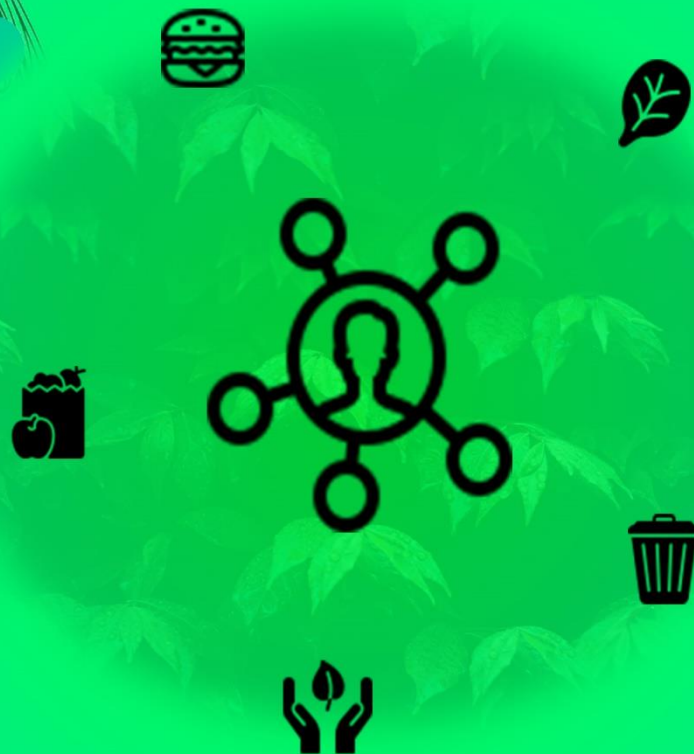# Bachelor Thesis

What is really your excuse?

Exploring how millennials cope with attitudinal-behavioral gaps in the domains of health and sustainability

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Abstract

Background and purpose: Health and sustainability show to be increasingly important values in the consumer market and many millennials express concerns for their physical health and future of our planet due to increasing issues surrounding public health and the environment. In order to encourage healthier and more sustainable food and drink consumption, it is needed to understand how individuals cope with deviating behavior, which is not always a result of preferences but can also be unconscious decision-making. The purpose of this study is to explore the attitudinal-behavioral gap and examine which dissonance reduction strategies are used in both of the domains.

Method: With the help of 20 participants, research was conducted on the basis of semi-structured interviews in order to explore applied reduction strategies in terms of unhealthy and unsustainable behavior. Non-probability sampling was applied, which consisted of convenience and snowball sampling. Participants were interviewed via Microsoft Teams. Transcriptions and MP4-files were recorded in order to interpret and correct the documents. Subsequently, transcriptions were segmented, coded and analyzed through ATLAS.ti.

Results: Results have shown overlapping perceptions of what healthy and sustainable food consumptions entail. Additionally, a variety of more than 300 reduction strategies were used, which also showed that overall participants expressed different justifications for both domains. In terms of health, participants mostly reduced dissonance due to (social) environment, pleasure and laziness. In terms of sustainability, the most used strategies were finances, availability of products and putting blame on others.

Conclusion: As clear patterns among both domains were shown, the results helped increasing the understanding of which strategies play the most pivotal role in the decision-making process of consumers, and which only play a minor role. The results can therefore facilitate future research to more specifically study both domains and types of reduction strategies. This in order to assist health and sustainability professionals in promoting healthier and more sustainable products.

Keywords: *Health, sustainability, food and drink products, attitudinal-behavioral gap, dissonance reduction strategies, cognitive dissonance*

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1. Introduction

Health and sustainability are two factors that are often mentioned as important criteria which are being taken into account by individuals when making food and drink choices (Allès et al., 2017; Chang et al., 2020). Regarding health, the increase in size of today's consumer market and exposure of fast food and sugary drinks can lead to many of us making poor product choices (Harbers et al., 2021). In contrast, there is international increasing recognition of the importance of proper diet values and habits among consumers (Chang et al., 2020), while research simultaneously shows that poor food and beverage choices can result in increased risks of developing non-transmissible diseases such as cancer, heart conditions and diabetes (Willet, 2012). Willet (2012) further notes that altering a diet to one with e.g. less saturated fats and processed foods, can substantially increase one's lifespan. Therefore, public health and governmental bodies all over the world are according to Mai and Hoffmann (2015) encouraging healthier diets increasingly, in the hope it limits later-life diseases across populations. This is for instance attempted by supporting concerns for health and food safety through ensuring agricultural systems free of human-made chemicals (Pino et al., 2012).

Similarly, in terms of sustainability, today's consumer market also focuses on environmental protection, which leads to the attempt to produce sustainable products. Food consumption is one of the several most influential drivers of environmental impacts (Notarnicola et al., 2017). A study by Notarnicola et al., (2016) indicates that the consumed foods with the highest environmental burden to our planet are meat and dairy products, which is mostly due to agronomic and zootechnical activities (cattle management). The International Life Cycle Data system (ILCD, 2016) names additional phases of environmental impacts, which are food processing and logistics, as a consequence of their energy intensity (heat, steam and electricity) and related emissions (transport). Moreover, throughout the whole lifecycle, food losses which can be caused by the disposal of foods by consumers are also required to be taken into consideration as they amount to up to 60 percent of the initial weight of the products (ILCD, 2016). While consumers have the option to be more aware of how their purchases affect the environment, the vast majority of the human population does not seem completely aware of how their own purchase behavior affects the global climate.

Notwithstanding the best attempts by public health practitioners and authorities, making individuals take better food decisions (Mai & Hoffmann, 2015) has been an endless challenge (Ronteltap, 2012). An individual's attitude (towards food and drinks) has

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been found to impact behavioral outcomes, as part of a larger theoretical frameworks such as the health belief model (Basil & Basil, 2009) and the theory of planned behavior (Ajzen, 1985). As latter mentioned models make the assumption individuals solely take rationalized decisions, and could therefore be biased, they do not take into account 95 percent of buyer decisions are made by the subconscious mind (Pradeep, 2010). Latter models postulate that individuals are goal-directed and comply with particular steps which result in performing a particular action (Ajzen, 1991). This is most likely why, and contrary to these models, consumers yet decide to nourish themselves with substances that can be harmful in the long run. Contradictory, sustainability has been found to become a greater concern among consumers that may influence food and drink consumption (Allès et al., 2017) while health has always been a strong driver in the food market (Chang et al., 2020). The incongruency between these developments therefore raises the question what can explain one's change in consumer behavior, apart from the generally acknowledged links (TBP and HBM).

In spite of healthy and sustainable consumption remaining to be a top value among modern consumers (Allès et al., 2017; Chang et al., 2020) and the aforementioned models, a gap between those values and their behavior appears to emerge. In other words, consumers express an attitude of being concerned about health and environment, however, these concerns often do not correspond with eventual purchase behaviors. Determining where the incongruity between a consumer's values and actions is originated from is therefore crucial, as it can explain how individuals cope with attitudinal-behavioral gaps. Using the cognitive dissonance theory (Festinger, 1957), the dissonance which individuals experience can be put into perspective. Subsequently, by attempting to find out how these individuals deal with an attitude-behavior imbalance, the examination of cognitive dissonance reduction strategies can show which cognitions can lead to individuals failing to act upon their core values. A cognition in this context refers to any belief, opinion, attitude, perception or knowledge an individual might have (Littlejohn & Foss, 2005) on a food or drink product.

More specifically, when individuals encounter two or more inconsistent cognitions, they experience an aversive psychological state of tension (Ong et al., 2017). To illustrate, the cognitive dissonance theory addresses trade-offs in which a difficult choice needs to be made between two equally preferred items (Izuma et al., 2010). When making that decision, the act of rejecting one of the preferred options induces an uncomfortable feeling, which in turn motivates individuals to alter preferences for the rejected cognition, typically the option that is least resistant to change (Harmon-Jones, 2002). Izuma et al.

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(2010) further studied the consequence of dissonance, by providing evidence that the mere act of making a choice can lead to one changing their beliefs. This results in the unpleasant state of tension being reduced or even removed completely.

While an increasing body of research attempts to identify the possible causes of this gap, only identifying a gap does not lead to visible changes in behavior (McDonald et al., 2015). Visible changes in behavior can be achieved by exploring how millennials cope with conflicting attitudes and behaviors in terms of healthy and sustainable food and drink consumption. This is why it needs to be investigated which health and environmental concerns are expressed, and to which extent these concerns actually influence eventual purchase behavior. The exploration of the discrepancy can help to promote healthier and more sustainable food choices as dissonance reduction strategies will be openly discussed and put into perspective. Therefore, the following central research question is formulated:

"While examining health and sustainability-related attitudes, how do millennials cope with behavior that goes against those attitudes?"

