Effect of a busy-mindset on healthy food choices in the Netherlands

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Abstract

Gijs Krus, Business and Consumer studies, Wageningen University & Research. Abstract of Bachelor's Thesis, Submitted February 14th 2019 : Effect of a busy-mindset on healthy food choices in the Netherlands.

This study was aimed to examine the effects of the presence of a busy-mindset on healthy food choices in the Netherlands. The study was created inspired by and building on the studies conducted by Kim et al. (2018), concerning the effects of a busy-mindset on healthy food choices in the United States. Their study showed a positive relation between the presence of a busy-mindset and healthy food choices. Furthermore, studies show that a high amount of self-importance could have a positive impact on a person's healthiness of choice. Hence, self-importance was expected to be the mediator in this study. Data were collected with the use of a questionnaire. The questionnaire was sent through a variety of social media channels, mostly via Facebook and Whatsapp. Participants were asked to perform a writing task, which was either to create a busy mindset ('busy condition') or not (control condition). Half the participants were led to the busy condition and the other half were led to the control condition. Participants in the busy condition needed to list three things that kept them busy during the day, while participants in the control condition needed to write down their three favourite movies. After that, participants needed to choose five out of twenty presented snacks which they would like to consume that week during work or school. Those snacks were divided in ten healthy and ten unhealthy snacks. The results of 87 respondents did not support the expectations that a busy mindset would increase the amount of self-importance of a person. In addition, results did not show that the presence of a busy mindset increased a person's healthiness of choice. Remarkably, these results were in contrast to the findings of Kim and colleagues (2018) and thus also in contrast to our own hypotheses.

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Introduction

Obesity and overweight are still a big issue in the Netherlands. 48,7% of the people older than 18 years have overweight, with more men suffering from overweight than women. When it comes to obesity, it is just the other way around. 15.2% of the women deal with obesity, while 12,5% of men deal with it (Volksgezondheidenzorg, 2017). While these percentages are already relatively high, numbers are still rising. This all happens despite that there is an increase of 87% in prevalence campaigns to support healthy decision making in the Netherlands in the last 20 years (Ricci et al, 2018).

Furthermore, young adults in western countries are gaining weight faster than their parents. An extensive literature search of peer reviewed papers was conducted to explain this phenomenon (Munt et al, 2016). The main question of this review: "What are the barriers and enablers of achieving healthy dietary behaviours among young adults?". A barrier was defined as a circumstance or obstacle that prevents progress. A few key barriers found in this review: lack of motivation to eat healthily, the relatively low costs of unhealthy foods and a lack of time to plan, shop and cook healthy foods. In addition of the concept 'lack of time', research shows that due to rising time costs, there is an increase in the amount of convenience foods consumed (Jekanowski et al, 2001). As a result, the increase in the amount of convenience foods leads to an increase in the amount of fast food consumed.

Time pressure is an interesting explanation to examine further, since several studies (e.g. Munt 2016, Jekanowski 2001) suggest that a lack of time leads to unhealthy food decisions and thus on the long-term, overweight. The feeling of having too much to do and not having enough time to do it, is very common in current society. Especially wealthy and well-educated people, women and working parents deal with time pressure and busyness (Rudd, 2019). When under time pressure, consumers tend to simplify their decision making. For example, spending less time on each piece of information and selectively attending to the most important aspects of their decision (Johnson, Payne, & Bettman, 1993). People spent less time preparing and eating family meals due to the busy schedules of family members (Neumark-Sztainer et al, 2003), while actually family meals are associated with more healthful dietary intake patterns (Gillman et al, 2000). Moreover, time pressure has also lead to an increase in the consumption of convenience and ready-prepared foods, which are reportedly associated with less healthy diets (Jabs et al, 2006). Thus, the outcome suggesting that people dealing with time-pressure make more unhealthy food decisions seems logical.

However, recent research conducted about the effect of a busy-mindset on self-control behaviours claimed exactly the opposite (Kim et al, 2018). In this study, the perception of self as busy is called a 'busy mindset'. The study suggested that activating a busy-mindset could have a positive impact on healthy food choices. Note that, people who feel that they are busier than others might not be realistic. The reason that people feel busier is partially due to the fact that there is now a positive view of busyness, "Busyness as the badge of honour". There has been a shift from leisure having high status to work having high status. Since historically speaking, the people who had access to leisure where the ones that could differentiate themselves from the rest (Gershuny, 2005).

