

Nudging

Healthier Choices

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Abstract

Background: The number of overweight people is increasing, this is mainly caused by the growth of unhealthy food choices and technological developments which make sure office workers do not have to move from their desks often. This causes an interest for healthy lifestyles at offices, since the work environment is a key component in behavioural change. Moreover, healthy employees are more productive and have lower absence rates. **Aim:** The aim of this research is to find out if nudging can promote office workers' physical activity and healthy food choices. **Methods:** To collect information about nudging in general and in office environments, the physical activities in offices and healthy food choices in offices, a literature study is conducted. Nudging is divided into four sections: the definition of nudging; nudging variations; ethical considerations; and nudging in offices. Physical activity is divided in two sections: physical activity in general and physical activity of office workers. Healthy food choices is divided in two sections: healthy foods and the influences at the decision-making process between healthy and unhealthy foods. **Results:** Nudging is giving people a little push into the right direction. Nudging at offices can be used to improve productivity, prevent office workers from snacking or to reduce sedentary behaviour. Physical activity of office workers can be improved by offering sport facilities during work hours, using fitness trackers, stimulate active transport and using active workstations. More healthy food choices can be made by the influence of visibility, availability, workload, pricing, social influences and labelling. **Conclusion:** Organizations can implement several nudges to help office workers make healthier choices. For example, in the area of visibility, availability, sport facilities and active workstations. Priming, defaults and incentives are the most common nudging variations.

1. Introduction

According to the World Health Organization (WHO, 2016), the number of overweight people is increasing. In 1975, 33.1 percent of the people in the Netherlands was overweight. In 2016, the number of overweight people was 57.8 percent. This is an increase of 72.8 percent over the past 41 years. According to the WHO, this increase is mainly caused by the growth of unhealthy food choices, these are foods which contain high percentages of salt, saturated fat, trans fat and sugar (Vecchio & Cavallo, 2019). The increased availability of unhealthy foods is not the only thing that changed in the past few years. Due to technological developments, employees at offices don't have to move from their desks often. They can communicate with colleagues by phone or e-mail, instead of talking face-to-face (Shrestha, Kukkonen-Harjula, Verbeek, Iljaz, Hermans, & Pedisic, 2018).

In the Netherlands, people are sitting more than in each other country in Europe. 32.1 percent of the Dutch people is sitting more than 7.5 hours a day, while the average percentage of all European countries is 18.5 percent. Dutch employees are sitting 9.8 hours a day. Sitting for a long time has an influence on people's health and lifespan. People who are sitting the most have 112 percent more chance on type 2 diabetes and 147 percent more chance on cardiovascular diseases, compared to people who are sitting the least. Furthermore, people who are sitting more than 8 hours a day, have 10 to 27 percent more chance to die at an earlier age, compared to people who are sitting less than 4 hours a day. Few high-quality research has been conducted concerning the question which approach is best to make people sit less (Kenniscentrum Sport & het RIVM, 2017).

24 percent of the jobs in the Netherlands are office jobs (Buitelaar, van den Berge, van Dongen, Weterings, & Maarseveen, 2017). The average Dutch employee spend 30 hours a week at their job, this is lower than the average of all European Union (EU) countries, which is 36.3 hours a week (Eurostat, 2020). However, Dutch employees still spending 30 hours a week at their job. Three-fourths of the workday of office workers are sedentary hours (Thorp, Healy, Winkler, Clark, Gardiner, Owen, & Dunstan, 2012). This physical inactivity and the increased unhealthy food choices in the company cafeteria have a contribution in the increasing obesity rates in the Netherlands. Furthermore, the work environment is important by changing people's behaviour. The work environment has a significant impact on people's choices, not only at work, but also in their private situations (Strickland, Eyer, Purnell, Kinghorn, Herrick, & Evanoff, 2015). This is what causes a growing interest for healthy lifestyles at offices. Healthy employees are important for employers, because healthy employees are more productive than employees with an unhealthy diet. The productivity gain of healthy employees could reach up to 7 percent (Gubler, Larkin, & Pierce, 2018; Neumann & Dull, 2010; Odegard & Roos, 2014). Moreover, employees with a healthy diet have a lower absence through illness rate compared to employees with an unhealthy diet. Workplace absenteeism leads to indirect costs for the employer, these costs can increase with 10 till 30 percent when employees have unhealthy lifestyles (Kanerva, Pietliäinen, Lallukka, Rahkonen, & Lahti, 2018; Trogon, Finkelstein, Hylands, Dellea, & Kamal-Bahl, 2008).

Nudging can help people to make better choices for their health, wealth and happiness (Vallgarda, 2012). The book of Thaler and Sunstein (2008), was one of the first that focus attention to nudging. They defined nudging as follows: *“Any aspect of the choice architecture that alters people’s behaviour in a predictable way without forbidding any options of significantly changing their economic incentives. To count as a nudge, the intervention must be easy and cheap to avoid”* (Thaler & Sunstein, 2008, p. 6). Furthermore, Thaler and Sunstein stated that choices of people should be without any obligation. This means that forbidding an alternative choice does not count as a nudge. Examples are a poster about stair use, to stimulate employees to use the stairs instead of the elevator; choosing for a healthier lunch at the company cafeteria by changing the food order; or using a stand-sit desk instead of a sitting desk and send a digital reminder to your employees to remind them to stand up.

Hanks, Just, Smith and Wansink (2012), showed that changes in the environment of a lunchroom can stimulate students to choose healthier options for their lunch. This is also confirmed by a study of Bucher et al. (2016). They did a review on eighteen studies where food position or order was changed. Sixteen of those studies showed that people indeed chose healthier options if they were nudged into this direction (Bucher et al., 2016).

Van der Meiden, Kok and Van der Velde (2019) indicated that nudging can stimulate employees to use the stairs instead of the elevator. Furthermore, an increase of physical activity is possible if the activity is made fun and enjoyable. An example of a standard activity which is made more enjoyable is the piano stairs in Stockholm. When you enter the stairs, each step plays music like a piano (Quigley, 2013). Finally, nudging can help to reduce sedentary time at offices (Altenburg, Kist-van Holthe, & Chinapaw, 2016). Kenniscentrum Sport and het RIVM (2017) are thinking it is important to investigate manners to influence the unconscious sedentary behaviour and are explaining nudging as an example of such a way.

Nudging could be an effective medium to stimulate employees at offices to make healthier choices regarding food and physical activity. Organizations who are using nudges are mainly governmental organizations (John, Smith, & Stoker, 2009; Sunstein, 2016). Consumers are usually the target of nudges by governmental policies and businesses are involved in nudges in two ways: government-to-business or government-to-business-to-consumer (Tikotsky, Pe’er, & Feldman, 2020).