By making individuals aware of the attitudinal-behavioral gap, reduction strategies are often times used in order to justify behavior. This is why it is important to initially find out which of those values are important among millennials, and subsequently compare this with their actual food choices, both in the domains of health and sustainability. The final question is to which extent the examinations can be either theoretically and/or practically implicated. These considerations resulted into the following sub questions:

Sub questions 1, 2, 3 & 4

- Which health and environmental concerns are found to be important when selecting food and drink products?
- Which reduction strategies do millennials apply to not always follow up these health and environmental concerns? (And name examples)
- How does the selection of reduction strategies differ or overlap between health and sustainability?
- What are the theoretical and practical implications that can be applied by health and sustainability professionals?

2. Theoretical Framework

This chapter includes the central theories and variables which are relevant for putting the attitudinal-behavioral gap into perspective and enables examination of applied cognitive reduction strategies. Initially, health and environmental friendliness are defined, and subsequently the concept of cognitive dissonance is elaborated on and also related with both the health- and environmental domain. Lastly, the surrounding context of reduction strategies within the domains of health and sustainability is described which introduces the most important element of the research.

2.1   Health and sustainability influencing consumer behavior

Health and consumer behavior

Many studies have been conducted on what health aspects influence consumers in their decision to purchase foods, and to which degree this healthiness plays a role in consumer behavior. Food choices are increasingly discussed from health-related viewpoints, however, we still know relatively little about the consumer's opinion of what health actually entails and which factors are most important (Chandon & Cadario 2022). On top of that, brands appear to have different perceptions of what healthy products are as they take different aspects into account (Lähteenmäki, 2013). Hence, in order to understand what is regarded as healthiness in regards of food among consumers, it is essential to narrow down the definition of this domain.

      The definition of 'health' can be defined in two ways. Firstly, Rodman et al., (2014) referred to the definition as ''providing the necessary nutrients and energy in order to sustain growth, health, life and satiation, while being fresh and minimally processed, containing a high concentration of nutrients, and eaten in moderation''. This way it will sustain repair and maintain of vital processes, promotes longevity and reduces the chance of disease. Content-wise, 'healthy' consumption can be more specifically elaborated on. For instance, Zaheer and Bach (2020) defined healthy foods as ''those that are low in (saturated) fats, contain a minimum of 10 percent of daily value for vitamins A, C, calcium, iron, protein fiber and are limited in amount of sodium and cholesterol''.

      However, dieticians argue that 'healthiness' is looked at with variation, which makes defining the consumer's perception of health more complicated. Nonetheless, Hoffman

(2015) defines perceived healthiness as ''the expectation of a consumer on the product's influence on his/her state of health''. Notwithstanding the area's complexity and diverging perceptions, manufacturers still find ways to convey health-related messages on their products. Compared with conventional counterparts, organic foods appear to be perceived as healthier among the majority consumers, which may especially be based on the fact consumers associate naturalness in products with something that is nutritious to them (Saraiva et al., 2020). Nutrition and health are just one of the many cues that marketing brands utilize in order to convey their products' benefits, however it is seen one of the top motives for selecting food products among modern consumers (Chang et al., 2020). Consumers are not always actively on the search of 'healthy' products, however, 'health' shows to have a rapidly growing role in the food marketing strategy (Cuevas et al., 2021). Due to manufacturers wanting to satisfy the demands of the majority of the consumers, health cues are increasingly used (and will be used continuously) as an incentive to attract customers to buy products.

Sustainability and consumer behavior

Sustainable contents and packaging of food products is an increasing concern for both policymakers and companies. Especially companies are starting to realize that the ability to meet stakeholders' and communities' demands requires accountability when encountering today's environmental complexities such as climate change and litter in the oceans (Hoek et al., 2017; Mancini et al., 2017; Steenis et al., 2017). But how do metrics such as organic packaging or non-chemical manufacturing (which promote environmental friendliness) motivate consumers to change behaviors towards those desired sustainable products? Compared with research on the influence of health-related messages on consumer behavior, much less research has been conducted on the critical role of consumer decisions in sustainability (O'Rourke & Ringer, 2015). In order investigate this, it is important to understand what is exactly perceived as a sustainable good, to which extent consumers are affected by perceived sustainability in their behavior, and which interventions are most effective (such as information, incentives, mandates and 'nudges').

To name an example of an intervention, package material is an important sustainable cue which is used by the food industry, as material implicitly generates inferences on a product's background and therefore its eco-footprint (Kunz et al., 2020). Several recent papers explored how sustainable packaging affect consumer decision-making, and found that environmental packaging is more positively evaluated due to an

enhanced perception of quality and naturalness (Magnier et al., 2016; Marozzo et al., 2020). Similarly, Donato et al. (2021) found that a food packaged in a sustainable package is perceived as more satiating than non-sustainable packaging. What is perceived to be a product that is 'responsible' to the environment is therefore partially dependent on a product's packaging.

Though many companies recognize the importance of sustainability and apply it into their branding strategies, the sole provision of environmental-related information to consumers does not necessarily result in marked changes in behavior (Tukker et al., 2006). Therefore, O'Rourke and Ringer (2015) note that significant questions remain on how to communicate sustainability information to the public spere, in a manner that will encourage a shift towards 'greener' or even reduced consumption. Notwithstanding the continued effort of the industrial ecology community to refine its presentation of 'greener' metrics, such as life cycle assessments, eco-footprints and eco-labels, little is known about which of these indicators are most influential to consumers in the decision-making process.

Furthermore, research over the last 15 years has identified the aforementioned noticeable gap between a consumer's values or concerns and their eventual behavior when faced with trade-offs around sustainability. Surveys conducted by Devinney et al. (2011) demonstrated this discrepancy, as 30% to 70% admitted to wanting to consume 'greener' or 'socially responsible' goods, but only 1% to 5% of them eventually followed up on those resolutions. The gap between individuals' stated preferences and actual purchases represents both an interesting empirical puzzle, as well as an obstacle to behavioral change which can be penetrated and used to support solutions to issues around sustainability.

2.2   Cognitive Dissonance

On the one hand, people seem to have positive attitudes (towards healthy- and environmental friendly consumption), whereas on the other hand those attitudes are not always translated correspondingly into actual behavior (Nilsson et al., 2019). This inconsistency leads to what Festinger (1957) calls 'cognitive dissonance', which refers to the unpleasant state of tension that individuals experience when having to contemplate between attitudes and behaviors. Due to the discrepancy between thought and action, it is important to outline the process that makes millennials act unhealthy or unsustainably.

This results into misalignment between intention and action occurring, which is named 'the intention-behavior gap' or 'attitude-behavior gap'.

Furthermore, the cognitive dissonance theory, being the main focus of this study, presumes that individuals often prefer to deal with psychological discomfort rather than change actual behavior. The importance of cognitions which are usually least resistant to change, are trivialized by the individual. Subsequently, the unpleasant feeling of trivializing a cognition provokes individuals to alter beliefs or behaviors, and therefore modify the dissonance into a state of consonance (Kassarjian & Cohen, 1965). Individuals modifying the way they feel about their decisions will be a central aspect in this study. This is because it enables us to understand how consumers cope with behaviors which are not aligned with their attitudes.

In particular, within the context of food and drink consumption, an example could be the following: an individual is attempting to be completely vegetarian. However, the person might end up in situations in which it, is according to them, not possible or hard to resist eating meat anyway. Subsequently, the person justifies their own behavior because they, for instance, do not see any other choice, are too lazy or are simply too hungry to resist. The cognitive dissonance, e.i. uncomfortable state of tension, can be reduced that way, which is further explained in the next subchapter.

2.3   Dissonance reduction strategies

In order to cope with the unpleasant state of tension from cognitive dissonance, individuals apply different strategies for the purpose of justifying their behavior. Theoretically, these justifications are anything that is generated during a self-regulatory dilemma, and is used to allow oneself to violate a long-term goal (De Witt Huberts et al., 2014). Festinger (1957) explained there are three common ways of justifications which reduce dissonance, namely by altering cognitions, making up new consonant cognitions or reducing the importance of the experienced dissonance. Examples of this can be specifically indicated by individuals who admit changing their attitude by trivializing, ignoring and denying responsibilities, or even blaming others (McGrath, 2017). Research has shown that people are more likely to trivialize instead of change cognitions, as changing cognitions generally requires more effort (Lavergne & Pelletier, 2015). When it becomes apparent which strategies millennials use in order to justify behavior, it can be put into perspective what leads to 'attitude-behavior gaps'.

Individuals justify unhealthy and unsustainable behaviors through the use of various reduction strategies which can be identified. In terms of healthy and sustainable consumption, literature shows that individuals who are at least remotely concerned about both areas may choose to not act upon these concerns since physical, social and personal barriers act as an obstacle and interfere between intention and behavior (Biggar & Ardoin, 2017). These barriers are usually arguments individuals use as reduction strategies and justify unhealthy or unsustainable behavior. Think of physical barriers such as using conditions or disease to excuse behavior, personal barriers such as peer pressure or kindness to excuse behavior, and social barriers such as putting blame on politics or societal availability to excuse behavior. Whereas healthy consumption has more to do with personal and physical barriers due to consequences that can be noticed immediately by an individual (such as sickness or lack of motivation), sustainable consumption is more affected by social barriers as individuals then may focus more on the shared/collective issues which the human population is facing (such as climate change).