Furthermore, research shows that there is a positive association between a busy-mindset and self-importance (Rutherford, 2001). In addition, an increase in the amount of self-importance of a person, could lead to an increase in the amount of self-control (Steele, 1988). If we then look at these associations, could it be the case that a busy-mindset leads to an increase in the amount of self-control?

The study of Kim and colleagues (2018) used two conditions, a busy condition and a control condition. To manipulate participants' mindset, all participants needed to do a writing task. Participants in the control condition needed to think of the typical things they do on the campus and write those down. Participants in the busy condition were told that students on that university were busier than others. Next, they needed to think of three things that keep

them busy and write those down. Subsequently, participants in both conditions were asked to choose between a cookie, either framed as indulgently or healthy. The experimenters recorded the number of cookies taken by each participant at each frame condition. Results indeed showed that participants in the busy condition were significantly more likely to choose the healthy cookie instead of the indulgent one.

The research above was conducted in the United States, however this does not guarantee that consumers in the Netherlands will make the same choices under the same circumstances. For example, research conducted between the levels of life-satisfaction and self-esteem in 31 countries, shows that men in the Netherlands report higher levels of self-esteem than men in the United States (Diener, 2009). This could lead to a higher level of self-importance and could therefore lead to different results (Baumeister et al, 2003).

Hence, this research focuses on the busy-mindset of the consumer and the food decisions they make. Thus, is the Dutch consumer more likely to choose for a healthy snack within a busy condition? This research will partly replicate study 2B of the research conducted in the United States (Kim et al, 2018). However, to increase realism of the outcome variable, we let participants make a series of food choices from a varied set of products. The products will either be healthy or unhealthy. Data will be collected via a questionnaire.

If the results show the expected outcome, this can be a contribution in the battle against overweight and obesity. Since creating a busy condition around the setting of healthy food products, could lead to an increase of the consuming of it. An increase in the consuming of healthy food products leads, in turn, to a decrease in the consuming of unhealthy products and thus overweight. As well, it can provide marketeers knowledge about how healthy products are perceived by the "busy" Dutch consumer.

In the following sections, a conceptual background related to busy-mindset, self-importance and self-control is presented. We then present the results of our study and end with a discussion.

Conceptual Background

2.1 Unhealthy food choices due to time-pressure

Time pressure has been defined as the state of being under the pressure to finish a task within a limited time period (Maule et al, 2000). If a person experiences a lot of time pressure when performing different tasks, this can lead to an increase in pressure called time stress. This can be seen as negative affective state as a result of time pressure (Maule & Hockey, 1993). In addition, research was conducted regarding the effect of deadlines on time pressure (Maule et al, 2000). Participants needed to record a mood diary and fill in mood scales in advance of performing different tasks. Tasks contained either a deadline or not and were either framed positive or negative. The results showed that participants who experienced a deadline felt more time pressured and anxious. Thus, when performing under a time constraint, people feel an increase in the amount of time pressure.

If we look at the effect of time pressure on food choices, we first need to look at the multiple selves theory. People sometimes report that there are two selves present when making a certain choice: one for the present and one more future oriented. This can lead to an intra-individual conflict, in which a person is battling between the choice between present and future consequences (Loewenstein,1996). Research on the cognitive effects of time pressure shows that time pressure influences decision strategies. Participants needed to work on a hypothetical case, either with a time limit or not. Under increased time pressure, individuals tend to use an elimination-by-aspect strategy. This means that individuals focus on identifying the most important categories when making a decision (Fehrenbacher 2014). In line with these two studies (Loewenstein, Fehrenbacher), research shows that time pressure can induce systematic information-seeking and use of a more impulsive approach (Landry, 2014). As a result, research suggests that time pressure would lead to more impulsive behaviour, linked to present consequences.

A literature search of review papers shows that an increase in time pressure leads to an increase in unhealthy food decisions (Jabs et al, 2006). In this case, time pressure is defined as 'time scarcity'. Time scarcity has led to an increase in the consumption of ready-prepared and convenience foods. These types of foods are reportedly associated with less healthy diets.

To further come up with evidence for the relationship between time pressure and unhealthy food choices, we look at the relationship between impulsive behaviour and unhealthy decisions. Research conducted among young adults looked further into impulsive behaviour of this specific group (Jasinska et al, 2013). Participants were asked not to eat anything in the 2 hours before the study and needed to report their level of hungriness. After that, participants first needed to fill in a questionnaire regarding emotions and food, where after they needed to make decisions about different kind of food products that appeared in the survey. In the last survey, their level of impulsive behaviour was measured. Results showed that heightened impulsivity was associated with an increase in unhealthy eating. Moreover, an increase in impulsivity also leaded to a stronger tendency to overeat and negative emotional states.

