distinguish between the brands, but the differences were stronger and more significant for the people who were able to distinguish between the brands (Maison, Greenwald & Bruin, 2004). Furthermore, the IAT is used to observe whether or not there is a possible association between senses and food. A study of Crisinel & Spence (2009) examined the possible association between high- and low-pitched sound and a sour or bitter taste of food. The results showed that there was a stronger association between a low-pitched sound and visually displayed bitter food, and between sounds with a high-pitched sound and sour food.

The literature shows that the IAT test can be a good predictor in terms of consumers and eating behavior. However, this becomes more difficult when the behavior between two groups is compared, for example between overweight people and people with healthy weight. The same type of study, comparing the implicit attitude of overweight people to the implicit attitude of people with a normal weight, can lead to different results. A study of Craeynest and colleagues investigated the implicit attitude of overweight children. This showed that overweight children implicitly had a stronger preference for unhealthy eating compared to children with a healthy

weight (Craeynest et al., 2005). In another experiment, the IAT is used to investigate a possible connection between positive and negative arousal and fat or lean food, in case of both overweight and healthy weight people. The study showed no differences between the negative and positive arousal, and no differences between the overweight and healthy weight people. Nevertheless, there was a strong positive association between arousal and fat food in general (Craeynest, Crombez, Koster, Haerens & Bourdeaudhuij, 2008). The study of Sartor and colleagues tested the difference in implicit attitude towards sweets between overweight and healthy weight people and tested the influence of the consumption of soft drinks on the explicit and implicit preference towards sweet. It followed that a soft drink intake of one month caused a positive effect in the implicit attitude towards sweets in the healthy weight group. The overweight people had a stronger positive implicit attitude towards sweets (Sartor et al., 2011). However, the study to the implicit attitude of adults with obesity showed that for both healthy and obese people there was a negative implicit preference towards high-fat food. In fact, it actually turned out that the negative preference was stronger towards high-fat foods for people with obesity, relative to healthy people. This outcome is very contradictory with their eating behavior and explicit attitude (Roefs & Jansen, 2002). One of the possible reasons why these results differ, could be due to the age and the awareness of people: it is possible that they give a more socially accepted answer. Another reason may be the difference in the relationship between overweight people and unhealthy eating. Some overweight people may have learned that unhealthy eating is “forbidden”, and others have affection for it (Roefs & Jansen, 2002). With regard to the consumption of food, the implicit attitude of people can deviate from the explicit attitude. This could be due to people that are unable or unwilling to indicate the correct attitude, want to give a socially accepted answer, or have learned a different attitude.

Differences between Implicit and Explicit Measurement in Literature

Implicit and explicit measurements actually measure two different things. The first measures the attitude or thoughts of a person towards or about something or someone and the second measures the indications of a person’s thoughts about or attitude towards someone or something. Literature shows that these two measurements can differ significantly from each other. A study in

the implicit and explicit attitude towards respectively chocolate and fruit results in a more positive attitude towards chocolate, both implicitly and explicitly (Friese, Hofmann & Wänke, 2008). A study by Craeynest et al. (2005) into the implicit and explicit attitude towards eating and physical activity, indicates a positive explicit attitude towards healthy eating and intensive activity, and a negative explicit attitude towards unhealthy eating. However, the implicit attitude indicates that there is a positive or neutral attitude towards both healthy and unhealthy food. When looking at the implicit and explicit attitude towards high and low-calorie intake, it can be seen that women with a healthy weight have a positive implicit attitude for high-calorie sweets and a negative implicit attitude towards low-calorie sweets. The explicit attitude of women with a healthy weight is positive for both the high-calorie and low-calorie intake (Czyzewska & Graham, 2008). A study on the differences between controlled eaters and non-controlled eaters looks at the implicit and explicit attitudes towards food (high and low-calorie). The result shows that the restrained eaters have a stronger negative explicit attitude towards high-calorie food but a stronger positive implicit attitude towards high-calorie food (Hoefling & Strack, 2008). To summarize, studies show that in general, the explicit attitude of people, relative to the implicit, has a stronger positive association with healthy products and a more negative association with unhealthy products.

