

Including the unwilling and the unable in the Protein Transition

Designing an intervention to involve consumers with a low socioeconomic position

Master Thesis by Daniek Dieben

Colofon

Master Thesis
14-08-2023

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Preface

This project is the final step in my master's degree in Strategic Product Design at the Technical University of Delft. The project started at the end of February 2023 and took place over the course of 6 months.

During this project, I delved into the world of resistance towards the protein transition, starting with the question: How can we include those who are not willing or able to join this transition? The focus within this question lies specifically on people with a low socioeconomic position.

As a lifelong vegetarian, this topic immediately fascinated me. The resistance towards this transition is something I have felt throughout my life and is something I have never fully understood. Through this project, my goal is to comprehend this resistance and understand the barriers to participating in such a transition. More importantly, my goal is to discover how to deal with it.

Numerous parties and individuals have played a crucial role in bringing this project to fruition. I would like to express my appreciation to everyone who has been involved in the project.

To all the participants who generously took the time to talk to me, whether briefly or at length, and allowed me to have a glimpse into their lives, even when it might not have been easy to share their struggles and obstacles.

To all the experts who, without a doubt, took the time out of their schedules to share their experiences and knowledge related to this topic. Thank you for allowing me to visit your organizations. To all the experts that provided feedback on the project's findings, helping me refine and sharpen the results further. Your input has been very valuable.

I want to thank my supervisory team for their knowledge, input and enthusiasm for the project. Thank you, Paul, my chair, for the inspiring thoughts and new insights. Your sharp questions and fresh perspective on the project helped enrich the results. Thank you, Anna, my mentor, for your collaborative nature, openness, and encouraging words. You helped me feel confident in the project, guided me along the right paths, and always offered helpful insights.

I want to thank the Voedingscentrum for allowing me to work on this project and providing me with the knowledge and freedom to explore the domain. Eva, thank you for your enthusiasm, knowledge and helping hand in finding my way into the organization. Your trust in the process and project helped immensely. Joost, thank you for the lessons on behavior change and for all the extra time and effort you put into the project.

I want to thank to my friends and family for their support and feedback during this project. Thank you, Maarten for allowing me to endlessly talk about my thoughts, experiences, and feelings regarding this project. Thanks for all the advice and pep talks. Thanks to my parents for thinking along, assisting me in finding participants, and knowing when to call with some motivational words. Lastly, I want to acknowledge all the friends who thought along, showed interest and enabled me to express my struggles and doubts whenever I wanted.

Dear reader, I hope this project inspires you to explore and research ways in which the protein transition and other transitions can effectively address resistance and become more inclusive.

Enjoy!
Daniek

Glossary

Definitions

Animal protein

Animal protein refers to the proteins derived from animal sources such as meat, poultry, fish, eggs, and dairy products. These proteins are considered complete proteins as they contain all the essential amino acids required by the human body for proper functioning and growth (Voedingscentrum, n.d.-b) (WebMD Editorial Contributors, 2021).

Plant-based protein

Plant-based protein comes from plant sources like legumes, grains, nuts, seeds, and certain vegetables. Unlike animal protein, plant-based proteins may not contain all essential amino acids in one source. However, by combining different plant-based protein sources in a balanced diet, individuals can still obtain all the necessary amino acids. Plant-based proteins are rich in fiber, vitamins, minerals, and phytonutrients, while usually lower in saturated fat and cholesterol compared to animal-based proteins (Voedingscentrum, n.d.-b) (WebMD Editorial Contributors, 2021).

Plant-based diet

A plant-based diet is a dietary approach that focuses primarily on foods derived from plants while minimizing or excluding the consumption of animal products.

Vegetarian diet

A vegetarian diet is a dietary pattern that includes plant-based foods, dairy products, and eggs, while excluding meat, poultry, seafood, and fish (Vegetariërsbond, n.d.).

Vegan diet

A vegan diet is a dietary approach that excludes the consumption of all animal-derived products, including meat, poultry, seafood, dairy, eggs, honey, and any other ingredients or by-products derived from animals (The Vegan Society, n.d.).

Intervention

An intervention is an action or strategy implemented to bring a positive change, address a problem, or improve a situation.

System

Meadows (2008) state that 'a system is an interconnected set of elements that is coherently organized in a way that achieves something'. It produces their own behavior over time. The system can be triggered, pressured, or driven by outside forces, but the system's response to these forces is a characteristic of itself.

Transition

Transitions are structural changes in societal systems that require a shift in the current structure; the current way of doing, thinking and organizing (Geels, 2020)

Protein transition

The protein transition refers to a shift in collective dietary patterns and consumption habits related to protein sources. It involves a transition from currently dominated protein sources, animal-based proteins, to alternative or sustainable protein sources, including plant-based proteins and other innovative protein alternatives. The protein transition is driven by various factors, including environmental concerns, health considerations, ethical considerations, and the need for more sustainable food systems.

Low Socioeconomic position (SEP)

A socioeconomic position refers to the position an individual or group holds within a hierarchical social structure based on their access to create or consume valued goods (Miech & Hauser, 2001). This position is defined by education, income and employment situation (Shavers, 2007). A Low socioeconomic position (SEP) refers to a social and economic status characterized by limited financial resources, lower income levels, and a lack of access to resources and opportunities compared to those in higher socioeconomic positions. It is typically associated with lower educational attainment, limited job opportunities, and reduced access to quality healthcare, housing, and other essential services.

Organisations

Het Voedingscentrum (The Netherlands Nutrition Centre)

The Netherlands Nutrition Centre, or Voedingscentrum, is an institute that provides consumers and professionals with scientific and independent information on healthy, safe, and more sustainable food choices Voedingscentrum (n.d.-d).

Voedselbank (Foodbank)

The Voedselbank is a national organization that offers groceries to people who are temporarily unable to provide for themselves (Vereniging van Nederlandse Voedselbanken., 2022).

Index

Preface	4	Chapter 7. From reserach to design	74
Abstract	6	7.1 Method	76
Glossary	8	7.2 Context structure: Clusters	78
		7.3 Structuring Clusters	81
		7.4 Design goal: SID goal statement	84
Chapter 1. Introduction: The project	12	Chapter 8. Ideation	86
1.1 Pressing food system	14	8.1 Appraoch	88
1.2 Project focus	17	8.2 Concepts	90
1.3 Approach	18	8.3 Selecting a concept	98
Chapter 2. The Voedingscentrum (Netherlands Nutrition Centre)	22	Chapter 9. Final concept	102
2.1 Working method	24	9.1 Spaar je vol!	104
2.2 Project: 'Minder vlees' ('Less meat')	26	9.2 Storyboard	106
2.3 Project: Low SEP	28	9.3 Desirability	110
2.4 Limitations	28	9.4 Feasibility	114
		9.5 Viability	120
Chapter 3. The protein transition	30	Chapter 10. Evaluation	122
3.1 A short history of food and protein consumption	32	10.1 Goal	124
3.2 Current status of the protein transition	36	10.2 Appraoch: Narrative-based study	125
3.3 Resistance towards the protein transition	40	10.3 Target group	127
		10.4 Stakeholders	130
Chapter 4. Resistance	44	Chapter 11. Discussion	134
4.1 Different forms of resistance	46	11.1 Spillover effects	136
4.2 Reactance	48	11.2 Limitations	137
4.3 Skepticism	50	11.3 Recommendations	139
4.4 Inertia	51	11.4 Conclusion	140
Chapter 5. Target audience - Low Socioeconomic position	52	Personal reflection	142
5.1 Health inequality through food	54	References	144
5.2 Eating habits	55	Appendices	154
5.3 Making changes	56		
5.4 Reach and resonate	56		
Chapter 6. Field research	58		
6.1 Goal	60		
6.2 Approach	60		
6.3 Main insights	65		

CHAPTER 1

INTRODUCTION: THE PROJECT

This chapter introduces the project. It illustrates the pressure our current food system puts on our planet, our global health and animal welfare (1.1). The chapter explains the focus and assignment of this project (1.2) and elaborates on the approach (1.3).

Chapter overview

- 1.1 Pressuring food system
- 1.2 Project focus
- 1.3 Approach

1.1 Pressuring food system

Food has always been one of life's necessities. Yet the way in which we create access to food has changed a lot over time, especially in the last 100 years. With the growing world's population, the demand for food has increased substantially, resulting in a significant transformation of our food system. It has transitioned from a local and manual system to its current state—a complex, global, and automated system (see figure 1 & 2).

Even with this shift, about 10% of the world's population still does not have enough food (FAO et al., 2020). Simultaneously, the food system puts significant pressure on our planet, see figure 3 (Ritchie et al., 2022) and has a clear negative impact on global health. We have witnessed a tripling in the number of overweight individuals since 1975, reaching 1.9 billion in 2016 (World Health Organization: WHO, 2021). Additionally, the food system contributes to humanitarian issues concerning animal welfare and an unfair agricultural economy (Gladek et al., 2017).

Our problems do not end here; our world population growth is far from finished. Projections estimate that by 2050, the global population will reach nearly 10 billion people (Food and Agriculture Organization of the United Nations (FAO), 2012). This substantial growth, combined with evolving dietary patterns and the rise of economies, will significantly intensify the demand for food by 2050. A shift towards high-status and non-seasonal foods is anticipated, leading to an increased consumption of meat. According to the FAO (2009), per capita meat consumption is projected to be 40% higher in 2050 compared to 2010.

Considering the integrated complexity in our food system, these problems cannot be solved with one solution. A fundamental shift in the system is needed, consisting of a multitude of perspectives and approaches (De Zwarte & Candell, 2020).

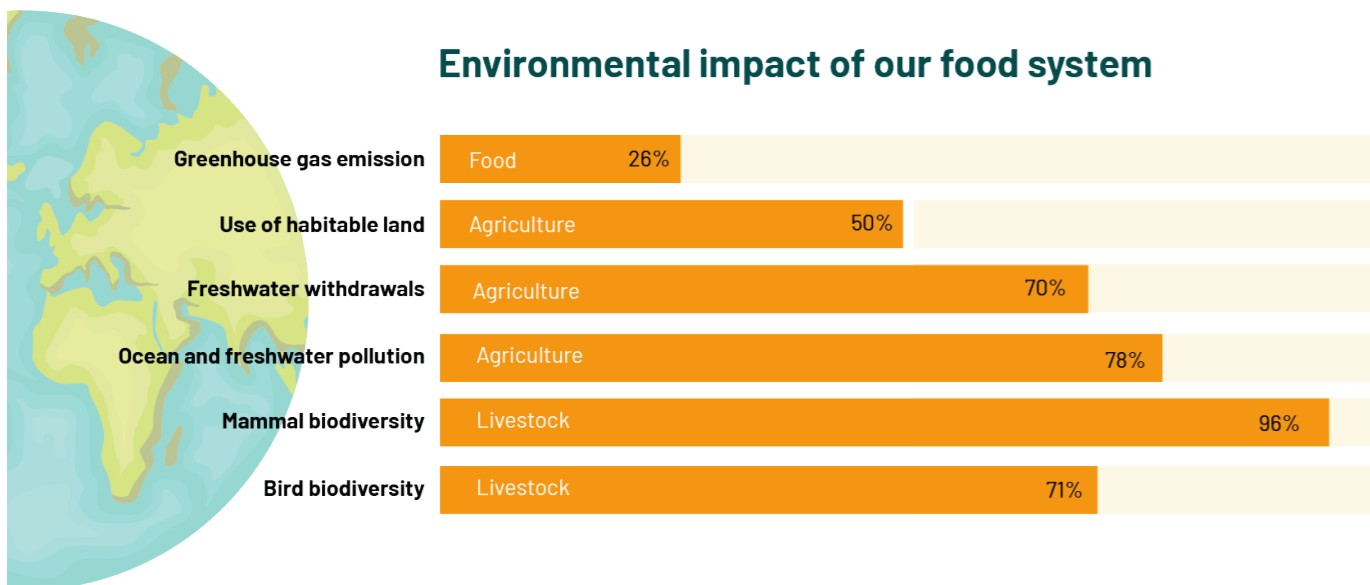


Figure 3: Environmental impact of our food system (Ritchie, 2022)



Figure 1: Potatoes harvest in 1955 (left) (Wageningen University & Research & Hoogendoorn, 1954) and 2013 (right) (Van Tiggelen, 2014)

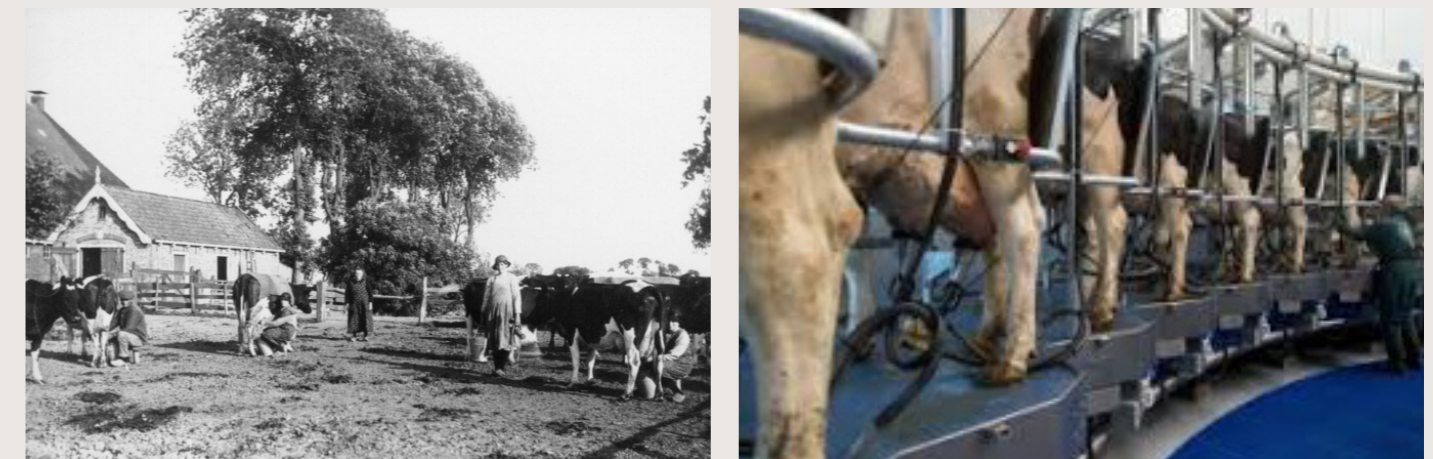


Figure 2: Milking cows in 1955 (left) (Stichting Historie van Ruinerwold, 2021) and 2013 (right) (Wiermans, 2017)

1.1.1 Role of animal protein

When examining the mentioned issues more closely, the consumption of animal protein plays a significant role. Regarding the pressure on our planet, the production of animal protein products results in higher greenhouse gas emissions and water usage compared to plant-based protein products, especially when looking at meat (see figure 4). Additionally, intensive fertilization leads to acidification and eutrophication of the environment (Keena et al., 2022; Milieu Centraal, n.d.).

In terms of public health, excessive consumption of meat and animal products is associated with overconsumption of fat, leading to obesity and an increased risk of chronic diseases (Salter,

2018). However, that is not the only health hazard. The scale of livestock farming has increased the transmission of pathogens between humans and animals, as well as among animals themselves. Over the years, excessive livestock farming has exposed us to various viruses, resulting in large-scale culling of livestock and occasional transmission to humans (Evenblij & Mevius, 2011; Greenpeace België, 2020).

Considering the role of the meat and dairy industry in these issues, one strategy to reduce this pressure while still meeting the needs of a growing population is the adoption of a **“Protein transition”**: shifting our collective diet to focus more on plant-based proteins” (Weinrich, 2018).

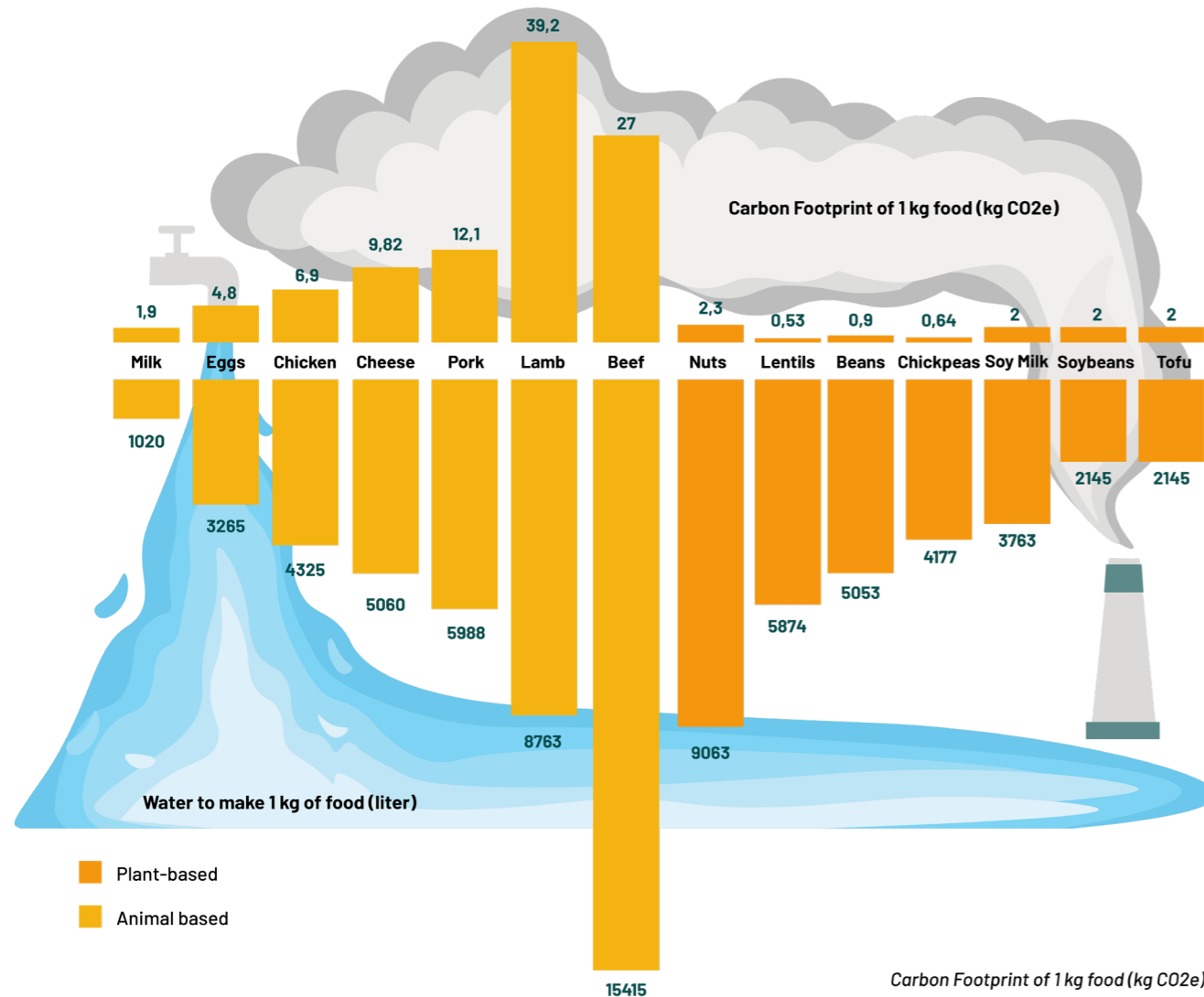


Figure 4: Carbon Footprint of food (Marie, 2022a), Water Footprint of food (Marie, 2022b)

1.2 Project focus

The protein transition enables us to feed our growing world population in a sustainable, just, and healthy manner (Pel et al., 2020).

To enable such a transition, a shift is needed in the regime of the food system, which refers to the existing dominant ways of thinking, doing, and organizing (Loorbach, 2022). More specifically, the old regime, characterized by animal proteins, needs to be transformed into one that is dominated by plant-based proteins (Loorbach, 2014). Over the past years, multiple interventions have been designed to achieve this goal and accelerate the protein transition, such as plant-based meat or dairy substitutes, vegan cookbooks, vegetarian cafeterias and the national week without meat.

When examining these existing interventions within the protein transition, it becomes clear that the current transition does not resonate with everyone. Not everyone is willing or able to participate. Affective factors, such as emotions and social norms, play a significant role in the acceptance of plant-based proteins. This can result in people being resistant to changing their diet or experiencing a gap between their intentions to change and their actual behavior (Omwezen, 2020). Studies on barriers hindering dietary change indicate personal, social, and health barriers that reflect a fear of missing out on certain aspects such as taste, social status, or nutrients (Lea et al., 2005; Perez-Cueto et al., 2022). This project focuses on exploring the origins of resistance and the fear associated with letting go of animal proteins.

The Voedingscentrum (Netherlands Nutrition Centre)

One of the stakeholders currently working within this context is the Netherlands Nutrition Centre (Voedingscentrum). The organization aims to provide consumers and professionals with scientific and independent information about making healthy, safe, and sustainable food choices. One of their project teams specifically focuses on promoting the protein transition by encouraging individuals to reduce their meat consumption.

Another goal of the Voedingscentrum is to reach a broader audience. Currently, the information and knowledge provided by the Voedingscentrum primarily reaches females with a higher education. The Voedingscentrum is specifically focused on reaching individuals with a low socio-economic position (SEP). People with a low SEP often face limited opportunities to make long-term changes, such as adopting a healthy and sustainable diet (Graat, 2022). Consequently, the Voedingscentrum is actively seeking effective interventions that resonate with this large group and encourage their engagement in a healthy and sustainable eating pattern. Chapter 2 provides more elaborate information on the Voedingscentrum.

1.2.1 Assignment

The goal of this project is to design an intervention that addresses the resistance encountered during the transition and allows the Voedingscentrum to engage with the ‘unwilling and unable’ individuals. This includes examining this group as a whole but also specifically focusing on people with a low socio-economic position (SEP) who align with this description.

1.3 Approach

The Double Diamond method is employed as the primary overarching approach in this project. This approach was originally designed by the Design Council in 2004 (Design Council, 2023) and involves first exploring the problem through research, then refining the problem before progressing to the design phase, which also incorporates a similar pattern of divergence and convergence.

This initial broad approach to understand the problem is necessary when working on complex domains like the protein transition and is therefore fitting to the nature of this project. Alongside, the approach is a well-known and easy to work with. It offers a comfortable hold through the main steps in the process while offering enough freedom and room for interpretation and exploration.

The Double Diamond approach allows for the incorporation of other methods along the way, something which occurred when moving from research to a design goal, in which the Social Implication Design (SID) method was used. From that point onwards, steps of the SID method were implemented in the project's approach.

Figure 5 illustrates the different phases of the project and figure 6 and 7 describe the most important research and design activities.

The four phases of the project are:

Discover

The initial part of this project consists of conducting extensive research in the domain. During this first stage, the context is discovered through field and desk research. Starting off with gaining an understanding of the protein transition, the client, and the resistance in human behavior. The focus then deepens into the specifics of the target group, researching their food consumption context, needs, and values. During the field research, a qualitative approach was employed to gain a deeper understanding of how the target group perceives the problem and gather insights on the context of the problem.

Define

To move from research to a design goal, the Social Implication Design method was employed. This method supports designers in reasoning from a social problem towards a design proposal (Tromp & Hekkert, 2014). Insights from the "discover" phase were grouped into clusters to gain an overview. These clusters were structured and translated into a design statement. For more elaboration, refer to chapter 7.

Develop

After completing the main research stage and defining a design goal, the next step mainly involves ideation. This stage is dedicated to developing different ideas, solutions, and directions to address the defined problem. Inspiration is drawn from co-creation sessions with stakeholders and additional desk research. Ideas are developed and optimized through individual and collaborative work with stakeholders.

Deliver

After exploring several ideas, four concepts are further developed and evaluated, ultimately leading to the selection of one concept (chapter 8). This concept is iterated and elaborated into a final detailed design (chapter 9). During the iterations of this concept, evaluation sessions with stakeholders and the target group were held (chapter 10). The most important evaluation points that were gathered during these sessions and fitted within the scope of this project are applied in the final concept presented in chapter 9. Chapter 10 provides a brief description of the nature of these iterations and discusses further evaluation points. Recommendations for future work within this domain is described in chapter 11.