As a result of research regarding time pressure, one would suggest that people who are busy would also experience time pressure and thus make more unhealthy food decisions. In the next paragraph the concept of 'being busy' will be discussed, even as the perception of being busy as a result of the study of Kim and colleagues. Thus, it is important to know the differences between time pressure and being busy or "just" the perception of being busy.

2.2 Busy mindset vs Time pressure

If we claim to be 'busy', most of times it means that we have to deal with long hours of paid work and that large parts of our day contains the provision of goods and services for others in the exchange of getting paid (Gershuny, 2005). However, being busy is not the same as the concept 'busyness'. Busyness, in other words 'a busy mindset', can be seen as the subjective perception of having a lot to do. The perception of another person of someone is not always equal to the perception of the self. The person him/herself has more precise information about his/her own emotional states and intentions than the observer. Whereas the person's knowledge of his/her on intentions is direct, the observers knowledge of these intentions is indirect and more likely to be subject to error (Jones & Nisbett, 1972).

The amount of time available to finish a lot of tasks can impact how busy a person is, however one does not always have to be busy to perceive him/herself as busy (Gershuny, 1992). While time pressure is associated with a negative affective state (Maule & Hockey, 1993), research shows that the perception of being busy can lead to a positive affective state, since people consider busyness as a privilege (Gershuny, 2005). Research was conducted regarding the balance between work and leisure in the upper class of society from the end to the 19th century till the beginning of the 21st century (Gershuny, 2009). Gershuny mainly discusses the theories conducted by Veblen (1899) in the 19th century. In that time, the upper class showed their high status by being conspicuously idle and having more leisure. Nowadays, the financially privileged classes have less leisure than others. The dominant class in the era of Veblen was more of a 'leisure class', while the dominant class nowadays can be seen more as a 'knowledge class'. This means that ownership of property plays a less important role, instead there is a growing primacy of human capital. This is due to the fact that nowadays the people who are more privileged and skilled than others, thus people who are perceived as important in society, are the ones who are busy (Gershuny, 2009). Being busy has become a characterization of important people.

Affirmative, research suggests that busyness is positively related to having a high status (Bellezza, Paharia & Keinan, 2017). Status is defined as the respect a person has in the eyes of others (Magee & Galinsky, 2008). In the research participants needed to define what person Sally (Facebook user who participated in the research) was, depending on her Facebook-posts. These posts where either framed in a busy or leisure condition. As expected, results showed that Sally was more likely to have higher social- and socioeconomic status when framed as a really busy person (Bellezza, Paharia & Keinan, 2014).

Subsequently, research shows that participants derive that the busier person spent more time at work than the less busier person. The results regarding the time spending on leisure, showed that participants derive that less busier persons were more likely to spent time at leisure than busier persons. This shows again a positive association between people who work a lot and the perception of busyness (Bellezza, Paharia & Keinan, 2014).

As a result of the discussed differences between time pressure and the perception of busyness, we examine the positive association between self-importance and the busy-mindset of a person, further. As said before, being busy has become a characterization of important people. In addition, we suggest that activating a busy-mindset enhances the amount of self-importance of a person.

H1: *The presence of a busy-mindset, increases the amount of self-importance of a person*

2.3 Self-importance

Self-importance is defined as a person's own evaluation of the self in the domain of how important one is (Kim et al, 2018). Research was conducted to examine the influence of a person's self-importance on consumer judgements. Participants needed to perform a writing task, either framed to encourage high or low self-importance. Than participants were asked

to evaluate three different product concepts. These products were either framed relevant to the self-importance manipulation or framed irrelevant. Results show that when people see a particular aspect of their social identification as being relatively self-important, it results in a higher likelihood to favourably evaluate the product when the message is framed to appeal to the identity (Reed A II, 2004). Social identification is the perception of a person's belonginess to a group classification. This happens when a person perceives him/herself as a symbolic member of a certain group (Mael et al,1992). Thus, when a person needs to choose between different products, he/she is most likely to choose for a product that is related to aspects of his/her social identity perceived as self-important. If we than look at the relation between self-importance and healthier food choices, we suggest that when a person has a high level of self-importance, one is more likely to choose for healthier products.