Misreporting due to the Sensitivity of a Subject

Research into surveys indicate that it is fairly common for people to misreport the truth in surveys about sensitive subjects (Tourangeau & Yan, 2007). For example, research on political elections showed that non-voters are more likely to not report correctly than voters (Belli, Traugott & Beckmann, 2001). Another study, on smoking, showed that people who smoke were more inclined to misreport than people who did not smoke (Bauman & Dent, 1992). A number of studies have found that size, weight, overweight or unhealthy eating can be a sensitive subject for some people (Aranda & McGreevy, 2014; Edvardsson, Edvardsson & Hörnsten, 2009; Sand, Emaus & Lian, 2015). Research into the misreporting of habitual food intake shows that people with a healthy weight underreport their food intake between 0% and 25%. However, the percentage for overweight people is a lot higher, between 25% and 50% (Westerterp & Goris, 2002). Therefore, it is possible that a questionnaire is not the most reliable method to find out the truth. The IAT, on the other

hand, is a valid and reliable method to compute the attitude of a person to (un)healthy snacks, on both an incremental and predictive level (Greenwald & Farnham, 2000; Greenwald & Nosek, 2001; Richetin, Perugini, Prestwich & Gorman, 2007). Because of the possibility of misreporting of sensitive topics, it is important to be aware of misreporting when measuring the explicit attitude towards (un)healthy snacks.

Based on literature, it is expected that no correlation will be found between the explicit and implicit measurements in this study and that people are expected to have a stronger positive attitude towards healthy snacks in the explicit measurement than in the implicit measurement. The same is expected for unhealthy eating: the explicit measurement shows a stronger negative attitude towards unhealthy snacks than the implicit measurement. Therefore, the first and second hypotheses are as follows:

H1. There is no significant correlation between the implicit measurements (Implicit Association Test) and the explicit measurements (questionnaire).

H2. The questionnaire (explicit attitude) shows a stronger positive association towards healthy snacks than the Implicit Association Test (implicit attitude).

Impulsive Purchasing

The impulsive purchase of unhealthy products can prevent people from losing weight (Nederkoorn et al., 2006; Sengupta & Zhou, 2007). Impulsive purchasing is a reaction of an impulsive action or is the result of impulsive behavior. This behavior is not completely controlled by a person and is provoked by resource depletion (Faber & Vohs, 2004). In the case of impulsive purchasing, the individual feels a sudden need to buy something without having planned it in advance, and acts accordingly (Baumeister, 2002). Impulsivity is the result of insufficient thought, control and execution of a response. This often leads to an imprecise and poorly adapted response to a specific situation (Solanto et al., 2001). Impulsivity can be divided into two main parts. First, there is belonging-related impulsiveness, which responds to the degree of sensitivity to a reward. The second part of impulsivity consists of insufficiently inhibiting control over behavior, such as when a person is unable to control an automatic response or intention (Dougherty et al., 2003; Solanto et al., 2001). However, research by Koningsbruggen (2011) shows that standards or a long-term goal are an important factor for self-control. When people are reminded of this long-term goal, they are less likely to yield to temptation and impulsive purchases. It is possible to remind people of their long-term ambition by using short-term goals. Research shows that adding multiple short-term goals can help to accomplish the long-term ambition (Barron & Harackiewicz, 2001). Impulsivity depends partially on the individual, a personality trait, which can have severe consequences for the process of losing weight (Nederkoorn et al., 2006). The research by Guerrieri and colleagues investigated the influence of a person's degree of impulsiveness on the intake of food. This showed that people with a high degree of impulsivity had an increased food intake relative to people with a low degree of impulsivity (Guerrieri, Nederkoorn & Jansen, 2007). Another study showed that the combination of hunger and impulsiveness results in an increase in eaten food and calorie purchases in a computer simulated supermarket. As a result, it would be possible that lowering the level of hunger can help in the success of losing weight, especially for people who are impulsive (Nederkoorn, Guerrieri, Havermans, Roefs & Jansen, 2009). To sum up, impulsivity consists of two parts, the belonging related part and the insufficiently inhibited control over behavior part. A person with a higher-level of impulsivity, relative to a person with a lower level, eat more. A reminder of the long-term goal can lead to a reduction in impulsive behavior.

Environmental Factors

People being overweight has increased dramatically in the last years (CDC, 2017). Although research has shown that genetic factors partly determine a predisposition to obesity (O’Rahilly & Farooqi, 2006), these genetic factors cannot take full responsibility for this huge increase in overweight people. The genes of people cannot have changed that much in the last decades, but the environment or lifestyle can. The current environment consists of a high, easy and inexpensive availability of tasty and high-saturated foods and frequent alcohol use, and at the same time a certain lifestyle which results in a low physical activity (Van der Wilk & Jansen, 2005). Physical environmental factors can have an influence on eating behavior, such as community settings, schools, fast food restaurants, and the range in stores. Furthermore, it can also be influenced by social environmental factors, for instance people in the direct environment of an individual (Story, Neumark-Sztainer & French, 2002). This does not only apply to the spouse or parents, but also to other people within one’s social circle (Gorin et al., 2008; Hanson, Neumark-Sztainer, Eisenberg, Story & Wall, 2005; Stattuck, White & Kristal, 1992). Results from a study on environmental factors that influence the eating behavior of students, show it is mainly the lack of cheap and fast healthy alternatives that play a role in the unhealthy lifestyle (LaCaille, Dauner, Krambeer & Pedersen, 2011).