To summarize, due to technological developments and an increased number of unhealthy food choices, the number of overweight people in the Netherlands is increasing. This causes an interest for healthy lifestyles at offices, since the work environment is a key component in behavioural change. Moreover, healthy employees are more productive and have lower absence rates. Nudging can help employees to make healthier choices. Currently, nudges are not often used in offices in the Netherlands. For years now, governments have had a growing interest in nudging, but businesses are not embracing it yet.

1.1 Research questions

The general research question (GRQ) of this research is formulated as followed:

“How can nudging promote employees’ physical activity and healthy food choices at offices?”

This general research question has several sub research questions (SRQ), which will be answered throughout this report.

1. What is nudging in general and specifically in an office environment?
2. What are the possibilities for physical activities at an office environment?
3. What can be regarded as healthy food choices and what influences the choice for healthy or unhealthy foods at an office environment?

1.2 Research methods

To collect information about nudging in general and in offices environments, the physical activities in offices and healthy food choices in offices, a literature study is conducted. The scientific articles are collected mainly using Web of Science and Scopus. As back up, Google Scholar is used.

Different synonyms for each key concept which is included in the research questions is used by searching for relevant scientific articles. The synonyms were used and combined with help of Boolean operators AND and OR. AND combines two or more different concepts, while OR is searching for both search items. OR can therefore be used to search for one concept with different synonyms. An example of a search query is: (nudging OR nudge OR nudges OR “choice architectures”) AND (offices OR secretariats OR “workplaces” OR “office workers”). This search query is used for research question 1, the different applications of nudging in office environments.

To determine if articles were useful for this research, the title was checked first. Figure 1 shows this process. If the title is appealing and related to the research question, the abstract was read first. If the abstract shows relevant information for this research, the article was scanned. If during scanning the article relevant information is found, the article was read in total. After reading the article, it is decided whether the article can help answer a research question. If the article is helpful in answering a research question(s), the information was used to answer it.

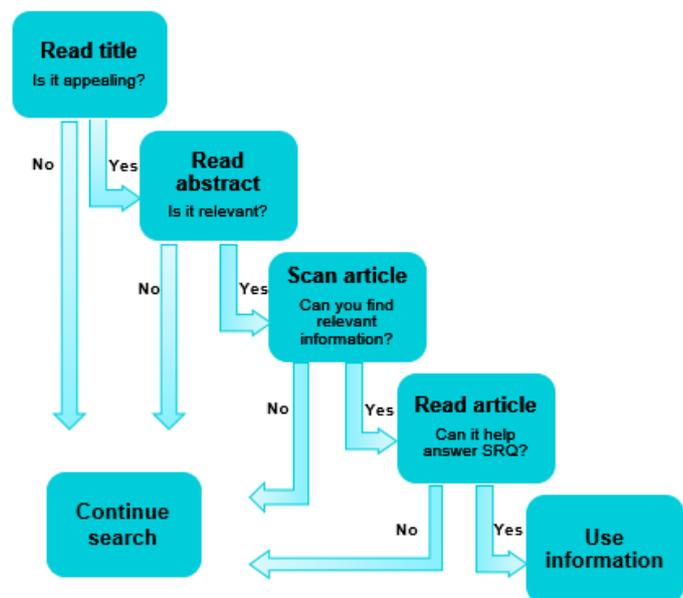


Figure 1: Process finding relevant articles

Using this search strategy, relevant articles were found. Even more relevant articles were found when the references of each article were checked. This is called the snowball effect. In this way, the origins of the articles will be revealed and lead to new insights (Cooper, 2014). When using the snowball strategy, it was still important to determine if articles are useful for this research by applying the steps explained above.

2. Nudging

This chapter explains the concept nudging and is divided into five sections. Section 2.1 explains nudging in general with help of several definitions and it is explained how nudging works. Section 2.2 explains the six different variations of nudging. Ethical considerations are discussed in section 2.3. Section 2.4 shows some practical applications of nudging in offices. Finally, section 2.5 gives some conclusions about this chapter.

2.1 The definition of nudging

Nudging can be seen as a little push into the right direction. This is done by small changes in the environment that can guide people in a certain direction to make them pick a certain choice. That certain pick will be chosen more by people (Marteau et al., 2011). Nudges can stimulate people to choose for a certain option, without dedicating or receiving a (economic) gift for that certain option or prohibiting the alternative option(s) (Thaler & Sunstein, 2008). Nudging can help people make better choices for their health, wealth and happiness (Vallgarda, 2012). Hansen (2016) decided to make the definition of nudging from Thaler and Sunstein (2008) clearer, by studying the definition. Hansen added and changed several elements to the definition, which should lead to a more clear and complete definition. According to Hansen (2016, p. 174) “a nudge works independently of:

- Forbidding or adding any rationally relevant choice options;
- Changing incentives, whether regarded in terms of time, trouble, social sanctions, economic and so forth;
- The provision of factual information and rational argumentation.”

Thaler and Sunstein (2008), were two of the first that focus attention to nudging in literature, but nudging is not something new. Nudging originates from psychological and sociological theory from over a century ago, which shows how environments can affect human behaviour. Nudging goes hand in hand with libertarian paternalism, which is “a political philosophy in which people’s choices are actively guided in their best interests but they remain at liberty to behave differently” (Marteau et al., 2011, p. 2). Libertarian paternalism can be seen as “an approach that preserves freedom of choice but authorizes both private and public institutions to steer people in directions that will promote their welfare” (Thaler & Sunstein, 2003, p. 179). Libertarian paternalists promote people to make their own choices (Sunstein, 2014).

According to Dual Process Cognitive Theories (DPTs), human behaviour is shaped by two systems: the reflective and the automatic system (Hansen, 2016; Kahneman, 2011; Strack & Deutsch, 2004). In the reflective, goal-oriented system, people have time to think (cognitive capacity). This system is driven by people’s values and intentions. You only use this system when an activity requires high effort. The reflective system is controlled, considered and slow. In the automatic, affective system, people do not have time to think. This system is driven by feelings and, triggered by environments and makes our unconscious choices. Figure 2 gives

Automatic thinking	Reflective thinking
Unfounded	Goal oriented
Uncontrolled	Controlled
Fast	Slow
Unconscious choices	Cognitive capacity
Driven by feelings and triggered by environments	Driven by people’s values and intentions

Figure 2: Overview automatic thinking and reflective thinking

an overview of the different types of thinking. The automatic system is relevant for nudging, because nudging is focussing on the unconscious choices people make (Evans, 2003; Kahneman, 2011; Marteau, Ogilvie, Roland, Suhrcke, & Kelly, 2011). Other activities which stimulate to make different (better) choices in the future, for example education, rules and regulations and fines, are focussing on the reflective system of human behaviour (Reisch, Sunstein, & Gwozdz, 2017), while nudging is doing the opposite.