H2: *An increase in the amount of self-importance of a person, increases their healthiness of snack choice*

We need to look at the relation between self-importance and self-esteem. Self-esteem is defined as how much value people place on themselves. High self-esteem refers to a highly favourable global evaluation of the self. Thus, self-esteem can be seen more as a perception than as reality. In relation to self-importance, high levels of self-esteem can open the door to sentiments of self-importance (Baumeister et al, 2003). Research shows that high levels of self-esteem lead to higher levels of self-reported health (Glendinning, 1998). Furthermore, low levels of self-esteem are associated with a higher level of avoidant coping strategies. The use of more avoidant coping strategies is related to higher levels of stress and anxiety. Avoidant coping can for example be seen as behaving as if everything is alright or avoiding thinking about a certain problem. As a result, a higher use of avoidant coping strategies leads to more unhealthy and stress-induced eating (Martyn-Nemeth, 2009).

However, this does not necessarily mean that people with higher self-esteem choose healthier products. If we look further into the concept of self-esteem, research shows that it can enhance one's global self-view and the perception of a person's worthiness (Pyszczynski et al, 2004). This can facilitate in choosing long-term benefits for the self over immediate decadent temptations, which positively increases a person's self-control (Kim et al, 2018). Choosing long-term benefits will most likely lead to healthier food choices instead of unhealthy food choices. In sum, we suggest that creating a busy-mindset will increase a person's self-importance/self-esteem and thus will lead to a higher amount of self-control.

H3: *An increase in a person's perception of busyness increases their healthiness of snack choice*

2.4 Conceptual Framework and Hypotheses

As a result of the different studies and theories regarding time-pressure, a busy-mindset, self-importance and self-control, we derived three hypotheses. These hypotheses were first mentioned in the conceptual background and are also presented below. The conceptual framework is a result of these hypotheses and shows the expected correlations between the different concepts.
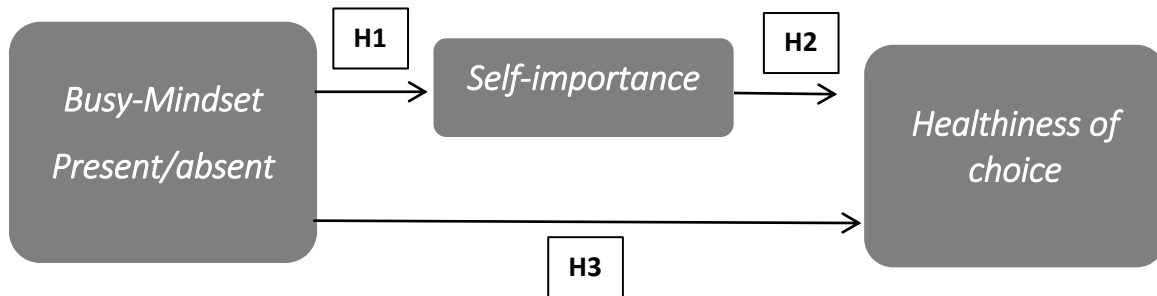
Figure 1. Conceptual Framework and hypotheses

H1: *The presence of a busy-mindset, increases the amount of self-importance of a person*

H2: *An increase in the amount of self-importance of a person, increases their healthiness of snack choice*

H3: *An increase in a person's perception of busyness increases their healthiness of snack choice*

Method

Design & Procedure

This experiment used a between subjects design and one factor was manipulated; the busy-mindset of participants (busy versus neutral).

Data were collected with the use of an online administrated questionnaire. After providing informed consent, participants were asked to perform a writing task. This writing task was designed to bring participants in a busy mindset ('busy condition') or not (control condition). This means that approximately half the people made the test starting with a writing task that focussed on triggering a busy mindset at the participant. To create this busy-condition, participants were asked to list 3 things that keep them busy during the day, similar to the manipulation in study 2B of Kim et al. (2018).

In control condition the busy-mindset was not created and was therefore used to check the effect of the busy-mindset manipulation on the participant. Moreover, to create a control-condition participants were asked to name 3 things in a totally unrelated category, the types of movies they liked. This is different than the control condition in study 2B of Kim et al. (2018), since they asked the participants to write down three things/activities that they did on their typical day on campus. In our opinion this question could still trigger a busy-mindset, since listing activities could eventually lead to an increase in a person's perception of being busy.

Then, the outcome variable was presented to participants; making a series of food and drink choices from a larger set that varied in healthiness. Participants were asked to choose between 20 different food products, which included 10 healthy and 10 unhealthy food products. Participants needed to choose 5 snacks that they would like to consume that specific week. These products were selected according to information on healthy and unhealthy products from the 'Schijf van Vijf' (Voedingscentrum 2018). The ten healthy products are all listed in the 'Schijf van Vijf', while the ten unhealthy food products are not listed in there. Furthermore, all the products are equally matched on the basis of the different categories within the 'Schijf van Vijf'. Both the healthy and the unhealthy products include two dairy products, four grain products, one nut containing product, one fruit containing product, one egg containing product and one product that contains dairy and grain. We left any meat related food products out of the experiment, since participants who are vegetarian could interfere with the results. This is different than the food choices that participants had to make in the study of Kim and colleagues. In their study, participants could choose an amount of cookies they would like to consume as a reward for participating. Moreover, the cookies were either framed indulgently or healthy, to strengthen the effect.