In addition to the people themselves or the direct environment, timing can also have an effect on eating habits. The time of year for instance: the food intake and the amount of physical activity can vary per season (O’Connell, Griffiths & Clemens, 2014). When looking at holidays or special weekends such as Thanksgiving, there is a significant increase in weight before and after these periods (Hull, Radley, Dinger & Fields, 2006; Yanovski et al., 2000). In addition, previous research by Thompson (1986) has shown that the difference in weekends-weekdays were significant for the calorie consumption during the day, the sources and the nature of food eaten and the nourishment consumption. For example, it shows that the intake of calories, protein, fat and alcohol was higher in the weekends compared to weekdays. The differences in weekends and weekdays are more significant for women than for men, and more substantial for young people than for the elderly (Thompson et al, 1986). Another study also shows a significant increase in calorie intakes in

weekends relative to weekdays for the entire sample, with an average increase of 115 kilocalories each day in the weekend (Haines, Hama, Guilkey & Popkin, 2003). The research by Racette et al (2008) has shown that in their particular study the participants frequently were able to gain weight in weekends and not during the week. They found that the weight gain was due to higher calorie consumption on Saturdays and less physical exercise on Sundays in comparison with during the week (Racetta et al, 2008). To conclude, both social and physical environmental factors can have an effect on eating behavior. In addition, the time of the year (i.e. Christmas), holidays, or special-weekends can have an effect on the consumption of calories and physical activity of a person.

Based on the literature, it is expected that the time of the week (weekdays or weekend) influences calorie intake, physical activity, and therefore the weight of an individual. To help people with their weight loss, it is important to gain more insight into people's behavior towards food. Hereby, not only people's attitudes towards certain types of food should be considered, but also whether a certain period has an influence on the eating behavior of people. Furthermore, a distinction must be made between the influence of weekend on the implicit and explicit attitudes of people. As mentioned earlier, the attitude that emerges from an IAT does not always have to correspond to the attitude that people indicate they have towards a subject. For that reason, both the implicit attitude and the explicit attitude are investigated separately in the study towards the differences that may be encountered between week and weekend days. Therefore, the third and fourth hypotheses are as follows:

H3. The implicit association test (implicit attitude) shows a stronger positive association towards unhealthy snacks on the weekend than on weekdays.

H4. The questionnaire (explicit attitude) shows a stronger positive association towards unhealthy snacks on the weekend than on weekdays.

Methodology

Participants

The survey, in English, was conducted among 53 participants. Of the participants, 83% is female, 96% have a Dutch nationality and 100% is higher educated (hbo or wo). These participants were randomly assigned to the weekend or week groups. The first group (N= 24, M=22,54, SD=1.69) completed the IAT and the survey on the weekend (Saturday or Sunday), the second group (N=29, M=23.31, SD=.96) completed the IAT and the survey on weekdays (Monday – Thursday).

Power Analysis

Previous research on the Implicit Association Test in combination with food or obesity shows that the effect size (Cohen's d or the Eta-squared) is often large. In research in the influence of weight on the implicit and explicit attitude towards no-fat, the Cohen's d of the average d -score is 1.00 (Schwartz, Vartanian, Nosek & Brownell, 2006). A study on the implicit association between high-fat products and high and low arousal by Craeynest et al. (2007), indicates an Eta squared of 0.35 for the negative IAT and of 0.47 for the positive IAT. For an ANOVA test, an Eta-squared of 0.26 states a large effect size. Both the Eta-squared of 0.35 and of 0.47 are larger than 0.26, which means that the IAT of this study has a large/great effect size. Considering an α (type I error) of 0.05 and a $1-\beta$ (type II error) of 0.8, and a large effect size, the G* power 3.1 program is used to determine which number of participants had to be used for this study. The lower limit of large effect size for the Cohen's d is 0.8. This means that in this study a sample size of 21 participants is required for both groups.

Research Design

This study has a between-subject, experimental design. The dependent variables are the variable "ExplTotal" (between -2 and + 2), which consists of all questions from the questionnaire for the measurement of the explicit attitude, see Appendix A, and the variable "Dscore" (between -2 and

+2), which consists of the D-Score computed by the IAT. The independent variables are the dummy variable "Weekend" (0 = weekdays, 1 = weekend), the variable "Age1" (between 19 and 27 in years), the dummy variable "Gender1" (0 = male, 1 = female), the variable "Height" (between 158 and 194 in centimeters), the variable "Weight" (between 45 and 94 in kilograms), and the variable "BMI" (between 17.58 and 32.91), which is calculated by the weight in kilograms divided by the square of the height in meters. The participants were randomly assigned to perform the IAT and the questionnaire during the weekend (Saturday or Sunday) or during the week (Monday to Thursday). Friday has been excluded from this experiment as it is located in the gray area because some people see Friday as a weekday and others think Friday is already part of the weekend.