In terms of healthy consumption, the reduction strategies in the following section are used the most in order to make the discrepancy between attitude and behavior more acceptable to oneself. It occurs when people are tempted with the accessibility of unhealthy eat- and drink products, but simultaneously attempt to follow a long-term health goal (Rabiau et al., 2006) Some of the ways reduction strategies play a role in unhealthy eating and drinking behavior are named and elaborated on in the list below the following section.

Compared with health, sustainability-related reduction strategies are generally argued as collective concerns rather than personal ones. More specifically, individuals may be influenced by social issues, as climate is a collective issue and therefore is not followed upon because everyone needs to behave sustainably. Applying a collective view in which everyone should contribute to a more sustainable environment can be the reason why discrepancies between attitudes and behaviors occur and therefore dissonance can be reduced e.g. by examples in the following list.

- In general, people act according to the belief that life should be made easy and therefore favor convenience and comfort over the efforts of choosing healthy and sustainable products (Kollmuss & Agyeman, 2002).
- Additionally, the most common external barriers are money and time, as financial and time-related aspects are values that individuals believe needs to be fulfilled (Power et al., 2017).

- It is also argued that individuals prioritize enjoyment and purposely forget or trivialize the hurdles in life, and thus neglect health and sustainability (Wearing et al., 2002). This can for instance be influenced by a specific environment and individual finds him or herself in.
- Another strategy to overcome a motivational conflict is the activation of compensatory health beliefs (CBHs), which are beliefs that unhealthy behavior can be compensated for by subsequent healthy behavior (Rabiau et al., 2006) and therefore reduce dissonance.
- Studies have shown that people tend to blame others and only decide to change sustainable behavior when organizations, institutions and other individuals act pro-environmentally (Rathouse & Scarles, 2010).

Apart from the previous examples, it is attempted to find out which of these and other strategies are actually being used how frequently in order to cope with cognitive dissonance.

3. Method

This chapter functions as an introduction to the research methodology that was applied for this study. In order to ensure a reliable and valid research, it is important to elaborate on the different parts of the procedure that needed to be taken into account. These parts consisted of a general description of the research design, participants, interview guide procedure and analysis of the data.

3.1   Research design

The ultimate goal of this research is to explore discrepancies between intentions and behaviors towards healthy and sustainable food- and drink consumption. A qualitative research was chosen as it enables more profound understanding of why millennial's intentions often do not correspond with their eventual behavior, which refers to the eventual purchase and consumption of food- and drink products. Notwithstanding the smaller sample sizes compared with qualitative research designs, this topic does not

necessarily require a large sample size because it is expected most people apply similar reduction strategies. The most important thing is understanding what participants regard as 'healthy' or 'sustainable' consumption, and how millennials cope with attitudinal-behavioral gaps. Provided with large sample sizes, quantitative methods such as questionnaires can potentially also lead to good results and make things more generalizable, however, it fails to ascertain deeper underlying meanings and explanations (Rahman, 2016) and overlooks the respondents' experiences and perspectives in highly controlled settings (Ary et al., 2013). Therefore, a semi-structured interview was conducted with 20 participants using non-probability sampling methods in order to analyze the data. Beforehand, the study was approved by the BMS ethical committee of the University of Twente, which made considerations on the basis of privacy, consent and control of data (request nr. 220689).

3.2   Participants

The sample consisted of twenty (N=20) only Dutch individuals, of which nine were males and eleven females. The mean age of all participants was 21.6, ranging from 17 to 29 years old. Eleven out of twenty participants followed a university level of education, 8 HBO, and 1 MBO. All but two were in an independent living situation, meaning only two were still living with their parents. It was attempted to get a sample as diverse as possible, and with all demographics being somewhat evened out this was mostly achieved. Table 1 on the next page provides an overview of all the important demographics. Considering there were two snowball sampling participants, and seven of the interviewees were selected through SONA, nearly half of the sample were participants the researcher did not know on a personal level. The population that was chosen were people born after 1980, which are also referred to as millennials. Millennials were specifically chosen as younger people seem to be more greatly concerned with global challenges (Hassim, 2021) and more health conscious than previous generations (The Nielsen Company, 2015). Therefore, picking millennials increased the chances of them naming sufficient numbers of reduction strategies.

The 20 participants were involved in the research by applying non-probability sampling methods which were convenience-sampling and snowball-sampling. In order to prevent the study from being influenced by exceeding snowball sampling bias, in other words, the study only involving participants knowing (in)directly knowing each other and being a part of the same social cycles, it was also decided to put the study on the UT's

SONA website, and have roughly half of the participants being unknown and randomly selected. SONA is considered to be a convenience sample because participants are located easily around the UT-service, whereas the other half was acquired through advertising the study through Instagram (also convenience sampling) and others that helped the researcher getting in contact they knew who were interesting in helping (snowball sampling).

Table 1.

Composition of the sample

Participant	Age	Gender	Level of education	Living situation	Sampling
1	18	Female	University	Independently	Convenience
2	18	Female	University	Independently	Convenience
3	25	Female	University	Independently	Convenience
4	22	Male	University	Independently	Convenience
5	24	Female	HBO	Independently	Convenience
6	21	Female	HBO	Independently	Convenience
7	21	Male	HBO	Independently	Snowball
8	23	Female	MBO	Independently	Convenience
9	24	Male	HBO	Independently	Convenience
10	23	Female	HBO	Independently	Convenience
11	17	Female	University	Dependently	Convenience
12	19	Female	University	Independently	Convenience
13	19	Male	University	Independently	Convenience
14	24	Male	HBO	Independently	Snowball
15	24	Female	HBO	Independently	Convenience
16	20	Male	University	Independently	Convenience
17	25	Male	HBO	Dependently	Convenience
18	29	Male	University	Independently	Convenience
19	18	Male	University	Independently	Convenience
20	18	Female	University	Independently	Convenience

3.3   Interview guide

(To see a concrete example of how the semi-structured interviews were structured, see Appendix A.)

Initially, the participants were informed about the two main themes that were going to be addressed in the interview, namely health and sustainability in their selection of food and drink products. Initially, the health-related questions were addressed, starting with the question ''What do you perceive as healthy food and drink choices?'', which is a crucial question that needs to be clarified. When the researcher understands what participants understand as 'healthy' in this context, it becomes easier for the participant to pinpoint their end decisions and judge their behavior, as well as for the researcher in order to steer the conversation in the desired way.

Once the participant had a clear idea on how they would define latter topic, they were asked to give a grade, ranging from 1 to 10, 1 meaning health of their food- and drink choices not being important at all for them, and 10 meaning it is their top priority in life (see table 10). After the grade was given, participants were asked why this is not higher or lower. Then, the participant had to appoint a grade, again from 1 to 10, to their actual behavior (see table 11). Meaning, to which extent they actually stick to how important they think health is for them. By doing this, the discrepancy between their attitude and behavior can be put into perspective numerically, and can provide as an additional overview of the experienced dissonance. This could also help the participant getting a clearer vision on how big the perception of the discrepancy really is.

After the grading was fully discussed, questions followed that went into their intentions and behaviors more deeply. Examples of questions addressed were: ''Why is health so important/not so important to you?'', ''Why do you deviate/why do you not deviate from your health concerns?'', ''Which aspect do you look at when selecting food- and drink products on the basis of health?''. Latter questions were asked to more specifically find answers on the participants' food and drink choices, and to make the participants reflect on their decisions more deeply.

After the warm-up questions, the participants were going to reflect deeper on their consumer choices, by attempting to find out which dissonance reduction strategies are used when justifying behavior that deviates from their health concerns. The following question was central: ''Which reasons do you have to deviate from your health concerns, and could you name examples of moments and environments in which this occurs?''. In the

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event the participants did not share enough reasons and examples, it was asked to name more examples if they could come up with them.

When the participants said they could not come up with more of latter reasons and examples, the next crucial question was asked: *''Which feelings or emotions come up when you experience this friction between your concerns and behavior?''*. Participants sharing the feelings and emotions they experience, it becomes clear what the cognitive dissonance feels like, which is important when trying to find out why individuals still do not decide to change behavior despite experiencing states of tensions. Finally, the participants were offered freedom to come up with any last thoughts if they had them. This was done to reduce the likeability that input was missed due to the semi-structured nature of interviews.

Next, all steps described in this sub-chapter so far were repeated, but then 'sustainability' was the overarching topic. Finally, the participants were again given the freedom to share any of their last thoughts, if they did not, the recording was stopped.

3.4   Procedure

The interviews were conducted through Microsoft Teams, and participants were sent an invitation of the meeting-link through an email as soon as a date was picked, this was both the case for the SONA-participants and the people the researcher personally/indirectly. The interviews had an average duration of 21 minutes and 22 seconds, with the shortest interview lasting 12 minutes and 20 seconds, and the longest lasting 37 minutes and 6 seconds. Although online interviewing comes with disadvantages, connectivity did not turn out to be an issue, and both researcher and participants were clearly audible to one another. Only participant 17 did not manage to use their camera due to a technical problem, and a small part of the transcriptions during the interview of participant 14 was not picked up by the program due to a problem with the connection.