The healthy food products: Low-fat quark, yoghurt with mixed berries, wholegrain cereal and milk, brown rolls, rye bread, currant bun, knäckebröd with 30+ cheese, plain nuts, a banana and a boiled egg.

The unhealthy food products: Vanilla pudding, Chocolate vla, Cornflakes and milk, croissant, muesli bar, Time-out chocolate cookie, Lays chips, salted-nuts, Sultana and an omelette with cheese.

Every participant only followed one condition and the time available for each task was equal in both conditions, so time pressure did not affect the results. After choosing 5 snacks, participants needed to answer two questions regarding self-importance (mediator) and one question regarding their perceived level of busyness at that moment as a manipulation check. The questionnaire ended with some background questions (age, gender). Finally, participants were thanked for participating and debriefed. The Dutch questionnaire can be found in appendix A.

Participants

The experiment was conducted in The Netherlands. There is no specific location within the country, since it regards consumers in the whole country. The minimum age to participate was 16, since people younger than 16 need permission of their parents to participate in a survey. Moreover, even young adults are busy and a large part of them makes food decisions weekly. The survey was send throughout different channels of social media, mostly via Whatsapp & Facebook. This created a bigger scope concerning the amount of participants.

Measures

Dependent variable: healthiness of food choices

The dependent variable is the amount of healthy snacks the participants chose within the experiment. Since participants had 5 choices, their level of healthiness was measured on a scale of 1 to 5. They needed to choose between 20 different food products, including 10 healthy and 10 unhealthy products. This describes their level of healthiness, with 1 being totally unhealthy and 5 being totally healthy.

Figure 2. Snack choices
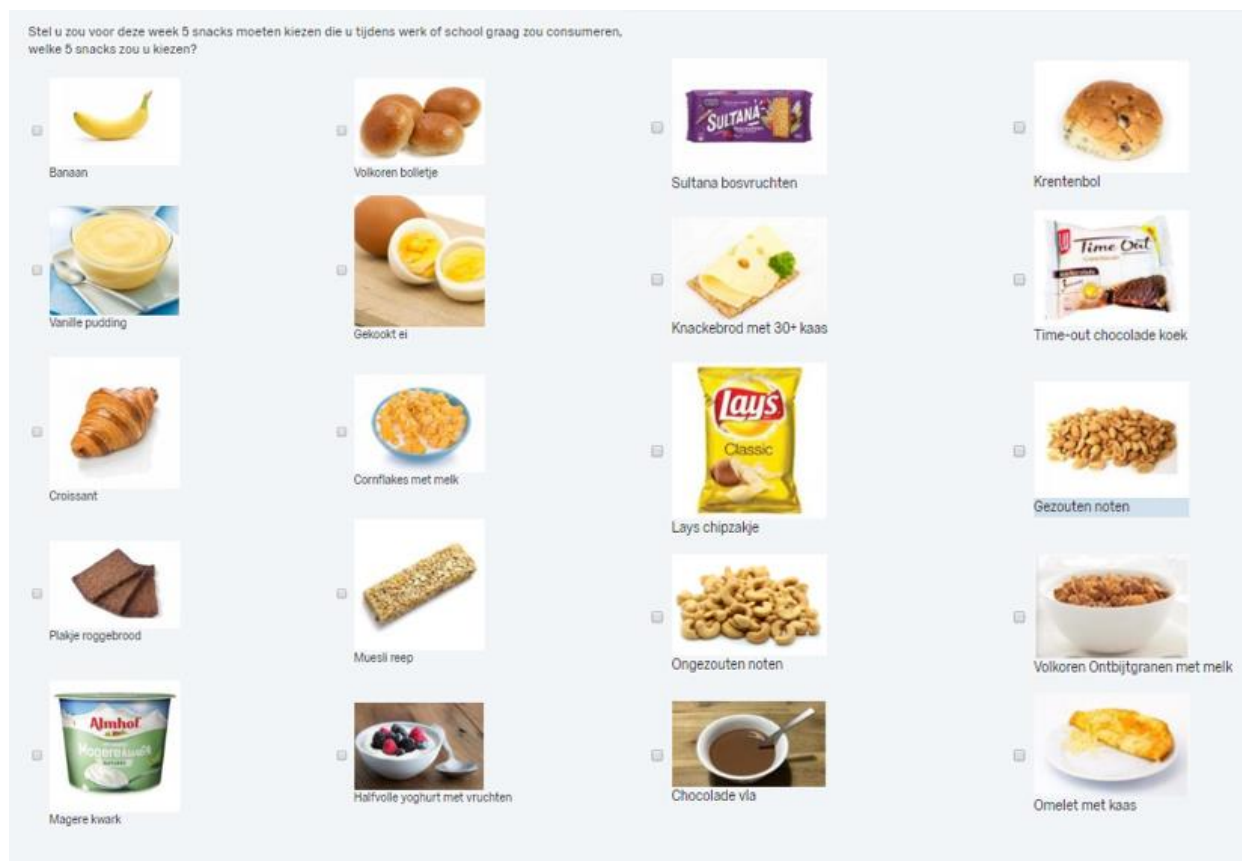
Mediator: Self-importance