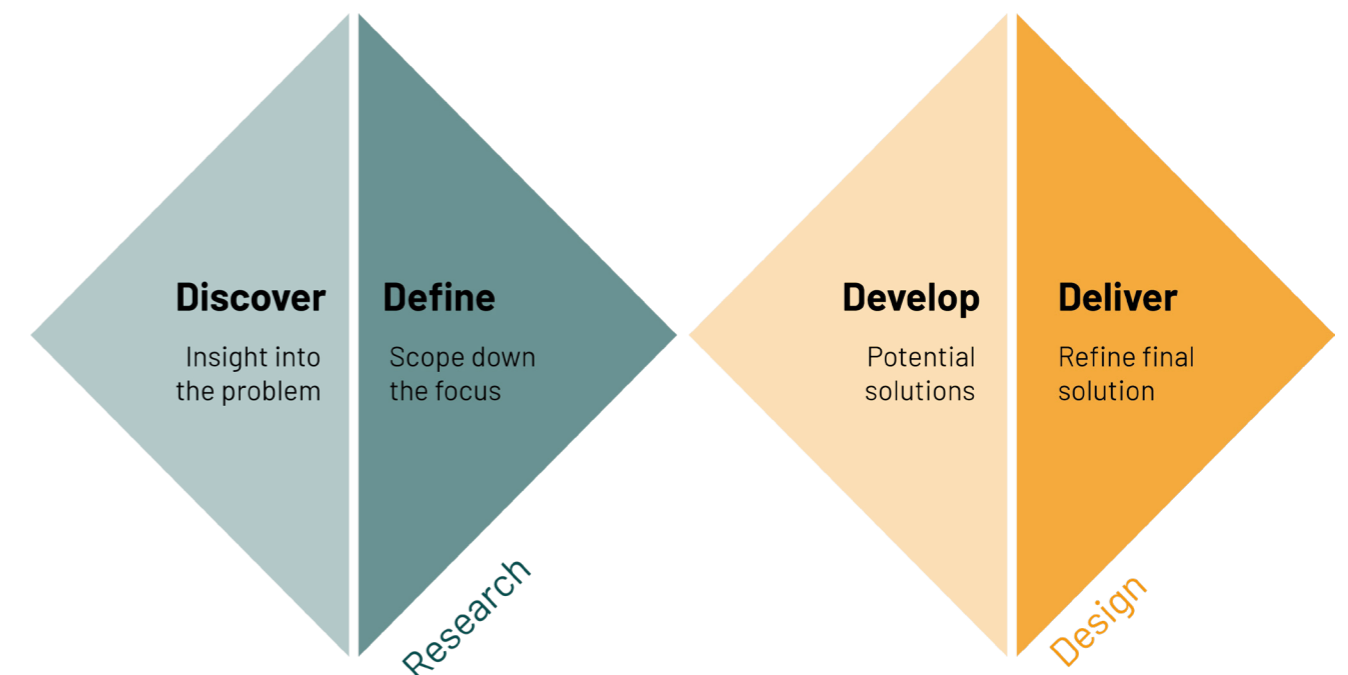


Figure 5: Different phases of the project










<p>Desk research</p> <ul style="list-style-type: none"> Literature study on the protein transition, behavior change and Voedingscentrum Online field research: social media, blogs, pro-meat platforms Media: Studio Plantaardig, #Ajouad: De vleeseters, Wat houdt ons tegen?: De vegaburger de norm op 	 Literature study  Online field research
<p>Observations at different locations where free food was distributed</p>	 Observations
<p>Street interviews in the context of food purchasing</p> <ul style="list-style-type: none"> 2 supermarkets 2 markets 	 Street interviews
<p>Semi-structured interviews with experts. Different interviews with experts of multiple fields of expertise were conducted in order to gather expert opinions about the topic.</p> <ul style="list-style-type: none"> 2 organizational volunteers at 2 different locations where free food is distributed 1 organizational volunteer at the Voedselbank 2 dietists at a revalidation centre 	 Expert interviews
<p>Semi-structured interviews with the target group</p> <ul style="list-style-type: none"> 3 visitors of location where free food is distributed 1 volunteer at Vluchtelingenwerk 2 clients at Voedselbank 1 Visitor at the community center 2 concierges at a primary school 1 cleaner at a primary school 	 Target group interviews
<p>Social Implication Design to move from research to design. Insights were translated into context factors, which were clustered and a context structure was created. Based on this, a statement was defined. To design the interaction an analogy was found and used as inspiration for concepts.</p>	 Social Implication Design Method
<p>Creative session with stakeholders, the target audience and experts</p> <ul style="list-style-type: none"> Team members of two relevant project teams of the Voedingscentrum Target audience at the Voedselbank Master students of IDE TU Delft 	 Creative session
<p>Narative based evaluation with stakeholders, the target audience and experts.</p> <ul style="list-style-type: none"> Team members of relevant teams at Voedingscentrum Target audience at the Voedselbank Target audience at the supermarket, in context Designer and behavior change expert Branch manager of a supermarket 	 Narrative-based evaluation

Figure 6: Most important research & design activities, the red encircled icons are part of the SID method

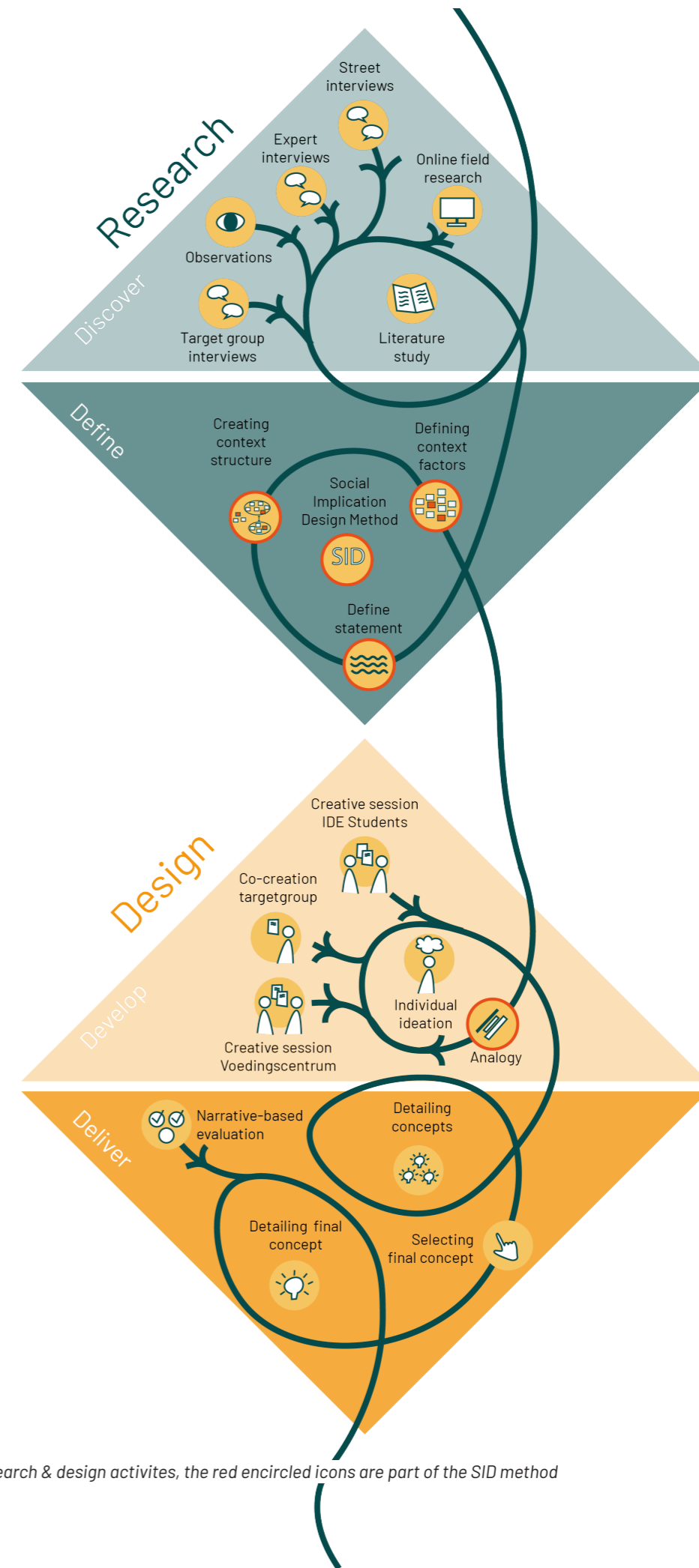


Figure 7: Different research & design activities, the red encircled icons are part of the SID method

CHAPTER 2

THE VOEDINGSCENTRUM (NETHERLANDS NUTRITION CENTER)

This chapter provides background information on the Netherlands Nutrition Centre, or Voedingscentrum, which is the client for this project. It explains the organization's working methods, goals, and relevant projects, which will help in directing this graduation project to meet the client's needs.

Chapter overview

- 2.1 Working method
- 2.2 Project 'Minder vlees' ('Less meat')
- 2.3 Project Low SEP
- 2.4 Limitations

2.1 Working method

The Netherlands Nutrition Centre, or Voedingscentrum, is an institute that has been offering information on nutrition since 1941. This institute provide consumers and professionals with scientific and independent information on **healthy, safe, and more sustainable** food choices. Their official mission is:

'The Voedingscentrum informs consumers on and stimulates them to healthy and more sustainable food choices.'

Within the field of nutrition, many different research outcomes are available, some of which can be very contradictory. The Voedingscentrum assesses these studies and their outcomes, taking scientific uncertainties into account, and translates the research findings into more practical advice or tools (Voedingscentrum, n.d.-d). This can result in various types of interventions, such as social media campaigns, apps, games, or products (see figure 8). One of the best-known tools is the 'Schijf van Vijf' (see figure 10), which provides an overview of food that fits into a healthier and more sustainable diet (Voedingscentrum, n.d.-c). The different options given in the 'Schijf van Vijf' are healthy choices that align with an average Dutch diet. Healthier food choices that are more familiar, such as eating whole grain bread during the day, are more prominently featured than the alternative healthy option of having brown rice three times a day. This is mainly to prevent the advice from being too different from what people are familiar with. The 'Schijf van Vijf' is often used as a guide when defining healthy food in regulations (Noordenbos, 2023).

Next to directly focusing on making a difference through consumers' choices, the Voedingscentrum is also focused on creating a healthier and more sustainable food environment. The starting point within the organization is often that healthy food needs to be an easy choice – one that is available for everyone, even when there is no time, money, or interest to study food. Through a guideline

checklist, the Voedingscentrum actively tries to inform, advise, and help change the food environment of various parties such as schools, train stations, sports locations, healthcare institutions, day attractions, and municipalities.

2.1.1 Finances and collaborations

The Voedingscentrum is fully financed by the Dutch government through an institutional subsidy from the Ministry of Agriculture, Nature and Food Quality and the Ministry of Health, Welfare, and Sport. In addition to this, project subsidies are received from these Ministries or other subsidy providers like ZonMw. This allows the Voedingscentrum to offer advice without a commercial interest (Voedingscentrum, n.d.-g; Voedingscentrum, n.d.-f).

The Voedingscentrum is open to working together with commercial organizations towards their mission. This is done in the form of Public-Private collaborations, temporary partnerships between the public and/or private sectors that share resources, risks, and yields to achieve joint goals. However, this can only happen under certain conditions for the Voedingscentrum to maintain their independence. The collaborators need to align with the mission of the Voedingscentrum, and the goal of the collaboration for the Voedingscentrum is not to earn money (Voedingscentrum, n.d.-h). An example of a public-private collaboration is 'Eetmaatje,' a measuring cup aimed at reducing food waste, which was distributed by various organizations, including supermarkets (see figure 9).

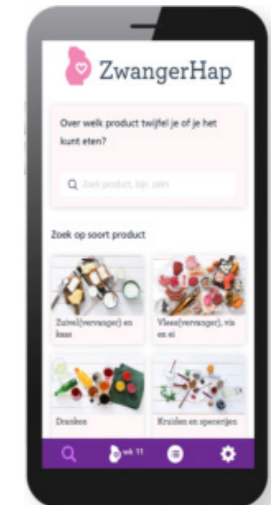


Figure 8: Different interventions of the Voedingscentrum, from left to right: Zwangerhap & Mijn eetmeter (Voedingscentrum, n.d.-m; Voedingscentrum, 2019)



Figure 9: Eetmaatje, in collaboration with supermarket 'Albert Heijn' (Voedingscentrum, n.d.-k) (Koetsenruijter, 2014)



Figure 10: The schijf van Vijf (Het voedingscentrum, 2016)

2.2 Project 'Minder vlees' ('Less meat')

One of the projects which the Voedingscentrum specifically focuses on is encouraging people to eat less meat. The eventual goal is to shift the consumed protein from the current ratio of 61% animal-based and 39% plant-based proteins to 40% animal-based and 60% plant-based. To achieve this new ratio, multiple approaches are introduced, starting with adjustments in the 'Schijf van Vijf.' Here, the amount of meat, especially red meat, and fish is lowered, while other protein alternatives like legumes, nuts, and plant-based meat replacements are added. The 'Schijf van Vijf' currently has a 50-50 ratio of animal and plant-based proteins. The general advice is to eat meat less often, in smaller portions, and to replace it with more plant-based alternatives.

One of the difficulties that the Voedingscentrum deals with in the protein transition is plant-based products that mimic their animal-based counterparts. More on this approach will be explained in section 3.2.4. These plant-based alternatives try to resemble dairy and meat as much as possible, aiming for the same taste, appearance, and structure. However, this often leads to products that contain unhealthy ingredients like excessive amounts of salt or sugar and do not always replace the proteins found in the original examples (Voedingscentrum, n.d.-j; Mo, 2021).

Currently, the main goal of the 'Minder vlees' project is to initiate a conversation about current meat consumption and portion sizes, as well as to contribute to an increase in knowledge about this subject. The aim is to reduce meat-based protein at a population level; not every individual needs to be at a 50/50 ratio, but the total ratio should reflect this. Since this change in behavior requires multilayered interventions, the project starts by focusing on spreading knowledge, awareness, and opening the conversation, for example, through the campaign 'Eetvragen' (see Figure 11) (Voedingscentrum, n.d.-a). Within these campaigns, there is an emphasis on keeping the freedom of choice in what you eat. Advice on different alternative options for protein intake is presented, allowing people to choose what fits them best. The goal of this is mostly to prevent the resistance that often occurs when something is imposed on people. The Voedingscentrum aims to be the voice of reason that stands between hardcore vegans and meat lovers during this transition.

The project 'Minder vlees' is currently only focused on reducing meat intake, not on reducing other animal proteins such as dairy and eggs. In consultation with the client, it was decided that the focus of this project during the research phase will be on the reduction of all animal proteins, including dairy and eggs. When moving to the design phase, the focus will be specifically on meat reduction.



Figure 11: Campaign 'Eetvragen' (Voedingscentrum, n.d.-l)

2.3 Project Low SEP

Another relevant project within the Voedingscentrum is focused on reaching a broader public. Currently, highly educated people, especially women, know how to access the knowledge of the Voedingscentrum best (E. de Groot, personal communication, february 6, 2023) . The Voedingscentrum is looking for ways to reach more people, especially those with a low socioeconomic position (SEP). More information on this group can be found in Chapter 5.

To achieve this goal, two approaches are being introduced. Firstly, the Voedingscentrum is focusing on making its current and future outputs more suitable for different audiences, including those with a low SEP. Secondly, the organization is introducing initiatives and interventions that specifically aim to reach people with a low SEP and promote behavior change.

Within the second approach, the current focus is on creating change through organizations that are already in contact with the target audience and have an impact on their dietary choices, such as Resto van Harte or the Voedselbank. This can be done by offering education on healthy food or designing placemats with nutrition facts, for example.

2.4 Limitations

Within this graduation project, some limitations need to be taken into consideration regarding the abilities of the Voedingscentrum.

Firstly, it should be noted that despite the organization's reputation as a large institution, the Voedingscentrum only has around 80 employees who oversee various projects. Looking at the aforementioned projects, the "low SEP" project group consists of only four employees, and the "less meat" team is with five employees. All employees work part-time on these projects and are part of multiple different projects. The man-hours that can be spent on one project are therefore limited.

Another important point to consider is the organization's financial situation. The budget received through subsidies is limited, which influences the possibilities within a project. Next to this, the subsidies directly influence the projects' direction. Submitted project plans need to be approved, and during the project, it is important to adhere to these submitted plans which can limit changing directions during the project.

Even though it is the strength of the Voedingscentrum, the independence of the organization can also limit the organization in their communication, promotion and options to collaborate, needing to maintain a level of neutrality towards brands.

Lastly, it is essential to consider that interventions of the Voedingscentrum need to cater to a large group of consumers. The focus needs to lie on reaching and informing many people at once.

Conclusion

The Voedingscentrum focuses on providing nuanced information on nutrition, with the goal of promoting healthy, safe, and sustainable food choices by providing practical advice to a broad audience. The organization has different ways of achieving this goal through different forms of interventions, advice and adjustments to the food environment.

This graduation design project should be in line with the approach and goals of the Voedingscentrum's described projects so they can strengthen each other. At the same time, the mentioned financial, workload, and collaboration limitations need to be taken into consideration. As mentioned, the focus of this project will, during the research phase, be on the reduction of all animal proteins, while during the design phase it will specifically focus on meat reduction to align with the 'minder vlees' project.

CHAPTER 3

THE PROTEIN TRANSITION

To illustrate where we came from, this chapter starts with a short dive into the history of food, specifically looking at the consumption of proteins. Thereafter it dives into the current state of the protein transition and finally elaborates on the resistance towards the transition.

Chapter overview

- 3.1 A short history of food and protein consumption
- 3.2 Current status of the protein transition
- 3.3 Resistance towards the protein transition

3.1 A short history of food and protein consumption

When discussing food and changes in food habits, people often refer to our history and culture, even looking back to our oldest ancestors from prehistoric times. The classic image associated with this period depicts men hunting buffalo, and women gathering berries. This image has been translated into a now-popular diet known as the Paleolithic diet, see figure 12. However, a common misconception is that our ancient ancestors were predominantly carnivores when, in reality, their diets exhibited high levels of variation depending on geographical location and food availability (Challa, 2022)(Verdonk & Molenwijk, 2022).

The introduction of agriculture, around 10,000 BC, brought significant changes, including the addition of foods like grains and dairy products to the diet. It also resulted in a shift in the hierarchy between humans and animals, humans started domesticating animals and thereby placing themselves in a higher ranking, see figure 13. Animal agriculture required significant amounts of land, leading to the clearance of forests. To protect their herds, people also hunted predators, which contributed to the extinction of certain species. The proximity between humans and animals in agricultural settings increased the risk of zoonotic diseases. During this period, cultural differences in meat consumption started to emerge, with certain types of meat becoming taboo in different parts of the world, such as camels in the Middle East or pigs in Egypt.

From around 2500 BC to 550 AD, larger communities emerged, necessitating larger farms. Meat became a symbol of wealth, and high prices were demanded for it. In ancient Rome, pig meat was associated with privilege, while Hebrews abstained from eating pig meat. In ancient Greece, meat was consumed in very small amounts, primarily during festivals, religious ceremonies, or political events, and there were even groups that fully abstained from eating meat. This attitude also appeared in India through Hinduism and Buddhism, where killing animals became a taboo. While this perspective faded in the West, it has remained partly the same in India until this day (Verdonk & Molenwijk, 2022).

From 550 AD onwards, the cultural significance of meat began to evolve. Christians started to abstain from eating meat on Fridays or during Lent. Meat consumption also created a divide between the middle class and serfs, with doctors claiming that meat was unhealthy for serfs. Although meat remained a secondary food source for most people, deforestation and overgrazing continued. This led to a demand for new fertile land, which created more demand for the colonization of 'new' land. While meat remained unaffordable for many Europeans, the wealthy used meat consumption as a display of wealth (Chiles & Fitzgerald, 2017).

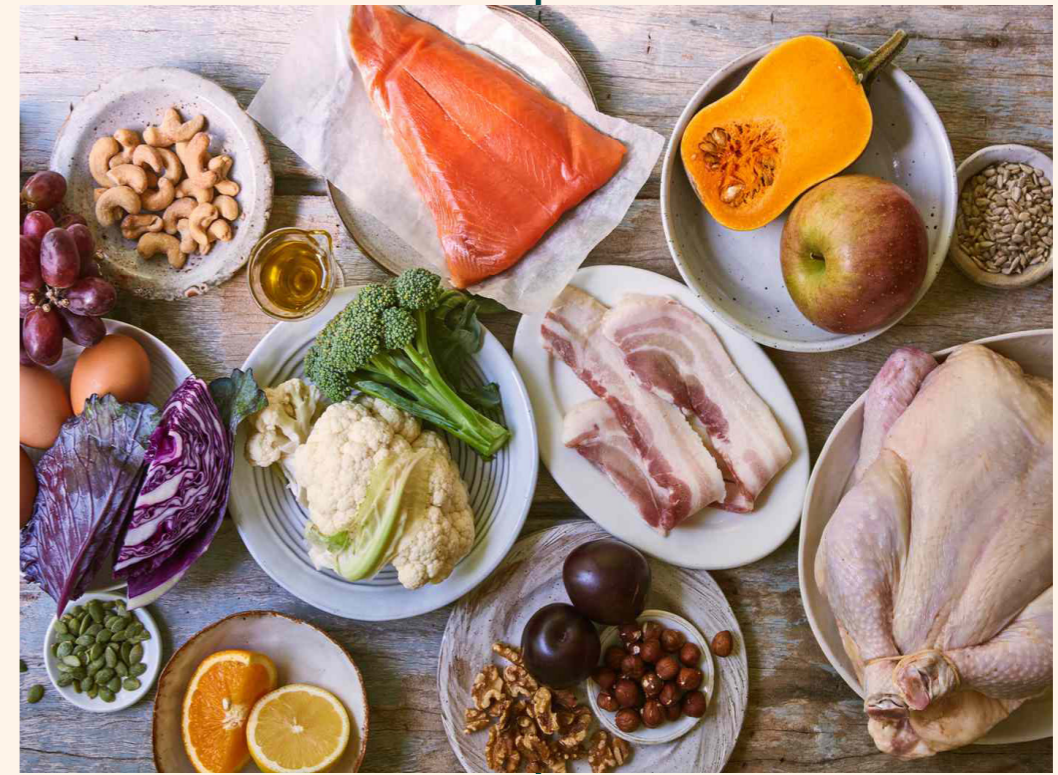


Figure 12: Modern Paleolithic diet (Hammer, 2023)



Figure 13: Domestication of animals (The Metropolitan Museum of Art, Rogers Fund, 2007)



Figure 14: Slogan: 'Melk is goed voor elk', 1934 (Wijga & Nederlands Zuivelbureau, 1955)



Figure 15: Promotion of meat in 1961 (De Graeve, 2021)

Starting from 1500, ingredients from Asia and South America, such as the potato, began to reach Europe and played a significant role in Dutch cuisine. From 1850 onwards, Dutch cuisine became simpler, mainly consisting of potatoes and legumes. As welfare grew, meat, fish, and dairy were included in meals. However, the high cost of meat made vegetarianism a common practice.

From the 1930s, the Dutch dairy industry started to push milk campaigns onto mothers, urging them to make sure their family would drink enough milk (De Vrieze, 2015). The slogan 'Melk is goed voor elk,' created in 1934, is well-known and used to this day (see figure 14) (De Coster, 2023).

During World War II, livestock numbers had to be reduced to preserve food supplies. Consequently, meat became a symbol of post-war reconstruction ("Wederopbouw"). Economic welfare measures made meat more accessible to a larger population, and it became a status symbol associated with wealth. The dairy industry also made use of the need for national symbols and values after the war and made sure that consumers of multiple generations knew that milk is what makes the Dutch strong.

In the 1960s, advancements in science and government subsidies led to the introduction of the modern production system known as the bioindustry. This system aimed to create efficient production methods that significantly reduced meat prices (Verdonk & Molenwijk, 2022). As a result, meat consumption became more prevalent. However, in the 1980s, the first signs of a countermovement against the meat industry began to emerge (Voedingscentrum, n.d.-i).

These examples from our history shows us the flexibility we as humans have had when it comes to our ever-changing diet, which adapts to different circumstances. It also explains the feeling of luxury that surrounds meat and dairy products, as these products were not accessible to everyone for a long period. The push to make meat more accessible towards a larger population, in order to emphasize economic welfare, has had big implications for our current food system.

3.2 Current status of the protein transition

Even though meat has only recently started to play a significant role in our diet, due to the impact of meat and dairy consumption on the planet, people, and animals, the urge for a transition (back) to a more plant-based diet is already here. Vegan and vegetarian diets are making a 'comeback', and the protein transition is introduced:

"Shifting our collective diet from mainly consuming animal proteins to focusing more on plant-based proteins." (Weinrich, 2018)

3.2.1 Current animal protein consumption

The average protein intake for men in the Netherlands is approximately 90 grams per day, while women consume around 69 grams (Rijksinstituut voor Volksgezondheid en Milieu (RIVM), n.d.). It is generally recommended that men aim for a minimum of 70 grams and women can lower their intake to 60 grams per day (see figure 16) (Voedingscentrum, n.d.-b). Therefore, even when not distinguishing between animal or plant-based proteins, an overall reduction in our protein consumption does not appear to have any adverse health effects (Brendel, 2023).

At the moment, 61% of the protein intake of a Dutch diet consists of animal protein and 39% is plantbased (see figure 17). The proteins from animal sources do not only come from meat, but also from milk and eggs (Voedingscentrum, n.d.-e; Brendel, 2023).

In 2021 our total meat intake was 76,1 kg* per capita in the Netherlands (Dagevos et al., 2022). According to the RIVM, the consumption of dairy products is on average 338 grams per day, 123,4 kg per year. Milk is by far the most popular, followed by yogurt and cheese. These figures do not include eggs or dairy that are used in cakes, pastries and desserts, for example; the actual amount is therefore higher (Rijksinstituut voor Volksgezondheid en Milieu, n.d.).

3.2.2 Ignorance towards consumption

Over the years, talk about reducing our animal protein intake has become more mainstream. This is reflected in the number of self-proclaimed flexitarians** in the Netherlands, rising from 14% to 43% in 8 years (2011-2019) (De Waart, 2020). Surprisingly, this change does not translate into a significant decrease in the amount of consumed meat, which was 78.2 kg* per capita in 2011 and only went down to 77.8 kg* in 2019 (Dagevos et al., 2022). This mismatch could be due to consumers wrongly estimating their own consumption; they may have an overly optimistic view of their consumption, including ignorance towards portion size. Consumers often eat one meat-free day but then consciously or unconsciously eat extra meat the next days, as if to compensate or even reward themselves. Lowering their communicated estimated meat consumption could also be a result of wanting to give a socially acceptable answer.