Initially, the recordings of the interviews preceded with an explanation of the study without giving away the topic of cognitive dissonance and the goal of the interview. Subsequently, the procedural remarks of anonymity being were guaranteed, and the freedom of withdrawing from the interview or refusing to ask specific question were addressed, as well as asking for consent to record the interviews and transcriptions.

Before recording, the researcher firstly asked if the interviewee managed to reflect on their food and drink behavior for the past 30 days. When the participants approved to

volunteer in the research, they were asked (at least a week beforehand) to do so, as a way of preparing for the questions. This was mainly determined so that participants have at least a good idea of what they had been consuming recently, so that questions could be answered easier. This improved the accuracy of the results and prevented time-wasting. The participants were then asked if there were any questions about anything. When there were not any questions left, the participant was asked if they were ready and the recording was allowed to start.

Transcriptions were saved, and subsequently corrected with spelling or grammatic mistakes. The transcriptions were used in order to determine the coding list, calculate inter-reliability, apply categories to segments and eventually write results. The MP4-files of the interviews were additionally recorded for the purpose of interpreting transcriptions with more deeper understanding by using aspects such as facial expression and tone of voice as a means to write more meaningful results. After analysis, the mp4-recordings were deleted immediately.

3.5   Data analysis

Transcriptions of the interview were recorded through Microsoft Teams, and subsequently spelling mistakes and repeated words were taken out. This was done as quickly as possible after the interview, predominantly right after the interview or a few hours later. The transcribed data were processed in the coding program ATLAS.ti in order to categorize responses and analyze the data. Segmenting the responses was done via open coding in order to make distinctions between usable fragments in the transcriptions (Boeije, 2010). Boeije (2010) states that open coding enables breaking down, examining, comparing, conceptualizing and categorizing data. In other words, the transcriptions were carefully analyzed and broken up in smaller parts. The researcher has put efforts into familiarizing himself with the transcripts, so that the codes accurately reflect the fragments and are attached to the right fragments as well. By approaching the transcripts from the bottom, it was possible to assign the data into meaningful parts that are answering the sub-questions and can therefore help to finding an answer to the research question. This also resulted in a codebook, which additionally provides memos of the meanings of each code. The researcher stopped coding once new codes were not emerging.

Codes were assigned to the data when reading carefully through the transcriptions and applying an interpretive analysis in order to attach meaning to fragments. When no

codes were left to come up with after the analysis of all transcription, the intercoder agreement/reliability was calculated, in order to ensure the representativeness and overall unity of interpretation of the codes included in some of the semantic domains. This was done with the help of 2 individuals, one current student and one graduated student, both having experience with the coding-procedure. They coded quotations in the transcripts of interview number 3 with the researcher's self-created coding list, as it was an early interview with sufficient amount of material and in my opinion easiest to interpret by outstanders. The ATLAS.ti file which included the document and coding list, was completely ready to be coded, and afterwards was sent back to the researcher. The Cohen's kappa of all relevant semantic domains (meaning only the kappa of the domains which can be considered to be ambiguous by others) were calculated through ATLAS.ti. The Cohen's kappa for each reduction strategy domain was calculated, and turned out to be sufficient after the first attempt (health 0.65, sustainability 0.754). The codebook (see Appendix B) was divided into numerous categories: definition health, definition sustainability, sustainable behavior, healthy behavior, reduction strategies health, reduction strategies sustainability, dissonance feeling health, dissonance feeling sustainability, attitudinal and behavioral grades health and sustainability, and several other domains that were not relevant for the research, but were still coded due to its potential additional interesting input, for example implications of the study. This is further elaborated on in chapter 5.

4. Results

This chapter provides an overview of the results of the research. Initially, it is presented what participants define as 'healthy' and 'sustainable' food- and drink consumption, and how they (would) apply it in their own life. Secondly, the table of the attitudinal and behavioral grades surrounding health and sustainability is shown. Thirdly, an overview of the dissonance reduction strategies for both of the themes which were pointed out by the participants are introduced. Finally, a general reflection of the intention-behavior gaps is discussed.

4.1 Perceptions and motives of healthy food- and drink consumption

Some participants noted that *''Nothing is more important than being healthy''* and assigned a '10' to the importance of it (see table 10). While some participants deviated from what they perceive as healthy foods and drinks, the most common perceptions were to ingest sufficient amounts of *'fruits and vegetables'* (such as participant 1 and 7) and 'vitamines' (such as participant 11, 12 and 15), look specifically at the most important nutrients ''I try to stick with the 'schijf van vijf' (scale of 5 most important nutrients)'' (such as participant 2, 10 and 15), and ''to have a varied diet'' (such as participant 8, 9 and 13). Putting these answers together, the understanding of what healthy consumption entails among participants was more clarified.

 When asked how they apply these perceptions into their lives, their 'healthy foods and drinks' behavior overlaps, but also shows differences in which the gap between attitude and behavior already appears. Especially some participants saying ''I'm trying to be healthy, but it does not always have to be healthy'' (such as participant 11) and showing minor reluctances *''I'm not going to look into the product what is inside of it''* (such as participant 1, 3 and 12). Many participants also already mentioned examples of deviating behavior, such as participant 7 saying *''I like having something sweet to drink at night because I like it''* and participant 14 *saying ''controlling your diet too much can be*

unhealthy too''. Table 10 shows the values that were appointed to their attitude and behavior towards health.

Additionally, people's main motives to eat and drink healthy is because of *'better overall mood and motivation'* (such as participant 1, 3 and 9), *''a better appearance and being in shape''* (such as participant 7, 8 and 12) and *''preventing getting sick''* (such as participant 7, 15 and 17). On top of that, the average attitudinal grade towards health is 7.86 (see table 10) it can be concluded participants overall find health highly important in their lives.

4.2   Perceptions and motives of sustainable food- and drink consumption

Participants most commonly defined sustainability in food- and drink consumption as *''consumption that is not harmful to the environment/nature or ecologically responsible''* (such as participant 3, 5, 11). According to the participants, this is mostly executed by *''limiting food waste''* (such as participant 1, 2 and 13), *''eating no meat/limiting eating meat''* (such as participant 7, 9 and 12), *''avoiding/limiting the purchase of plastic packaging''* (such as participant 4, 5, and 14) and *''buying local products''* (such as participant 2, 5 and 9). When asked how participants apply it mostly into their lives, these examples mostly overlapped with their definitions of sustainable consumption. Prominent examples of these were 'eating biological or vegetarian' (such as participant 3, 5, 6, 7, 10 and 13), *''reducing plastic waste''* (such as participant 1, 5, 7, 11 and 13), and *''reducing food and drink waste''* (such as participant 2, 7 and 10). Putting these answers together, a clearer understanding of what sustainable consumption entails among the participants was derived.

The dissonance between attitude and behavior towards sustainability did not already appear at this stage of the interview, unlike with health. This is most likely because it is much harder to pinpoint what sustainability actually entails than health, as participant 3 for example pointed out: *''It is a difficult theme that is dependent on many factors''* and participant 17 noted *''Everyone has different views on what is actually sustainable, and those views even change over time''*. Simultaneously, according to many participants, the consumer is often not being given a choice to be sustainable. As participant 13 said for example: *''Some products are only packaged in plastic''*.

The individuals' most common motives to act sustainably in this context is due to *''having a shared future or environment''* (such as participant 3, 5, and 9*), ''it affecting*

animals and humans'' (such as participant 9 and 10) and *''it being closely related with your own health''* (such as participant 3 and 17), which they reasoned with *''environment can have direct impact on your own health because that is what you are surrounding yourself with''*. Motives to act sustainably therefore appear to be reasoned more from external (societal/environmental) interest than internal (personal) interest.

As the average attitudinal grade towards sustainability is 7.5 (see table 11), it can be concluded that participants find sustainability moderately less important than health (7.86) in the context of food consumption. However, the dissonance between attitude and behavior appears to be equal compared with health, as the difference is 1.48 points for both domains (see table 10 and 11).

4.3   Dissonance reduction strategies health

The results have shown a variety of dissonance reduction strategies (see table 2, 3, 4 and 5) which are used by participants to justify unhealthy eating behavior. Overall, with a total of 79 mentions, participants denying the importance of health (see table 2) turned out to be reduction strategies that were used the most in order to justify behavior. However, the denial of accountability (see table 2) deviates less significantly than the other 2 clusters. The validation of own behavior or the denial of control were substantially less prevalent compared to the first two clusters. The main message that can be derived from these results is that participants predominantly appear to have conflicting behaviors because of valuing the current moment more than long-term consequences (first cluster), as well as the disinterest in taking responsibility towards their physical health (second cluster). Due to external and internal factors, participants also seem to validate behavior (fourth cluster) relatively often, and name not being in control as a justification numerous times as well. The third and fourth cluster, however, seem to have significantly less impact on consumer behavior than the first two.