The mediator in this experiment was the amount of self-importance of a person. Several studies show that an increase in the perception of busyness could lead to a higher level of self-importance (Gershuny 2009, Bellezza, Paharia & Keinan 2017). In addition, other studies show that an increase in a person's level of self-importance could lead to healthier food choices (Baumeister et al, 2003, Martyn-Nemeth ,2009). The level of self-importance of the participants was measured with 2 statements. The first statement was: I think of myself as an important person. The second statement was: I feel that I have an important role within

my own environment. The participants needed to either agree or disagree on both statements on a scale from 1 (totally disagree) to 5 (totally agree). To check whether we could combine these questions into one variable with respect to self-importance, a reliability check was carried out. This showed that these two questions could be combined (Cronbach's alpha 0.758)

Manipulation check

To check whether the manipulation succeeded, we checked the level of busyness of the participants by giving them the statement: 'At this moment in my life, I am a busy person'. Participants needed to either agree or disagree with this statement on a scale from 1 to 5.

Background characteristics

Participants were asked to fill in their age and gender. In addition, participants could comment their opinion about the survey.

Data Analysis

Data were analysed with the use of SPSS. To analyse the differences between the busy and the control condition, ANOVA's and T-tests were used. The Pearson correlation was used to report correlations between the amount of self-importance and the healthiness of choice. In all analyses, a p-value of <0.05 was used unless stated otherwise.

Results

Comparability of the conditions

Before the start of the analysis, one participant was removed due to the fact that this person had not followed the busy-mindset condition. The effect of the busy condition could not be measured, since this respondent did not write anything down that kept him busy. This left 87 (43 women, 44 men) respondents in the eventual analysis. The average age of the participants was 28.83 years (SD=13.72). The Independent samples test showed that there were no significant differences between the control condition and the busy-mindset condition in terms of age (p=0.42) and gender X^2 (1, N=87) = 0.59, p>.05. In the control condition (41 participants) the average age was 27,56 (SD=12.94), while in the busy condition (46 participants) the average was 29,97 (SD=14.41). In terms of gender, the control condition contained 19 women and 22 men, while the busy condition contained 24 women and 22 men.

Manipulation check

To check whether the manipulation succeeded, both conditions were analysed on how busy participants perceived themselves. This showed no significant difference between both conditions (F(2, 85)=0.57, p=0.32). Participants in the control condition reported a perceived busyness of 2.24 (SD=0.86), while participants in the busy condition reported 2.07 (SD=0.80). This showed that the manipulation (creating a 'busy-mindset') did not succeed.

Main analysis

First, the mediator (amount of self-importance of a person) was measured with two questions in both conditions. Participants reported an average score of 2,82 on self-importance and those in the busy condition did not report a significantly higher amount of self-importance than the ones in the control condition (F(2,85)=0.70,p=0.59). The first hypothesis was therefore rejected. Moreover, the Pearson correlation showed that there was no correlation between the amount of self-importance and the healthiness of choice (r=-0,063, p=0.56). This leads to the rejection of the second hypothesis. On average, participants chose 3.09 healthy snacks at a time. Participants in the busy condition did not significantly choose for healthier products than participants in the control condition (F(2,85)=0.06, p=0.53). As a result, the third hypothesis was also rejected. Finally, the Pearson correlation showed that there was no correlation between age and the perceived busyness of a person (r=0.095, p=0.38).