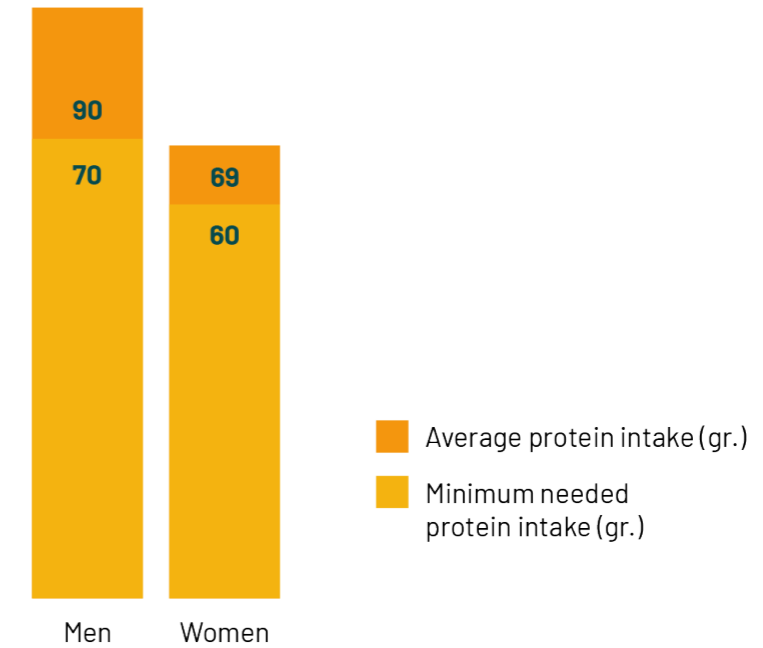


Figure 16: Dutch protein intake (Rijksinstituut voor Volksgezondheid en Milieu (RIVM)) and needed intake (Voedingscentrum, n.d.-b)

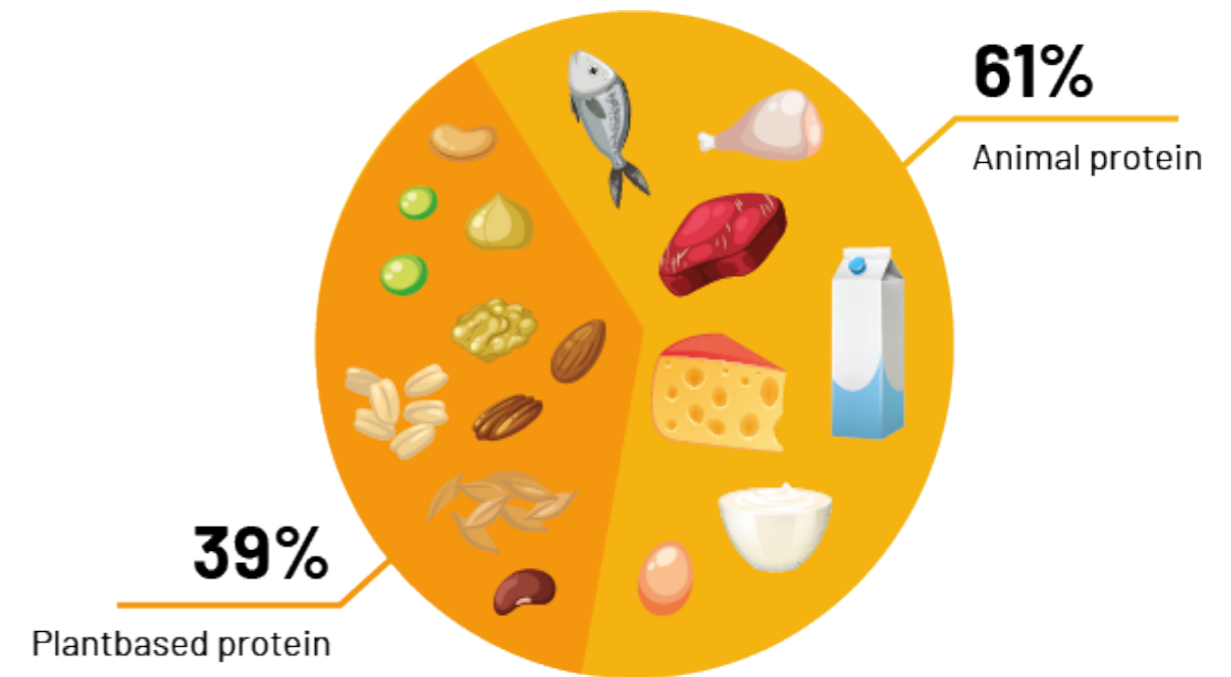


Figure 17: Current ratio animal based and plant-based protein (Voedingscentrum, n.d.-e; Brendel, 2023)

* Carcass weight

** Consumers who consciously consume less meat



Figure 18: Advertisement on meat (ANP, 2016; Productschap Pluimvee en Eieren, 2008)

3.2.3 Shared responsibility

Many advocates of the protein transition point to the government to take action in reducing our consumption of animal-based proteins. Research shows that increasing meat prices is a highly effective method to decrease meat consumption (Vellinga et al., 2022; Smit et al., 2023; Vergeer et al., 2020). Therefore, there is a lot of discussion about implementing a meat tax to accelerate the transition. However, in general, many political parties are reluctant to consider a meat tax, often stating that consumers should have the freedom to decide how much meat they eat and expressing concerns about potential increases in grocery costs (Smit et al., 2023) (NOS, 2022).

When placing the responsibility on the consumers, it is important to consider the influence the meat industry has on consumer behavior. Our food choices are often greatly shaped by our environment, even without us noticing it (Smit et al., 2023). The meat lobby has made significant efforts to promote meat to the public, and years of advertising have established meat as the norm (see figure 18) (Psihoyos et al., 2018). Meat is now presented to us in large portions, while vegetarian and vegan options are often portrayed as lacking something.

The government does not deny the influence of the industry. Even though the responsibility is mostly put on the consumer, the Dutch cabinet emphasizes that supermarkets, catering services, and the food industry should also “take their responsibility” and make it easier for consumers to choose sustainable and healthy food (NOS, 2022). Rules and regulations to encourage this are rarely implemented. The first step is taken in Haarlem by placing a ban on meat advertisements.

The considerable amount of waiting and finger-pointing does not benefit the transition, as the responsibility is shifted from one party to another.

3.2.4 Strategies towards change

Multiple strategies to enhance this transition are used, approaching the transition with different mindsets and placing the context into different frames. To distinguish the different currently used approaches, Peeters et al. (under review) analyzed interventions aimed at consumers that currently foster the protein transition. Eight design frames were defined, each frame consisting of a societal issue, a behavior change mechanism, and a worldview. These frames give an overview of the currently used approaches to foster the protein transition.

- **Sustainable Doppelgangers**
Supporting existing consumption patterns with a convenient, sustainable alternative.
- **Silent Steering**
Supporting consumers discretely with responsible choice architecture.
- **Gentle Guidance**
Giving the conscious consumer a helping hand.
- **Be the Transition**
Showing everybody can be a changemaker, by joining a movement.
- **Shifting Meaning**
Celebrating plants as meaningful and appealing sources of protein.
- **Cracking the Discourse**
Challenging the status quo through public provocation.
- **Changing the Rules of the Game**
Modifying food supply through coercion and regulation.
- **Beyond the Anthropocene**
Restoring our connection with nature, through alternative food networks.

The shift is currently dominated by the ‘Sustainable Doppelganger’. By mimicking what people are familiar with, consumers don’t have to adjust to a new diet; the manufacturer takes care of it for them. However, there are a few downsides to this approach. Firstly, it is important to note that not all imitation meat or dairy products are healthy, as they often contain high levels of salts and saturated fats and may sometimes lack necessary proteins (Cammelbeeck, 2020). Additionally, the production of these protein substitutes is less environmentally sustainable compared to unprocessed plant-based protein sources.

Another drawback of this frame is that it stimulates the continuation of a high consumption pattern, something that, in general, has a negative impact not only on this transition but also on other societal and sustainable transitions.

Until recently, an additional drawback was the high price consumers had to pay for meat and dairy imitations (Van Aart, 2022). In the last year, prices have come close to each other (Pablomoleman, 2022). However, the general public still feels like these alternatives are far more expensive.

Notable in these design frames is the fact that the current interventions focus on consumers who are willing and able to make a change. Few interventions take into account consumers with little financial, physical, or cognitive room to change their diet, thereby contributing to inequalities that can be found in the food systems and translate into health inequalities. Only interventions that fit ‘Silent Steering’ and/or ‘Changing the Rules of the Game’ have the potential to support this group within the protein transition.

3.3 Resistance towards the protein transition

As stated before, animal proteins are currently considered to be important in our Dutch diets. Meat plays an important role in many traditional Dutch meals. There's no 'erwtensoep' without 'rookworst' and no gravy without a meatball. Our cheese is not just something we eat, but also something we share with the world and are internationally known for. These animal proteins play a big part in our lives, which is why you can find quite some resistance in the transition to replace animal-based proteins with plant-based proteins in the Netherlands. Verain and Dagevos (2023) show in their research that 10% of the 2000 participants showed resistance towards reducing the consumption of animal proteins, especially meat consumption, which is often a big part of people's cultural and social life. The norms and habits surrounding the consumption often prevent meat reduction, as well as the 'positive' associations that still come with eating meat: status, welfare, and masculinity (Lentz et al., 2018).

In the meat consumer segments of Verain et al.'s (2022) study, the most resistance against meat reductions can be found in the 'Compulsive meat consumers' segment. This 15.6%, with a majority of males, has a high need for meat, low appreciation for meatless meals and low personal norms towards reducing meat consumption. This group shows affinity and feels hedonic when eating meat. For them, meat is something they depend on. But what makes people react so strongly when others talk about reducing the consumption of animal proteins, even when aimed at them?

3.3.1 Cognitive dissonance

When discussing meat consumption, the "Meat paradox" is often mentioned. This refers to the inconsistency that arises when people hold negative feelings toward the impact of meat consumption on health, the environment, and animal welfare, but they do not reduce their meat consumption (Loughnan et al., 2014). This mismatch, or inconsistency, between behavior and moral goals creates cognitive dissonance, a friction within oneself. It can happen when someone finds chickens to be admirable animals but still goes to KFC after a long night, or when they watch news about climate change with horror while having an 'uitsmijter' for lunch. This feeling is usually triggered when being confronted with the inconsistency, such as when being in the company of a vegetarian or vegan. People often feel that it is important to be considered morally good, both by themselves and by others. When someone clarifies that they have changed their diet because of a moral argument, it can feel like an attack if others have not made the same decision and may cause them to doubt their own moral choices (Kranzbühler & Schifferstein, 2023).

When experiencing this dissonance, one must find a way to alleviate the uncomfortable feeling. This can be achieved by changing behavior, such as finding something else to eat while watching the news. Adjusting behavior to the moral goal helps restore a positive self-image. However, when changing one's behavior turns out to be difficult, another scenario can occur. Instead of trying to restore dissonance between attitude and behavior by changing behavior, individuals may change their attitude to protect their self-image. This can lead to avoidance or ignorance of the subject (Kranzbühler & Schifferstein, 2023). The topic may be avoided, arguments to quit consuming animal proteins may be downplayed, or these arguments may be justified by other (consonant) thoughts, all of which serve to diminish the inconsistency.

These protective reactions can cause friction when in contact with a vegetarian or vegan. This may result in avoiding interaction with them or feeling frustrated by them, both of which create an emotional gap between the two (Cramwinckel et al., 2013; Kranzbühler & Schifferstein, 2023).



Figure 19: Cognitive dissonance (Versus the Machines, n.d.)

3.3.2 Pro animal protein arguments

Multiple justifications are used to explain the consumption of meat and dairy and to resolve cognitive dissonance by protecting one's self-image. The most well-known are the 4 N's (Piazza et al., 2015; Collier et al., 2022):

Natural: Arguments focused on biology, biological hierarchy, natural selection, human evolution, or the naturalness of consuming animal proteins.

*"It is natural for humans to eat meat"
"Humans are carnivores."*

Necessary: Arguments focused on the necessity of animal proteins for survival, strength, development, health, animal population control, or economic stability.

*"We need meat to survive"
"Our bodies need animal protein."*

Normal: Arguments focused on dominant societal norms, normative behavior, historical human behavior, or socially constructed food pyramids.

*"I was raised eating meat"
"I can't be so bad if everybody does it"
"It's part of our culture."*

Nice: Appeals to the tastiness of animal proteins or that it is fulfilling or satisfying.

*"It tastes good"
"A BBQ is not fun without meat."*

In addition to these, other arguments that often appear are (Piazza et al., 2015):

- Focused on the 'humane' nature of the meat and dairy industry:

'This is a happy cow.'

- Focused on religion:

'God provided them for us to eat.'

- Focused on freedom of choice:

'I'm free to eat whatever I want.'

- Focused on availability:

'This one is already dead, so I better eat it.'

- Not taking responsibility:

'I'll leave that for the next generation to solve.'

- Disassociating cause and effect:

'Plant-based diets are even worse for the environment; we better focus on the fashion industry.'

- Attacking the messenger:

'But you still go by airplane, right?'

Most of these arguments are focused on protecting someone's self-image when feeling cognitive dissonance. They don't foster a rational conversation on the consumption of animal protein but have more of an emotional feel to them. More rational or practical arguments against the protein transition are often based on:

- **Lack of knowledge:** People are not aware of the impact on the environment and health (Bos, 2021; Verain et al., 2022).
- **Lack of skill:** People don't know how to make plant-based food (Graves & Roelich, 2021).
- **Price:** People assume eating plant-based costs more money.

- **Habit:** People are used to eating meat and have a hard time changing their diet even when the willingness is there (Graves & Roelich, 2021).
- **Lack of social support:** A lack of social support can make the transition more difficult, especially when it comes from people you share meals with (Bos, 2021).
- **Lack of concern:** People don't worry about the environment, animal welfare, or their health.

These arguments are easier to solve by focusing on providing information and education. Nonetheless, before these steps can be taken, the protective line of defense caused by cognitive dissonance needs to be broken.

Conclusion

In order to reduce the negative impact our food system has on our health, environment, animal welfare and agricultural economy, it is necessary to reduce our animal-based protein consumption.

Within the Netherlands the resistance towards the protein transition is significant. Over the years, various efforts have been made to foster this transition. The most dominant strategy being the creation of convenient and sustainable alternatives to animal protein, such as vegan hamburgers.

Despite these efforts, there are still people who either can not or refuse to join the transition. To enable this group to join the transition, the unwillingness cannot be underestimated. People who experience cognitive dissonance react by avoidance, ignorance or use other arguments to justify their behavior, are hard to convince. For this project, it is important to keep in mind that the resistance is often led by this discomforting feeling and that needs to be taken into consideration when looking at ways to change behavior. Chapter 4 addresses the various types of resistance examined in behavior change theory and explores diverse strategies to address and overcome them.

CHAPTER 4

RESISTANCE

This chapter describes the impact resistance has on our decision-making, elaborates on three different forms of resistance, and discusses different approaches to endorse behavior change by dealing with these resistances. The gathered insights will contain potential strategies that can be implemented in my design.

Chapter overview

- 4.1 Different forms of resistance
- 4.2 Reactance
- 4.3 Skepticism
- 4.4 Inertia



Figure 20: Resistance (Tyson, 2019)

4.1 Different forms of resistance

Decision-making is not only led by the advantages of a certain direction. Reasons for choosing a direction are always accompanied by the reasons not to choose that direction. A persuasion attempt can be done by increasing the attractive features of an alternative (Alpha strategies), or decreasing the negative features of the alternative (Omega strategies)(Pratkanis, 2011).

Resistance is a key element in the persuasion process. Three different sources of resistance that hinder persuasion and change are identified (see figure 21) (Pratkanis, 2011):

- **Reactance**
The resistance towards an influence attempt.
- **Skepticism**
The resistance towards the proposal.
- **Inertia**
The resistance towards change.

These three forms of resistance are described in more detail in the following sections.



Figure 21: Different forms of resistance

4.2 Reactance

Reactance is often triggered by the feeling of being limited in your freedom of choice and losing autonomy. This produces motivation to resist the influence attempt and thereby try to restore the endangered freedom. This leads to the opposite behavior of what was requested and an emotional reaction that does not allow rational reasoning to reduce the resistance (Croonen & Luesink, 2022). There is a general feeling of not wanting to be influenced and strong distrust of sources (de Vries, S. & Mulder D. (D&B), personal communication, 26 January 2023).

Two factors that contribute to reactance are:

- The **nature of the threat**: the resistance intensifies when the threat is direct, compulsory and arbitrary, while diminishing when being subtle, collaborative, indirect, or justified.
- The **nature of freedom** influences the resistance; it will be stronger when freedom is of greater importance. Since our food preferences are intertwined with our identity, habits, memories, culture, and personal preferences, the importance of freedom in picking what you eat is high.

Some approaches that could help when dealing with reactance are (Van Grinsven, 2022; Pratkanis (2011)):

Focus on what options are acceptable

When trying to convince people to reduce their animal protein consumption, do not focus on what they can not eat, but focus on what they can consume.

Create freedom of choice: provide options

You can provide multiple options that all in a way lead to the desired behavior. This way, people still make their own choice, which makes them feel autonomous while still achieving the goal. Creating freedom of choice triggers the automatic reaction of making a choice, while accepting provided options. When making a choice, our commitment towards this choice rises (Croonen & Luesink, 2022).

Depersonalize the Request

An effective way of minimizing reactance is by making the request less personal. Depersonalizing can be done by disowning the authorship ('It is management's policy') of a request or highlighting the general nature of the request ('It is the same for everyone').

Altercasting

Before focusing on the change, place someone into a respected, social position that they would like to be in. For example, 'You look like a respectful guy, you probably don't mind if we eat vegetarian today.' This way, you can connect this positive role with (being open to) the change.

Redefine the Relationship

Reactance can be reduced by minimizing the 'being influenced' aspect of the relationship. Do not let someone feel like they are being influenced. It often helps to emphasize the mutual and common goals of a communal relationship and focus on a continuing relationship instead of a one time thing.

Acknowledge the resistance

The acknowledgement of resistance and showcasing your compassion towards someone's resistance, can lead to a reduction of the resistance.

Look at trustworthy messengers

Communicating the message through a trusted source might take away some of the reactance and allow this trustworthy messenger to have a rational conversation.

Minimizing the request

You can minimize resistance by minimizing the request. Starting with small changes in someone's behavior can lead to more possibilities further along the way. It's easier for people to implement incremental changes (do a little bit more) than abrupt changes (do something different). Since people want to stay consistent, their commitment to a small change can also lead to a commitment to a larger change, a technique also known as the foot-in-the-door technique.

4.3 Skepticism

Skepticism is a form of resistance that is content-focused, but is not fully driven by rational arguments and heavily influenced by associated negative emotions. When experiencing skepticism, people are skeptical, don't trust, or doubt the information. Three factors influence skepticism:

Rational evaluation: making a direct, careful, rational analysis and developing counter arguments based on beliefs, experience, and knowledge.

Heuristic evaluation: forming a judgment based on salient indirect information like contextual associations or signs of quality, such as an attractive spokesman or the usage of difficult words.

Reflective evaluation: including the process of evaluating made decisions and making corrections to compensate for hindrances or biases. If people have shown resistance towards a message, they become more certain of their choice.

If these features are evaluated negatively, resistance is the outcome.

Arguments are not always the answer in dealing with skepticism, some approaches that could help when dealing with this are (Pratkanis, 2011):

Guarantees

The most effective strategy to deal with skepticism is identifying the main source of resistance and providing a guarantee that will take away this problem.

Reframing

Options are often considered through a single frame of reference. When a new meaning is cast towards an alternative, it can shed a different light on the option.

Changing the comparison

Every judgment involves a comparison. It's often easier to change the decision by adjusting the comparison than adjusting the offer.

Changing the time frame

Events in the more distant future go along with more abstract thoughts, while things in the more immediate future are thought of in a more detailed and functional way. When people like the idea but are concerned about its implementation, it often helps to extend the time frame.

4.4 Inertia

The final form of resistance is inertia, the desire to not change. It has little to do with the proposed change but is caused by endorsing the status quo. Its goal is to avoid disruption and preserve energy by sticking to what is known. It often shows in passivity, avoidance, or disengagement. The proposal is rejected solely on the fact that it proposes any form of change; the reasons, logic, or justifications behind it are not taken into consideration. Alternatively, the consumer may

agree with the proposal to change but does not actually make the change. This resistance is often created by insecurity about how to achieve this change (Croonen & Luesink, 2022).

Pratkanis (2011) describes the following approaches to deal with inertia:

Disrupt inertia

Inertia can be disrupted by something unusual or confusing. When the old way of doing things is distorted by an unfamiliar action, a new understanding emerges of the way we are used to doing things.

Increase Self-Efficacy

Inertia can be caused by fear of making choices, the unknown, or transitions. A boost of confidence can, therefore, help by, for example, providing people with a successful experience or the belief that they can do it.

Conclusion

This chapter describes different forms of resistance that can be found when looking at changing behavior. Within the design process of this project, distinguishing the different types of resistance will be the first step in overcoming the resistance. Which resistance type will be triggered needs to be examined and considered when looking at the potential solutions. The different insights on how to overcome resistance in different forms contain potential strategies that can be used in the design.

CHAPTER 5

TARGET AUDIENCE: LOW SOCIO-ECONOMIC POSITION (SEP)

This chapter focuses on gathering insights on the target audience. The target group for this project is people with a resistance towards reducing animal protein consumption, especially people with a low Social-Economic Position (SEP). Chapter 4 elaborated on resistance, while this chapter focuses on people with a low SEP. The goal of this chapter is to get to know this group, their eating habits, characteristics, and values. It will also acknowledge the obstacle of creating resonance with the target group. These insights will help to create a more fitting design for the target audience.

Chapter overview

- 5.1 Health inequality through food
- 5.2 Eating habits
- 5.3 Making changes
- 5.4 Reach and resonate

5.1 Health inequality through food

About 30% of the Dutch population is considered to have a low Social-Economic Position (SEP) (De Hollander, 2019). A socioeconomic position refers to the position an individual or group holds within a hierarchical social structure based on their access to create or consume valued goods (Miech & Hauser, 2001).

This position is often determined by three indicators (Shavers, 2007):

- **Education:** based on amount of educational years, highest educational level or highest achieved diploma's
- **Income:** based on e.g. personal yearly income or income of a household
- **Employment situation:** based on e.g. professional level, working environment

Numerous studies have shown differences in health when comparing people with low and high SEP. A higher income or education leads to a higher and healthier life expectancy (Pharos, 2023). Multiple reasons can be considered for these differences, but an essential factor is nutrition (Meeusen et al., 2010). Bourdieu (1979) demonstrated that income level has a direct effect on the type of food consumed. It has been found that low-educated people eat less healthy than their highly educated counterparts. For this project, it is particularly important to state that people with a low SEP consume considerably more meat and are less motivated to reduce their meat consumption (Hulshof et al., 2013; Geurts & Van Rossum, 2015; Bos, 2021). Consumers with a low education consume more protein in general, especially more animal protein, see figure 22.

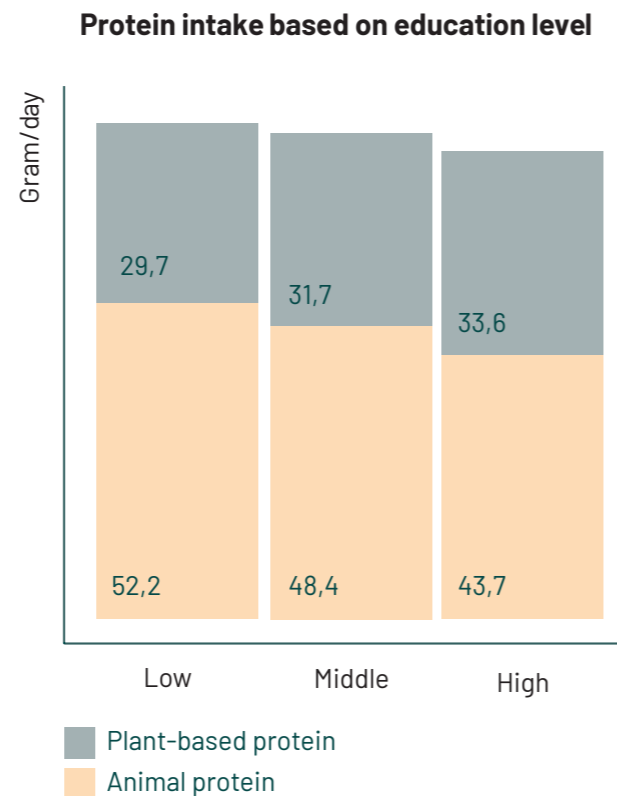


Figure 22: Protein intake based on education level (Rijksinstituut voor Volksgezondheid en Milieu, n.d.)

5.2 Eating habits

Meeusen et al. (2010) found a few factors that influence the choice of food for people with a low SEP:

People attach little value to (healthy) food

People attach little value to food in general, but the most valued asset of food is the taste. People mostly like food because they enjoy the flavor. However, a smaller group does place value on the functional aspect of food, viewing it primarily as an energy source.

People have little knowledge on nutrition

The target group has less access to information on nutrition or are less effective in processing this information into action. Next to that, people deem to know enough about nutrition and are not eager to learn more. Most knowledge they have is based on what they learned at home, or is sometimes found online.

People believe that healthy and plant-based food is pricey (Van Loo et al., 2017)

Many people in this group perceive healthy and plant-based food as expensive. The price and brand trust are significant factors that influence their food choices.

People receive little support from their surroundings when it comes to healthy and more plant-based food choices (Jabs et al., 1998)

People in this group often receive little support from their surroundings for healthy and more plant-based food choices. Women with a low SEP, in particular, may face negative reactions when they introduce a vegetarian meal.

People experience stress and negative emotions

People with a low SEP have a lot of things on their mind, which can influence the eating habits of this group. The effect is different from person to person, it can either increase or decrease someone's appetite.

People live a busy lifestyle

People's busy schedules can result in not prioritizing food. They often eat irregularly, skip breakfast, or pick something that is easy to make. This also results in people eating alone more often.

Meeusen et al. (2010) describe that the context in which people with a low SEP consume food is different. They more often eat in front of the TV, mostly to relax but can also have more practical reasoning. Some people don't have a table or notice that the children are distracted enough to not complain about the food.

5.3 Making changes

Next to factors that specifically influence the food consumption of people with a low SEP, some other characteristics of this group are of importance during this project. Especially characteristics that can influence their ability and willingness to change.