Regarding the first cluster (see table 2), laziness seems to be among the 2 most important reasons, as participant 10 for instance said: *''Sometimes I am lazy and then I'll take whatever I can''* and participant 13 said: *''I gave my concerns away because of laziness''* and participant 14 saying: *''Many times I am too lazy taking the effort in finding out what is healthy and what not''*. Next to laziness, pleasure seems to be one of the main drivers as well, as *''Sometimes you feel like eating junk food/fat snacks/red bull''*

(participant 6, 7, 17 18). Participant 17 reasoned this by saying *"the mere thought of eating something unhealthy is sometimes so powerful that it makes eating healthy impossible"*. Participant 16 and 18 for instance mentioned they have *'a weakness'* for respectively chocolate and sugar donuts and claim *'it is extremely hard to resist'*. Furthermore, not caring (careless) about health outcomes also seems to be a reason to justify behavior by being mentioned 17 times. *"I'm not too strict about what I eat because that is not the life I want to have"* (participant 1) and *"I do not care enough about what is inside of a product for me to look at the contents"* (participant 11) are examples of 'careless' reasonings. Time and financial related justifications are used as well, but mentioned significantly less than the rest of the first cluster.

Regarding the second cluster (see table 3), the (social) environment turned out to be the most used reduction strategy, not only within this cluster but throughout all. Partying or going out were prominent examples of environmental contexts, as participants such as 4, 9, 11, 14, 15 and 20 used these reasons to justify behavior. Participant 3, 6 mentioned *"being on the road"* as a reason as well to eat unhealthy. Additionally, the mere presence of others was mentioned as a justification strategy by participant 8, 14 and 16, because *"I do not want to be complicated about food when I'm with others"* (8) and *"I do not want to turn down people's efforts of making food because of my values"* (14 and 16). The living situation was used as a justification here and there as well, such as participant 2, 10, 12 and 18 who justified unhealthy behavior because *"Living in a student makes it complicated to stay consistent/the student life comes with unhealthy eating"*.

The third cluster (see table 4) turned out to have the least impact in eventual consumer behavior among the participants, as these reasonings were mentioned only 24 times. Not being structured appeared to be the most common example of justifying behavior though, as participant 2 said: *"My rhythm gets disrupted which makes me unhealthy"* and participant 7, 14 and 17 using *"a bad eating pattern"* as an example. The remaining reasons in the third cluster turned out to have little impact in eventual behavior.

The fourth cluster (see table 5) contains reasonings that were mentioned more or less equally. An interesting justification many participants used was the act of *"compensating unhealthy eating by subsequent healthy eating"*, mentioned by participants such as 4, 7, 12, 17, and 20. People's state of mind, a.k.a. the way people feel, was a common example as well. *"Being drunk /hungover"* was mentioned by participant 4, 6 and 17, but also *"feeling sick"* or *"bored"*, *"sad"* or *"tired"* were mentioned. Next to this, being stressed can be considered 'a state of mind' as well, but since it is a state of mind

used significantly more often than the others it was separated. Participant such as 1, 3, 7 and 20 mentioned being stressed as the cause of unhealthy behavior.

Table 2.

Cluster denial of importance

Reason	Description	Total
Laziness	Participant does not feel like/ is too lazy taking the effort of eating or drinking healthy.	26
Pleasure	Participant prefers enjoying the moment over eating/drinking healthy.	24
Careless	Participant does not care about the outcomes of unhealthy eating/drinking behavior.	14
Time	Participant thinks saving time is more important than taking healthy dietary decisions.	11
Financial	Participant rather looks at price than healthiness.	4
Total		**79**

Table 3.

Cluster denial of accountability

Reason	Description	Total
(Social) environment	Participant says their (social) environment makes them eat/drink unhealthy.	43
Living situation	Participant says their current living situation affects their dietary end decisions.	13
Comparing	Participant justifies dietary behavior by comparing it with others.	1
Total		**57**

Table 4.

Cluster denial of control

Reason	Description	Total

Structure	Participant blames their bad day-structure for unhealthy dietary decisions.	12
Option/availability	Participant claims the lack of options/availability of healthy products leads to unhealthy eating/drinking decisions.	3
Sleep	Participant says sleeping-pattern leads bad diets.	4
Habit	Participant blames habitual behavior for unhealthy dietary behavior.	3
Total		**22**

Table 5.

Cluster validating own behavior

Reason	Description	Total
Compensating	Participant reduces dissonance by subsequent healthy eating behavior.	13
State of mind	Participant blames mental state of mind (e.g. boredom, sickness or intoxication) for bad eating/drinking behavior.	11
Stress	Participant blames stress/busyness for unhealthy eating/drinking behavior.	9
Vacation	Participant validates eating/drinking behavior because of being on holidays or days off.	7
Total		**40**

4.4   Dissonance reduction strategies sustainability

The results have shown a variety of dissonance reduction strategies (see table 6, 7, 8 and 9) which are used by participants to justify unsustainable behavior. Overall, with a total of 80 mentions, participants denying the importance of sustainability turned out to be reduction strategies that were used the most in order to justify behavior (see table 6). The

other clusters turned out to deviate significantly from the first cluster. While the second cluster (see table 7) comes the closest with 37 mentions, the validation of own behavior (see table 8) or the denial of control (see table 9) came forward even less. Similarly with health, the main message that can be derived out of these results is that participants predominantly appear to have conflicting behaviors because of valuing the current moment as more important than long-term goals. Although the second, third, and fourth cluster of this domain have some impact of consumer decision-making, they play a minor role compared with the first cluster.

Looking at the first cluster of sustainability (table 6), justifications are mostly made (29 times) by mentioning financial boundaries. Participant 3, 4 and 7 and 18 for instance note that *"I cannot find the money to go for biological products"* and participant 20 said: "Biological products are sometimes twice as expensive". It appears that the participants being students also contributed to the high amount of 'finances' mentions, as some participants expressed the complicity of buying more expensive products because of their lack of money: *"I do not have much money to spend because I am a student"* (participant 7). Additionally, time and laziness turned out to be motivators as well, since they were mentioned respectively 12 and 13 times. Regarding time, participant 12 said: *"I have other things on my head"* and participant 9, 13 and 14 claimed *"I cannot find the time to pay attention to sustainability"*. Participants expressed 'laziness' relatively frequently too. Not caring about sustainable consequences and quality of products were mentioned several times (8 and 3 respectively), however had a relatively minor influence on consumer behavior according to the participants.

In terms of the second cluster (see table 7), putting the blame on others was the most significant justification strategy by the participants, being mentioned 18 times. Examples of these are: *"I think it is the responsibility of politics or other people who take national decisions"* (participant 3) or participant 15 and 19 saying: *"It is in the hands of the larger companies and industries"*. Living situation, (social) environment and comparing were factors names several times, but had comparably less influence than putting blame on others. Respectively to 'living situation' and 'environment', participant 1 said: *"I still live with my parents, so I do not buy what I sometimes want or need", "When I am on the road in a car I do not pay attention to sustainability"* (participant 9) or *"When I am at parties I do not pay attention to sustainability"* (participant 11). Lastly, only 1 participant compared herself with others in order to justify behavior: *"I put more effort into living sustainable than others so here and there I can make exceptions"* (participant 3).

The third cluster (see table 8) has one outlying strategy, which is using the lack of options/availability of sustainable goods as a motivator to trivialize behavior. *"My consumer behavior is very dependent on what is available and what not"* (3) is an example, as well as participant 6 and 20 mentioning *"You are not always given a possibility to act sustainably"*. Also, participant 14 and 20 specified this by saying: *"Some products are only packaged in plastic"*. The remaining reasons, being 'distrust', 'confidence' and 'selfishness' in the third cluster were mentioned barely, and thus, according to the participants had little effect on their eventual consumer behavior.

The fourth cluster (see table 9) turned out to be the most insignificant cluster, as it ended up having only 10 mentions in total. These were 'being uninformed' (6 mentions) and 'being stressed' (2 mentions) and 'vacation' (2 mentions).

Table 6.

Cluster denial of importance

Reason	Description	Total
Financial	Participant rather looks at price than sustainability.	29
Pleasure	Participant rather looks at pleasure than sustainability	15
Laziness	Participant does not feel like taking the effort of unsustainable behavior.	13
Time	Participant thinks saving time is more important than taking sustainable decisions.	12
Careless	Participant does not care about the outcomes of unsustainable behavior.	8
Quality	Participant prefers quality of eat/drink products over sustainability.	3
Total		**80**

Table 7.

Cluster denial of accountability

Reason	Description	Total

Blame	Participant blames entities for their own unsustainable behavior.	18
Living situation	Participant says their current living situation affects their sustainable decisions.	8
(Social) environment	Participant says their (social) environment makes them consume unsustainable products.	7
Comparing	Participant justifies unsustainable behavior by comparing it with others.	4
Total		**37**

Table 8.

Cluster denial of control

Reason	Description	Total
Option/availability	Participant claims the lack of options/availability of healthy products leads to unsustainable behavior.	17
Selfishness	Participant admits being selfish when acting unsustainably.	3
Distrust	Participant reduces dissonance by being distrustful towards entities (e.g. authorities and companies).	1
Confidence	Participant validates behavior because of being confident in environmental outcomes.	2
Total		**23**

Table 9.