Materials

Implicit Association Test

The Implicit Association Test, also called IAT, is used to compute the implicit attitude of an individual towards a specific concept (Greenwald, McGhee & Schwartz, 1998). The IAT measures the association between a target and an attribute concept. This IAT will consist of two target concepts (healthy or unhealthy), two attribute concepts (negative or positive), sample stimuli and seven different tasks. In this research stimuli for the target concepts are used, which presents healthy and unhealthy snacks. For the attribute concepts positive and negative stimuli are used, see Table 1. In the first tasks participants have to assign the different sample stimuli to one of the target concepts by pressing a keyboard button. For example: assign a name of a person with the key "e" to the target concept "healthy" and with the key "i" to the target concept "unhealthy". In the second tasks you have to assign the different sample stimuli to an attribute. For example: assign the word luck with the key "e" to the attribute "pleasant" and with the key "i" to the attribute "unpleasant". The third and fourth tasks are the same combined task where the sample stimuli have to be assigned to a combined target concept and attribute, with the other target concept and attribute on the other side. For example: assign the sample stimuli with the use of the key "e" when the sample stimulus stands for "healthy" or "pleasant" and use the key "i" when the sample stimulus stands for "unhealthy" and "unpleasant". In the fifth task, the two target concepts change

sides. For example: instead of using the key “e” for white, it will be used for black and the key “i” is used for white instead of black. The sixth and the seventh task are the reversed combined tasks, where the concept targets are combined with the opposite attribute. For example: the key “e” is now used for “unhealthy” or “pleasant” and the key “i” is now used for “healthy” or “unpleasant” (Greenwald & Banaji, 1995). In each task the matching sample stimuli are randomly presented. If the participant reacts by pressing the wrong key – not the correct combination of the stimulus and the target concept or attribute – a red cross will appear. This particular incorrect response will not be counted when collecting the data points. In addition, any participant who has incorrectly assigned more than 15% of the stimuli to a target or attribute, is removed from the sample. In the IAT of this study, none of the participants is removed due to incorrectly assignment of the stimuli. The test will indicate whether it is easier for the participant to associate the concept targets and attributes from either task three and four or task six and seven with each other, or if the participant has no preference at all. The magnitude of that difficulty difference, measured by the difference of the participant’s reaction time, will give an indication of the magnitude of the implicit attitude difference between the concept targets.

For the IAT in this research, the target concepts will be based on the containing number of calories. For the healthy snacks, the number of kilocalories (kcal) must be below or around 100 kcal per 100 grams. For the unhealthy snacks the minimum was 300 kcal per 100 grams. Regarding the attribute concepts, the positive and negative words: these have been chosen based on a study of Bellezza, Greenwald & Banaji (1986) who investigated how positive and negative words scored in pleasantness. The words in this study are composed of a combination of the positive words that scored high in pleasantness, and the negative words that scored very low in pleasantness, and both have been used in previous studies using an IAT in combination with testing “Consumer behavior” (Maison et al., 2001; Roefs & Jansen, 2002).

Table 1. *Target and attribute concepts used in IAT*

Target Concepts

Healthy	Unhealthy
Apple (79 kcal)	Candy (398 kcal)
Yoghurt 0.0% (122 kcal)	Chocolate (506 kcal)
Banana (99 kcal)	Cake (300 kcal)
Cucumber (33 kcal)	Chips (536 kcal)
Carrots (50 kcal)	Ice cream (380 kcal)
Egg (77 kcal)	Pizza (830 kcal)

Attribute Concepts

Positive	Negative
Happy	Pain
Smile	Death
Joy	Poison
Peace	Sickness
Pleasure	Vomit
Love	Accident

Explicit Measurement

To measure the explicit attitude of people, an online survey was designed for this study, see Appendix A. This survey examines the attitude towards (un)healthy snacks in three areas. The rating scale used in this study is the 7-point Likert scale (strongly disagree – strongly agree or not tasty at all – very tasty). The first scale concerns the behavior, which consists of the frequency, “I often eat healthy snacks” and the importance, “It is important to eat healthy”. The second concerns the palatability of a snack, “How palatable do you think Pizza is?” The last scale relates to a person’s feeling towards a certain snack, “How do you feel about eating a carrot?”. The questions related to behavior and palatability are based on research into the implicit and explicit attitude towards high and low-calorie products (Maison et al., 2001). The questions related to people's feelings towards snacks are based on research by Roefs and Jansen (2002) into the implicit and explicit attitudes towards high and low-fat food.