Multiple problems

People with a low SEP often have multiple problems to deal with. These problems take a lot of mental space, limiting available space to change behavior and therefore diets (Meeusen et al. 2010)

Short term focus

Sheehy-Skeffington (2020) shows that the scarcity of resources, unstable environments and low subjective social status of people with a low SEP leads to a focus on immediate needs. These more urgent matters prevent them from making decisions that are focused on long term goals.

Resistance

People with a low SEP more often feel resistance toward (government) institutions or science than people with a higher SEP. They are less likely to listen to the advice given by these sources (Van Meurs et al., 2022). This could be influenced by the fact that the credibility of a source is determined by perceived expertise and trustworthiness (Kranzbühler & Schifferstein, 2023). There is also a feeling of being impotent when it comes to politics, people feel like they do not have a say, which creates a bigger gap between the people with a low SEP and politics (Meeusen et al., 2010).

Lower Health skills

To change behavior that regards people's health, information needs to be gained, understood, judged and applied to make decisions. People with a low SEP often have a harder time with these steps. (Sørensen et al., 2012).

5.4 Reach and resonate

The low SEP group is often seen as a tough group to reach and include when it comes to (health) interventions. This chapter looks at a few approaches that can help.

5.4.1 Reaching the target group

Step into their world

Try to step into their world. This makes the contact accessible and leaves people in their trusted environment (Pharos, n.d.). When looking at the three indicators that are used to define this group, asking the following questions can present ways to connect with this group.

Income

- What organizations are already helping people who struggle with their strict budget? (e.g. debt counseling, Food bank, organizations that offer free meals)
- Where can you find the cheapest groceries?
- Where do people with a low income live? Can they be reached through social housing?
- Where can you find free or cheap activities? (e.g. community center)
- Where can you find free or cheap products? (e.g. Facebook marketplace, Marktplaats)

Education

- What jobs are available to individuals with low levels of education? Can we reach this group through their employer?

Employment situation

- Where do unemployed people typically search for work? (E.g. online, advertisement board in the supermarket)

Trustworthy connector

Another approach is to find someone who is a central and trusted person within a community of people with a low SEP (Pharos, n.d.). Since people are often focused on their local surroundings (Van Meurs et al., 2022), it's advisable to focus on a central person within, for example the neighborhood. This could be someone who helps at the local community center, organizer of local activities or just a friendly neighbor.

5.4.2 Resonate

Broomfield et al. (2021) identified three main themes that were instrumental in engaging parents with a low SEP in mental health interventions. These themes can be extrapolated and applied to this particular domain when looking for ways to make interventions resonate with the target audience:

The belief in the intervention's potential for positive change for oneself or one's family

Individuals may not always recognize the need for an intervention or have a limited understanding of its benefits. To enhance perceived effectiveness and relevance, the use of user endorsement has proven effective. Professional endorsement and empirical support also contribute to this perception. Clearly articulating the benefits and aligning program content with their specific needs further reinforce the intervention's relevance.

Belief in one's capability to implement change

Individuals may doubt their ability to make changes. It is crucial to foster confidence in users, showing that they can adequately engage with the intervention. Communicating through

simple, easy-to-understand language that matches their communication style, employing visual communication techniques (Pharos, 2022), incorporating inclusive imagery, translating content, and adapting digital materials for those who are less digitally proficient are effective strategies.

Fit within one's lifestyle

The intervention should be convenient, affordable, and flexible, so it can be seamlessly integrated into participants' lives. It is important that individuals feel the program does not disrupt their existing obligations and demands. The intervention should have minimal barriers, addressing language barriers, physical distance, financial constraints, and complicated registration procedures (Nagelhout, 2021). Reducing the required engagement time with the intervention is also helpful.

When striving for behavior change, it is essential to involve the target group in the development of the intervention. This ensures that the intervention is tailored to their specific circumstances (Pharos, 2022). Furthermore, it is advisable to employ a multi-faceted approach with multiple interventions complementing each other (Beenackers et al., 2015).

Conclusion

This chapter emphasizes the importance of including consumers with a low SEP in the protein transition. The insights provide an understanding of the barriers encountered when trying to include consumers with a low SEP in the protein transition. They often lead busy lives with multiple issues that require attention, leaving little room to consider significant changes. In particular, when it comes to changing their diet, multiple barriers can arise. People may not see the value in making changes due to the low priority they assign to food, or they may lack the knowledge, support, and/or abilities needed to make changes. When designing for people with a low SEP, it is important to consider their circumstances. This chapter also describes different methods that help reach, communicate with, and resonate with the target group. Here, the emphasis lies on the importance of understanding the world in which people with a low SEP live and meeting them where they are.

These insights will assist in finding a suitable approach to engage the target group and provide potential strategies for my design.

CHAPTER 6

FIELD RESEARCH

As mentioned in Chapter 5, an important step in designing for people with a low SEP is to gain a clear view of their world. This can help ensure that the intervention fits their habits, values, and needs. To gain these insights, a crucial step is to get a sneak peek into the world of consumers with a low SEP by moving from desk-based to field research.

Chapter overview

- 6.1 Goal
- 6.2 Approach
- 6.3 Main insights

6.1 Goal

The goal of the field research is to gain insights that will help make the intervention fit the world of the target audience. To achieve this, six main topics were set up.

1. The context of food choice.
2. The context of food consumption, especially animal proteins.
3. Food identity: What role does food play in your life?
4. New eating habits.
5. General values.
6. Reliable sources.

Topics 1 to 3 mostly focus on the context of food consumption, a context in which the intervention will exist. Topics 4 to 6 are also focused on gaining information about different ways in which behavior might be changed. Specifically, Topic 4 examines someone's experiences with changing diets, while Topics 5 and 6 aim to gain an understanding of how the intervention can align with people's values. Additionally, they provide insights for behavior change approaches such as altercasting or trustworthy messengers (see Chapter 4).

6.2 Approach

This field research consisted of three steps: street interviews, expert interviews, and target audience interviews (see figure 23).

The street interviews were conducted to quickly gain a first impression and talk to a relatively large number of people about the research topics. The purpose of the street interviews was to gain some basic knowledge on the aforementioned topics and take the initial step into a part of the context, the supermarket. With these insights, sharper interview questions could be formulated for the rest of the field research.

The expert interviews were set up to engage with professionals experienced with the target group in the context of food consumption. The goals of the expert interviews were to gain insights into the aforementioned topics and also to establish a means of getting in touch with the target audience and immersing into their context. Different organizations that were already in contact with the target audience were approached, especially those that, in some way, were involved in the context of food consumption for the target audience.

The target audience interviews represented the last and most crucial step of the field research. Some participants were approached through the aforementioned experts, while others were approached through their daily activities such as work or education.



Figure 23: Different steps in field research

6.2.1 Street interviews

Four different locations where people can buy food, either supermarkets or markets, were selected for the street interviews. These locations were chosen based on the likelihood of finding and engaging with the target audience.

The first location was Albert Heijn in Winsum (Groningen), primarily selected due to its non-urban setting. Van Beuningen (2021) demonstrates that people living in cities are more likely to reduce their meat consumption compared to those living in non-urban areas.

The other locations were chosen based on their neighborhoods, specifically neighborhoods with a high percentage of people with a low SEP (CBS, 2019). Please refer to figure 24 for the different locations.

The street interviews were short, semi-structured interviews that had a duration of between 2 to 15 minutes, depending on the willingness of the participants. The questions were based on the six research topics mentioned earlier, with a greater focus on the first four due to time limitations of the interviews. Additionally, some questions were added to gain insights into the extent to which people were part of the target group, either because of their resistance towards the protein shift or their low socioeconomic position. The interview questions can be found in Appendix B.

6.2.2. Expert interviews

Experts from four different locations were interviewed:

- Volunteers at two organizations (Pauluskerk & Gaarkeuken) that offer free or very cheap meals for those in need.
- Volunteers at an organization (Voedselbank) that offers free groceries for those in need.
- Two Dietitians from a Revalidation centre.

Please refer to Appendix D for more detailed information about the different locations and experts.

The interviews were semi-structured, conducted on-site, and had a duration ranging between 30 to 100 minutes, often including a tour of the location. The questions were customized according to the type of location and the expertise of the individuals interviewed, and they can be found in Appendix C.

Albert Heijn
Winsum, Groningen



Lidl
Voorhof, Delft



De Haagse Markt,
Schilderswijk, Den Haag



Binnenrotte Centrummarkt
Blaak, Rotterdam



6.2.3. Target Group - In depth interviews

Participants

The recruitment of participants was mostly done through organizations that are already in contact with the target audience. These organizations had often gained the trust of people, making them more open towards the interview. Additionally, the organizations often had an idea of the food consumption habits of people and could identify individuals who may have a harder time letting go of animal proteins.

Approach

Originally, the plan was to apply Context Mapping as a research approach (Sanders & Stappers, 2013) by using sensitizing material as preparation for the semi-structured interview. This approach allows the participants to gain awareness of their own context surrounding food consumption beforehand. However, since most participants were contacted on-site, the material could not be sent out beforehand. Instead, the material was adjusted to function as probes during the conversation*.

Probe materials

The probe materials used were created to help the participants express their habits, emotions, and values while making use of the 'path of expression' (Sanders & Stappers, 2013). This approach aims to lead people first to think about the present, then to focus on the past, and eventually to be able to imagine the future. The probe material consisted of a booklet with questions on 7 themes**: Introduction, food identity, food consumption, the context of consumption, new food habits, dream food consumption, and eating habits and values & characteristics.

Next to the booklet, the probe contained an emotional toolkit that included photos and words that could provoke memories or inspiration (Sanders & Stappers, 2013). The booklet and toolkit can be found in Appendix E and F.

Semi-structured interviews

The semi-structured interviews were set up to maintain a common thread in the different interviews while allowing exploration of interesting topics that were mentioned during the interview (Laurey, personal communication, March 2022). This approach helps gather comparable information from different participants and allows the conversation to delve into their world based on their answers, rather than being heavily influenced by assumptions that can be found in the questions.

The predetermined interview questions were ordered by the topics covered in the booklet and often provided more details on context, emotions, and values.

The interviews took 20 to 60 minutes, depending on the available time of the participant. All interviews were conducted in person at the location described earlier.

6.2.4 Data analysis

The collected data includes the filled-in booklets, written notes, and some audiotapes of the interviews. When analyzing the data, it was first organized based on the 6 research topics. Codes were generated, containing quotes, observations, themes, or insights. These codes were then clustered into main insights.

6.3 Main insights

The main insights gathered from the field research are communicated through a consumer's journey and insights per topic.

6.3.1 Consumer journey

When looking at the context of food choices and food consumption, it becomes clear that there is a difference between people who have a low education but don't live in poverty and people who have a low income and really have to watch all expenses. The differences can be seen in the consumer journeys shown in figure 26 and 27. Here, the gathered insights are visualized in a journey that shows the steps taken to get food on the table (or couch).

Low income

For people with a low income, see Figure 26, getting food on the table is often a puzzle. They rely on what the Voedselbank offers or which products are discounted. Even with these dependencies, they often have eating routines and mostly stick to the things they know. Taking a risk might mean ruining a costly meal and often costs more since they have to buy new ingredients. The food puzzle already takes a lot of time and energy away from these people, leaving them with no more energy to focus on changing their diet or thinking long-term in general.

Low education

The low education group often sticks to more traditional food consumption. Within this group, food culture plays a big role. People with a Dutch background often have a weekly schedule with a set meal per day, while other cultures, like Moroccan or Syrian, stick to their traditional meals but have more variation within these meals.

6.3.2 Insights per topic

In addition to the insights that are visualized in the consumer journey, the insights described on page 70 - 72 were gathered. They are structured into the themes described in section 6.1.

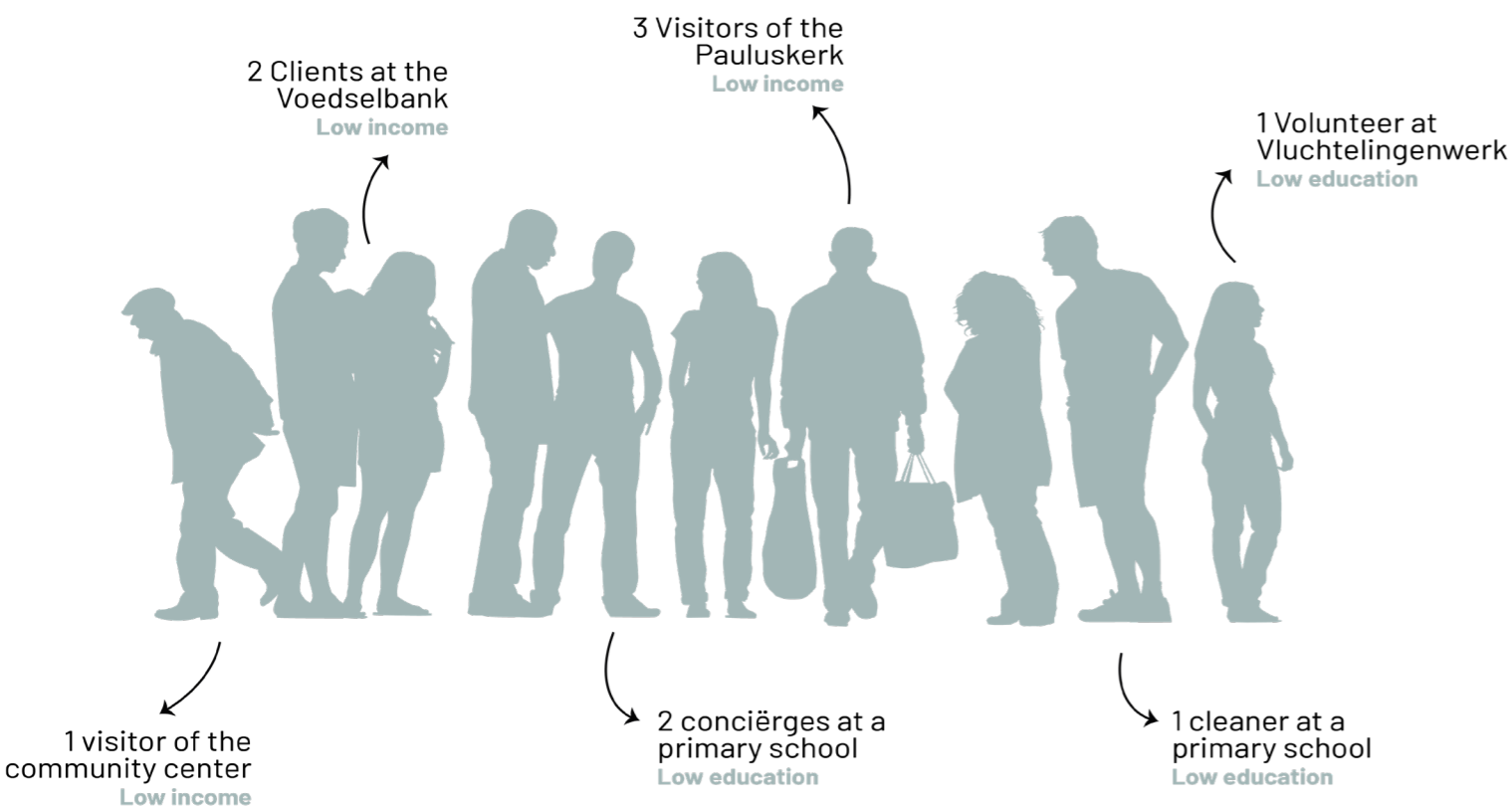


Figure 25: Participants of in depth interviews

*No probe material was used during the interviews at the Pauluskerk, mostly because the context didn't allow it.

** The booklet was updated throughout the process to be easier to understand for the participants and to better stimulate the conversation

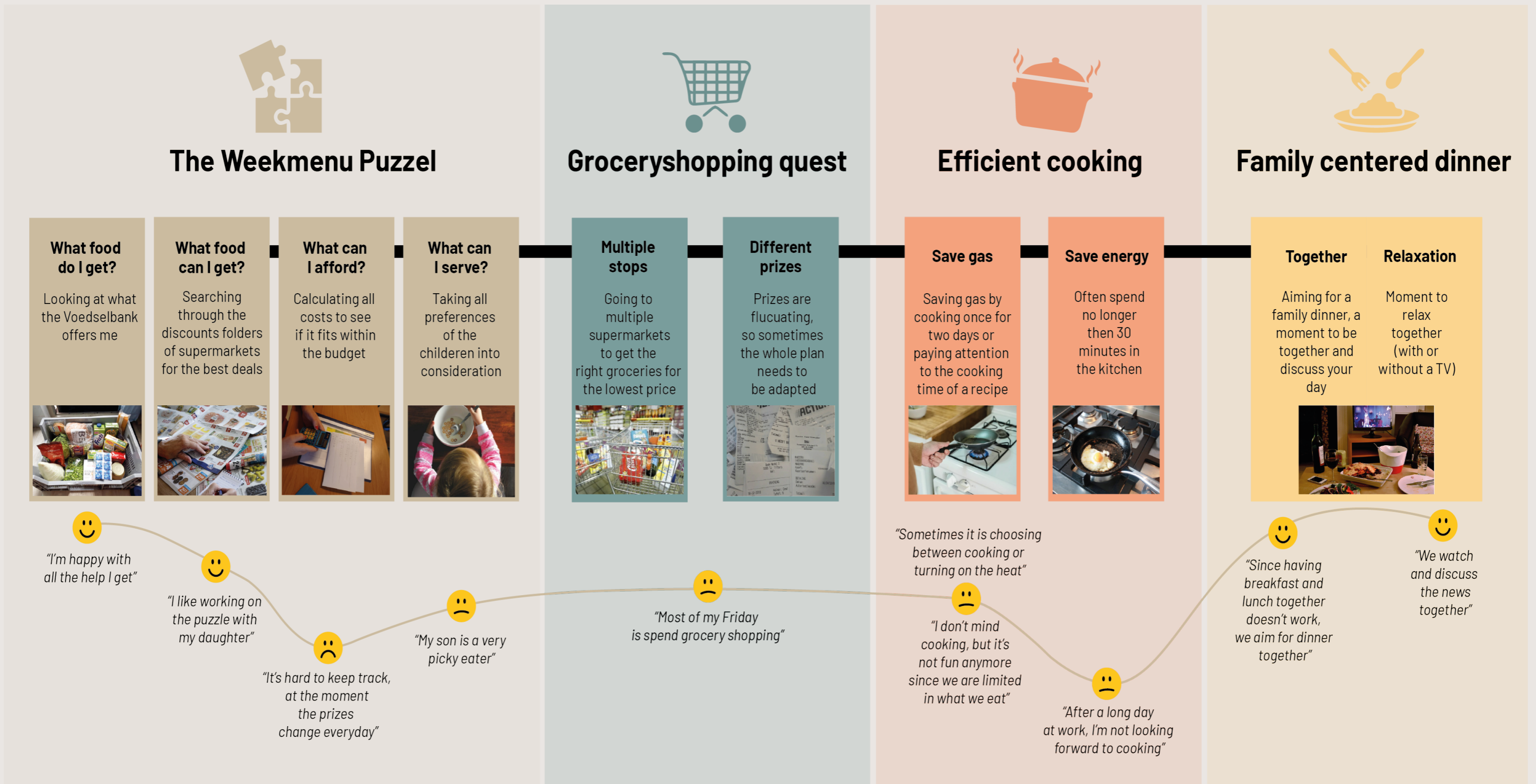


Figure 26: Consumers journey - Low income (Enjoy, 2021; ANP et al., 2022; De zevenster, 2022; De Leukste kinderen, n.d.; Frisart, 2020; Ahuja, 2022; Warcup, n.d.; MagnusD/creative commons, 2013)

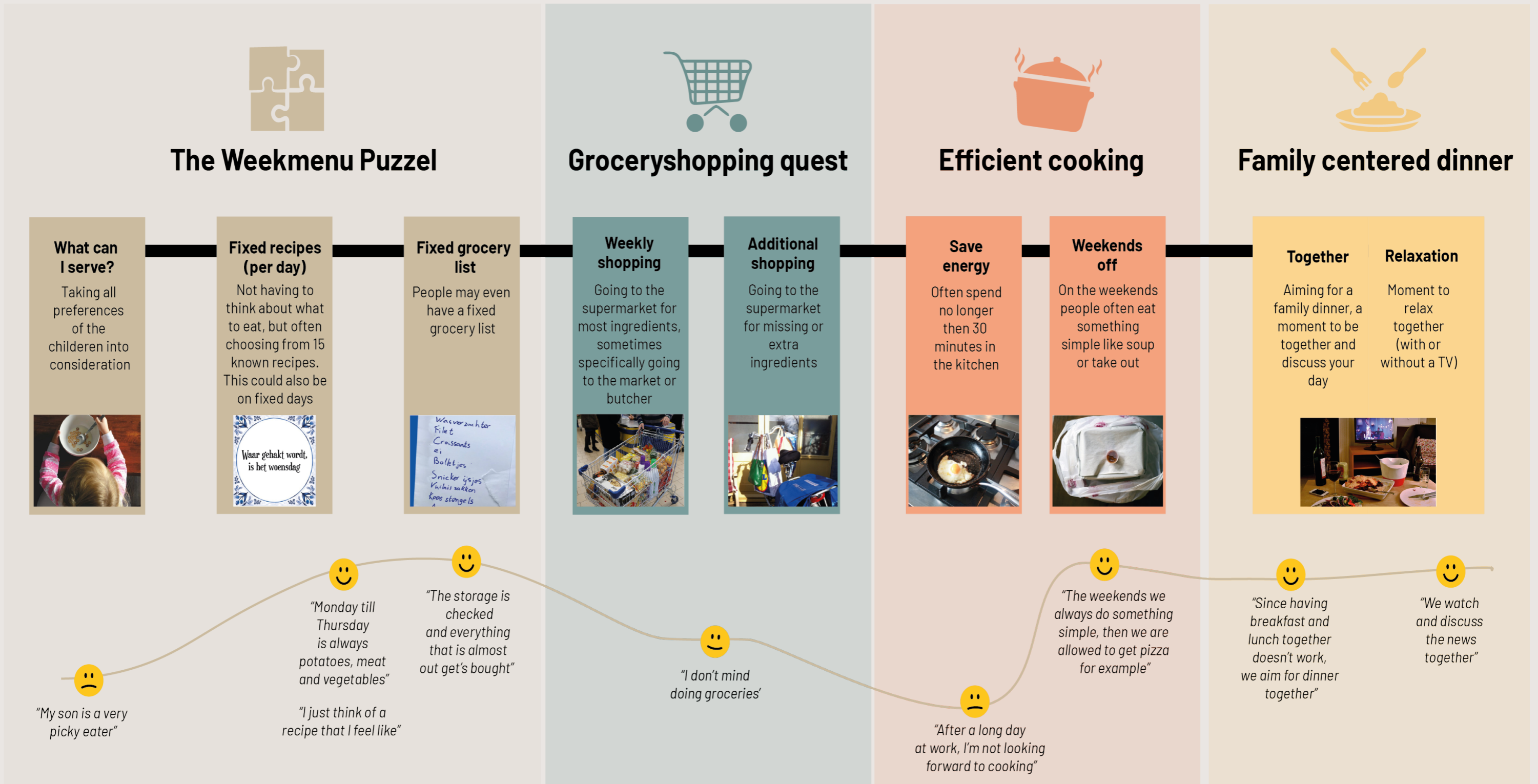


Figure 27: Consumers journey - Low education (De Leukste kinderen, n.d.; Tegelspreuken, n.d.; Van Den Ende, 2019; ANP, 2015; Boodschappen Doen Op De Fiets, n.d.; Warcup, n.d.; Chineest Eten, n.d.; MagnusD/creative commons, 2013)

Insights per topic

1. The context of food choice

Supermarkets have a big influence

Most consumers let the shelves and discounts of the supermarket inspire them. Especially when having a low income, the supermarkets really have a big impact on what you eat, since you are dependent on discounts and prizes.

"I look at the discounts"

"I'm going to eat pizza, but which one, I will decide when I'm inside"

The woman often decides what the family will eat, but partner and especially children have a big impact on what is eaten.

Even though women "officially" decide what will be served, they are often influenced by the food preferences of their partner and children. Moreover, children also have an impact on the ease with which the food should be made.

"When I come across something on Facebook, I think, 'Oh, I haven't had that in a long time,' and ask my wife to make it."

"Macaroni is convenient for the children."

2. The context of food consumption, especially animal proteins

Dirk is the most popular supermarket.

The Voedselbank keeps a close eye on supermarket prices to buy their additional purchased products as cheaply as possible. They mention Dirk as the cheapest supermarket. When observing the clients while they pick up the food, you almost exclusively see shopping bags from Dirk.

Company, especially family, is important during dinner.

Dinner is seen as a family event, and people try to eat together for at least one meal per day. It's seen as a moment when you can talk about your day or relax and watch TV. When no family is present, people will go look for company, even if it means they will have to accept a meal without meat. Not just eating the food together makes things more enjoyable, but also talking about food with others brings joy.

"We used to get a recipe with the ingredients from the Voedselbank, that was always really nice. The next week, you could discuss if the recipe worked out and if you liked it."

"I like working on the (weekmenu) puzzle together with my daughter."

3. The food identity: What role does food play in your life?

People with a Dutch heritage often see food as a sideshow, with meals often adjusting to fit people's daily schedule.

Meals are not always seen as a priority. Either breakfast or lunch is often skipped or squeezed in between activities, like having a quick bite in the car between work and picking up the children. Dinner is the most stable meal for most people, but it is still influenced by the different schedules of the household. Work, sports, or other activities are often planned, hoping that the meal fits in. Especially work hours can deviate within the target group since people do not always have a 9-5 job.

"We eat pasta when the kids have to play sports"

"Easy and fast are very important"

Food consumption is influenced by nostalgia

Positive feelings towards a meal are often connected to positive memories.

"My favorite food is my father's bami and lasagne."

4. New eating habits

Money and time are limiting factors when exploring new dishes.