Cluster validating own behavior

Reason	Description	Total
Uninformed	Participant validates behavior because of being uninformed about current affairs around sustainability.	6

Stress	Participant blames stress/busyness for unsustainable behavior.	2
Vacation	Participant reduces dissonance because of being on vacation.	2
Total		**10**

4.5   Main differences between both reduction strategy domains

The assigned grades to the attitudes and behaviors show no difference in cognitive dissonance between both domains (see table 10 and 11, both 1.48) however the number of dissonance strategy mentions between both domains do show a noticeable difference. In total, 198 reduction strategies with respect to health were mentioned, whereas 150 strategies were expressed with respect to sustainability (see table 14). This suggests that the participants had a higher tendency to justify unhealthy behavior than unsustainable behavior. This does align with the grades assigned to the importance of healthy and sustainable behavior; health was seen to be more important (see table 10) than sustainability in food and drink consumption (see table 11).

Although 48 more reduction strategies were applied in the domain of health than sustainability (see table 13), the cluster of denying importance and control in sustainability both had 1 more reduction strategy mention (see table 13). The reason why first mentioned cluster probably came closer than the others, is partially due to the significant role (29 mentions) the participants' finances played in unsustainable consumption (see table 6). This appeared to be far less significant than in terms of health, which surprisingly was only mentioned 4 times as a reduction strategy (see table 2). The denial of importance towards sustainability also seemed to be comparably more prevalent (as it accounts for more than 50% of all mentions) due to many saying *"sustainable issues do not have direct impact on my life, whereas health issues do"* such as participant 1, 5 and 20. This suggests that the nature of the issue plays a role in how easily behavior is justified.

Subsequently, the strategies included in the cluster denial of control with respect to sustainability were mentioned more often than compared with health (see table 13). As it turned out the option/availability of sustainable products contributed to this the most (17 mentions), this was not the case for health (3 mentions). *"Some products are only available*

in plastic packaging or non-biological'' appeared to be a common example of this. This also aligns with health generally being justified more than sustainability, as the availability of healthy products is higher than sustainable products according to some participants. This is presumably why, within this cluster, participants rather blame unhealthy eating for internal factors (bad structure or sleep) and unsustainable consumption for external factors (availability or distrust towards authorities or companies).

Another noticeable difference between both domains is the difference in how many times behavior is justified in terms of health because of (social) environment compared to sustainability (see table 3 and 7). Regarding health this was used as a reduction strategy with an outlying number of 43 times, whereas regarding sustainability 'environment' was merely utilized 7 times. This could be due to participants generally forgetting about environmental impacts easier than health-related impacts when being in the middle of social settings, or simply because sustainability is seen as less important than health.

Table 10.

Overview grades towards health

Participant	Grade attitude	Grade behavior
1	-	-
2	-	-
3	8.5	6
4	7	5
5	10	8
6	7	6
7	7	5.5
8	7	7
9	9	7
10	7	6
11	7.5	6.5
12	7	6.5
13	10	6
14	8	6
15	7	7
16	10	7
17	8	7
18	6	7
19	7.5	6
20	8	5.5
Mean	**7.86**	**6.38**

Mean dif.		1.48	
SD	**1.19**		**0.74**
SD dif.		0.45	

Table 11.

Overview grades towards sustainability

Participant	Grade attitude		Grade behavior
1	-		-
2	-		-
3	10		6
4	6.5		6.5
5	8.5		7
6	6		4.5
7	7.5		6.5
8	6.5		3
9	9		8
10	7		6.5
11	7.5		6
12	3		3
13	8.5		9
14	9		7.5
15	5		4
16	9		8
17	8		6
18	9		6
19	8		7
20	7		4
Mean	**7.5**		**6.02**
Mean dif.		1.48	
SD	**1.69**		**1.72**
SD dif.		0.03	

Table 12

Differences in assigned grades attitudes/behaviors

Attitude Health	Attitude Sust.		Behavior Health	Behavior Sust.
7.86	7.5		6.38	6.02
Difference	**0.36**		**0.36**	

Table 13

Frequencies and differences of reduction strategies among clusters

Domain	Importance	Accountability	Control	Validation bhvr.	Total
Health	79	57	22	40	198
Sustainability	80	37	23	10	150
Difference	**1**	**27**	**1**	**30**	**68**

Table 14.

Number of reduction strategies per participant

Participant	Reduction strategy Health		Reduction strategy Sust.	Total
1	9		6	15
2	8		4	12
3	12		17	29
4	15		12	27
5	9		8	17
6	14		4	18
7	10		7	17
8	9		5	14
9	4		8	12
10	7		2	9
11	8		6	14
12	6		4	10
13	5		8	13
14	14		5	19
15	4		8	12
16	10		3	13
17	22		9	31
18	11		8	19
19	4		4	8
20	9		10	19
Total	**190**		**130**	
Mean	**9.5**		**6.9**	
Mean dif.		2.6		
SD	**4.42**		**3.48**	
SD dif.		0.94		

5. Discussion

The following subchapters will provide an overall reflection of eventual results. First of all, the main findings are outlined, subsequently the study's theoretical and practical implications are described. Additionally, this chapter will include the study's limitations, suggestions for similar future research and finally a conclusion.

5.1 Main findings

The results have predominantly shown gaps between attitudes and behaviors, differences between both the healthy and sustainable domain and outliers within clusters. Earlier mentioned literature has also predicted this gap with eventual food and drink behavior. The Nielsen Company (2018) argues there is a contradictory development taking place, being that health concerns are increasingly becoming important societal values, but health-related problems such as diabetes and obesity are becoming more and more problematic as well. Similarly, Allès (2017) describes that sustainability has become a greater concern among consumers, however the call for pro-environmental behavior has never been more needed, partially due to unsustainable behavior.

Initially, participants have expressed clear definitions of what they regard of both health and sustainability. Healthy products appear to be mostly defined as products that contain fruit and vegetables, vitamins, line up with the 'schijf van vijf' (scale with the 5 most important daily nutrients) and have good 'nutri-scores' (indicated on packages). According to many, healthy food and drink behavior is mostly defined as balancing one's diet by variation and drinking enough water. Earlier mentioned literature by Zaheer and Bach (2020) aligns with most of these definitions, as they have also outlined the importance of vitamins and diet-variation. As sustainable food and drink products however, are referred to as products which do not harm (or are limited in harming) animals and the environment, are produced as locally as possible and do not contain unnatural packaging such as plastic. These products were mostly referred to as biological products, ideally packaged in organic materials. The definitions align with earlier mentioned literature by Kunz et al. (2020), because it describes that inferences on a product's eco-footprint impact decision-

making among consumers. This can be done by making several interventions, as according to Magnier et al. (2016) and Marozzo et al. (2020), the quality and naturalness of products can be evaluated by environmental packaging such as using organic materials.

Looking at the results of reduction strategies, the sample mostly justifies behavior by denying the importance of health and sustainability-related issues or refuse to admit being accountable. Denying being in control or other ways of validating own behavior were also mentioned frequently, but did not have as of a significant impact on behavior than the first two clusters. While health was mostly reduced in dissonance due to laziness, pleasure and (social) environment, latter deviated significantly, being mentioned by a high amount of 58 times, making it the most used strategy in this entire study. Within the clusters of sustainability, financial reasons played the most important role (33 mentions), whereas blaming others or availability of sustainable products have also frequently been used in order to excuse unsustainable consumption. This mostly stands in line with earlier mentioned literature, as individuals favor convenience and comfort over the efforts of choosing healthy and sustainable products (Kollmuss & Agyeman, 2002). Also, financial values are values which individuals believe needs to be fulfilled in sustainable consumption (Power et al., 2017). However, the activation of compensatory health beliefs (CBHs) described by Rabiau, Knäuper, and Miquelon (2006) was an example of a reduction strategy that did not come forward, although being introduced in the theoretical framework.

5.2   Theoretical implications

Initially, the earlier addressed Theory of Planned Behavior (TPB) by Ajzen (1985) and the Health Belief Model (HBM) by Basil and Basil (2009) are not fully aligned with the study's output. Again, as Pradeep (2010) argues that 95 percent of buyer decisions are made by the subconscious mind, so looking at the results there is reason to belief this is at least mostly the case. The significant amount of used reduction strategies contradict latter models which postulate that individuals are solely goal-directed and comply with particular steps before taking decisions. Many participants have on top of that expressed being unaware of how easy unhealthy or unsustainable consumption is excused by them. This is also paradoxical with the rising issues around public health and the environment, which, logically speaking, should make individuals more aware of purchase behavior of foods and drinks. Although it cannot fully be rejected, assumptions of the TPB and HBM

can therefore be questioned within the context of the study. In other words, the researcher questions whether holistic (step-by-step) decision-making always precedes millennial consumer decision-making of food and drink products.