Research Analysis

IAT Score

To get results from the IAT, the d-score must first be computed. The d-score is calculated by the difference in average duration per participant between block three, four, six, and seven. All different scores are then divided by a pooled standard deviation, of the practice and critical combined. This will yield two d-score measurements, after which the average of these two measurements is taken. If the d-value is positive, it indicates an association between healthy snacks + positive and unhealthy snacks + negative. When the d-value is negative, it indicates an association between healthy snacks + negative and unhealthy snacks + positive. The d-score has a possible value between -2 and +2 and when the score is 0, there is no bias or association. In this study, a d-score between 0 and +2 indicates that there is a positive association with healthy snacks, and a d-score between -2 and 0 indicates that there is a positive association with unhealthy snacks.

Explicit Score

The d-score indicates that the closer it gets to the -2, the stronger (positive) the association with unhealthy snacks is. In the case of the questionnaire, the stronger (positive) the attitude of a person's towards unhealthy eating is, the higher the score. These questions were asked in such a way that there could not be confusion for the participant, and that for both healthy snacks and unhealthy snacks, the higher the score, the tastier it is. For this reason, it is important that we turn the score from unhealthy eating to: 1 is tasty and 7 is not tasty, to be able to compare this score with the d-score. For unhealthy snacks the score 7 is noted as 1, the score 6 as 2, score 5 as 3 and the score 4 remains the same. The second necessary step to compare this score to the d-score, is adjusting the scale in stata to -2 to 2 instead of 1 to 7, at which the participants were asked to assess. This means that a score of 1 now becomes -2 and a score of 7 becomes +2. For both steps, new variables have been created in stata so that the original data will not be lost. In addition, a variable "ExplTotal", see Table 3, is created to display the average of all scores containing all the questions of the questionnaire. The groups that are compared are the average d-score of the entire sample and the average of all questions from the questionnaire. In this way it is examined whether the implicit association of people corresponds to the self-indicated or explicit association of people.

Procedure

Before the participation in the study started, personal contact was made with potential participants. Here three questions were asked: whether they had previously participated in an Implicit Association Test, whether they could take the test that same day in a room where they would have no distraction, and whether they were in possession of a laptop or computer. When all questions were positively answered, they got a link (Qualtrics). This link differs for week or weekend days. When the link was opened on a mobile phone, the site immediately indicated that it was not possible to continue. When the link was opened on a computer, they were given a brief description of what was expected of them and what they should do, and again the reminder that they should not have any distraction around them. After completing the Implicit Association Test, the experiment went straight to the questionnaire. The participants did not get to see the d-score from the IAT, so they were not affected by this in the second part. After completing the experiment, participants were thanked again for their contribution and told that the data was treated strictly reliably and anonymously, and contact details were provided for further questions.

Results

Implicit Association Test

Table 2 shows the results obtained from the IAT, the second column shows the outcomes of the IAT used during the weekend and the third column shows the outcomes of the IAT used during the week. The IAT conducted on weekends has a mean d-score of 0.7965 and the IAT conducted on weekdays has a mean d score of 0.8229. This means that both IAT have a positive attitude towards healthy snacks. A t-test was performed for both IAT. For the IAT in the weekend, "there is a significant difference between the d-score of IAT Weekend (M=0.7965, SD=0.4369) and zero (M = 0, SD = 0) conditions; $t(23)=8.9318$, $p=0.001$ ". For the IAT in weekdays "there is significant difference between the d-score of IAT weekdays (M=.8229, SD=.3571) and zero, conditions; $t(28) = 12.4084$, $p=0.001$ ". The effect size of the analysis ($d=1.8232$) of weekend and the effect size of the analysis ($d=2.3014$) of weekdays was found to exceed Cohen's d (1988) convention for a large effect ($d=0.80$).

Table 2. Results Implicit association Test

	IAT Weekend	IAT Weekdays
Number of Participants	24	29
Error Rate	.0955	.0740
Reliability	.9131	.7705
d-Score Mean	.7965	.8229
d-Score SD	.4369	.3571
t-test	8.9318	12.4084
Degrees of freedom	23	28
Cohen's d	1.8232	2.3014
p-value	< 0.0001***	< 0.0001***

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Implicit and Explicit Attitudes

For the first hypothesis, the correlation between the implicit score and the explicit score is examined. This correlation is measured by a Pearson's Correlation Test. Results show that there is no significant correlation between the implicit measurement and the explicit measurement towards (un)healthy snacks, $r(53)=.0478$, $p=.7339$. The results also show that the implicit score is not correlated with the individual parts of the explicit score. There is no significant correlation between the implicit score and the explicit behavioral score $r(53)=.0006$, $p=.9969$. There is no significant correlation between the implicit score and the explicit palatability score $r(53)=-.0425$, $p=.7628$. There is no significant correlation between the implicit score and the explicit feeling score $r(53)=.1345$, $p=.3370$. These results show that there is no correlation between the implicit attitude of people towards (un)healthy snacks and the explicit attitude of people towards (un)healthy snacks.