According to Marteau et al. (2011) there is no doubt whether nudging works or not. Small changes in environments are extremely effective, but it has not always been used for good purposes. An example of a wrong purpose is the availability of unhealthy food choices that are packaged, presented and developed to stimulate people's automatic thinking to buy these easy to grab foods, which has led us to over-consumption.

2.2 Nudging variations

According to Blumenthal-Barby and Burroughs (2012) and Wilson, Buckley, Buckley and Bogomolova (2016), nudges could be divided into six different categories: incentives; defaults; salience and affect; norms and messenger; priming; and addressing people's commitment and ego.

Incentives

Incentives are used to stimulate a positive choice or to punish a negative choice. The choice architecture is the one who slightly changes the environment and decides what the good or the bad choice is. Incentives are commonly used to stimulate people to choose healthier options concerning food, physical activities, medications and smoking. Incentives could include that people could gain something by a "good" choice or could lose something by a "bad" choice. Important is that incentives are more effective when people could lose something. An example of an incentive is a study in the United States. Teenagers who already were parents, received one dollar a day for each day that they were not pregnant again. The number of teenage pregnancies decreased (Thaler & Sunstein, 2008).

Defaults

People have certain tendencies, by monitoring those tendencies it is possible to set options in advance to promote a certain choice. People who would like to choose for other options, need to sign out or need to change something in the "settings". An example of a default is the new organ donation system in the Netherlands, which will be launched on July 1, 2020. If someone is not willing to donate his or her organs after they have passed, they have to report it. Otherwise, you are automatically registered as a donor (Donorregister, n.d.).

Salience and affect

Salience and affect are making use of "novel, personally relevant, or vivid examples and explanations" which causes an emotional response whereby items remain available in their mind which has an effect on people's decision making. Stories, pictures, and movies are used by these type of nudges. An example is to let smokers watch a movie about them suffering from a heart attack, to make them stop smoking. More than 50 percent of the participants indicated they were going to quit smoking after watching this movie (May, Tofler, Bartrop, Heinrich, Baird, Jozefiak, & Burgh, 2010). The success of salience and affect nudges increases

when people's responses are emotional or when the nudge is about something the person cares about.

Norms and messenger

Norms and messengers are making use of the influence of what other people would do or what they are saying. An example of a norms and messenger nudge is young adults were receiving a message from their role model to remind them to use sunscreen, which caused an increase in sunscreen use among young adults (Hoffner, 2009).

Priming

Priming are nudges based on unconscious indications which are influencing people's behaviour. An example of priming is when designing a building, placing stairs in front of doors and elevators fifteen meters away. This change in design will increase stair use (Mengisen, 2008).

Addressing people's commitment and ego

This type is nudge is making use of the fact that people are willing to fulfill their promises and obligations. Websites have been developed to help people achieving certain goals to improve their health. One example is stickk.com, people can enter their goal and set an agreement. They have to enter their credit card information and if they don't fulfill their goal, a certain amount will be charged. Ego is a huge part in the effectiveness of many nudges in the other categories as well.

2.3 Ethical considerations

While developing a nudge, choice architects have to deal with some ethical considerations like manipulation, compulsiveness and the ability to choose for another option.

Choice architects need to consider if the nudge could be considered as manipulation. This is important, because manipulation will reduce someone's ability to make autonomous decisions (Sunstein, 2015). If the nudge could be considered as manipulation, it should be considered if it is ethically justifiable. Manipulation is not always ethically unjustifiable, because it could be used for good reasons, like in a previous example about smokers who were watching a small video to let them stop smoking. Using norms and messengers, it is easy to exaggerate a story to make it more clear, but this is misrepresentation and is ethically not right (Blumenthal-Barby & Burroughs, 2012).

The amount of incentives should be well considered. When choice architects are using too much incentives, it could be seen as that people are pressured to do something (Blumenthal-Barby & Burroughs, 2012). Choice architects need to consider the risk that people could think that they are forced to do something, because of the unconscious choice they made; they did not have time to think about their decision (Sunstein, 2015). When people are forced to do something, it is against the origin of nudging; the intervention must be cheap and easy to avoid, when people choose another option, this should be without any consequences for them. For example, when the intervention stimulates to buy a whole grain bun, instead of a white bun, it should be easy to still buy a white bun without a big price difference. When choice architects force people to choose for the whole grain bun, for example, it does not count as a nudge

anymore. Coercing nudges are reducing people's ability to make an autonomous decision (Blumenthal-Barby & Burroughs, 2012; Sunstein, 2015).

Using defaults, it should be easy for people to give up on the standard option. It needs to be easy for people to avoid the choice which the choice architectures chose to nudge you towards. It is necessary that it is easy to avoid the nudge for people's ability to make an autonomous decision (Blumenthal-Barby & Burroughs, 2012).

It should be considered whether the expected benefits compensate the expected damage and, if the nudge could damage any (vulnerable) people and if the nudge could be experienced negative, when people have unfortunate feelings about it. An example are the easy to grab unhealthy snacks at the cash register. They buy these snacks and afterwards they regret buying it. An example of damage that could occur during a nudge, is the default of HIV testing policies in countries where HIV is a big problem. For people it is good to know whether they are sick or not. However, knowing that you are positively tested, could lead to psychological harms. It could result in stress and anxiety to be repelled by your family if you tell them or if they find out (Hanssens, 2007). So, it should be considered that nudges don't cause any damages at physical, psychological, social and financial level. Finally, the intended response of (priming) nudges should be proven positive. In the example of stair use, this means there should be evidence that it is better for people to take stairs instead of elevators. In the cases when a nudge could cause damage or the intended response is not proven positive, it is ethically not right to use nudges (Blumenthal-Barby & Burroughs, 2012).

Using norms and messengers with use of a role model could be dangerous, since those nudges are not always devised by choice architectures. Famous singers, influencers or actors could be seen as role models. An example is a role model that does something wrong (e.g. smoking) out of themselves, and people will follow them. In this way, people could be nudged towards a bad example, because their role model is doing so. The risk is that people would not question their role model's decisions. They will do everything what they are told, which is a risk for their autonomy. Another risk is a worldwide standard which is changing into a bad example. An example of this is the increasing obesity rates; many people are overweight, and people could see this as the norm, as normal, while this is unhealthy (Blumenthal-Barby & Burroughs, 2012).