People mostly try new dishes if they have some extra time. When living on a budget, they are, in general, more limited in trying something new. Moreover, new dishes often come with new ingredients or even kitchen appliances, and the risk of it not working out holds people back from trying them.

"That is difficult when you are on a budget, I have a routine of which ingredients I use that save me money"

"On the weekend, I have more time to make something more elaborate or try something new."

"I will try something new, if it does not require too many new items."

Trust leads to habituation

At the two locations that serve free or cheap meals, it became clear that serving some vegetarian meals leads to habituation with the guests. It sometimes even leads to them trying to make it at home.

5. Values and characteristics

People value freedom.

Since the target group is often more dependent on others, they highly value freedom and autonomy.

Shame is the biggest threshold for helping and reaching this group.

People are often ashamed of their situation, which makes the threshold for getting help high and also creates a barrier in reaching the group. De Gaarkeuken deliberately calls their location the social café to ensure people can openly say where they are going.

6. Reliable sources

Family as a reliable source

Family, if in the picture, are an important source of advice and help. People mostly ask for help or advice from their family members. This is because they know them the best and therefore are able to give fitting advice.

Trust goes both ways

Since the organization allowed guests to join for a free meal without asking any questions, trust is quickly gained. This trust is reciprocal and the guests are therefore, even when initially having resistance toward plant-based/vegetarian food, accepting of the vegetarian meals 'De Gaarkeuken' serves.

Building a bond is very important step in accepting help.

The volunteers from the Voedselbank ask personal questions when distributing the food. They check up on all the children, the renovation of the house and ask if people like the product they received. The clients clearly appreciate this and open up about their personal life and problems. This is especially noticeable when comparing these interactions with the attitude of clients who are there for the first time, these people enter with a more restrained and closed off attitude. The bond between the volunteers and clients leads to open conversations and allows the volunteers to help more accurately and profoundly. This leads to sometimes going out of their way to offer something extra besides the food, like an old stroller they still had at home.

Conclusion

The field research gave insights into the world of people with a low SEP, specifically focused on their food consumption. In their food choices, people are often influenced by supermarket discounts and sometimes depend on organizations that are also highly dependable. For people with a low income, getting food on the table within their budget is a job in itself, but having dinner as a family is worth the hassle. Family is important for people, and especially children have a big impact on what is served. When it comes to food, people are mostly focused on what they know and having structure, which limits the risks.

Experiencing freedom is very important for consumers. People are often ashamed of their situation or feel judged by others, so building relationships based on trust is very important.

These insights can help shape the view of the world of people with a low SEP and therefore help in setting up a fitting design goal.

CHAPTER 7

FROM RESEARCH TO DESIGN

The insights collected during the research phase need to be translated into a design. This chapter explains the process of making this transition using the Social Implication Design method. It will elaborate on the steps taken, decisions made, and ultimately present the design statement that will guide the ideation phase.

Chapter overview

- 7.1 Method
- 7.2 Context structure: clusters
- 7.3 Structuring clusters
- 7.4 Design goal: SID goal statement

7.1 Method

The conversion of research into design direction was approached with the Social Implication Design (SID) method (Tromp & Hekkert, 2019), a method that supports designers in reasoning from a social problem towards a design proposal (Tromp & Hekkert, 2014). This method was adopted during the 'Define' stage of the project, and from that point onwards, different steps of the method were integrated into the main double diamond approach. Starting with the steps that help translate the research insights into a statement, these steps can be found in the accompanying Figure 28.

All insights (observations, thoughts, theories, laws, beliefs, opinions, etc.) gathered in the earlier chapters were translated into context factors. These context factors are pieces of the future world of protein consumption among people with low SEP. There are four types of context factors:

- **State**
A static description of the current context that is probably not going to change.
- **Principle**
Stable laws that govern human life in the world.
- **Development**
A change in the world around us that does not describe human behavior.
- **Trend**
A change in shared experiences, beliefs, and human behavior.

The next step is to group these factors together in a meaningful way, **creating clusters**. These clusters illustrate the forces that drive people's behavior in the context. For this project, 10 different clusters are created, which are described in chapter 7.2, explaining the forces behind behavior in the context of protein consumption among people with low SEP.

These 10 clusters were then combined and **structured** into a view of the social context (See chapter 7.3). The social context was evaluated, and a direction was chosen leading to a **goal statement** (See chapter 7.4).

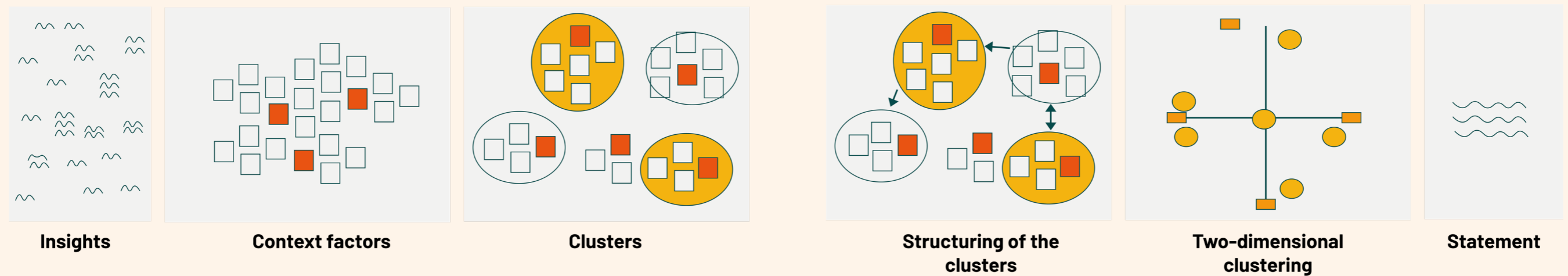


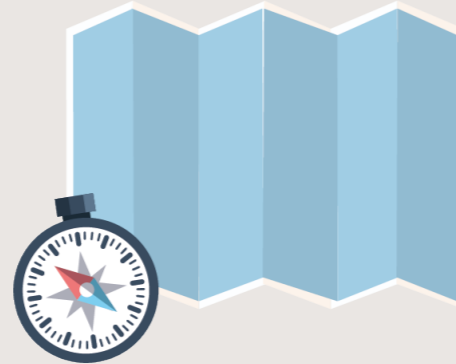
Figure 28: SID steps towards a statement

7.2 Context structure: Clusters

After translating the insights into context factors, the following clusters were created.

1. Exploring on your own is scary

For consumers with a low SEP, exploring, when it comes to food, brings a lot of risks with it. Prices are fluctuating, so you do not know if your budget will hold up. Advice on food consumption seems to change a lot as well, especially with the internet wanting to have a go at it. This makes people doubt what they should listen to. Following the crowd and sticking to the things that you learned from home are then the safest options. If you are already 1-0 behind on the rest, it's better to not take extra risk.



2. Only I know my situation

Recognition is needed to gain trust. When people feel like they can not recognize themselves in something, they often do not trust it. For people with a low SEP this often applies to politics or government organizations. Politics interfere while their situation is not comparable to the situation of people with a low SEP. People therefore rather listen to their own body or to someone that resembles them (e.g. someone on social media).



3. Trust in exchange for trust

Receiving trust from the other party makes people loosen and open up. If you trust me, I'll trust you as well. Here exists another clash between governmental organizations and people with a low SEP, where it feels like the organizations always start from a distrusting point of view.

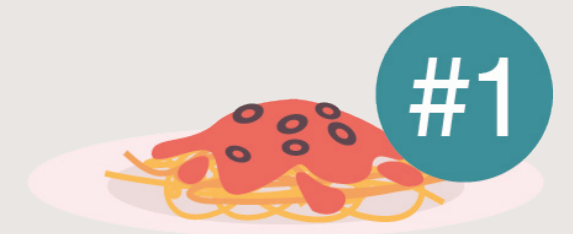


4. Energy, time and money are scarce and depend on each other

Energy, time, and money are scarce. Getting food on the table is a puzzle for people with a low income. It requires creativity and costs a lot of energy and time. As a result, they have little energy left to make changes in their eating habits or to think about the long term.

5. The social and cultural power of food

People see that food is necessary but it's not always a priority. Meals are often moved around the daily schedule (work, sports, watching football etc.). Only when people focus on the cultural or social aspects that come with food, eating food becomes a priority above other activities.

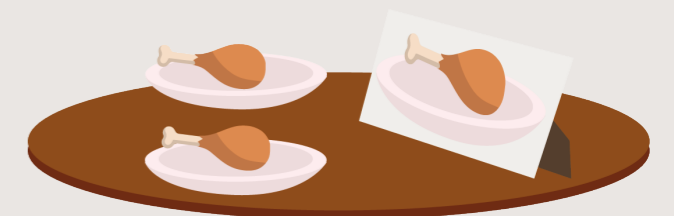


6. Family first

Family plays a key role in eating habits. Most people aim to share at least one meal per day as a family, often during dinner. This meal is likely to be influenced by the preferences of the children. In addition to that, significant changes in eating habits are often prompted by family members. These changes could be due to health reasons or personal preferences.

7. Act normal, eat meat

People often don't want to be different from others, and those with low SEP already feel different and are often ashamed of their situation. Changing their diet from the standard would only add to this. Especially when it comes to getting rid of meat, something that has long been seen as a symbol of luxury, it can feel like emphasizing their situation. As a result, many people prefer to try to act "normal" and continue to eat meat.





8. Some freedom goes a long way

People value freedom. They like to be autonomous and find it hard to be dependent. Feeling like they can not make their own choices often leads to resistance. This resistance only appears when people are aware of the limitations. When they feel like they have a choice, even if it's a limited choice, it often fulfills their feeling of freedom. Therefore, being inspired by the discounts in the supermarket does not limit their feeling of freedom.

9. Enjoy every day

Life is a lot more insecure for people with a low SEP, but that does not mean you can't enjoy every day. They often try to make the most of it. This also comes into play when consuming less animal proteins, this is seen as a loss instead of a win. Eating less meat is therefore seen as another thing that would take away some of the enjoyment.



10. How can I change the world when I cannot change my own world?

People with a low SEP often feel a distance when it comes to more abstract, long-term goals. They feel powerless over their own situation, so even more powerless over the societal problems

7.3 Structuring Clusters

These 10 clusters all tell separate stories about the context of protein consumption among people with a low SEP. The clusters are structured to gain a coherent view of the context as a whole. This can be seen as finding the storyline that connects the separate stories.

The clusters are structured by examining their relationship with each other using the Force Field Analysis (Tromp & Hekkert, 2019). Some clusters agree with each other, reinforcing or attenuating another cluster, while others contradict each other.

Figure 29 shows the relationship between the different clusters. For example, Cluster 4, which describes the lack of time, energy, and money, reinforces Cluster 10, which addresses the sense of distance and powerlessness that the target group feels when considering more abstract, long-term, or society-focused goals. Cluster 1, outlining the fear of exploring on one's own, contradicts Clusters 2 and 8, which emphasize autonomy, freedom, and a thorough understanding of one's own situation. Both clusters depict the desire to make personal choices, while Cluster 1 centers around decisions influenced by others. Appendix H provides a more elaborate explanation surrounding the relationships between the clusters.

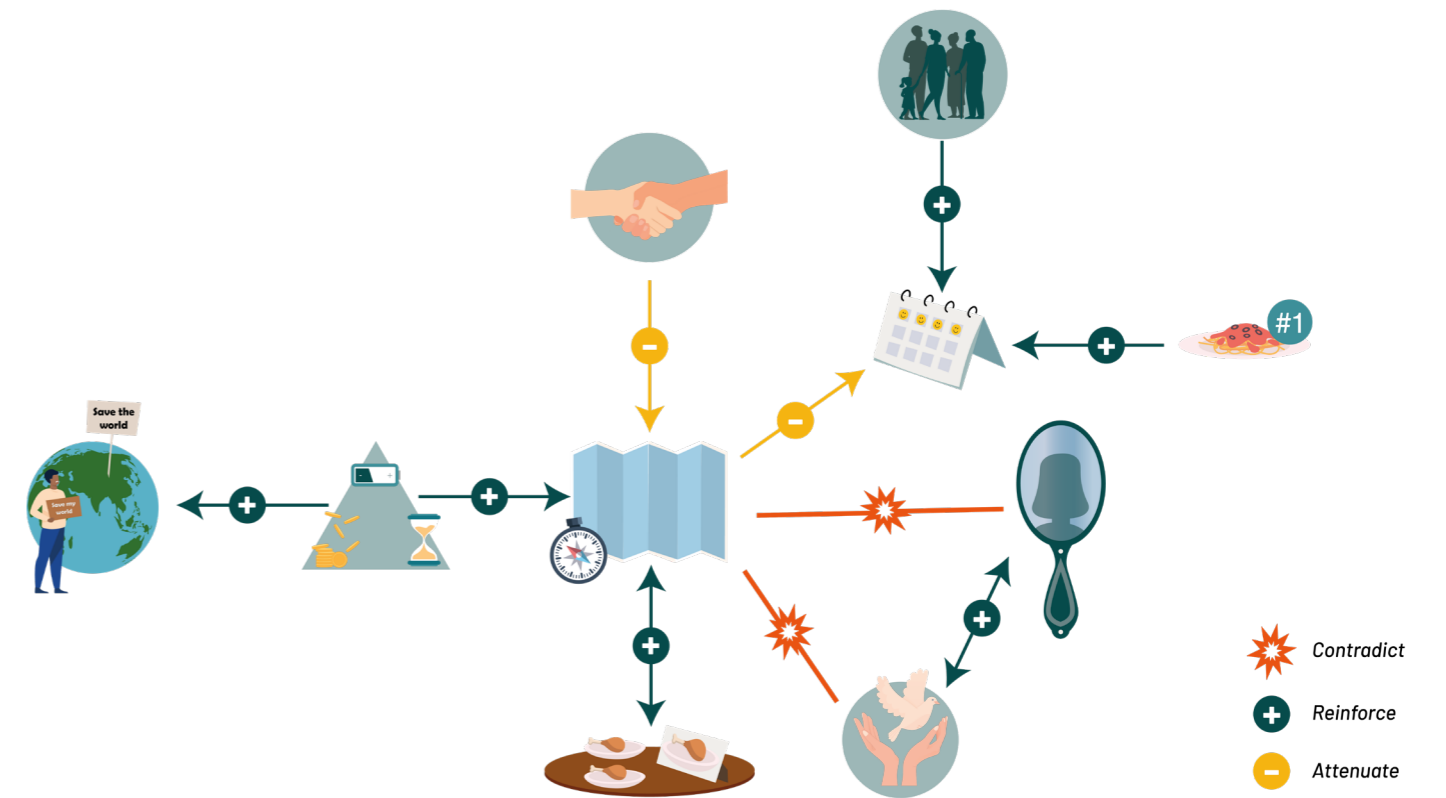


Figure 29: Structuring clusters with the Force Field Analysis

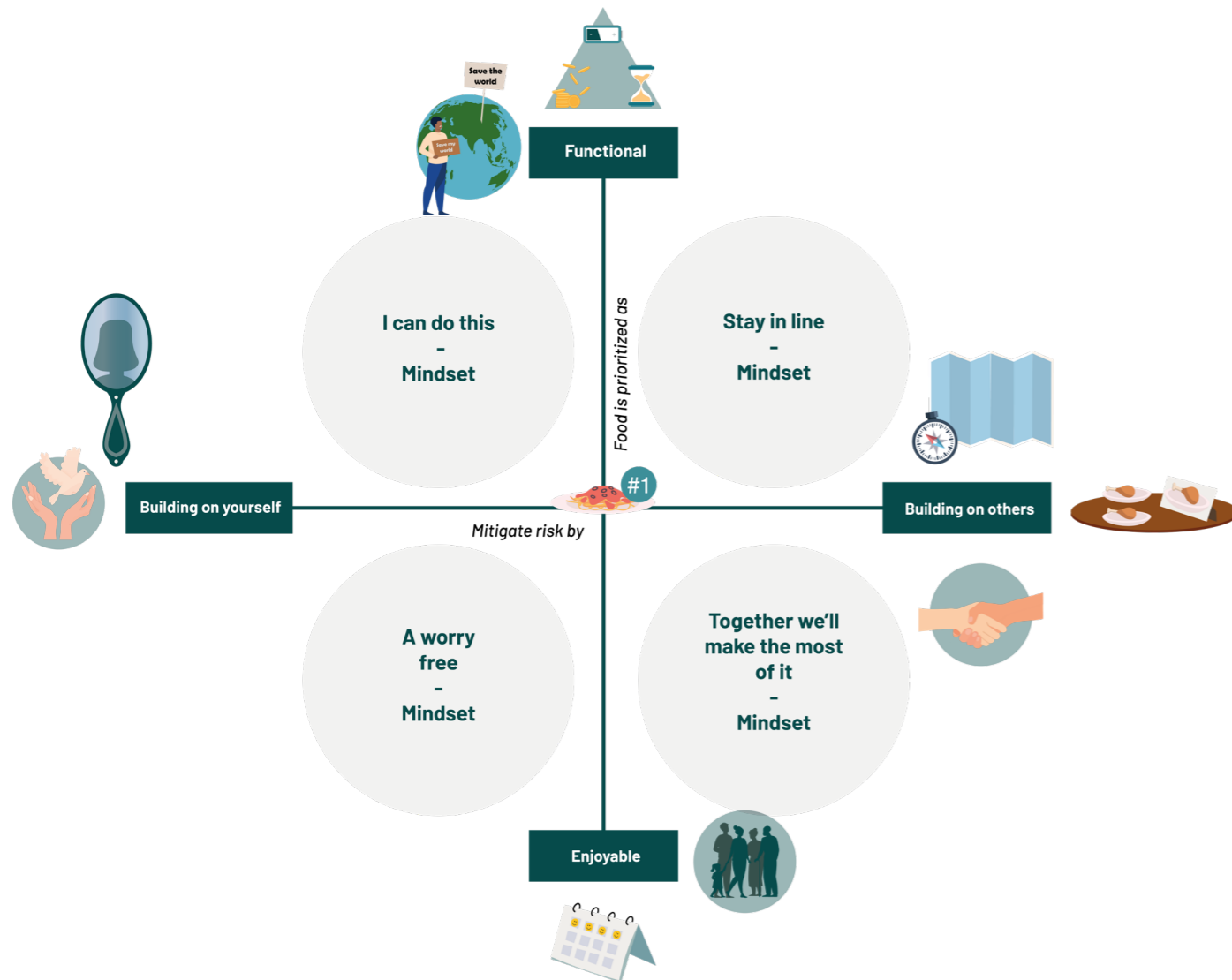
Looking at the contradicting interactions, tensions can be found. Based on these tensions, two dimensions were defined on which the clusters can be plotted, see figure 30.

Food is prioritized as:

- **'Functional'**
This side focuses on the practical and functional side of food, it needs to be cheap and effective.
- **'Enjoyable'**
This side focuses on the enjoyable side of food, it needs to be social and nice.

Risk is mitigated by

- **'Building on yourself'**
This side focuses on being free and making your own choices. 'I know my situation best so the most secure way to make choices is to focus and rely on myself'.
- **'Building on others'**
This side is focused on minimizing risk by consciously or unconsciously following others. This applies both to following others in your immediate surroundings or following the advice or promotions from organizations or stores.



The two dimensions create four quadrants that each represent potential mindsets of consumers with a low SEP when it comes to food, especially protein consumption.

These four different mindsets are directions that drive behavior and can guide the project into a more specific path. Therefore, evaluating their advantages and disadvantages within this project is important. In the following section the two sides of the two dimensions are evaluated based on how they can be used within this project.

Priority of food

Considering the dimensions on the y-axis, one advantage of prioritizing the functional side of food is the fact that it aligns with the basic attitude that people have towards food - you need to eat. Approaching food as something functional therefore connects to all people. A functional approach to food is also often associated with eating healthy, a connection that is understood by people and can be used in the project.

On the other hand, when focusing on prioritizing the enjoyment of food, people are often not concerned with food qualities such as whether or not it is considered healthy. This combination could be used as a new angle in this project. In addition, as described in cluster 5, if food can be made joyful by focusing on the social, cultural, or taste aspects, it will outweigh the practical considerations. This can be seen as both an advantage and a disadvantage when considering this project. It can either provide a way of making food more important which can help the project, or end up being a disadvantage if food, especially animal proteins, are made too important, making it harder to let go off.

Building on ...

The x-axis contains the dimension of mitigating risk by building on yourself or on others. Here it is important to recognize that the line that separates the two sides can be vague and can also cause some form of overlap between the 'building on others' and 'building on yourself' dimension. For example, a food habit that feels as 'your own' is probably obtained by following your parents as a child. Even though most actions are influenced by our surroundings, 'building on yourself' separates itself by the acceptance of knowledge or actions as your own.

On the other hand, there also exists a coupling between the two dimensions. When building on others, the choice of which people or organizations you follow can be strongly influenced by your own stances and values.

When considering the scope of this project, the Voedingscentrum seems to mostly aim for consumers to build on themselves by empowering consumers with knowledge by providing education. Yet, the knowledge provided by the Voedingscentrum needs to be accepted as your own to feel like you are building on yourself. This is hard to achieve when there is little connection and recognition between the parties. This might explain why the current approach has difficulties resonating with the target group.

On the other hand, the Voedingscentrum's working method of changing food environments (see section 2.1), approaches the goal through letting consumers follow their suggestion more unconsciously, which fits the 'building on others' side. To resonate with the target audience, it might be easier to approach the problem through this outside approach since becoming part of the consumers' close surroundings might be hard for the Voedingscentrum to achieve on short terms.

Direction

The four different mindsets are directions that could drive behavior. To minimize the scope and set a more specific goal, a direction is chosen for this project. The project will focus on prioritizing the enjoyment of food since this approach gives an inspiring direction to connect health and enjoyment. Additionally, it will place a greater emphasis on the external influence of 'building on others' since this is more feasible for the Voedingscentrum when considering this target group. This leads to a general focus

on the quadrant "Together we'll make the most of it" chosen as the most valuable mindset to drive behavior in this project. Especially since the Voedingscentrum normally prioritizes the functional approach towards food consumption and often tries to encourage people to build on themselves by providing education, which is found in the quadrant 'I can do this'. Focusing on the opposite mindset will hopefully create innovative ways in which the Voedingscentrum can approach this problem.

7.4 Design goal: SID goal statement

When focusing on the quadrant 'Together we'll make the most of it,' a SID goal statement can be formulated. This statement describes the intended way of creating change. It contains the social implication, the intended behavior, and the mechanism that is expected to trigger the intended behavior. After some iterations, the following statement is defined:

This statement will serve as the design goal for the next phase of the project. The design goal contains a general focus on consumers who are resistant to shifting to a more plant-based diet. However, the eventual intervention will be specifically tailored to resonate with consumers with a low SEP (see figure 31). This approach aims to create an opportunity to design for a broader audience while ensuring that the targeted audience is specifically reached.

"To facilitate a healthy shift towards a more plant-based diet, we want to help consumers feel secure in such a change by stimulating them to joyfully follow others."

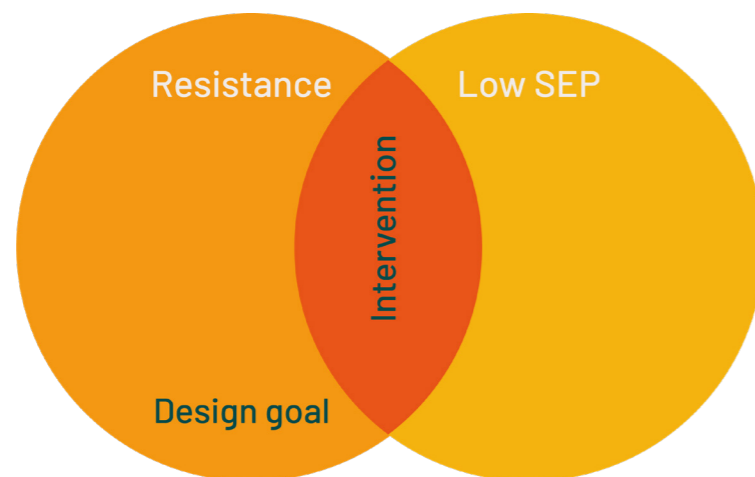


Figure 31: Relation between design goal and intervention

DESIGN GOAL

"To facilitate a healthy shift towards a more plant-based diet, we want to help consumers feel secure in such a change by stimulating them to joyfully follow others."

8.1 Approach

In order to create fitting concepts for the set design goal, multiple design activities were used. These activities lead to a wide variety of ideas. Eventually, four concepts were defined and detailed. These four concepts were evaluated and one was selected as the final concept.

8.1.1 Interaction: Analogy

Following the SID method, the next step towards designing an intervention was set by describing the relationship the consumer will have with the intervention. How can the aspect of 'joyfully following' be inserted into the design? To define the interaction different analogies were revised: 'In what other situations do people joyfully follow others?'. Two different analogies were eventually used, see figure 32.

Fashion trends

When a new fashion trend arises, not everyone likes it immediately. However, after seeing a trend appear more often, especially being worn by people you look up to, this can gradually change your mind, ending up liking it. You end up following the new norm that is set. This form of following others is stimulated by the joyful feeling of fitting in and belonging.

Spaaracties (saving campaigns)

This interaction contains the joy of achievement when getting something you have saved for. On the one hand, it gives the feeling of achieving something, while on the other hand, it feels like something you cannot miss out on. This last feeling creates the 'following others' part. Even though you do not need new towels or do not really like the color of them, you feel like you can't miss out and will still follow the campaign.

8.1.2 Creative Sessions and Co-creation

To gain inspiration and generate multiple ideas, a creative session with IDE master students was set up. This was followed by short individual co-creation sessions with consumers within the target group at the Voedselbank, and a creative session with members of the 'Minder vlees' en 'Lage SEP' project teams at Voedingscentrum. Within these sessions, multiple brainstorming techniques were used, such as 'Brainwriting 6.3.5.', 'Criminal Round', 'Flower Association', 'How To's', 'Reverse Question', and the 'Disney-method' (Van Der Wardt, 2021; Van Der Horst, 2020; Heijne & Van Der Meer, 2019). Between these sessions, individual ideation was done, using similar brainstorming techniques. Promising ideas were further developed, eventually resulting in 4 concepts."