To test the second hypothesis, an unpaired t-test has been used. This test is used to compare the means of two independent groups with a different amount of observations. The results show that the null-hypothesis, the difference between the mean of the variable "Dscore" and the mean of the variable "ExplTotal" is zero, can be rejected because there is a significant difference. The implicit score ($M=.8109$, $SD=.3915$) turned out to be higher on average than the explicit score ($M=.3746$, $SD=.2560$). This difference was significant: $t(104)=-6.7910$, $p=.0001$, $\eta^2=.2557$.

To summarize, results indicate that there is no significant correlation between the implicit and explicit attitudes of people towards (un)healthy snacks. Second, the explicit attitude has a significantly less positive association towards healthy snacks than the implicit attitude. However, both do have a significant positive association towards healthy snacks.

The Effect of Weekend

To be able to test the hypotheses, the variable “ExplTotal” is divided into two new variables “ExTo” & “ExToWe”, see Table 3, where ExTo indicates the scores that were collected on weekdays and ExToWe indicates the scores that were collected during the weekend. The same applies to the variable “Dscore”, which is divided into “Dscorew” and “Dscorenw”, see Table 3, where “Dscorew” stands for the d-scores that are collected during the weekend and the “Dscorenw” stands for the d-scores that are collected on weekdays.

Table 3. *List of variables*

This table provides a list of all the variables used in this study. Dscore stands for the d-score. Dscorew stands for the d-score on weekends. Dscorenw stands for the d-score on weekdays. ExplTotal stands for the total explicit score. ExToWe stands for the total explicit score on weekends. ExTo stands for the total explicit score on weekdays. Tn_P stands for the explicit score regarding palatability. Tn_F stands for the explicit score regarding feelings. Tn_B stands for the explicit score regarding behavior.

Variable	Observations	Mean	Std. Deviation	Min	Max
Dscore	53	.8109	.3915	-.1257	1.4227
Dscorew	24	.7965	.4369	-.1257	1.4227
Dscorenw	29	.8229	.3571	-.1028	1.3641
ExplTotal	53	.3746	.2560	-.0625	1.0208
ExToWe	24	.3663	.2236	-.0625	.875
ExTo	29	.3815	.2838	-.0417	1.0208
Tn_P	53	.1352	.2880	-.3889	.8889
Tn_F	53	.5304	.3838	-.1667	1.3334
Tn_B	53	.3790	.5327	-.6889	1.6222

The unpaired t-test is used for testing the third and fourth hypotheses. This test is used to compare the means of respectively weekend and weekdays group with an uneven number of observations. The results of the unpaired t-test for the difference in week and weekend-days in the explicit attitude show that the null-hypothesis, the difference between the mean of the variable “ExTo” and the mean of the variable “ExToWe” is zero, cannot be rejected because there is no significant difference. The weekdays score (M=.3815, SD=.2838) turned out to be higher on average than the weekend score (M=.3663, SD=.2236). However, this difference was not significant: $t(51)=-.2124$, $p=.8326$, $\eta^2=.2557$.

The results of the unpaired t-test for the difference in week and weekend-days in the implicit attitude show that the null-hypothesis, the difference between the mean of the variable “dcorenw” and the mean of the variable “dscorew” is zero, cannot be rejected because there is no significant difference. The weekdays score (M=.8229, SD=.3571) turned out to be higher on average than the weekend score (M=.7965, SD=.4369). However, this difference was not significant: $t(51)=-.2420$, $p=.8098$, $\eta^2=.2557$.

Furthermore, a linear regression model is used, see Table 4, to examine whether the variable “Weekend” can predict the value of the variable “Dscore” or the Variable “ExplTotal”, where the dependent variable (Y) will be the variable “Dscore” or the variable “ExplTotal”.

Linear Regression

$$Y = \beta_0 + \beta_1 * Weekend + \beta_2 * Age1 + \beta_3 * Gender1 + \beta_4 * BMI + \varepsilon$$

In this regression, a number of control variables will be added to achieve a better fit of the model. These variables include; age, gender, and BMI. In addition, the Doornik-Hansen normality test shows that the p-value of both “ExplTotal (M=.3746, SD=.2560), $p=.3881$ ”, and “Dscore (M=.8109, SD=.3915), $p=.1624$ ”, is greater than the 10% significant level, which means that we cannot reject the distribution being normally distributed. The robust function is therefore not included in the regression analysis.

The regression analysis, see Table 4, shows that for the dependent variable “Dscore”, the independent variables “Weekend” and “BMI” have no significant effect on the prediction of the value of the dependent variable “Dscore” at a 10%-level. However, the independent variables “Age1” and “Gender1” do have a significant effect on a 5%-level. In this regression analysis, with the “Dscore” as dependent variable, the constant is also significant at a 5%-level.