Table 1 Means (SD) of the effects of the conditions

	Control condition (N=41)	Busy condition (N=46)	p-value
Randomisation variable			
Age	27.56 (12.94)	29.97 (14.42)	0.42
Dependent variable			
Healthy food choices *range 1-5*	3.02 (1.17)	3.15 (1.07)	0.53
Mediator			
Self-importance *range 1-5*	2.78 (0.62)	2.86 (0.71)	0.59
Manipulation check variable			
Perceived busyness *range 1-5*	2.24 (0.86)	2.07 (0.80)	0.32

Discussion

This study was designed to examine the effects of the busy-mindset on healthy food choices in the Netherlands. The study was created inspired by and building on the studies conducted by Kim et al. (2018) concerning the effects of a busy-mindset on healthier food choices. Kim and colleagues showed that a busy mindset significantly influences consumer product choices and in particular leads to less indulgent food choices. Our study was based on their study 2B, which we replicated for a large part. In contrast to the findings of Kim and colleagues and our hypothesis, the results of our study showed that there was no effect of our manipulation on the healthiness of participants' snack choice. The expected mediator (self-importance) was not significantly higher in the busy condition than in the control condition. This is also in contrast to the results of Bellezza et al. (2014), suggesting that a busy person is more likely to have a high status and consequently a higher amount of self-importance. Furthermore, there was no correlation found between the amount of self-importance of a person and their healthiness of choice. This last outcome is opposed to the findings of Steele (1988), suggesting that a higher amount of self-importance leads to a higher amount of self-control behaviours.

Although the results did not show the expected outcome, an advantage of this study is that there was a manipulation check conducted to check whether or not the participants were affected by the busy condition. Kim and colleagues did not do a manipulation check to examine whether the participants actually felt busier. The manipulation check in this study showed that participants in the busy condition did not perceive themselves as a more busy person. This explains that the manipulation that we wanted to see, did not happen and thus may explains why there were no significant differences between both conditions. It might be the case that the question did not contribute to the fact that people could perceive themselves as busier. Also, within the busy condition there could be differences between the way participants filled in the question. Some participants gave more explanation for their answers and may have thought more about how busy they were then other participants. There was no time limit for the participants to fill in the questions, so time pressure could not interfere with the results. However, this led to participants differ in time in which they completed the survey. In this case, not every participant in the busy condition has been affected evenly.

As said before, the manipulation check in our study was not performed in the study of Kim et al. (2018), while we used the same kind of question as them in the busy condition. Although the control question was different in both studies. In the study of Kim and colleagues participants were asked about three typical things they did on the campus, while in our study participants were asked to list their three favourite movies. However, it seems not reasonable that our question could have contributed to a more busy-mindset than their question. This makes it questionable if the busy condition in their study contributed to the fact that those participants significantly went for healthier snacks. It may be the case that in their study other factors contributed to the differences between the two conditions, especially since the results differ largely.

An explanation of the differences could be that this study is not a natural experiment like the study of Kim and colleagues. In their study, participants were assigned to either one of the two conditions and afterwards were led to a table with different cookies. The participants received the cookies as a reward for the experiment and were told to take as many cookies as they would like. Knowing that they would receive a reward, could have encouraged the participants to think more about how busy they were. It might also be the case that participants are more sensitive for a real life experiment than a survey experiment. If this is the case, it seems legitimate that the difference was created by the moment that the participants had to choose which and how many cookies they would like. The writing part in the busy condition is exactly the same in both the real life experiment and the survey experiment, which makes it seem unlikely that this has had a big impact. However,

participants could be more sensitive for actually seeing the food products they have to choose from than only seeing them on their mobile phone in a questionnaire.

Demand characteristics could also have interfered with the results. This means that the respondent wants to fill in "good" data to be a "good participant" (Orne, 1969). Participants do this since they do not want to "ruin" the test. Participants unconsciously fill in the test in a, what they think, desirable way. In the present study, it might be that participants were prone to these demand characteristics. This would explain why on average the participants in both conditions went for a relatively high amount of healthy snacks (3.09/5.00 healthy snacks).

Moreover, in the study of Kim and colleagues the cookies were either framed indulgently or healthy. This could also have led to differences between the two studies, since in our study there was only one manipulation conducted. If we take the results of the manipulation check into account, it seems reasonable to say that the effect of the indulgent and healthy frame may have been higher than the busy manipulation in the study of Kim and colleagues.