Fashion trends

Habituation
Belong
Subconscious
Approval

Spaaracties



Excitement
Achievement
'Het is een buitenkansje'
Not wanting to miss out

8.2 Concepts

Concept 1: Save for a free meal - Saving campaign (Spaaractie)

Would it not be nice if, instead of saving for unneeded cutlery or 'voetbalplaatjes', customers could save for something they actually need when doing groceries? Receive 1 stamp with every 10 euros you spend on groceries at supermarket 'Dirk'. When you have a full card (10 stamps), you will receive 2 random meal boxes for the family (4 persons).

These meal boxes contain all the ingredients for a nice and healthy meal selected by the Voedingscentrum. Together with simple instructions on how to make the meal, all the meals are easy and fast to prepare. Without being specifically mentioned, the different variations of meal boxes reflect the aimed-for ratio of meals with or without meat: 40% meat - 60% vegetarian and contain healthy (smaller) portions of meat.

Behavior change mechanism

This concept leverages the joy of saving up for something and the sense of accomplishment upon reaching it. The pleasure associated with the reward is also linked to the desired behavior.

Looking at the rest of the mentioned mechanism in the design objective, the consumer in this concept follows the savings campaign or rather Dirk and the Voedingscentrum. Additionally, the concept encourages establishing a new norm, making it unconsciously clear that meat is not meant to be included in every meal.

Deal with resistance

Looking at the three forms of resistance, in chapter 4, this concept deals with reactance by redefining the relationship. The customer is now an achiever or winner instead of someone who is being influenced. In addition to that, the request is depersonalized; the meals without meat are not personally selected for you. It is just how the campaign works—you get a random box.

Since this concept does not substantively elaborate on the change towards less meat consumption, the amount of skepticism is probably low. When looking at inertia, the concept helps boost the self-efficacy by offering instructions and increase fluency by making it very easy to create the meal.

Target audience

Next to fitting the design goal that is based on this target group, this concept also specifically offers a fitting reward in the form of a meal to consumers with a low SEP. The meal is cost-effective, easy, convenient, and risk-avoidant. Even though this concept caters to the specific target group, considering the popularity of other 'spaaracties', it has a lot of potential for a broader audience.

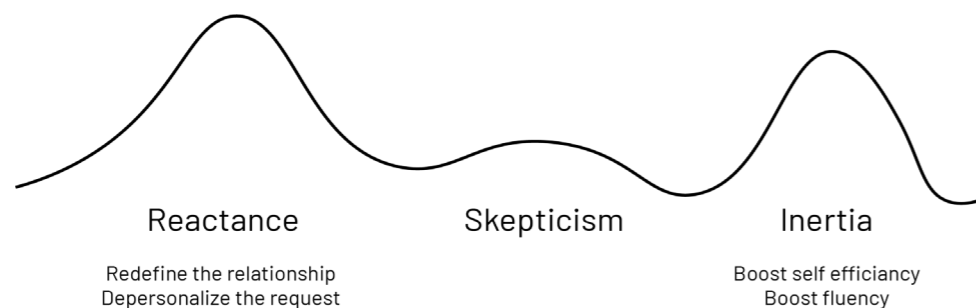


Figure 33: Approach towards resistance in concept 1

Save for a free meal

Save by doing groceries for two free meal boxes.



Concept 2: 'Make meat special again' - Campaign

The Voedingscentrum can also approach this subject in a positive way. Instead of focusing on making meat feel like a bad thing, focus on how special it is and should be treated as something special. 'Maak vlees weer speciaal' is a campaign containing different interventions to make meat special and exclusive again, instead of a daily thing.

The campaign is focused on changing the food environment. It has 4 stages: 'Making choices', 'Smaller portions', 'Exclusive offer', and 'Adjusting the standard'. In the different stages, interventions for supermarkets, the catering industry, and the media are introduced. The Voedingscentrum will introduce and encourage these different interventions towards these different parties, including mediators. When starting with the first stage: 'Making choices', the interventions are simple to implement for the parties, making it easier for them to say yes to the campaign, and creating commitment (Foot in the door technique, see chapter 4.2). Further down the line, the interventions become bigger and more impactful.

Behavior change mechanism

This concept leverages the joy that is within eating meat. It plays into the fun and pleasure people associate with the consumption of meat. Using the positive association that people have into something even higher: exclusive or special, while in reality creating a standard in which meat is seen as something positive but not for daily consumption.

Looking at the rest of the mentioned mechanism in the design objective, 'following others': this concept consists of multiple interventions that use

nudging, prompting, etc. All set up to be followed by the target audience.

Deal with resistance

Considering the different forms of resistance (Chapter 4), no direct freedom of choice is taken away from consumers, minimizing reactance. Potential reactance from the mediating parties is dealt with by starting with small requests. The usage of altercasting when in conversation with the mediating parties can also play an important role in letting them take the first small steps. Skepticism on the side of the collaborative parties can probably be found quite extensively in this concept. Mostly arising from the fear of resistance that the customer might have. This is dealt with by reframing the message of eating less meat and granting guarantees through the small steps. With every small step that is taken, some extra guarantee is given that it will be ok to set the next step. The concept also boosts self-efficacy and fluency by making it easy to treat meat as something exclusive.

Target audience

A fitting aspect of this concept for the target audience is the fact that treating meat as an exclusive item will help them accept that not having meat on the table is okay. A possible side effect in this case could be that consumers overindulge, reinforcing the belief that meat is necessary to display wealth. Another downside when considering the target group in this concept is the fact that consumers with a lower SEP dine out less frequently, which is a significant aspect of the campaign.

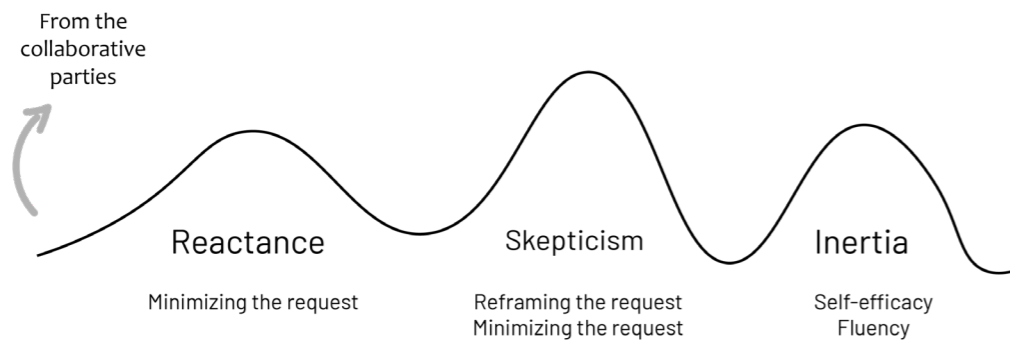


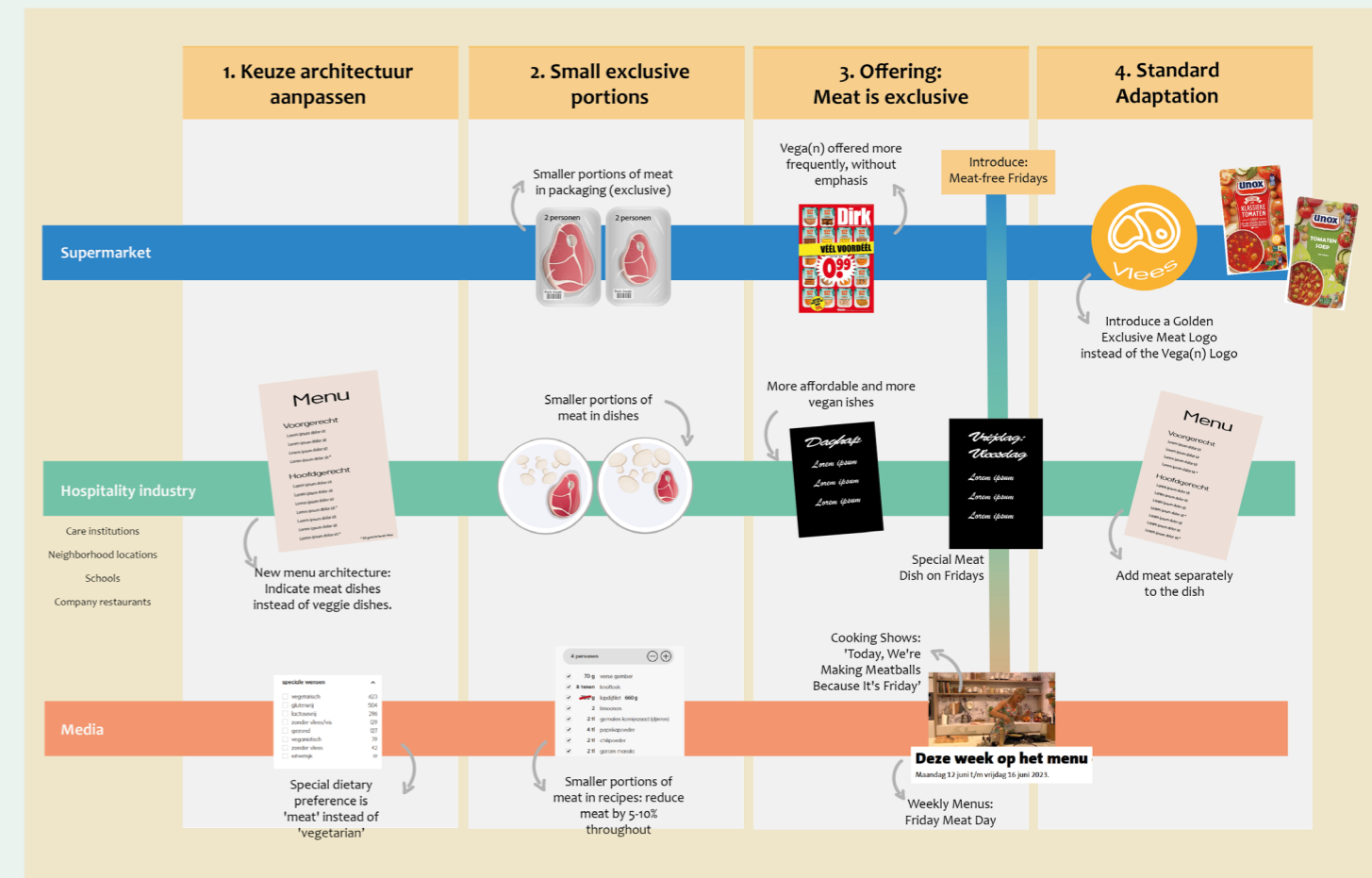
Figure 34: Approach towards resistance in concept 2

Make meat special again

Meat is indeed enjoyable and delicious, so why not focus on how special it is? Why not treat meat just as special as the special, important role it plays in our lives?



A long-term campaign with various interventions in our food environment.



Concept 3: Discover the Forgotten Proteins - Saving campaign (Spaaractie)

Proteins are hidden in many different products. The Voedingscentrum & Supermarket Dirk challenge you to discover them with the 'Forgotten Protein Cards.' Receive a forgotten protein card when you purchase a forgotten protein product (plant-based product with > 10 grams of protein per 100 grams). Collect the forgotten protein cards and use them in a game: each forgotten protein has its own powers, and if you manage to defeat your opponent, you win the game. Moreover, saving the protein cards gives you the chance to win a family dinner. Do you have one of the special golden protein cards? If so, you'll receive a free meal for the whole family at a local restaurant. Have you collected all different cards? Then receive a 50% discount on a meal at a local restaurant.

Behavior Change Mechanism

This concept leverages the joy of saving up for something and the sense of accomplishment upon achieving it. The cards are designed to engage children in play. Additionally, the intended behavior is rewarded with something joyful: eating out with the family. Looking at the rest of the mentioned mechanisms in the design objective, the consumer in this concept follows the savings promotion, or rather Dirk and the Voedingscentrum. On the other hand, the concept focuses on parents following their children's preferences.

Dealing with Resistance

Examining the three forms of resistance in chapter 4, this concept deals with reactance by redefining the customer's role. The customer becomes an achiever instead of someone who is being influenced. To deal with skepticism, the request is reframed; it's not about meat, but about exploring other protein options. When looking at inertia, the concept boosts self-efficacy by suggesting alternative protein products and providing recipes for them.

Target Audience

The reward is focused on making something fun, like 'having dinner with the family,' affordable for people. Dining out was often mentioned during the interviews as something to look out for. While this concept caters to a specific target group, its potential for a broader audience is high, especially considering the popularity of other 'spaaracties.'

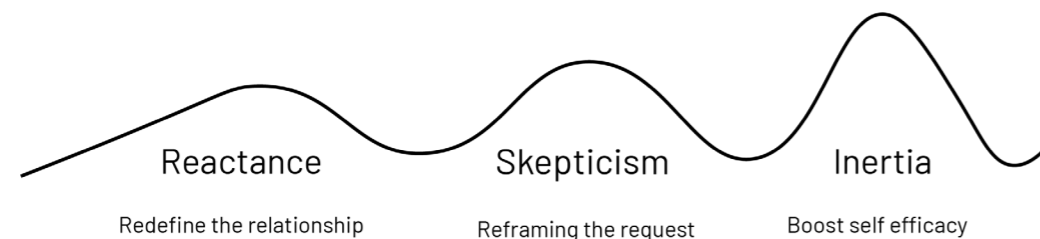


Figure 35: Approach towards resistance in concept 3

Discover the forgotten proteins

In many different products, proteins are hidden. The Nutrition Center & Dirk challenge you to discover them with the 'Forgotten Protein Cards'.



(Cafe J&A, n.d.)

Concept 4: Samen stappen zetten - informative website

The last concept is more focused on activating vegans, vegetarians, and meat reducers to become changemakers by not blaming meat eaters but trying to get closer together in a positive way. Stimulate the group that seeks followers and help them contribute to changing norms and reducing resistance.

'Samen stappen zetten' is a website that offers practical tips to changemakers for approaching the subject pragmatically, avoiding getting lost in moral debates. The website features content provided by experts (dietitians & behavioral changers) from the Voedingscentrum.

Behavior Change Mechanism

This concept is based on the joy of (re)connecting with others. Currently, there is a lot of friction between team 'less meat' and team 'pro meat', even within families or friendships. The content on the website aims to evoke empathy and foster a better understanding among individuals, promoting positive approaches to this change.

'Samen stappen zetten' turns the aspect of "following others" around. It uses the motivation of people who want to make a difference and activates them to be followed by people with resistance towards the protein transition.

Deal with Resistance

When considering resistance from the side of the target audience of this project, reactance is primarily addressed by acknowledging their concerns. The concept tries to educate on the resistance and therefore make this group feel heard and understood. Additionally, the purpose of 'Samen stappen zetten' is to increase the number of trustworthy messengers. To further deal with resistance of the target audience, the content on the website will provide tips that use multiple of the methods described in chapter 4.

When looking at resistance from the side of the users of the website, the activists' inertia is taken away by boosting the self-efficacy of the changemakers, helping them feel comfortable in handling change effectively.

Target Audience

This concept uses a ripple effect to reach a broader audience. 'Samen stappen zetten' really embraces the fact that the Voedingscentrum currently does not have the reach towards those groups and could use some help from people who might have those connections. A downside of this approach is that it will take some time before the target audience of this project is reached. The first reached people are probably not the consumers with the most resistance.

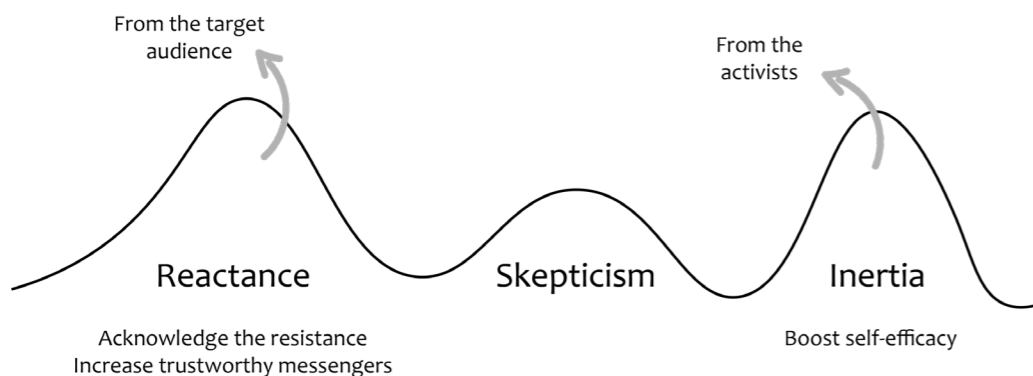


Figure 36: Approach towards resistance in concept 4

Samen stappen zetten

Activate vegans & meat reducers to not point fingers at meat eaters but to come closer together in a positive, pragmatic way.



'Samen stappen zetten' is a website with practical tips and tricks to help advocates of reducing meat consumption promote changes in others.



Pragmatic approach

How can you contribute to changing the norm and reducing resistance in your own environment?

Content from the experts at the Nutrition Center: Dietitians & behavior change specialists.

Understand each other
Creating awareness and empathy for the barriers people experience within the transition.



Ask your questions



Awareness of the exclusivity of the transition.

8.3 Selecting a concept

Multiple activities were conducted to explore potential concepts fitting the design goal. The insights and ideas gathered through these activities were reduced to four concepts:

1. 'Spaar voor een gratis maaltijd' (Save for a Free Meal)
2. 'Maak vlees weer speciaal' (Make Meat Special Again)
3. 'De vergeten eiwitten' (The Forgotten Proteins)
4. 'Samen stappen zetten' (Taking Steps Together)

These four concepts were evaluated within the Voedingscentrum. This evaluation led to some adjustments where possible and was mostly considered in the selection process. To evaluate the four concepts and select one, the assessment points on the right were defined:

Figure 37 shows how the concepts scored on these different assessment points, more elaboration on the assessment of the concepts on these selected points can be found in Appendix I.

Desirability:

1. **Joyfully:** Does the concept achieve the set mechanism of the design goal?
2. **Following others in food practices:** Does the concept achieve the set mechanism of the design goal?
3. **Deals with resistance:** How well is the concept expected to deal with potentially triggered resistance?
4. **Fitting with the target group: low SEP:** How well does the concept fit the target audience of consumers with a low socioeconomic position?
5. **Fitting to the Voedingscentrum:** How well does the intervention fit the working method of the Voedingscentrum?
6. **Desirable for the Voedingscentrum:** How desirable are the results of the concept for the Voedingscentrum?

Feasibility:

7. **General feasibility of the concept:** How feasible is the concept in general?
8. **Feasible for the Voedingscentrum:** How feasible is the concept for the Voedingscentrum?

Viability:

9. **General viability of the concept:** How viable is the concept over time?
10. **Side effects:** An intervention does not always generate only the intended effects. Often unforeseen side effects, both positive and negative, are exposed over time. Even though unforeseen side effects are not without reason called 'unforeseen,' it's still valuable to look at your concepts as the devil's advocate.
11. **Impact & Effort Matrix:** How does the impact of the concept stand in relation to the effort that is put in?

- 1 Spaar voor een gratis maaltijd 2 Maak vlees weer speciaal 3 De vergeten eiwitten 4 Samen stappen zetten

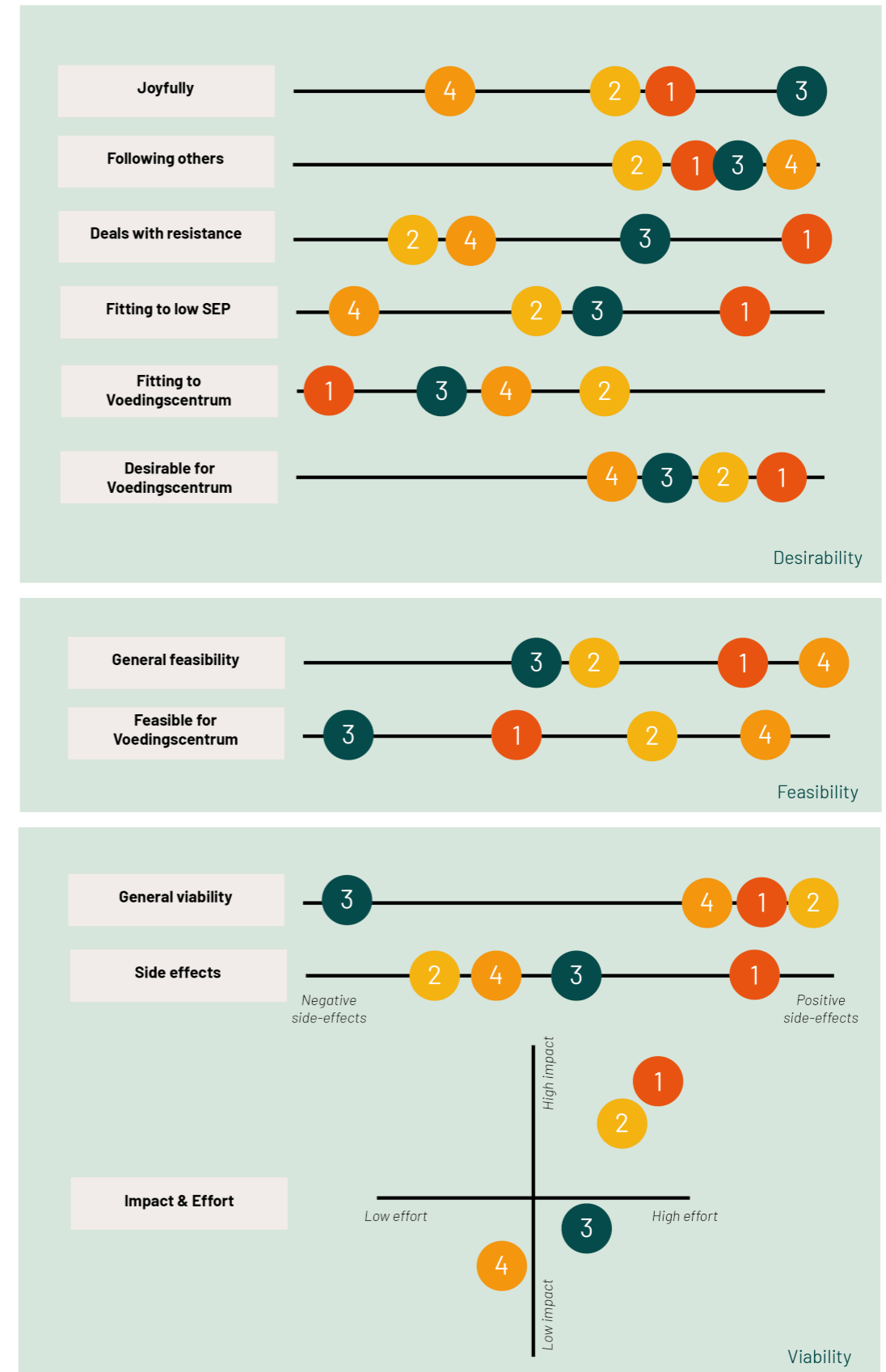


Figure 37: Assessment of the four concepts

Conclusion

Based on the evaluation of the different concepts, Concept 1 was chosen as the most promising concept for this project.

This concept scored very high on the desirability and viability assessment points. The biggest drawback of the concept is the feasibility for the Voedingscentrum to realize such a concept. Concept 2 and 4 scored lower on the desirability assessment points, while being easier and more fitting to implement by the Voedingscentrum. Taken into consideration here is the fact that making the concept more feasible is easier to achieve when further developing the concept instead of trying to make the concept more desirable. Concept 3 scored similarly, but lower than Concept 1. Within this concept, the questions surrounding the feasibility for the Voedingscentrum were more severe, as well as it fitting less closely towards the target audience.

The following chapter will describe the final concept, which is an iteratate version of Concept 1.

9.1 Spaar je vol!

The Voedingscentrum believes that everybody deserves a good and healthy meal. That is why "Spaar je vol!" is introduced. "Spaar je vol!" is a savings campaign (spaaractie) set up by the Voedingscentrum in collaboration with a supermarket. The campaign allows customers to save for free meal boxes when they do their groceries. For every 10 euros they spend, they receive a stamp. When consumers have a full savings card (50 stamps), they receive a meal box for 4 persons.

Customers can choose one of the two offered meals. The meal boxes contain all the ingredients for a nice and healthy meal selected by the Voedingscentrum. Along with simple instructions on how to prepare the meal, all the meals are easy and fast to prepare. In addition to the convenience of receiving a free and complete package of ingredients, it also eliminates the need to think about what to prepare for dinner. This way the campaign fits the busy lifestyles of the target group and does not take much mental space. The campaign offers a healthy meal while not requiring high health skills. The selection of meals varies over time.

"Spaar je vol" offers the Voedingscentrum a practical way to influence what people actually eat. The variety of meal boxes offers fully vegetarian meals without explicitly stating it. This promotes the shift towards a healthier and more sustainable protein consumption pattern and emphasizes the new norm.

The earlier version of this concept described in chapter 8 contained boxes that overall contained the wanted 40-60 ratio between animal and plant-based protein. The change to fully vegetarian meal boxes was made to ensure that getting a vegetarian box does not feel like a loss when you could have also gotten a meal with meat. It also strengthens the message that meat is not necessary for a healthy meal and if you yourself add it to the meal it is clearly something extra.

Next to this, more logistic reasoning also advocate towards offering only vegetarian meal. This creates cheaper meal boxes, making the concept financially more feasible and also extends the general expiration date of the boxes.

Joyfully following others

The 'Spaar je vol!' Campaign brings excitement, anticipation, and a feeling of achievement to the consumers. On the one hand, it feels like they have 'worked' hard for the free meals and have achieved something when receiving them. On the other hand, it feels like they cannot let this opportunity of getting a free meal go and need to join in. These factors all make it joyful to join the campaign.