The regression analysis with the dependent variable “ExplTotal”, see Table 4, shows that the independent variables “Weekend”, “Age1”, and “BMI” have no significant effect on the prediction of the value of the dependent variable “ExplTotal” at a 10%-level. However, the independent

variable "Gender1" does have a significant effect on a 10%-level. In this regression analysis, with the "ExplTotal" as dependent variable, the constant is not significant at a 10%-level.

Table 4. *Regression Analysis*

	Dscore	ExplTotal
Weekend	-.0643 (-0.62)	.0379 (0.52)
Age1	-.0785** (-2.04)	.0360 (1.34)
Gender1	.3616** (2.65)	.1761* (1.84)
BMI	.0056 (0.25)	-.0234 (-1.52)
Constants	2.2184** (0.76)	-.0915 (-0.12)
Degrees of freedom	52	52

t-statistics in parentheses
 ***p<0.01, **p<0.05, *p<0.1

The results show that the difference between weekend or weekdays does not have a significant effect on both the implicit and explicit attitudes of people towards healthy or unhealthy snacks.

Conclusion and Discussion

In this study a between-subject experiment is designed to investigate whether the difference between week-weekend days influences the implicit or explicit attitude of people towards (un)healthy snacks. With the data obtained from an Implicit Association Test and a questionnaire, the following research question can be answered: “To what extent does the difference between weekend-weekday influence the implicit and explicit attitude towards (un)healthy snacks of people?”

The results show that the first hypothesis, indicating that there is no correlation between the implicit and explicit attitude towards unhealthy snacks, can be assumed. The implicit attitude had no significant correlation with both the individual components (behavior, palatability and feeling) and the joint explicit attitude. This outcome indicates that people may not want to or cannot report their correct attitude. Previous research shows that when implicit and explicit measurements correlate with each other, participants were often focused on feelings, and when participants focused on facts and knowledge, there was no correlation (Gawronski & LeBel, 2008). Possible reasons for the result in this study could be that the subject is a sensitive one, that people do not dare to be honest about, or they want to give a socially accepted answer, or they have learned to adopt to a certain explicit attitude: “It is forbidden to like something unhealthy” (Fazio & Olson, 2003; Nosek, Hawkins & Frazier, 2011; Roefs & Janssen, 2002).

The second hypothesis, which indicates that the explicit attitude shows a stronger positive association towards healthy snacks than the implicit attitude, can be rejected. People state that they have less positive association with healthy snacks than they actually have. This finding is in contrast with earlier research, that indicated that the explicit attitude of people has a more positive association with healthy eating than the implicit attitude (Craeynest et al., 2005; Czyzewska & Graham, 2008; Hoefling & Strack, 2008). However, a study by Roefs & Janssen (2002) showed that overweight people reported to have a negative association to high-fat food. A plausible reason for the negative association is for example, overweight people learn that unhealthy or high-fat food is “forbidden” and therefore they create an unconscious aversion to high-fat foods. For the outcome

of this study; “Explicit attitude shows a stronger positive association towards healthy snacks”, a possible explanation might be the level of education of the participants. All participants in this study have a higher level of education. Research shows that higher educated people are in general healthier, and more aware of the consequences of unhealthy eating (Cutler & Lleras-Muney, 2006; Herd, Goesling & House, 2007; Lutz, 2009).

The third and fourth hypotheses tests if weekend has an effect on the implicit and explicit attitude of people towards (un)healthy snacks. The results show that the difference between week or weekend days has no significant effect on both the implicit and the explicit attitude of people towards (un)healthy snacks. Therefore, both hypotheses cannot be accepted. As found in the literature, there are several reasons why people are unable to lose weight or to keep the lost weight off (Baumeister & Heatherton, 1994; Frank, 2014; Gemson et al., 2008; Gorin et al., 2008; Nederkoorn et al., 2006). However, people's attitude to (un)healthy eating is not the only explanatory factor for the failure of dieting (Chiriboga et al., 2008; Williams et al., 1996). An intake of calories and a decrease in physical activity during the weekend can be a conscious choice of a person. This conscious choice might not change a person's attitude towards certain (un)healthy snacks. Another reason might be that the process of changing implicit and explicit attitudes are too complicated to do this twice a week (respectively for weekdays and weekend) (Gawronski & Lebel, 2008). For example, it is known that the process of change of the implicit attitude is associated with repeated pairing of an attitude object and connected evaluations and is slower than the process of change of the explicit attitude (Rydell & McConnell, 2006).