Looking at the research in more detail, reduction strategies resulted out of food and drink behavior have not been studied frequently, especially when addressing and comparing both contexts health and sustainability. The study has allowed to be able to pinpoint specific strategies which forego unhealthy and unsustainable behavior, however ideally, individuals generally admit not wanting to act that way. The results of the study have shown that laziness, pleasure and (social) environment are the most dominant examples for why health concerns are often times not followed upon. (Social) environment being the most significantly mentioned example, it can be concluded that on the basis of this research, people surrounded by certain atmospheres (most of all being surrounded by others at parties or family) lead to conflicting attitudes and behaviors relatively the most. Similarly, one of the more relevant theoretical examples within this strategy is Olson (2008) describing that, among consumers, tendencies might occur to follow the crowd and copy what others are doing, also referred to as "herding". This shows to be a prevalent way of justifying behavior among the participants in this study as well. Laziness, pleasure, living situation and carelessness are reasonings that came forward as well, and imply that individuals are mostly driven by reasonings which deny the importance of health-related issues, or decide to look away from their responsibilities towards their own body.

Similarly, McGrath (2017) explained earlier in chapter 2.5, individuals usually reduce dissonance by trivializing or denying responsibilities. Latter might be more relevant for the sustainable domain, as sustainability is generally regarded as a collective problem rather than a personal one, as many participants have pointed out. This is also why McGrath (2017) specifically pointed out the act of blaming others as a way to excuse (unsustainable) behavior being a prevalent strategy. The theoretical implication here is that blaming others, and the denial of being in control in general, plays a more pivotal role with respect to sustainability than with health. This mostly stands out because it is a sustainability-cluster with a higher number of mentions than the opposing health-cluster, especially because health had many more mentions in total. It therefore portrays that sustainability is looked at differently during the decision-making process of the consumer.

Another implication is that financial reasoning was the most frequently mentioned dissonance reduction strategy within the clusters of sustainability (see table 6). Similarly, Olsen (2008) observed that while purchasing of products, financial risk (of more

sustainable products) is shown to be a strategy in order to justify decisions. On top of that, finances played a much more important role when behaving unsustainably than when behaving unhealthy. It can therefore be stated that the pricing of products form the most important predictor for conflicting unsustainable behavior when buying food and drink products. Additionally, the availability of sustainable products were (next to blaming others) also much more important compared to the availability of healthy products. Healthy products being available much easier, and 'healthy' food consumption being a less ambiguous concept than 'sustainable' food consumption could be the main causes of this.

Finally, (social) environment had most impact on making unhealthy decisions (see table 3). This deviates from the other domain significantly (43 compared to 7). This could for example have something to do with 'health' being seen as a more important domain in the first place, but it also being a more directly noticeable problem. In other words, when being surrounded with specific atmospheres, participants seemed to be less aware of environmental impacts than healthy impacts. In other words, the theoretical implication here is that (social) environments are the most important predictor for conflicting healthy behavior. However, in terms of sustainability, it only plays a comparable minor role when consumers purchase food and drink products

5.3   Practical implications

In practice, the study has the potential to facilitate health and sustainability professionals to promote the desired foods and drinks. This is because the research method has been able to determine which factors influence unhealthy or unsustainable food and drink choices. Making the gap between intention and behavior visible, can help health and sustainability professionals to psychologically affect consumer choices.

On the basis the results, 'better' food and drink choices can be encouraged, as the most influential variables are shown. It allows practices to prevent wasting time on areas which do not have enough influence on consumer behavior, and focus on the ones that do. Putting the most influential factors into practice, this could be done through marketing or advertising. More specifically, as (social) environment was the most used strategy, healthier food and drink products can be advertised more at traffic locations, such as highways, streets and trains, but also party locations and late-night food services. 'Pleasure' and 'laziness' were second on the list of most mentioned reduction strategies. Therefore, the advertisement or promotion of healthier food can for example be looking

more pleasurable, just the way fast food services are tricking consumers into buying foods which are low in nutritional value. In terms of laziness, healthier recipes for foods and drinks are generally perceived to take more time, which raises the need for healthier products that are easier to prepare, or be ready-made, and be marketed according to those needs.

In terms of sustainability, financial reasons were mostly named as a reduction strategy. Therefore, sustainable food and drink products (which for example are more local or contain less plastic) could be made cheaper for consumers through for example subsidization. Additionally, 'blaming others' and 'availability' of sustainable products turned out to be two significant causes of unsustainable behavior. Through the subsidization of sustainable products, the availability would also rise as more people would buy these products since they become cheaper. Regulations can also enforce stores such as supermarkets or gas stations to sell more fruits and vegetables and offer less fast food (or eliminate those completely). Apparently, many participants were not of the opinion they had any control in making more sustainable decisions in this area, as ''authorities need to take responsibility''. Through marketing, but also education, consumers can be made more aware that environmental change always starts with behavioral adjustments.

5.4   Limitations

The study's limitations are put into perspective, not solely to make the reader more aware of potential pitfalls, but to also use these limitations as a way to improve future research within the context of healthy and sustainable food and drink consumption.

Research Method

Qualitative research methods generally contain smaller sample sizes and require the data to be interpreted rather than being calculated. Acknowledging the sample size of N=20 and an applying an interpretative segmentation and coding of the transcriptions is therefore necessary. Although an inter-reliability test was conducted in order to determine a sufficient level of agreement among coders, this does not completely make up for diverging interpretation of the data. Also, the use of twenty participants appeared to be sufficient as patterns between reduction strategies were becoming clear, however, this

does not mean no other patterns would have emerged if for example 30 or 40 participants participated.

Data collection

With respect to data collection, it would be reasonable to exclusively pick participants who are dealing with clear conflicting attitudes and behaviors with regards to food and drink products. Several participants did not seem to deal with significant cognitive dissonance in either one or two of the domains. This makes the sample more generalizable, however, individuals who do not seem to care about health or sustainability are less affected by internal or external factors. This is why this study should have made it clearer to interested participants that they truly think at least one of the domains is a valuable concept in their life, as this increases chances of gaining more significant results. The fact the study was put on SONA did contribute to more insignificant results, as most of those participants provided less output than the participants who were snowball-sampled. In the future, participants should therefore only be accepted through these platforms when they clearly indicate to care for one or both of the domains. The procedure of finding participants was therefore not done according to the preferred standards and has led to insignificant amount of used reduction strategies: participant 9, 15 and 19 used fewer than 5 reduction strategies in the domain of health, and participant 2, 6, 10, 12, 16 and 19 used fewer than 5 reduction strategies in the domain of sustainability (see table 14).

Grades attitudes/behavior

Additionally, the assigned grades on attitude and behavior (see table 10 and 11) did not stand fully in one line with the number of reduction strategies applied, which makes the clear usability of the table 10 and 11 questionable. To put this into perspective, within the domain of health participant 8 and 15 assigned equal grades to both attitude and behavior (which suggests they hardly or do not deal with an attitudinal-behavioral gap) (see table 10). However, they did not show to use reduction strategies the least (see table 14). Similarly, within the domain of sustainability, participant 4, 12 and 13 also assigned equal grades to behavior and attitude (see table 11), however did not show to use reduction strategies the least (see table 14).

Coding

Finally, regarding the coding-procedure, the coding-list remains abstract. For example, (social) environment should be divided into different types (such as being on the road, parties, family), and finances can be divided into different perceptions as well, as not every individual has the same perception of what 'expensive' foods and drinks are. Due to the ambiguity of codes, the most prevalent codes among both domains could have been more specifically analyzed, so that it becomes visible which exact social environments lead to most conflicting unhealthy behavior, or which prices are considered to be too high (for which products or to which social groups) which leads to unsustainable behavior. This could have enhanced the potential of even more usable theoretical and practical implications of the study.

5.5   Suggestions for future research

Earlier mentioned literature by Magnier et al., 2016, Marozzo et al., Donato et al. 2021 state that the more sustainable a packaging looks, the more satiating it is perceived by consumers. The research has put perceptions on what millennials regard as 'healthy' or 'sustainable' consumption and motives to act accordingly into perspective. This can help future research to better understand what it is about packaging (or other factors that came forward) that can enhance perceived healthiness or sustainability of products, and essentially motivate consumers to buy these products more frequently.

Finally but most importantly, the results enable future research to more specifically study what leads to unhealthy and unsustainable behavior. Although the strategies in the coding-list are ambiguous, the patterns and frequencies of reduction strategies are promising. Therefore, the results have the potential to inspire future research to be able to pinpoint in more detail what affects consumer decisions, and eventually promote healthier and more sustainable food product consumption. Health and sustainability professionals can use the theoretical implications of the research to analyze consumer behavior on a

deeper level. Afterwards they can, for instance, execute the aforementioned practical implications (5.4) to attempt changing consumer behavior.