It might also be the case that participants in the United States are more sensitive for a busy manipulation than participants in the Netherlands. Participants in both countries may have a different eating pattern and lifestyle, therefore it could be that Americans are more sensitive for busy-mindset framing. However, the addition of the indulgent and healthy framing interferes with these explanations. Also, the study of Kim and colleagues was conducted at a West Coast University among students while this study was conducted among all types of consumers older than 16 years. This indicates that the average age of the participants in their study is a lot younger than the average age of this study. However, the difference in age seems not a solid explanation for the big differences in results, since there is no correlation found between a higher age and a less busier mindset.

The publication bias could also have affected the results of this study. This is a result of scientists often publishing significant results instead of results that have not significant outcomes. Papers with significant results are three times more likely to be published than papers with null results (Dickersin et al, 1987). Thus, it may be the case that there were several studies conducted concerning the effects of a busy mindset, which never have been published.

For future research it can be useful to conduct a natural experiment instead of an experiment administrated using an online questionnaire with a scenario. It might be useful to recruit participants who are already really busy, which excludes the manipulation, since it might be the case that people cannot be affected by a busy manipulation. Maybe a person who is not busy at all, cannot be manipulated in to a busy mindset. In addition, it may be useful to test whether participants are affected by busy-mindset framing, when they are already a busy person. Busy persons could get to choose between a variety of products and might get tested on how healthy they score. Hence, people who perceive themselves as being busy, can be led to healthier food choices and eventually lead to a decrease of obesity.

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Appendix

Survey screenshots

Informed consent

Q3

Fijn dat u mee wilt doen aan dit onderzoek van Wageningen Universiteit! Deze vragenlijst gaat over de snack-voorkeuren van de consument.

Het invullen van de vragenlijst zal ongeveer 3 minuten duren. Als deelnemer aan dit onderzoek blijft u geheel anoniem.

Er zijn geen risico's of voordelen verbonden aan het invullen van de vragenlijst. U kunt op ieder moment beslissen om te stoppen met invullen. Voor eventuele vragen kunt u contact opnemen met Gijs Krus (gijs.krus@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

Busy mindset conditie

Q7   Noem 3 dingen die u druk houden in het dagelijks leven. Geef een korte toelichting

Controle conditie

Q8   Noem 3 van uw favoriete films. Geef een korte toelichting.

Stel u zou voor deze week 5 snacks moeten kiezen die u tijdens werk of school graag zou consumeren, welke 5 snacks zou u kiezen?

Banaan — Volkoren bolletje — Sultana bosvruchten — Krentenbol

Vanille pudding — Gekookt ei — Knackebrod met 30+ kaas — Time-out chocolade koek

Croissant — Cornflakes met melk — Lays chipzakje — Gezouten noten

Plakje roggebrood — Muesli reep — Ongezouten noten — Volkoren Ontbijtgranen met melk

Magere kwark — Halfvolle yoghurt met vruchten — Chocolade vla — Omelet met kaas

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▼ Self-importance

Q11 Ik vind mezelf een belangrijk persoon

- ○ Heel erg eens
- ○ Eens
- ○ Neutraal
- ○ Oneens
- ○ Heel erg oneens

Q12 Ik vind dat ik een belangrijke rol heb binnen mijn eigen omgeving

- ○ Heel erg eens
- ○ Eens
- ○ Neutraal
- ○ Oneens
- ○ Heel erg oneens

▼ Manipulatie check

☐ Op dit moment in mijn leven ben ik erg druk
Q10
　　○ Heel erg eens
⚙　○ Eens
＊　○ Neutraal
　　○ Oneens
　　○ Heel erg oneens

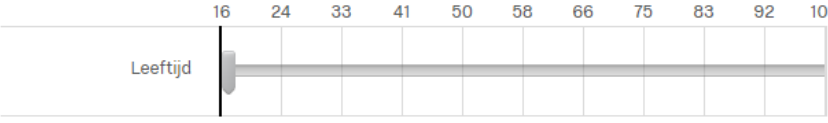▼ Achtergrondvragen

☐ Wat is uw geslacht?
Q10
　　○ Man
⚙　○ Vrouw
＊

☐ Q11 Wat is uw leeftijd?
⚙

　　　　　　16　24　33　41　50　58　66　75　83　92　100
iQ
＊　　Leeftijd

☐ Aan Wageningen Universiteit worden vaker studies verricht waarvoor wij op zoek zijn naar deelnemers.
Q12 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 als u al op deze lijst staat):

iQ

☐ Als u nog opmerkingen hebt voor de onderzoekers, schrijf deze dan hieronder:
Q13

⚙

iQ

☐ **Bedankt voor uw bijdrage aan het onderzoek!**
Q14 Klik op het pijltje naar rechts om de vragenlijst in te sturen.