When joining the campaign, consumers will prepare and eat a meal that is chosen and created by the Voedingscentrum. Hereby creating a practical manner of following the Voedingscentrum's advice. The concept makes use of a more unconscious manner of following others, since to focus lies on the saving aspect, not on following the nutrition advice.

Silent steering & Gentle guidance

Taking the design frames mentioned in section 3.2.4 into consideration, 'Spaar je vol!' fits both the 'Silent steering' and 'Gentle guidance' design frames. On the one hand, focusing on unconscious behavior by steering people into the consumption of less meat (nudging), but also giving a helping hand by providing vegetarian recipes with a complete set of ingredients and instructions (boosting). This combination of frames and behaviour change mechanisms are seen as complementary to one another, making it more effective (Peeters et al. under review).

Spaar je vol!

Everybody has the right to a healthy meal

Save stamps while doing your groceries and collect points for a free meal box.

Containing all the ingredients for a fresh meal that serves the whole family (4 people), along with easy and quick recipes.



Pick one of the two different meal boxes, each containing a healthy vegetarian meal, without explicitly stating it. This promotes the shift towards a healthier protein consumption pattern and emphasizes the new norm.

The offer of meals varies over time.

Simple and visual cooking instructions are included

9.2 Storyboard

The following storyboard demonstrates the concepts appeal. The narrative presents the design within its contextual usage, providing a timeline from the user's perspective. The described situation aims to portray a realistic scenario for the target audience.

1

Jeroen (48)
Julia (44)
Jens (13)
Gijs (16)

Meet Julia (44) and Jeroen (48) with their two sons Gijs (16) and Jens (13). They live together as a family of four in The Hague. Now that the boys are a bit older, Jeroen can take on evening shifts more often at his work. Due to this, the family can't always have dinner together in the evenings. Anna finds this very unfortunate and does her best to consider everyone's schedule, trying to still have dinner together as often as possible. When they succeed, it's always a joyous occasion to eat together on the couch.

2

Julia is the one who usually cooks the meals. Jens doesn't like everything, but she knows well what she can and cannot serve him. He loves chicken or Mexican food. Gijs and Jeroen do not often complain about the food; they claim to enjoy everything, although there are a few things that Julia intentionally puts on the table less frequently.

In the end, the family usually has potatoes with a piece of meat, occasionally pasta, and sometimes chicken with rice. On weekends, they often make something simple, and sometimes they order from a Chinese restaurant.

3

Jeroen always does the grocery shopping weekly, often on Thursday evenings. Julia prepares a list in advance to help him navigate the store quickly.

4

SPAAR VOOR EEN GRATIS MAALTIJD
Iedereen heeft recht op een gezonde maaltijd

STERK IN EIGEN MERK
Ontdek gezonde goedkope maaltijd met onze huismerken

He sees that the supermarket has a new promotion: 'Save for a free meal.'

"That sounds interesting," he thinks.

The board reads: "Receive a stamp with every 10 euros spent on groceries and collect them to redeem a free meal box."

5

At the checkout, the cashier indeed asks Jeroen if he wants to save for a free meal.

6

Spaarkkaart
Spaar voor een gratis maaltijd

Jeroen thinks, "A free meal box can never hurt," and he agrees to participate. He receives a savings card and six stamps for the groceries he just purchased.

7

Spaarkkaart
Spaar voor een gratis maaltijd

In the following weeks, Jeroen receives a number of stamps with every grocery trip. After about 3 weeks, he has fully filled his savings card.

8



At his next grocery trip, Jeroen goes to find the free meals. He locates them next to the other meal kits. Two boxes have a sign that says, "Free meal with a full savings card." He can choose between two meals: tacos or shakshuka. Since he has never heard of shakshuka before, he opts for tacos. It works out well because Jens loves tacos.

9



Jeroen can't see exactly what's inside the box, but it is indicated that the only thing he needs to add is olive oil or sunflower oil. The rest of the ingredients are included in the box and are sufficient for a meal for 4 people.

10



At the checkout, he places the meal box on the conveyor belt and hands over his full savings card.

11



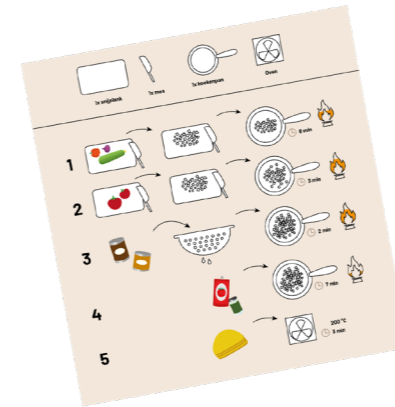
At home Jeroen opens the box to see its contents. He notices that there are different ingredients compared to how Julia normally prepares tacos. Alongside the ingredients, there is also a card with instructions on how to prepare the dish. The card mentions that the recipe was developed by the Voedingscentrum (The Netherlands Nutrition Center).

12



The next day, Julia takes out the meal box. She has just finished work and is pleased to see that the box indicates the preparation of the dish only takes 20 minutes.

13



This way of preparing tacos is new to Julia. She is used to making them with minced meat instead of beans. She keeps the card with the instructions on how to prepare these specific tacos handy to see how they should be made.

14



Because it's the weekend, the family has time to watch a movie together during dinner.

They finish their plates, and fortunately, the meal was generous enough to satisfy all four of them.

15



The next morning, Julia sees the instruction card again and notices that it says: "Make this meal cheap and easy once more with our huismerken."

She puts the cards with a magnet on the fridge and thinks: "Maybe I can make this meal again sometime."

9.3 Desirability

The concept needs to address the values and needs of the consumers and the Voedingscentrum. To further elaborate on the desirability of the concept, more details are provided in the following chapter.

9.3.1 Consumer

Do you want to have a free meal or donate it?

The insights in Chapter 6 elaborates on the two different groups within the target group of low SEP consumers; consumers with a low income and consumers without a low income. The latter group, consumers with a lower education level but a stable financial situation, can easily participate in this campaign. However, low-income consumers sometimes struggle to stay within their budget while shopping. For this group, receiving a free meal is a valuable helping hand. The only disadvantage is that, due to their search for discounts and small budget, this group cannot always afford to buy groceries in large quantities at a single supermarket. For them saving a full card can take a while. On the other hand, customers with a higher budget often prefer to shop at one store and are able to spend more, which allows them to save more quickly for a free meal.

To address this difference, a donation system is introduced. Consumers with a wider budget have the option to donate their stamps to those who are in greater need of a free meal. The donated stamps will be converted into meal boxes at the supermarket itself, and the resulting boxes will be donated to the Voedselbank.

The cashier's question should be: "Would you like to save stamps for a free meal yourself, or would you like to donate your stamps to the Food Bank?" This will also raise awareness of food inequality. If customers choose the latter option, to make the donation more engaging, they can use their stamps to vote between two dishes. The storyboard on the page 112 and 113 provides further details on the steps involved when stamps are donated.

Clear communication

To ensure that the dishes are easy to prepare for the target audience, the accompanying instructions need to be communicated effectively. Based on the insights about reaching the target audience from Chapter 5, the preparation method has been revised, as shown in Figure 38. On the front side, the ingredients of the dish are presented visually, with the English names included to enable a broader group to interpret the images. Below this list, a simple step-by-step plan is provided, written in short and straightforward steps. The cooking time is provided to give consumers a clear idea of what to expect. A link and QR code have been included for individuals who prefer following a recipe through video. Additionally, a visual step-by-step plan has been created on the back side to make the information accessible to low-literacy individuals and non-Dutch speakers.

The card also includes a reminder that this healthy meal can easily be recreated using the supermarket's own-brand (huismerk) products. This allows the meal to be prepared again in an affordable and straightforward manner. Section 10.4.1 elaborates further on this.

9.3.2 Voedingscentrum

Extensive influence

The 'Spaar je vol' campaign allows the Voedingscentrum to not only influence consumers' meat consumption but also exert more influence on the consumption of other nutrients. It introduces consumers to different vegetables and promotes healthy amounts of sugar and salt intake. These meals establish the norm of what a delicious yet healthy meal should be for the consumer.

Taco's

Ingrediënten

 1x Courgette Zucchini	 1x Paprika Bell pepper	 2x Tomaat Tomato	 1x Kidneybonen Kidneybeans	 1x Kikkererwten Chickpeas
 1x Tomatensaus Tomato sauce	 1x Rode ui Red onion	 1x Kruiden Herbs	 6x Tacoschelpen Taco Shells	

Bereidingswijze

1. Snij de ui, paprika en courgette in kleine blokjes
2. Doe een eetlepel olie in de pan en voeg daarna de ui, paprika en courgette toe. Bak dit voor 6 minuten
3. Snij de tomaten en voeg deze toe aan de pan. Bak dit voor 3 minuten
4. Laat de blikken bonen en kikkererwten uitlekken en voeg deze toe aan de pan.
5. Voeg de tomatensaus en kruiden toe en laat de pan 7 minuten op laag vuur koken.
6. Bak de tacoschelpen voor 3 minuten op 200 °C in de oven



NOG EEN KEER MAKEN?
Maak deze maaltijd goedkoop en makkelijk nog eens met onze huismerken

 **20 min**

Kijk op www.youtube.com/c/voedingscentrum voor de bereidingswijze of scan de QR code


Sniplank
Cutting board


Mes
Knife


Koekenpan
Frying pan


Oven
Oven


Vergiet
Colander

1



2



3



4

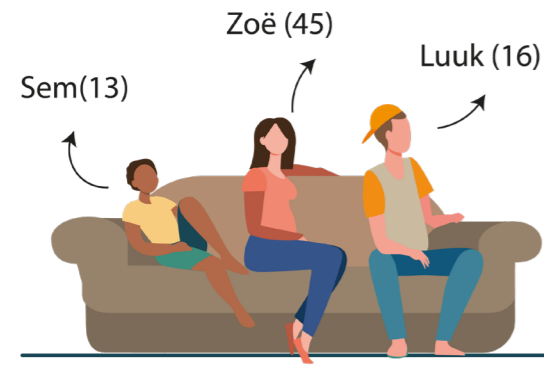


5



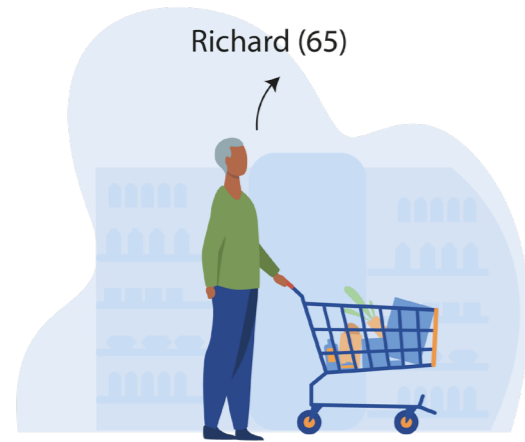
Figure 38: Instruction card, front and back

1



This is Zoë (45) with her two sons, Luuk (16) and Sem (13). They live together as a family of three in Rotterdam. Zoë loves her children deeply, but she notices that it is financially challenging to support the family, especially now that both boys are going through their hungry teenage phase. It helps that Zoë can pick up ingredients from the Voedselbank on a weekly basis.

2



This is Richard. Since his two children moved out, he lives alone with his wife Maja. It has been quite an adjustment for them, even when it comes to grocery shopping. Richard still has the tendency to buy too many groceries.

3



This time, the cashier asks Richard at the check-out if he wants stamps to save for a free meal. She explains that he will receive a stamp with every 10 euros spent on groceries and can collect them to redeem a free meal box. "You can also donate them to the Food Bank," she adds.

4



Richard notices a sign hanging up that reads: "Donate your stamps to the Food Bank and help provide a meal to someone who needs it."

5



Richard decides to donate the stamps. "If we receive such a box, it's too much for just the two of us. It's better if someone else can enjoy it," he thinks.

He can donate by voting for his favorite dish. The dish with the most votes will be added to the meals people can save for.

Richard votes for Andijviestamppot. It was always a special treat when his mother used to make it.

6



The donated stamps are collected at the end of the month by the supermarket. They calculate how many meals will be provided to the Food Bank.

7



Together with the other food donations, the donated meal boxes are collected by volunteers from the Food Bank.

8



That week, Zoë picks up her groceries from the Food Bank and the volunteer asks if she wants to have a meal box with a complete fresh meal and preparation instructions.

"Yes, please." says Zoë, "That saves me from shopping for dinner."

9.4 Feasibility

The concept needs to be feasible to be introduced by the Voedingscentrum. Further details on the feasibility of the concept are provided in the following section. First, information is provided on the different stakeholders involved and the exchange of values between them. Furthermore, an examination of the financial aspects of the concept and the collaboration between the different parties is conducted.

9.4.1 Stakeholders

Multiple stakeholders are involved in this concept. Here, their role within the campaign is described, and Figure 39 shows which values are exchanged by these different stakeholders.

Consumers who save:

The primary target audience for 'Spaar je vol' consists of individuals with a low socioeconomic status (SEP) who have resistance towards the protein transition. Although the campaign is designed with this target group in mind, it has a broader reach. The campaign can resonate with consumers who have varying degrees and types of resistance and can also be appealing to those with a higher SEP. Eventually, all supermarket customers can participate in the campaign to save for a free meal.

Consumers who donate:

Those who choose to donate their stamps towards the Voedselbank play a different role in the campaign. Their behavior will not be influenced, but their donation contributes to a shift towards less meat consumption for all. However, this group is influenced by the campaign, creating awareness on food inequality.

Consumers who receive the donations:

For the consumers who receive the donated boxes at the Voedselbank, this extra meal is of great help. It not only saves them money but also allows the consumer to interact with a healthy meal without many obstacles.

Supermarket:

The supermarket is the place where it all happens. They are the ones handling most of the logistics behind the campaign and offering some of the products for the free meals.

When choosing a collaborator on this concept, it is good to consider a supermarket that aligns with the lifestyle of the target group, like supermarket Dirk. Field research showed that the Dirk is the cheapest supermarket and, therefore, by far the most popular one among the target group.

Voedingscentrum:

The Voedingscentrum is the initiator of this project. The Voedingscentrum uses this campaign to influence people's meat consumption and other food consumption in a practical manner. The organization offers the recipes that are used in the meal boxes.

Voedselbank:

The Voedselbank serves as a pass-through window between the consumers who save and the consumers who donate. The supermarket gathers the donated stamps, translates them into meal boxes and adds these boxes to the food donation they give to the Voedselbank. The Voedselbank can then, just as they do with the other products, distribute the donated boxes to their clients.

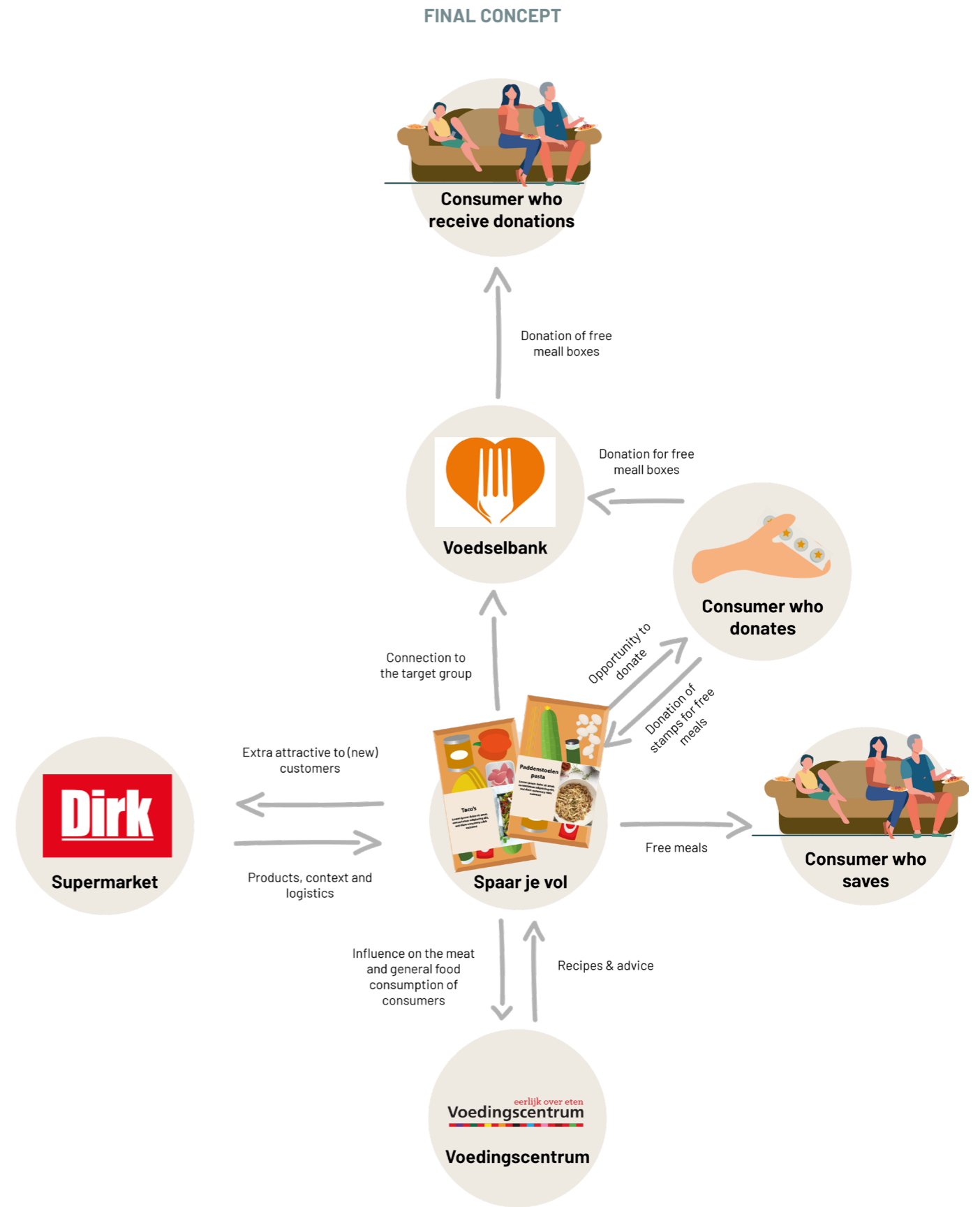


Figure 39: Value exchange between the different stakeholders of 'Spaar je vol'

9.4.2 Implementation

To make these value exchanges more concrete, the different steps of implementation are defined per stakeholder, see figure 40.

9.4.3 Finances

To get a feeling of how often consumers will be able to get a free meal, the costs of the boxes are roughly estimated.

Most of the similar meal boxes that are now sold, cost €5.49 (Marlisa, 2023b), but require additional ingredients to be bought separately, often including meat or dairy products (Marlisa, 2019). When calculating the average eventual price for the full meal, without additional ingredients, the vegetarian recipes have an average price of €6.59.

Removing the supermarkets' 3.5% profit margin (EenVandaag, 2023) leaves €6,36 per box (refer to appendix J for the full calculations).

How many stamps to save for a meal box?

To make an estimation of the amount of stamps that would need to be saved for two meal boxes, the campaign of the supermarket Lidl on products from 'de Schijf van Vijf' is taken as a reference. There, with every 5 euros, 1 stamp is received. 20 stamps are needed to receive 1 product, leading to 100 euro spend on groceries for 1 product (with an average price of €1,50)

Translating this toward 'Spaar je vol!': A meal box costs about €6,36 so that would mean spending about 439 euros on groceries for a free meal. Looking at the average spending patterns of a family of four, between €465-565 is monthly spend on groceries, so about every month a free meal box can be received.

This means that for every box 44 stamps are needed, rounded up to 50 stamps. This estimation is only to get a feeling, many unknown factors have an impact on this calculation.

Further points about finances are discussed in chapter 10.

FINAL CONCEPT

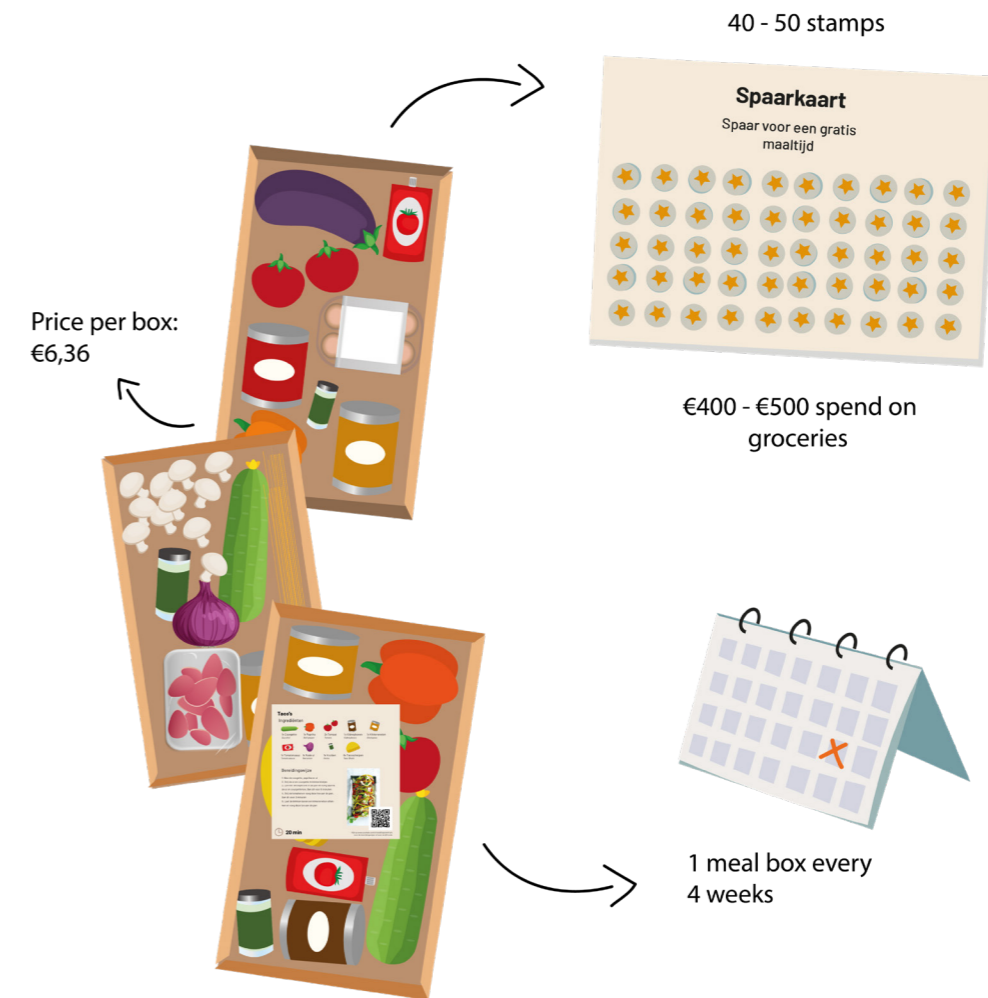


Figure 41: Financial estimation of price and amount to save of 'Spaar je vol'

	Creation of the boxes	Promotion & communication		Production	Distribution	Consumption
Voedingscentrum	Create 10 easy to make vegetarian recipes	Input	Design of the instruction cards			Availability of cooking instruction videos
Supermarket	Logistics of assembly ingredients	Design saving cards, stamps & packaging	Input	Logistic of production Delivery of ingredients	Shelve space Carry out the campaign Translate donated stamps into meal boxes	
Voedselbank					Retrieve and distribute donated stamps	

Figure 40: Implementation steps of 'Spaar je vol'

9.4.4 Collaboration

As mentioned in chapter 2, for the Voedingscentrum, public-private collaborations are possible with a commercial party, like a supermarket. A few things should be considered when looking at such a collaboration. Here two options of potential collaborators are considered.

Dirk

It is important to take into account the mission of Dirk and check if it fits the mission of the Voedingscentrum. Dirk communicates the following mission:

“Dirk aims to make responsible nutrition affordable and accessible to everyone. We do this with respect for people, animals, and the environment. At Dirk, we believe that every child should have access to a good and healthy start in life. Not everyone has the means to afford nutritious food, sports lessons, or diapers. We work together with charitable organizations to help these individuals wherever possible.” (De Voordeligste Supermarkt Van Nederland | Dirk, n.d.)

Dirk aims to inspire consumers to adopt a healthy lifestyle, with a particular focus on making healthy food affordable. In 2022, they made changes to their promotion policy to increase the presence of products from the “Schijf van Vijf” in their offerings. This involved offering more discounts on such products and taking a stricter approach to promoting unhealthy deals. Meat products are no longer allowed to be prominently featured on the front or back page of the discount flyer to reduce attention drawn to them.

In 2022, Dirk also took steps towards the protein transition by signing the IMVO Covenant for Plant-Based Proteins. This covenant commits product brands and other stakeholders to making sustainably produced plant-based proteins increasingly available and attractive internationally (Expertisecentrum Voedingsmiddelenindustrie (Evmi), 2023). Additionally, in 2022, Dirk initiated a 20% reduction in the promotion of meat. They started a pilot project when participating in ‘Het Gelderland van Morgen,’ which aims to create a more sustainable food supply by increasing the share of plant-based proteins and/or reducing food waste. The pilot contained an emphasis on using nudge methods to steer consumers toward vegetarian options (Greendish, 2022).

In their 2022 sustainability report, Dirk acknowledges the increase in sales of vegetarian products. However, they note that they have not yet observed a decline in the sales of animal protein products. Consequently, they express their intention to further refine their approach (Dirk van den Broek, n.d.).

Other supermarket option: Lidl

While Dirk is the most fitting supermarket for the target group, another alternative to consider is Lidl. Lidl is also an accessible option for consumers with limited financial means, being 3% cheaper than the average supermarket (RTL Z, 2023). Lidl’s mission says the following:

“Our business operations are aimed at offering customers, both today and in the future, products of the highest quality at the lowest price and making a sustainable and healthy lifestyle affordable and accessible.” (Lidl, n.d.)