2.4 Nudging in offices

Besides nudging in general, there are also nudges specifically for an office environment. There are many different examples of nudges in office environments. However, literature questioned if businesses are already using nudges to help their employees make healthier choices (Tikotsky, Pe'er, & Feldman, 2020). Since healthy employees are important for organizations, because healthy employees are more productive and have lower absence rates, nudging could be a contribution for them (Gubler et al., 2018; Neumann & Dull, 2010; Odegard & Roos, 2014).

Ebert and Freibichler (2017) found that nudges could bring possibilities to improve productivity by focussing on the organizational context which will influence fast thinking to improve efficiency, effectiveness and motivation. An example to improve productivity of meetings is to change the default. If the default of the duration of a meeting is often 60 minutes, change it

into 30 minutes. According to Ebert and Freibichler (2017) this is a powerful strategy to increase efficiency, since it could result in a 5 percent decrease in time spent in meetings per employee.

To prevent office workers from snacking or overeating, the availability of snacks and beverages could be placed further away from the employees. When the cafeteria or vending machines are further away, it results in a decrease in snacking at the office (Baskin, Gorlin, Chance, Novemsky, Dhar, Huskey, & Hatzis, 2016). Using a default choice in the company cafeteria could be very useful to let your employees eat healthier. For example, the default of whole wheat and white bread. No matter what the default was, whole wheat or white, most of the employees sticks with the default. The same holds for whole milk or skim milk for cappuccino's and chocolate or fruit as snack choice (Colby & Chapman, 2014; Kleef, Seijdel, Vingerhoeds, Wijk, & Trijp, 2018).

To reduce sitting time, a default nudge could be used. An example of a default is an adjustable stand-sit desk. Placing these desks, could increase stand-up working significantly (Venema, Kroese & Ridder, 2018). To increase stair use, priming nudges could help. Van der Meijden et al. (2019) found that footprints on the floor shows a significant change of choice to use the stairs instead of the elevator.

To increase recycling rates at offices, installation of sorting equipment is a well effective manner, while information letters are only effective in the first few weeks. Examples of sorting equipment are different waste bins in different colours (Bernstad, 2014). According to Austin, Hatfield, Grindle and Bailey (1993), recycling rates will increase with help of signs. Signs or posters near to the recycling bins will increase recycling rates by 29 percent. Caris, Labuschagne, Dekker, Kramer, Van Agtmael and Vandembroucke-Grauls (2018) and Whitehead, Jones, Howell, Lilley and Pykett (2014) found that a simple reminder to wash your hands at rest rooms, like a poster as seen in figure 3, people are willing to wash their hands more often.

Another famous example in this category is the fly in urinals. This image of a fly gives men a target, which can reduce spillage by 80 percent, which benefits cleaning time and cleaning costs (Thaler & Sunstein, 2008).



Figure 3: Poster Nudge. Adapted from my door sign. Retrieved March 10, 2020 from <https://www.mydoorsign.com/signs/employees-must-wash-before-returning-to-work-sign/sku-s-8520.aspx>

2.5 Conclusion

Nudging in general means giving people a little push into the right direction, the right direction according the choice architects, by changing the environment where the decision-making process takes place. In offices, nudging has some specific practicalities. Nudging at offices can be used for improving productivity, prevent office workers from snacking or to reduce sedentary behaviour. Since nudging anticipates on the automatic system of human behaviour, it can be seen as compulsive or manipulative. This is because people do not take time to think about their decisions, it is not a well-considered decision. To conclude, nudging can let people choose for alternative options in their daily lives in a relatively easy and cheap way.

3. Physical activities at offices

Chapter 3 explains more about physical activities and is divided in three sections. Section 3.1 explains physical activity in general and explains a unit of measurement to measure physical activity. Section 3.2 is about the possibilities for office workers concerning physical activity during their workday. The conclusions about this chapter are stated in section 3.3.

3.1 Physical activity in general

The WHO (n.d.) defined physical activity as “*any bodily movement produced by skeletal muscles that requires energy expenditure.*” This definition is really broad and suggests that every small movement of someone’s body can be called as physical activity. In 2017 de Gezondheidsraad, the Health Council in the Netherlands, formulated new physical activity guidelines. These guidelines are a minimum norm for people who are physical inactive, to stimulate them to be more active. Adults should do moderate or heavy intensive exercises for at least 150 minutes a week, distributed in several days (1); do muscle- and bone strengthening activities at least twice a week (2); and they should prevent sitting (3) (Gezondheidsraad, 2017).

To decide which activities are light, moderate or heavy intensive, the MET-score could be used. MET is short for Metabolic Equivalent of Task and is a unit of measurement within physiology for the amount of energy that a certain physical effort will take, compared to the amount of energy required at rest. The heavier the physical effort, the higher the MET-score. At the end of this chapter in table 1, an overview of all physical activities at an office environment with the corresponding MET-score is showed. A MET-score of 3.0 till 5.9 is a moderate intensive activity. A MET-score of 6.0 or higher is a heavy intensive activity (Gezondheidsraad, 2017; Voedingscentrum, n.d.). The intensiveness of the activity does not affect the 150 minutes a week. If someone is doing 150 minutes heavy intensive exercises and someone else is doing 150 minutes moderate intensive exercises, they both satisfy to the minimum norm. Without doubt, activities with a higher MET-score, will burn more calories. Each form of activity or sports has a MET-score. In this way, it is possible to determine which activities count for the minimum of 150 minutes doing moderate or heavy intensive exercises a week.

3.2 Physical activity office workers

At an office, the possibilities to be physically active are limited. Locations of meeting rooms, stairs and elevators are deciding how much you need to be physically active during your workday. However, office workers can also make some personal choices to exercise more often during the workday. An example is using the stairs instead of the elevator or walking outside during breaks (Kasteren, Maeder, & Perimal-Lewis, 2018).

Doing sports during work hours

Physically active office workers experience less stress and have more energy (McCrary & Levine, 2009). The ability for office workers to do sports during working days, could increase the physical activity of them (Carr, Maeda, Luther, Rider, Tucker, & Leonhard, 2014; Straker, Levine, & Campbell, 2009). This change will reduce the number of working hours. However,

Von Thiele Schwarz and Hasson (2011) found that sporting during working hours could increase people's productivity, while the number of working hours is decreased.