Limitations and Recommendations

In this between-group design experiment, research was conducted into the effect of the difference between weekend and weekdays on the implicit and explicit attitude towards (un)healthy snacks. Despite the fact that the research was carried out accurately, there are still a number of limitations.

The first limitation concerns the experiment design. Since a “between-group design” was used, it was important that the groups were as equal as possible, in this case highly educated Dutch students. However, this can cause the group to be not representative for the (Dutch) population. Because the attitude towards (un)healthy eating is person-related and can differ per individual, the results may be more reliable when a within-subject experiment is used to analyze the effect of the difference between week and weekend days. However, when the same person completes the same IAT or the questionnaire twice, it can have a lot of influence on the outcome.

The following limitations are based on the participants. All participants are highly educated, which may have an impact on their knowledge, environmental factors and their eating behavior with regard to healthy eating. The participants were asked if they had time to participate in an experiment. This might cause two different groups: people who have time in the weekend and people who have time during the week. These two types of people can potentially cause the findings to be biased. Furthermore, it is a possibility that a person's gender influences the results. However, the sample was not large enough to include the effect of gender in this study.

The last limitations are related to the methods used. For the IAT it was necessary that participants were not disturbed. However, due to a lack of a lab, it was not possible for the participants to take the test under supervision and in a completely not disturbed room. In addition, the questions from the survey about unhealthy snacks and healthy snacks were always asked in the same order, which can ensure that people evaluate the unhealthy snacks on their own and evaluate the healthy snacks compared to unhealthy snacks. Furthermore, in order to compare the questions well with each other, the 1-7 Likert scale was used for all questions. This may make it less interesting for

participants to answer each question with full attention. Therefore, when people lose their interest, the risk of randomly clicking on an answer will be greater.

In further research it may be interesting to use a diverse group of participants, people who are overweight, or a very large sample that can be representative of the entire (Dutch) population. To help people create a healthy lifestyle or lose weight, more research in the underlying reasons why people are unable to maintain a healthy lifestyle, is important. Certainly in a world where physical activity in daily work is declining and the ever-cheaper diversity of fast food increases, research in “losing weight” is very useful. Further in order to prevent obesity in the future, research can help to educate and inform the younger generations.

Although the aforementioned limitations must be considered when interpreting the results, this research contributes to knowledge about people's eating behavior. This research shows that people differ in what they think about (un)healthy snacks and what they say they think about (un)healthy snacks. Both the implicit and explicit attitudes of people have a positive association with healthy snacks, but this association is stronger for the explicit attitude. Additionally, the results show that the difference between weekend and weekdays has no effect on both the implicit and explicit attitudes of people towards (un)healthy snacks.

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Appendix A

What is your age?

What is your gender?

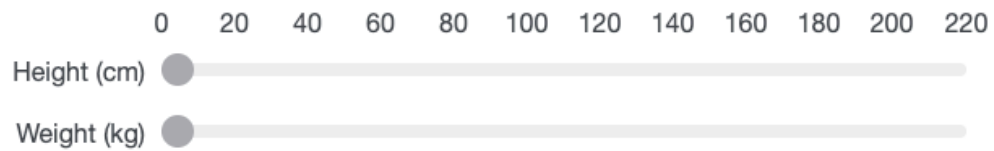
- Male
- Female
- Other

What is your highest level of education?

- Primary School
- High School
- MBO
- HBO
- Bachelor
- Master
- PhD

What is your heritage?

Estimation of your



To what extent do you agree with the following statements?

	Strongly Disagree	Disagree	Somewhat disagree	Neither Agree of Disagree	somewhat agree	Agree	Strongly Agree
I often eat healthy snacks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often have healthy snacks at home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Healthy snacks are good for hunger	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is important to eat healthy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is important to avoid UNhealthy eating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

To what extent do you agree with the following statements?

	Strongly Disagree	Disagree	Somewhat Disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I often eat UNhealthy snacks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often have UNhealthy snacks at home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
UNhealthy snacks are good for the hunger	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How palatable do you think is?

	Not tasty at all	Not tasty	A little not tasty	Neutral	A little tasty	Tasty	Very tasty
Candy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chocolate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chips	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ice Cream	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pizza	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How do you feel about eating ?

	Very Negative	Negative	Slightly Negative	Neutral	Slightly Positive	Positive	Very Positive
Candy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chocolate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chips	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ice Cream	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pizza	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How palatable do you think is?

	Not tasty at all	Not tasty	A littly not tasty	Neutral	A little tasty	Tasty	Very tasty
Apple	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Banana	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Yoghurt 0.0%	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cucumber	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Carrots	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Egg	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How do you feel when you eat ...?

	Very Negative	Negative	Slightly Negative	Neutral	Slightly Positive	Positive	Very Positive
Apple	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Banana	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Yoghurt 0.0%	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cucumber	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Carrots	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Egg	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