5.6   Conclusion

Finally, the study provides ample insights into what makes millennials deviate from health and sustainability-related concerns in the context of food and drink consumption. It can be concluded that between both domains, there is certain, but little overlap in the type of used reduction strategies. On top of that, strategies were named that were exclusive to one domain, which also means that different implications should be made when health or sustainable consumption is wished to be enhanced among millennials. Whereas enhancing healthy food and drink consumption has most potential in making environmental interventions, the results imply that enhancing sustainable consumption can for the largest part be achieved by making sustainable products more affordable. The study has also shown that numerous other internal and external factors are responsible for conflicting behavior for which interventions can also be made. The results can help understanding which strategies play the biggest role in the decision-making process of consumers, and which only play a minor role. Notwithstanding the significant results and potential scientific and practical implications, the study was not fully concrete in measuring exactly what leads to unhealthy and sustainable behavior; as elaborated on earlier, the assigned codes are rather ambiguous. Therefore, future data in this field should be analyzed in a more detailed manner so that behavioral change can be achieved with more certainty.

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Appendices

Appendix A - Interview

Je anonimiteit is verzekerd.

Je mag je elk moment tijdens het interview terugtrekken.

Ga je akkoord met het opnemen van dit interview?

Ga je akkoord met het in verslag brengen van de transcripties?

1. Dit interview zal gaan over jouw consumentengedrag als het gaat om eet- en drinkwaren. Is het je gelukt om na te denken over de keuzes die je als consument hebt gemaakt in de afgelopen maand? (Dit is ruim vooraf aan het interview gevraagd).
2. Er zullen twee aspecten naar voren komen, namelijk de mate van gezondheid en duurzaamheid van de eet- en drinkwaren die je hebt geconsumeerd in de afgelopen maand.
3. Als eerste zullen we het over de gezondheid hebben van je consumentengedrag. Wat versta jij onder gezondheid van eet- en drinkwaren?
4. Van een schaal van 1 tot 10, hoe belangrijk vind jij gezondheid van je consumentengedrag? Waarom niet hoger of lager?
5. Welk cijfer geef je je uiteindelijke gedrag?
6. Heb je bepaalde allergieën of intoleranties die meespelen?
7. Let jij op de gezondheid van de keuzes die je maakt en hoe belangrijk is dit voor je?
8. Wat is de meest belangrijke reden waarom je dit belangrijk vindt?
9. Welke mogelijke andere redenen spelen een rol?
10. Waar let je precies op wanneer je eet- en drinkwaren selecteert op gezondheid?

11. Kan je je altijd aan deze houding houden; Je vindt gezondheid om deze en deze redenen belangrijk, maar hier wijk je waarschijnlijk wel eens vanaf. Noem voorbeelden.

12. Welke voornaamste reden heb je om niet altijd naar de gezondheid van producten te luisteren?

13. Welke andere redenen heb je hiervoor?

14. Hoe voel je over jezelf nadat je de gezondheid van producten niet in rekening hebt gehouden, terwijl je dat wel belangrijk vindt?

15. Heb je nog dingen die je wilt delen m.b.t. dit thema?

16. Ten tweede zullen we het over de duurzaamheid hebben van je consumentengedrag. Let jij op de milieuvriendelijkheid van de keuzes die je maakt?

17. Wat betekent duurzaamheid of milieuvriendelijkheid voor jou als het gaat om je consumentengedrag?

18. Let jij op de milieu-achtergrond van een product?

19. Hoe belangrijk is dit voor je?

20. Wat is hiervoor de meest belangrijke reden?

21. Welke mogelijke andere redenen spelen een rol?

22. Waar let je precies op wanneer je etens- en drinkwaren selecteert op basis van duurzaamheid?

23. Van een schaal van 1 tot 10, hoe belangrijk vind jij duurzaamheid van je consumentengedrag? Waarom niet hoger of lager?

24. Welk cijfer geef je je uiteindelijke gedrag?

25. Kan je je altijd aan deze houding houden? Je vindt duurzaamheid om deze en deze redenen belangrijk, maar hier wijk je waarschijnlijk wel eens vanaf. Noem voorbeelden.

26. Welke voornaamste reden heb je om niet altijd naar de duurzaamheid van producten te luisteren?

27. Welke andere redenen heb je hiervoor?

28. Hoe voel je over jezelf nadat je de duurzaamheid van producten niet in rekening hebt gehouden, terwijl je dat wel belangrijk vindt?

29. Heb je nog dingen die je wilt delen m.b.t. dit thema?

Appendix B – Codebook

.

Table 15. Codebook

Legend

1. Yellow=reduction strategy sustainability
2. Blue=reduction strategy health
3. Red=definition Health/Sustainability
4. Black=grades healthy/sustainable behaviors/attitudes
5. Green=healthy Behavior
6. Pink=motives healthy/sustainability
7. Purple=solution sustainability
8. Grey=dissonance feelings health/sustainability

Code	Memo
2.1 Blame sustainability	Participant reduces dissonance by blaming others.
1.1 Careless Health	Participant reduces dissonance because of not caring about health.
2.2 Careless Sustainability	Participant reduces dissonance because of not caring about sustainability.
1.2 Comparing Healthy	
2.3 Comparing Sustainability	Participant reduces dissonance because of comparing with others.
1.3 Compensate Healthy	Participant reduces dissonance by compensating unhealthy behavior with subsequent healthy behavior.
1.4 Condition Healthy	When physical conditions negatively influence healthy behavior.
2.4 Confidence Sustainability	Participant reduces dissonance by being confident about the future.
3.1 Definition Health	What does the participant perceive as healthy or sustainable food consumptio
3.2 Definition Sustainability	Definitions of what a participant perceives as sustainable food consumption.
8.1 Dissonance feeling Health	What a participant feels when dealing with cognitive dissonance in terms of health.
8.2 Dissonance feeling sustainability	What a participant feels when dealing with cognitive dissonance in terms of sustainability.
2.5 Distrust Sustainability	Participant reduces dissonance because of feelings of distrust.
1.5 Environment Health	Participant reduces dissonance because of the social environment.
2.6 Environment Sustainability	Participant reduces dissonance because of social environment.
1.6 Finances Health	Participant reduces dissonance because of price.
2.7 Finances Sustainability	Participant reduces dissonance because of lack of money.
4.1 Grade Healthy Attitude	Grade a participant appoints to how important healthy consumption they think is.
4.2 Grade Healthy Behavior	Grade a participant appoints to their healthy behavior.

4.3 Grade Sustainable Attitude	Grade participant appoints to how important they think sustainability is.
4.4 Grade Sustainable Behavior	Grade participant appoints to their sustainable behavior.
1.7 Habits Health	Participant reduces dissonance because of habits.
5.1 Healthy behavior	Example of how healthy behavior can be applied.
1.8 Laziness Health	When a participant reduces dissonance because of laziness.
2.8 Laziness Sustainability	Participant reduces dissonance because of laziness.
1.9 Living situation	Participant reduces dissonance because of home situation.
2.9 Living situation sustainability	Participant reduces dissonance because of home situation.
6.1 Motive Health	Reason why the participant finds healthy consumption important.
6.2 Motive Sustainability	Reason why the participant finds sustainable consumption important.
1.10 Option/availability	Participant reduces dissonance because of having a lack of options.
2.10 Option/availability sustainability	Participant reduces dissonance because of having a lack of options.
1.11 Pleasure Health	Participant reduces dissonance because of feelings of pleasure.
2.11 Pleasure Sustainability	Participant reduces dissonance because of the pleasure of consuming something.
2.12 Quality Sustainability	Participant reduces dissonance because of quality reasons.
1.13 Selfish Sustainability	Participant reduces dissonance because of being selfish about outcomes of their behavior.
1.12 Sleep Health	Participant reduces dissonance because of sleeping pattern.
7.1 Solution Sustainability	Participant proposes solutions to promote sustainability.
1.13 State of mind Health	Participant reduces dissonance because of how they feel.
1.14 Stress Healthy	Participant reduces dissonance because of stress.
1.14 Stress Sustainability	Participant reduces dissonance because of feeling stressed.
1.15 Structure Health	Participant reduces dissonance because of bad day-structuring.
5.2 Sustainable behavior	Ways a participant applies sustainability in their behavior.
1.16 Time Health	Participant reduces dissonance because of lack of time.
1.15 Time Sustainability	Participant reduces dissonance because of lack of time.
1.16 Uninformed Sustainability	Participant reduces dissonance because of being uninformed.
1.17 Vacation Health	Participant reduces dissonance because of going on vacation.
1.17 Vacation Sustainability	Participant reduces dissonance because of being on vacation.

Appendix C – Search log

Table 16.

Source	Term	Hits	Date	Note
Scopus	Cognitive dissonance	3.808	04-04	Relatively broad but general information was helpful
Scopus	Cognitive health	580	11-04	Not too broad for exploring context
Scopus	Cognitive dissonance sustainability	55	11-04	Very specific and helpful enough for exploring context
Scopus	Reduction strategies health	36.558	14-04	Too broad and no useful documents within results
Scopus	Reduction strategies consumer behavior	183	14-04	Not too broad but and a few good papers
Google Scholar	Reduction strategies health	17.100	15-04	Too broad but useful papers
Google Scholar	Reduction strategies sustainability	16.500	15-04	Too broad and limited number useful papers
Google Scholar	Attitudinal behavioral gap health	17.500	23-04	Too broad but enough relevant papers easy to find
Google Scholar	Attitudinal behavioral gap sustainability	17.400	23-04	Too broad, good papers but hard to find