Adjustments in workstations

Participants in the study of Koren, Pisot and Simunic (2016) agreed that an active working station is helpful for achieving the minimum physical activity guidelines. An active working station is for example a desk with a modified cycle ergometer. However, cycling during work did increase the working time by specific tasks (e.g. typing). It does not increase the error rate of employees' work.



Figure 4: Sit-stand desk. Adopted from *Deskings*. Retrieved March 12, 2020 from <https://whitespaceni.com/contract-furniture/deskings/>

Standing has some positive health outcomes, in contrast to sitting (Van der Ploeg, Moller, Hannerz, Van der Beek, & Holtermann, 2015; Ebara et al., 2008). Therefore, a stand-sit desk (figure 4) could be a good medium to increase standing time among office workers (Mansoubi, Pearson, Biddle, & Clemes, 2016; Robertson, Ciriello, & Garabet, 2013). A stand-sit desk can help reducing work related musculoskeletal disorders, foot swelling, tiredness and can increase the perceived energy of office workers (Roelofs & Straker, 2002). The use of an adjustable stand-sit desk among office workers will increase when employees followed an ergonomics training. Otherwise, office workers are less willing to adjust their desks in different

positions during their workday (Robertson et al., 2013).

It is also possible to sit in a more "active way" (Grooten, Ang, Hagstromer, Conradsson, Nero, & Franzen, 2017) by using chairs without the back of a chair, dynamic or unstable chairs, exercise balls, or motor-driven chairs (Ellegast, Kraft, Groenesteijn, Krause, Berger, & Vink, 2012; Gergory, Dunk, & Callaghan, 2006). Figure 5 shows some examples of active chairs.



Figure 5: Examples active chairs. Adopted from *Top Spa Supply* and *CSergonomics*. Retrieved March 12, 2020 from <https://topspasupply.com/products/hydraulic-saddle-stool-without-back-support> and <https://csiergonomics.com/info/exerciseballaretheyergonomic/>

Active transport

Several studies showed that active transport, transport by bike or walking instead of using the car, is very effective to achieve the minimum norm for physical activity a day and is one of the best investments an employer could do to support physical active lifestyles (Global Advocacy for Physical Activity, 2011; Parry, Straker, Gilson, & Smith, 2013). Active transport has several positive health effects and it could contribute to improvements in public health, because it is a relatively simple adjustment in people's daily life (Wanner, Götschi, Martin-Diener, Kahlmeier, & Martin, 2012). However, the commuting distance in 2016 in the Netherlands was 22.7 kilometres (CBS, 2018). This means that for some employees it is difficult to be active during transport. However, if office workers are traveling by public transport, they can choose to walk or cycle the last kilometres instead of taking the bus.

Walking at offices

Employees could easily walk more during their working day. They can for example walk to a colleague who is at the other side of the building, instead of calling this colleague. This exercise will already result in more physical movement to achieve the minimum norm for physical activity (Healy, 2013). Using the stairs instead of the elevator is also an effective medium to improve physical activity among office workers. Encouraging stair use is a relatively simple way to improve employees' fitness, body composition and blood pressure (Meyer et al., 2010). Going for a walk outside during breaks instead of sitting in the company cafeteria is also a healthier choice, since there is a difference of 2.0 in MET-score (Ainsworth, et al., 2000; Parry et al., 2013).

Walking in an office environment could be stimulated using the help of mobile health technology. This technology could be an app to remind you to stand up for a short walk (Boerema, Van Velsen, & Hermens, 2019). It could also be useful for office workers to wear fitness trackers. It will raise the awareness of their physical activity during a working day (Bravata et al., 2007). Furthermore, sharing a fitness goal with colleagues could support physical activity during a workday (Chung, Gorm, Shklovski, & Munson, 2017). A fitness tracker is an effective medium in improving physical activity of office workers, it increases the awareness of being physically active and it support fitness breaks during the workday (Ren, Yu, Lu, & Brombacher, 2018).

Finally, every alternative which is explained in the previous examples, have a higher MET-score than the original choice. In addition, most alternatives have a MET-score of 3.0 or higher, which means these activities will count for achieving the first minimum norm for physical activity. The computer work while standing and meeting while standing are the only two alternatives which don't have a MET-score of 3.0 or higher, so this will not help to achieve the first norm. However, standing instead of sitting could help to achieve the third norm of de Gezondheidsraad. To give an overview of physical activities at offices and there MET-score, table 1 is created. A MET-score below 3.0 is a light intensive exercise (green), a MET-score of 3.0 till 5.9 is a moderate intensive activity (yellow), and a MET-score of 6.0 or higher is a heavy intensive activity (red) (Gezondheidsraad, 2017; Voedingscentrum, n.d.)

Table 1: Physical Activities MET-scores

Physical activity	MET-score	Reference
Computer work – sitting	1.8	(Diabetes Fonds, 2017)
Computer work - standing	2.3	(Ainsworth et al., 2000)
Using stairs – slow	4.0	(Voedingscentrum, n.d.)
Using stairs – fast	8.8	(Voedingscentrum, n.d.)
Using elevator	1.2	(Ainsworth et al., 2000)
Walking on job – moderate	3.3	(Ainsworth et al., 2000)
Cycling to work	8.0	(Ainsworth et al., 2000)
Driving car to work	1.0	(Ainsworth et al., 2000)
Walking outside during break	3.5	(Ainsworth et al., 2000)
Spending break in company cafeteria	1.5	(Ainsworth et al., 2000)
Meetings – sitting	1.5	(Ainsworth et al., 2000)
Meetings – standing	2.3	(Ainsworth et al., 2000)
Fitness – general	5.5	(Voedingscentrum, n.d.)

Legend: **Green** = light intensive activity – **Orange** = moderate intensive activity – **Red** = high intensive activity

3.3 Conclusion

The definition of the WHO of physical activity is really broad and suggests that any bodily movement that requires energy is physical activity. The Health Council in the Netherlands formulated physical activity guidelines to stimulate people to be active. Adults should do moderate or heavy intensive exercises for at least 150 minutes a week, distributed in several days (1); do muscle- and bone strengthening activities at least twice a week (2); and they should prevent sitting (3). The MET-score is a measurement tool which helps to decide which activities are light, moderate or heavy intensive. Light intensive exercises are exercises with a MET-score of 2.9 or lower, moderate intensive exercises are exercises with a MET-score of 3.0 till 5.9, and high intensive exercises are exercises with a MET-score of 6.0 or higher. Office workers are known as physical inactive employees, because their activities are mostly related to computer work. Organizations have - because of the nature of work -, limited possibilities to encourage office workers to be more active. Facilitating sports activities during work hours, is one option for organizations. When every office worker uses the gym at an office three times a week for one hour each, they practice moderate heavy exercises (MET-score 5.5) for 180 minutes a week. Furthermore, muscle- and bone strengthening activities are also possible in a fitness environment. This will help office workers to fulfil the first and second guideline. However, organizations have to invest in a gym and need space for a gym at their building. Stimulating office workers to walk more at the office, is an effective way for office workers to fulfil the first guideline, since walking has a MET-score of 3.5. Using fitness trackers and organising small competitions among colleagues is an effective way to stimulate employees to walk more often.

Active transport to the office will help to achieve the first guideline, since cycling to work has a MET-score of 8.0. However, it is questioned if every office worker will travel by public transport, since the average commuting distance in the Netherlands is 22.7 km.

Using stand-sit desks is another option to improve employees' physical activity. Using computers while standing has a MET-score of 2.3, while using a computer sitting has a MET-score of 1.8. This is not a very effective way for office workers to fulfil the first guideline, since it is seen as a light intensive exercise and not moderate or high intensive. Furthermore, an ergonomics training which explains the use and the benefits of a standing desk is necessary when you want your office workers to use the desks at the standing level. However, it will help office workers to prevent sitting, which is the third guideline. To conclude, with help of the alterations explained above, it is relatively easy to let your employees be more active during their workday and help them to achieve the activity guidelines of the Dutch Health Council.

4. Healthy food choices at offices

Chapter 4 explains more about healthy food choices at offices and starts to explain more about healthy foods in general in section 4.1. At an office, there are several influences for offices workers to choose for healthy or unhealthy foods, these influences are explained in section 4.2. Section 4.3 stated some conclusions about this chapter.

4.1 Healthy foods

Eating a balanced and nutritious diet can help against various cancers, coronary heart disease and stroke (Van Duyn & Pivonka, 2000). Healthy foods are foods which contain low percentages of salt, saturated fat, trans fat and sugar. A healthy diet includes a high fruit and vegetable intake (Vecchio & Cavallo, 2019). Healthy food choices during work hours have a contribution in people's overall nutrition choices (Mazzola, Moore, & Alexander, 2017). Employees stated that it is more difficult to eat healthy at the office (Walker & Flannery, 2019). Het Voedingscentrum, the Nutrition Centre in the Netherlands, created the "Schijf van Vijf", which explains which foods are healthy. Figure 6 represents the "Schijf van Vijf". It visualizes which part of your diet needs to consist of fruits and vegetables (green), whole grain (orange), water (blue), dairy (pink) and fats (yellow) Furthermore, people should eat small portions, less in salt, sugar and saturated fat (Voedingscentrum, n.d.).



Figure 6: "The Schijf van Vijf". Retrieved from de Schijf van Vijf in een notendop of Voedingscentrum, n.d. (<https://www.voedingscentrum.nl/Assets/Uploads/voedingscentrum/Documents/Consumenten/Schijf%20van%20Vijf%202016/Schijf%20van%20Vijf%20in%20een%20notendop.pdf>)

With help of the "Schijf van Vijf" of het Voedingscentrum, it is possible to decide which foods are healthy and which foods are not healthy.

4.2 Influences decision-making process on food choices

Organizations can encourage their employees to maintain a healthy lifestyle that will result into longer and happier lives (Mazzola et al., 2017). Healthy employees are also a benefit for the organizations themselves, since healthy employees are more productive than unhealthy employees (Gubler, Larkin, & Pierce, 2018; Neumann & Dull, 2010; Odegard & Roos, 2014). Lunch during working hours has a great contribution to people's intake of sodium, sugar, saturated fats and trans fats. That is why company cafeterias could be an important location to expose employees to healthy food choices (Vyth, Steenhuis, Heymans, Roodenburg, Brug, & Seidell, 2011).

There are several types of influences which are part of the decision-making process of office workers to choose for healthy or unhealthy foods at the company cafeteria.

Social influences

Social interaction influences eating behaviour, this principle also holds for workplace eating behaviour, since this is also considered as social interaction. Social interactions affect the amount and types of food that people eat (Cruwys, Bevelander, & Hermans, 2015; Robinson & Higgs, 2013). It is also possible that if you are observing snacking behaviour of your colleagues, it might influence your own (Baskin, et al., 2016). Social pressure can also cause that employees are skipping breaks. If your colleagues are not taking a break, for example, you are more tempted to not take a break either (Park, Sung, Choi, Ryu, Chang, & Gittelsohn, 2017). Furthermore, a culture that rewards working during breaks, does not encourage employees to eat healthier foods (Devine, Nelson, Chin, Dozier, & Fernandez, 2007).

Workload

In the study of Mazzola et al. (2017), participants stated that their workload was a barrier for a healthy and balanced diet. Office workers that are too busy, tired, or worried to leave their desk to go to the company cafeteria, are easily tempted to choose for unhealthy foods. This is because food choice seems irrelevant to them, compared to their concern about their work (Devine, Nelson, Chin, Dozier, & Fernandez, 2007). Furthermore, unhealthy foods are associated with fast and convenient, which people are tempted to choose when they have a high workload. Lien and Zheng (2018) did research on eating behaviour among students to search for the relationship between workload and unhealthy eating choices. They found that students during exam weeks are more willing to buy unhealthy foods. In these times, students have high workloads and are paying their full attention to study, which results in lower self-control regarding healthy food choices. This found effect, could also be the case for office workers with high workloads.

Availability

If there is cake available at the office (or sweet foods), people choose those foods sooner than other available foods (Pliner & Mann, 2004). More barriers for office workers to eat healthy are the limited variety of healthy foods available in company cafeterias. If the choice is limited, office workers are less willing to eat healthier (Pridgeon & Whitehead, 2013). Putting free snacks in vending machines instead of on counters or shelves, is another way to decrease snacking behaviour. Vending machines will take time of office workers and this will give them time to think about their decision. Offering smaller portions for lunch can decrease the fat intake of office workers (Schwartz, Riis, Elbel, & Ariely, 2012). Finally, poor dining facilities is also one of reason that employees will eat at their desk more often instead of at the company cafeteria, which does not encourage a healthy diet (Pridgeon & Whitehead, 2013).

Visibility

If workplace snacks are visible for your employees, they are more likely to eat them (Baskin et al., 2016). The same holds for office cake. If office cake is displayed in such a way that employees can see or smell it, it stimulates hunger and motivation to eat (Ferriday & Brunstrom, 2011; Rameakers, Boesveldt, Lakemond, Boekel, & Luning, 2014). Another example is the research of Wansink, Painter and Lee (2006), they found that constant



Figure 7: Fruit at the beginning of the cafeteria route. Adopted from *The Boston Globe* by Blake. Retrieved March 19, 2020 from <https://www.bostonglobe.com/lifestyle/food-dining/2019/02/19/how-eat-healthier-workplace/EDXKriPnjNNHhCoTiP1oIM/story.html>

temptation of candy bars at someone's desk, they will eat more candy than when the candy was placed across the room. Furthermore, blocking sight between snacks and beverages could cause a decrease in snacking among employees (Baskin et al., 2016). Placing healthy products at the beginning of the cafeteria route (figure 7) and on eye level, could cause employees to pick more healthy products than before (Wansink & Hanks, 2013; Skov, Lourenco, Hansen, Mikkelsen, & Schofield, 2013; Engbers, van Poppel, Paw, & van Mechelen, 2005). Moreover, placing healthy snacks in places that are easier to reach, and unhealthy snacks in places which

are harder to reach, will decrease snacking behaviour among employees at company cafeteria (Baskin et al., 2016). Finally, healthy foods presented in a more attractive way, could lead to an increase in healthy foods persuaded (Wansink, Painter, & Ittersum, 2002).

Labelling

Labelling healthier foods in the office cafeteria could influence behaviour of office workers, they choose healthier foods more often, if they were already willing to eat healthier (Blanck, Yaroch, Atienza, Yi, Zhang, & Mâsse, 2009). Fruit and vegetable intake of office workers can be increased with help of labelling, while fat intake could be decreased (Pridgeon & Whitehead, 2013). The Choices nutrition logo (Ik kies bewust logo, figure 8) is not only used in supermarkets, but also in work site cafeterias. The logo is assigned to products that meet the determined criteria for sodium, added sugar, saturated fats, trans fats, fibre and energy (Vyth et al., 2011). Another way of labelling products is to show the total number of calories contained or to show the minutes of physical activities you should do to burn those calories if you eat that particular product (Engbers, Van Poppel, Paw, & Van Mechelen, 2006). A sign with the message "Pick me! I am low calorie" could also lead to a decrease of calorie intake of office workers (Wilson, Bogomolova, & Buckley, 2015).



Figure 8: Ik kies bewust logo. Adopted from Foodlog. Retrieved March 19, 2020 from <https://www.foodlog.nl/artikel/kort-producten-vinkje-hebben-een-jaar-om-aan-nieuwe-criteria-te-voldoen/>

Pricing

If food in the company cafeterias is expensive, these cafeterias will be barely used. With rising food prices, it is difficult to stimulate office workers to eat in the company cafeteria and additional to encourage them to make healthy choices (Pridgeon & Whitehead, 2013). Offering employees free snacks, make them feel more valued and appreciated, unfortunately, this has a drawback. Free food will increase food consumption (Baskin, et al., 2016). Employees confirmed that free food at offices makes it more difficult to eat healthy (Taber, 2014). Cheaper healthy products are not always a smart idea for company cafeterias who are responsible for their own turnover. It is found that reducing prices of healthy foods between 10 percent and 50 percent, will lead to a significant increase of the sales of these products. However, cheaper

products will result in profit loss for those cafeterias who are responsible for their own turnover (Grech & Allman-Farinelli, 2015; Rosi, Zerbini, Pellegrini, Scazzina, Brighenti, & Lugli, 2017).

4.3 Conclusion

The “Schijf van Vijf” of the Nutrition Centre in the Netherlands is a norm that can help people choose for a healthy and balanced diet, because it visualizes which part of your diet needs to consist of fruits and vegetables, whole grain, water, dairy, and fats. In general, healthy foods are foods which contain low percentages of salt, saturated fat, trans fat, salt and sugar. A healthy diet also includes a high fruit and vegetable intake and consuming smaller portions. For organizations it is helpful to have employees with a healthy lifestyle, since healthy people are more productive and have less absence rates. The productivity gain of healthy employees compared to unhealthy employees could reach up to 7 percent (Gubler et al., 2018) and the indirect costs for absenteeism can increase by 10 till 30 percent for employees with unhealthy lifestyles (Kanerva et al., 2018). There are some influences in the decision-making process of office workers to choose for healthy or unhealthy foods during working hours. To help office workers eat healthier, organizations can use those influences. These influences are social influences, like social pressure; the workload that people experience; the availability and visibility of healthy and unhealthy foods; labelled foods; and pricing of unhealthy and healthy foods. According to literature, the influences of visibility, availability and workload have the greatest impact on food choices. If the company cafeteria firstly present the healthy food choices (Wanskink & Hanks, 2013), present the healthy food choices on eye-level (Engbers et al., 2005), if there is, simply, more healthy foods than unhealthy foods available (Pliner & Mann, 2004; Pridgeon & Whitehead, 2013; Schwartz et al., 2012), and if office workers don't experience a high workload, it definitely influences food choices in a positive way. Pricing is a bit more difficult. It is effective when healthy foods are cheaper than unhealthy foods (Taber, 2014; Pridgeon & Whitehead, 2013). However, it is not always helpful for the company cafeteria itself, because it could lead to a decrease in their turnover (Grech & Allman-Farinelli, 2015; Rosi et al., 2017). Whether social influences have a positive influence on healthy food choices, is questionable. While Cruwys et al. (2015) state that food intake is determined by social influences, Robinson and Higgs (2013) and Baskin et al. (2016) state that the evidence is very limited that food choices changes when people are in company of each other. Labelling has the least influence on food choices. While Pridgeon & Whitehead (2013) stated that labelling is very effective, Vyth et al. (2011), Engbers et al. (2006) and Wilson et al. (2015) stated the opposite. To conclude, if organizations can control the influences in the decision-making process explained above, it is relatively easy to let office workers pick healthier choices. It could increase office workers' health, since the work environment is a key component in behavioural change (Strickland et al., 2015).

5. Conclusion

Technological developments and the increased number of unhealthy food choices are some explanations of increasing obesity rates in the Netherlands. 24 percent of the jobs in the Netherlands are office jobs and office workers sit on average about 10 hours a day. Since 75 percent of working hours are sedentary hours, 6 of those 10 hours are spent at the office (Thorp et al., 2012). Sedentary behaviour can cause some serious health issues like an increased risk of cardiovascular diseases. For organizations it is helpful to have employees with a healthy lifestyle, since healthy people are more productive and have less absence rates. The productivity of healthy office workers compared to unhealthy office workers could be 7% higher. The indirect costs due to absenteeism, could increase with 10 till 30 percent when office workers have an unhealthy lifestyle. Since the work environment has a significant impact on people's choices, not only at work, but also in their private situations, adapting the worksite cafeteria could have an overall contribution in office workers' healthy lifestyles (Strickland et al., 2015). The aim of this research is to find out if nudging can promote office workers' physical activity and healthy food choices.

Nudging is giving people a little push into the right direction, the right direction according to the choice architects, by changing the environment where decision-making processes take place. Nudging anticipates on the automatic system of human behaviour according to the Dual Process Cognitive Theories (DPTs), on the unconscious choices people make. There are six different variations of nudging: incentives; defaults; salience and affect; norms and messenger; priming; and addressing people's commitment and ego. However, nudging is not always used for good purposes. That is why nudging received some criticism as well. Nudging has been accused for, for example, compulsiveness and manipulation by opponents.

Physical activity goes hand in hand with movement. The Dutch Health Council suggest that adults should do moderate or heavy intensive exercises for at least 150 minutes a week (1); do muscle- and bone strengthening activities at least twice a week (2); and they should prevent sitting (3). To encourage office workers to be more active during their workday, which will help them to achieve the minimum guidelines of the Dutch Health Council, employers can offer multiple things to their employees. Some examples are offering stand-sit desks, active sitting chairs and sports facilities at the office.

To help office workers make healthier choices regarding foods, the employer can do multiple things as well. Healthy foods are foods which contain low percentages of salt, saturated fat, trans fat, salt and sugar. A healthy diet also includes a high fruit and vegetable intake and consuming smaller portions. Organizations should control the influences which are affecting the decision-making process of office workers to choose for healthy or unhealthy foods. These influences are for example the workload people experience, availability and visibility of healthy and unhealthy foods, and pricing of unhealthy and healthy foods.

The general research question of this research is: *"How can nudging promote employees' physical activity and healthy food choices at offices?"*. Employers can do multiple things in three different categories of nudging: priming, nudges based on unconscious indications which are influencing people's behaviour; defaults, set options in advance to promote a certain

choice, while people who would like to choose for other options, need to sign out; and incentives, stimulate a positive choice or punishing a negative choice. Those activities which organizations can implement are arranged in table 2 from the most effective nudges (no. 1) to the least effective nudges (no. 11), according to the knowledge obtained from all the literature used for this study. When the first column is green, this means that no or very little contradictions against the effectiveness of this nudge were found. When the first column is orange, some contradictions were found and when the first column is red, a lot of contradictions were found.

Table 2: Nudges for office workers

No.	Nudge	Variation	Example
1.	Visibility	Priming	Healthy foods should be more visible than unhealthy foods.
2.	Availability	Default	Sandwiches are standard made with whole grain bread and dairy products are standard low fat. If employees would like other products, they have to ask for it.
3.	Fitness tracker	Incentive	Office workers who are wearing fitness trackers and organizing small “competitions” with colleagues about who has the highest number of footsteps.
4.	Footsteps	Priming	Footsteps that lead employees to the stairs instead of the elevator.
5.	Message	Priming	A small message at employees’ telephone tells them that they could walk to their colleagues instead of calling them.
6.	Sport facilities	Priming	Offering sport facilities where employees could exercise during work hours, at their breaks for example.
7.	Active workstation	Priming	A more active workstation with cycles under the desk, an adjustable stand-sit desk and active chairs.
8.	Pricing	Incentive	Higher prices for unhealthy foods and lower prices for healthy foods in the company cafeteria.
9.	Active transport	Default	The organization assumes that all employees go to work by active transport. If employees need access to the parking place for their car, they have to sign up for this.
10.	Active transport	Incentive	Employees who are traveling by car to work, have to pay a monthly contribution for the parking places.
11.	Labelling	Priming	Labelling healthy foods in the company cafeteria.

Legend: **Green** = most effective nudges – **Orange** = moderate effective nudges – **Red** = least effective nudges

To conclude, nudging can promote office workers to be physical more active and to choose for healthier foods. Organizations can implement one (or more) examples from table 2 to stimulate office workers to pick healthier alternatives. These examples are relatively easy and cheap to implement into an organization, while it could have a great contribution for office workers’ health. Some interventions where the visibility of fruits was changed, caused an increase of 70 percent of sold fruits (Marteau et al., 2011). There is one exception, installation of a gym at an office is not easy or cheap to implement. However, the effectiveness of this nudge is still significant.

6. Discussion

This research gave organizations some serious starting points to implement nudges which will help office workers to make healthier choices. Most of them are relatively easy and cheap to implement in the organization. Healthy employees are not only beneficial for the office workers themselves, because of the lower risk of serious health issues like cardiovascular diseases, but also for the employer, since healthy employees are more productive and have lower absence rates. These benefits for the organization will lead to lower costs as well.

However, this research has some limitations. First of all, this study is based on literature only. This is a limitation because it is not possible to have an influence on the existing literature. Because of this, the available literature is not always 100 percent useful. Some interesting results of the used literature is gathered in a different environment than the office environment, for example at schools with students instead of office workers at an office. Secondly, some literature is gathered with help of the called method snowballing. This is a limitation because it will lead to older articles and these articles could be one-sided (Cooper, 2014). This risk was limited by making sure that the articles gathered with help of snowballing were written by different authors. Thirdly, there are some researches suggesting that nudging does not contribute to the healthiness of people. It certainly can help people to make healthier choices, but there is a lack of evidence that nudging alone will improve people's health (Marteau et al., 2011). Finally, the ranking from the most effective nudges to the least effective nudges in the conclusion is based on literature, however, there is no article available which explains what nudges have the best results. The ranking is based on what different authors said about different types of nudges. Some nudges are be found questionable, like labelling healthy foods. Some researchers said labelling definitely works (e.g. Pridgeon & Whitehead, 2013), others said labelling works definitely not (e.g. Wilson et al., 2015). For other nudges, no doubt was found, those nudges were placed first in the ranking.

In the conclusion some nudges for organizations which are willing to stimulate their employees to make healthier choices are provided. Those nudges are based on two subjects: physical activity and healthy food choices. However, nudges about health includes some more subjects, like the mental health of office workers. The definition of the WHO (1948, p. 100) is as follows: *"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."* This means that this research is only focussed on the physical part of health. Future research could focus on the mental and social part of health of the office workers. Furthermore, the nudges provided in the conclusion are not practically tested, but based on literature only. Future research could do research on the nudges provided in the previous chapter, to check whether these nudges are beneficial for healthier choices of office workers or not.

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