An advantage of collaborating with Lidl is the previous collaboration between the Voedingscentrum and the supermarket, which could potentially facilitate the arrangements for the collaboration. However, a counterargument to this point is that it may compromise the independence of the Voedingscentrum. Collaborating with multiple supermarkets reinforces impartiality and emphasizes that the partnerships are solely driven by the specific goals of the project, not influenced by commercial interests.

Voedselbank

The Voedselbank currently receives donations from multiple supermarkets, including Dirk and Lidl, which makes it easier to pitch the collaboration for the ‘Spaar je vol!’ campaign. Additionally, the Voedselbank is currently in discussions with the Voedingscentrum regarding initiatives aimed at reaching the low socioeconomic status (SEP) target group.

9.5 Viability

The design needs to be able to survive on a longer-term. To strengthen the potential viability of the concept, some details are expanded on in the following chapter.

Permanent but changing campaign

This campaign does not have to be a short-term promotion. If successful, it can be a long-term or continuous promotion, similar to the 'Koopzegels' at supermarket Albert Heijn, which ensures loyal customers for the supermarket.

To continue providing customers with the excitement of receiving a free meal box, new boxes can be introduced every 2-3 months. This also allows the Voedingscentrum to showcase more variety in vegetarian recipes and enables cost savings by utilizing seasonal products.

Themed months

In a continuous campaign, themed boxes can also be used. This adds an extra joyful element to the campaign. For example, meal boxes with famous movie dishes during the Dutch Film Festival, orange dishes for King's Day, or boxes focused on seasonal vegetables (see figure 42). These themed boxes will provide additional promotion and emphasize the fun and memories associated with food. This also serves as a distraction from the amount of meat in the dishes, as the choices are based on the theme rather than specifically reducing the amount of meat.

Continue the change

Perhaps some dishes will resonate with the target audience, and they may want to make these dishes again even if they don't receive them in the free meal boxes. Therefore, when changes are made to the assortment of meal boxes in the saving campaign, it is advisable to sell the "old" recipes as regular meal boxes for sale. This way, people can first taste new dishes through the free meals, and once the new batch is launched, they can easily re-create the dishes using the now sold meal boxes. A final step towards promoting independence with these new dishes would be to provide a folder with sliding pockets where people can keep the cooking instructions that come with the boxes, thus creating their own recipe book (see figure 43).



Figure 42: Themed boxes

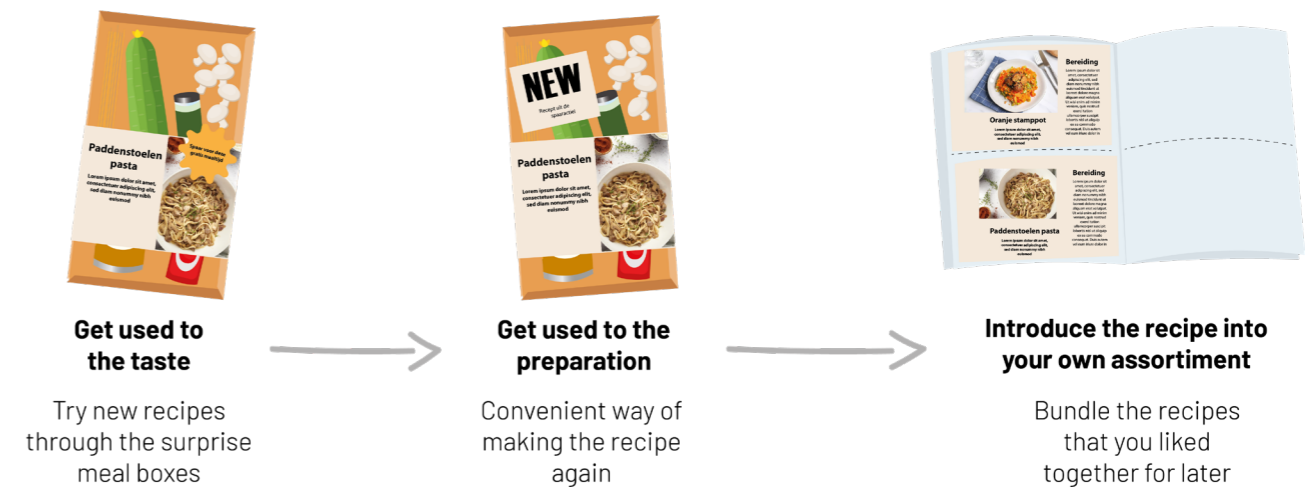


Figure 43: Steps to continue the change

10.1 Goal

Within this evaluation, two goals are set:

1. Determine whether the effects are likely to occur as anticipated.

Following the SID method, the proposed design is based on the belief that it will stimulate particular behavior that will have a certain benefit to society. The first goal of the evaluation of the design is to validate this belief. An important question is: "Is the design - as it is now - effective and appropriate? To what extent?"

2. Obtain valuable insights into how the design can be made more effective or more appropriate.

The second goal is focused on improving the proposed design. An important question is: "What crucial aspects of the design do we need to change to improve its effectiveness and appropriateness?"

At the end of this study, the minimal indication of effectiveness for the concepts is, at this stage of the project, a large majority of participants in the study who believe that the described narrative is plausible and the concept, in some way, contributes to behavior change. When considering the feasibility of the concept, participating stakeholders should assess the concept as having the potential to become fully feasible through iteration.

10.2 Approach: Narrative-based study

To assess the proposed design, a narrative-based study is conducted. This method was chosen since the 'Spaar je vol!' campaign is expected to have a social impact that may take several years to materialize, and given the limited time and budget constraints of this graduation project. This method also fits the early stage of the development process (Tromp & Hekkert, 2019).

The narrative-based study uses a story to assess the design. The story explains how characters interact with the design and describes the consequences of this interaction. Normally, the narrative should spell out the behavioral and social implications of the concept use. However, since this project deals with a sensitive topic of reducing meat consumption that often triggers resistance merely by mentioning it, the story mostly describes the behavioral change of a family accepting a new recipe through the concept instead of explicitly stating their acceptance of a vegetarian meal. Rather, the vegetarian aspect is subtly described when the narrative shows the family noticing that the dish they normally make with minced meat is now offered with beans. During the later stage of questioning, the specific behavior and social implications are mentioned to delay the response influenced by resistance and gather insights without immediately focusing on the sensitive topic.

To check the probability of the implicated steps described in the narrative, the most important question in this approach is: "When you accept the design as real (and developed), how would you assess the probability of the events explained in the narrative?"

10.2.1 Narratives

For this project two different aims are made: gather validation and feedback from the consumers perspective and from the stakeholders perspective. Both parties will be readers of a story, so different stories were created for different parties.

- Story 1: For potential consumers, focused on the interaction with the design and desirability
- Story 2: For other stakeholders, focused on the feasibility of the design and the donation system

The different stories also helped in presenting a main character who is not too close to the reader, which could trigger biased answers (Tromp & Hekkert, 2019). One of the stories was focused on a main character who needed the Voedselbank to make ends meet, while the other main character had a little more financial flexibility. At the Voedselbank the second storyline was presented while other participants who do not personally get ingredients at the Voedselbank were given the first story.

All stories contained a brief description of the context, described the interaction and use of the concept, and showed socially relevant behavior. The stories were told in easy-to-understand Dutch and supported by illustrations. In all stories, the meals were mentioned to have beans instead of meat, but the word "vegetarian" was not specifically mentioned. Over time, improvements were made towards the stories to make the evaluation more effective. The stories can be found in Appendix K.

10.2.2 Questions

After presenting one of the narratives to the participants, a number of questions were asked to evaluate the plausibility of the story. Focused on the story as a whole, but also questioning specific elements like the likelihood of consumers participating in the campaign, or following the guided cooking instructions.

It was also checked if participants think the concept stimulates the wanted behavior and contributed to the social implication. Since this project is dealing with a sensitive topic, the questions on the wanted behavior were first formulated as 'changing towards a healthy diet' to be followed by the last questions on a change towards less meat consumption. These last questions were mostly added to gain insight into the participants' stance on the transition.

The evaluation with involved stakeholders was more focused on the feasibility of the concept from their perspective. The questions were adjusted to their role in the concept and the concerns surrounding that role.

All statements and questions also asked for a short explanation, which will hopefully lead to potential improvements of the concept. All questions can be found in appendix L.

10.2.3 Iterations and next steps

Based on the evaluation with the different parties, some iterations were made to the concept. Resulting in the final concept as described in chapter 9. The made changes are explained in this chapter. Other points that were brought up during the evaluation are described and recommended for future steps in this project. These changes require more research or resources and are outside of the scope of this project.

10.3 Target audience

The focus of the evaluation with potential consumers lies in the desirability of the concept.

10.3.1 Approach

Three moments of feedback were held. The first evaluation session was with consumers of the Voedselbank (n=4), and the other two were with consumers of the supermarket Dirk at two different locations (n=3 & n=5).

The concept described in chapter 9 offers consumers the option to choose a meal box. In an earlier version of the concept, consumers received a surprise meal box. During the evaluation sessions with consumers, these two versions of the concept were evaluated by using two versions of story 1: one with a surprise meal (Story 1A) and one without (Story 1B). In the first session, the two different scenarios were randomly presented to different potential consumers of the concept. The gathered insights unanimously resulted in a strong preference for choosing a box, which led to the presentation of only story 1B in the other feedback sessions.

10.3.2 Participants

Based on the questions asked, it became clear during the interviews whether the interviewees were open-minded towards a reduction of meat consumption. Eventually, the potential consumers spoken to were categorized as follows:

- Clear resistance towards vegetarian meals (n=4)
- Not used to but open towards vegetarian meals (n=5)
- Familiar with vegetarian meals (n=2)
- Consumers who donate (n=1)

10.3.3 Main insights

Plausible story

All participants generally described the story as plausible. Some mentioned that not all consumers would react the same way as described in the story but that the described events were very likely.

"People always need food, so I think it is quite plausible."

Will people join the campaign?

The participants mentioned that they think most consumers would join the campaign. Reasons for this were financial stimuli and low threshold of the easy and quick-to-make recipes.

"Some people don't make ends meet, and then this works."

"If it's offered to you, you'll still give it a try."

"I think the 20-minute preparation time mentioned on it helps. I think when something is new, it's good that it's easy."

Choosing a box

All consumers mentioned that being able to choose from a specific selection is much more desirable than receiving a surprise box. They then receive a meal with greater confidence, and the chance of giving away unwanted food is reduced.

Adjusting the recipe

The participants mentioned that they do not necessarily find it likely that consumers will always prepare the dish exactly as indicated in the recipe. Most participants mentioned that consumers will probably follow the exact recipe when making the dish for the first time. They mentioned that the description that is now used on similar meal boxes is easy to follow.

The participants did indicate that consumers might change the recipes to their personal liking after having it for the first time. Many mentioned the spiciness of the dish as something people would adjust themselves to.

“I think people will adjust the dish, but not for the first time. If they make it more often, they will adjust the dish according to their taste by leaving something out or adding something.”

Contribution to a healthy diet

All participants mentioned that they believe the campaign can contribute to a healthier diet for consumers. Whether this will have a continuing and lasting effect on consumers beyond the specific meal they receive during the campaign, potentially influencing their other meals, is something that the participants were divided on. Most mentioned that it probably does not catch on with all consumer, but some will incorporate the healthy adjustments into their day-to-day diet.

“I think there is definitely a group that will do it because it’s free and then think, ‘Oh, this is doable,’ and then pick it up.”

“Some people will stick with it, while others may think, ‘I decide for myself what I eat.’”

‘I think this is the only way to make people eat healthier.’

Contribution to less meat consumption

The question if the meal box would help reduce the consumption of meat was the subject of most disagreement among the participants.

Participants that were clearly part of the resistance target group mentioned after hearing the words ‘vegetarian meal’ that they would add meat to the meal. Interesting is that these same people first did not react to the detail that explained the shift from meat to beans in the story, even when this detail was verbally mentioned. The conversation also often switched from perspective when mentioning vegetarian meals; participants that talked about other consumers now switched to their own perspective. What is striking as well is the fact that the same consumers before hearing ‘vegetarian’ mentioned that if it is easy and free, they think consumers will definitely follow the recipe as given and it would impact the change towards a healthier meal.

“I mean, if it’s easy and free, then I would just follow the steps.”
... ‘I would add some meat.’

While participants who do not have the same level of resistance mentioned that they would probably try it.

“I’m not a vegetarian, but I would make it as intended out of curiosity.”

Participants that were not part of the resistance target group mentioned that they think some consumers would want to have a meal with meat. They mentioned that by not specifically mentioning the vegetarian meal, most people would try the meal as given, and then the second time, they might add meat.

It is hard to measure the real contribution the campaign will have on consumers’ meat consumption given the current state of the concept. Since the resistance is triggered when specifically mentioning ‘vegetarian meal’, it becomes difficult to predict the outcome when this term is not mentioned, but the consumers are faced with the ingredients in the box.

All participants agreed that the vegetarian meals would not withhold consumers from joining the campaign. This shows that even when adding meat to the dish and participants not engaging with the campaign as intended, the campaign does not trigger extra resistance for these participants. This way the campaign still emphasizes the new norm and shows that meat is something extra in the meal.

Saving for a full card can take a long time and be demotivating.

It can take a long time for people to obtain a card, especially for those who either visit different stores due to financial circumstances or due to specific, often non-Dutch ingredients. The donation campaign in collaboration with the Food Bank can help with the first mentioned reason. As a suggestion, it has been proposed to provide smaller saving cards for those who struggle to save for a full card. This would signify a clear indicator that someone is facing financial difficulties, potentially triggering feelings of shame. While exploring different solutions, it’s essential to consider the feelings of shame that can sometimes impede this target group.

Mention of the Voedingscentrum

Some participants mentioned that the specific and clear mention of the role of the Voedingscentrum in this campaign was important for them. This was seen as a way to validate the campaign’s intentions and goals and to encourage more consumers to participate. Since this does not fully connect to some of the points found in the earlier research, it is advisable to explore this topic more elaborately.

10.4 Stakeholders

10.4.1 The Voedingscentrum

Three employees with different roles at the Voedingscentrum were included in the evaluation of the concept. All three were spoken to individually, of which two conversations were mostly focused on the feasibility side of the concept. The main insights are described.

The general reaction to the concept was positive when looking at the big picture. The main storyline was seen as plausible when considering the desirability side, and the concept was considered as something that could contribute to the reduction of meat consumption.

‘I think people would join the campaign; Dutch people always like free stuff.’

On the feasibility side, more concerns were raised. Overall, it is theoretically possible for the Voedingscentrum to initiate the concept and collaborate with a supermarket. Such collaboration does require time and effort to ensure a good collaboration and guarantee that the commercial goals of the supermarket do not collide with the goals of the Voedingscentrum.

The suggestion to collaborate with different product brands that can offer products for the meal boxes, thereby helping financially while their products are promoted, is not possible. The focus should lie on the supermarket's 'huismerk' (own-brand) products.

Other main feedback on the concept is described in the following main insights:

Food Waste

Considering that not all families who will save for the meal box consist of 4 persons, a question arises about what will happen with the remaining food? Given the Voedingscentrum's commitment to minimizing food waste, it would be beneficial to include information on the box regarding proper food storage.

Focus on the promotion for the supermarket

The concept can focus more on making it an attractive promotional campaign for a supermarket.

This can be done by emphasizing that making a healthy meal does not have to be expensive when using 'huismerk' products. This approach simultaneously promotes the supermarket's own products and the consumers are shown how they can prepare a nice and healthy meal with the cheapest products. While this promotion hasn't been fully developed, the storyboard in chapter 9.2 shows an example of such a promotion. This approach also helps divert some attention from the fact that the meals are vegetarian.

The advice is to tailor the promotional actions to the target audience by promoting them at locations that are relevant to the target group. Saving cards can be sent to community centers, distributed within social housing complexes, or distributed through organizations such as UWV and municipalities.

Promotion of the donations

Next to promoting the campaign in general, it also helps to promote the donation part of the campaign. Not only will this stimulate consumers to donate, but it also allows a supermarket to show off the corporate social responsibility side of the concept. This might include not donating small amount of boxes every week but going for the big promotable amount of donations at once.

10.4.2 Volunteers at the Voedselbank

Four volunteers from two different Voedselbank locations were introduced to the concept in order to gain insights into their evaluation of it. This evaluation covered aspects of desirability and feasibility, particularly in reference to the donation system, here the main insights are described.

Desirability:

The proposed series of events described in the story was seen as very plausible. Firstly, looking at the desirability of joining the campaign, volunteers expressed attraction to the target group and the broader audience.

‘I would find it appealing myself; I think the idea of saving is already very attractive in itself.’

Donation of boxes or stamps

As described in chapter 9, consumers can donate their stamps towards the Voedselbank. Before the evaluation with the Voedselbank, these stamps were directly donated towards the visitors of the Voedselbank, instead of donating the boxes. This change was made based on the feedback of the volunteers at the Voedselbank. The volunteers mentioned that participating in the saving campaign might not be achievable for all visitors of the Voedselbank. When the boxes are directly donated towards the Voedselbank, it takes away an obstacle for the target group.

Feasibility:

Looking at the logistical side of the donation system, the volunteers mentioned that the updated donating system is feasible. The volunteers can easily pick up the donated boxes at the local supermarket. They did not see immediate obstacles on this subject.

‘If the will is there, it should certainly be possible.’

‘May I suggest this idea to the national board of the Food Bank?’

Effect:

The plausibility of the concept triggering the intended behavior was seen positively. The concept is perceived as facilitating a safe transition towards a healthier and less meat-focused diet. This plausibility was mainly focused on the fact that the box is considered complete and convenient.

‘I am convinced that this savings campaign contributes to eating less meat because the box is so complete.’

When considering potential long-term changes, the volunteers noted that the boxes could have a lasting impact on certain visitors. Sadly, the volunteers also noted that some of the visitors are really hard to help, which is a recurring problem for the organization. For this group, the convenience of the boxes will hopefully aid in changing habits over time.

10.4.3 Supermarket

To evaluate the feasibility of the concept from the supermarket's position, an owner of a supermarket location was interviewed. Due to the context of this conversation not being based on the narrative-based study, it contained some specific questions focused mostly on the financial feasibility of such a concept. The following main insights were gathered.

Financial feasibility

The financial feasibility of this concept is complex, and the following options are proposed to make it more feasible:

- **Collaborations with other investors**

The owner mentioned collaborations with specific product brands that might want to offer products that can be put in the box as a promotion. However, this opportunity is not suitable for the Voedingscentrum due to the need to maintain a neutral status.

Yet, other organizations that the Voedingscentrum might be able to collaborate with could work on this concept, like Centraal Bureau Levensmiddelenhandel (CBL), an organization that represents the collective interests of the Dutch supermarket sector.

- **Save for a discount**

Saving for a discount on the meal boxes is also a way to make the campaign feasible for the supermarket and more appealing to the consumers. This way, the meal box can be given away to the consumer for the purchase price, which was estimated between 2.5 and 3 euros*. By doing this, the campaign costs will be reduced to logistic and promotional costs since the costs of the meals are broken even. This also allows the campaign to have a low threshold for the consumer since it allows the supermarket to maybe reduce the number of stamps needed for a full card. So with 10 stamps, you get a full meal for 4 persons for 3 euros.

Varying offer of meal boxes

A varying offer of meal boxes does not bring immediate obstacles from the supermarket's perspective.

Emphasize the Corporate Social Responsibility aspect of the concept

Especially when working with donations towards the Voedselbank, this can be emphasized as a corporate social responsibility case, which allows for some available promotional funding as well.

Bonding with new customers

For the saving campaign to have an impact on new clientele, the campaign is advised to be at least 10-12 weeks long. This allows consumers to change their habit patterns.

Local aspects allow for more enthusiasm surrounding the campaign

Campaigns that focus on local features are often more successful. This can be considered when promoting the donation system, it could help to highlight the fact that the boxes will be given to local Voedselbank locations. To further engage consumers who wish to donate, supermarket locations can also explore potential collaboration with other similar charitable organizations that are locally known to be part of the donation system.

The local aspect can also reinforce the 'following others' aspect by making use of consumers' direct surroundings, as explained in section 7.3. Techniques like promoting with 'the most chosen meal box in Zoetermeer' can be employed to encourage consumers to follow their direct surroundings. Additionally, this approach can tap into specific customer values, such as 'This box contains products from Dutch farmers,' or highlight the idea of sharing a meal with loved ones: 'Who will you share your free meal with?'

Fitting collaborative supermarket

When contacting different supermarkets to gain insights on this topic, another important insight arose: the preferred supermarket Dirk generally does not have saving campaigns. This leads to a need to further exploring other supermarket options that fit the target group or starting a conversation with Dirk about the options. It is of great importance that the collaborative supermarket fits the lifestyle of the target group.

* The purchase price is a different calculation from the estimated price without profit margin in section 9.4.3. The purchase prices does not include logistical and promotion costs.

11.1 Spillover effects

When reflecting on the created design, spillover effects need to be taken into consideration. These are seemingly “unrelated” effects that occur due to the introduction of the design.

Broader impact on food consumption

Through the “Spaar je vol!” campaign, the Voedingscentrum has a broader impact on the types of food consumers eat, including ingredients, portions, and combinations. This can lead to changes in meat consumption, an increase in the intake of healthy nutrients, and regulation of general meal portions. Communication about what constitutes a healthy meal portion for four people helps in combating overeating and obesity.

Seasonal eating

The boxes can promote seasonal recipes by offering ingredients that are in season, thus contributing to a healthier planet.

Attention to food inequality

Although this campaign is primarily aimed at encouraging reduced meat consumption, it publicly draws attention to food inequality. By emphasizing that everyone deserves a healthy meal and enabling consumers to donate their stamps to those in need, the campaign addresses this issue.

Food waste

The campaign can contribute to reducing food waste by providing the right amount of ingredients for families. However, since not all families consist of four people, it may also increase food waste by the excess food being thrown away. Similarly, if the boxes contain ingredients that consumers dislike, it is mentioned during the evaluation that consumers would give those ingredients to friends or neighbors. While this is a positive indication, it is important to consider the difference between what people say and what they actually do.

Against commercialized saving campaigns

The campaign highlights the importance of saving for items that are truly necessary, rather than saving for items like towels that are often not needed. In doing so, the campaign subtly questions the capitalistic mindset.

11.2 Limitations

11.2.1 Research limitations

Qualitative research

Although conducting qualitative research fosters greater empathy for the target group, provides deeper insight in the context and serves as a significant source of creative inspiration, the findings can be subjectively affected by the researcher. This applies to both interviews and observations.

Participants

When considering the participants that contributed to this research, some limitations can be found. Even though the different approaches towards recruiting participants created quite some diversity in the people that participated in the conducted research, this diversity can mostly be found in their cultural background and financial situation. However, the small sample size still meant that the great diversity of situations is not fully represented.

The research was limited by the Dutch and English language. This is especially important in the target audience, which has a considerable number of people who do not speak Dutch or English sufficiently to make a major contribution to the insights gained in this study. Not only does this limit the diversity in participants, but it also might have influenced the gathered knowledge when questions are not fully understood, or answers are not communicated as wanted.

Another limitation when looking at the participants is the fact that most participants lived in Zuid-Holland and within cities. Only a few street interviews and conversations to evaluate the concept were conducted outside of the Randstad. This could have influenced the research results on this topic.

Different research steps

Due to the difficulty of reaching the target audience, the research activities needed some more flexibility. Many of the visits to different locations had an

ethnography manner to it, even though stepping into the context was relatively short. Some of the interviews with participants or experts could not be planned beforehand and could spontaneously take place when visiting different locations. This meant that not all research activities could follow the exact same steps and needed to be flexible toward the context. Within the preparations, this was often taken into account, through carrying extra interviews and probe material when visiting a site, and setting up interview questions for a potential interview with experts on-site. Yet, this did lead to not having the same amount of time with the different participants or experts, and sometimes not being able or allowed to record the interviews.

Sensitivity towards the subject

The sensitivity towards the subject also limited the qualitative research. The interviews needed to strike a balance between providing information on the subject while trying to prevent the conversation from being overblown by triggering too much resistance.

This also came into play when validating the concept; the attitude towards the concept often changed when specifically mentioning vegetarian meals.

Even when aiming to stay as objective as possible, my personal opinion and feelings towards this subject could have influenced the insights and outcomes.

Behavior Change Theory

Due to the limited time of the project, the focus of the research on behavior change lied within reducing resistance. Behavior change can also be enhanced by changing features like ease, norms, or motivation (Croonen & Luesink, 2022), which were, despite playing a small role, not heavily featured in this project.

11.2.2 Solution limitations

The set timeframe of the project makes it hard to validate the concept on a deeper level. More time could offer more insights into the feasibility of the project and the long-term effect of the concept.

Financial Feasibility

The financial feasibility of the concept in its current form is a big question mark. In the evaluation phase of the concept, multiple opportunities to make the concept more feasible were suggested, but due to lack of time and connections within the food industry, the project had limited access to elaborate on these opportunities.

These feasibility limitations concerning the implementation of the concept are intertwined with financial constraints for the consumers. During this project only a rough estimation was made to gain insight on the financial side for the consumer. The current requirement of 500 euros that consumers need to spend before receiving a box is relatively high. Further exploration of the financial feasibility of the implementation will also facilitate a discussion regarding the financial implications for the consumer.

Needed collaboration

Another limitations of the concept is the fact that the Voedingscentrum can not realise the concept independently from other organisations. The current form of the concept does not extensively elaborate on the feasibility of the collaborations that are needed for the concept. In theory, all collaborations are in some form possible, but in reality, much consultation will be needed to align the different agendas and goals.

Multiple Problems

Since the target audience is often dealing with multiple problems that go beyond their eating habits, this concept can only have a limited effect on this web of problems.

Small Piece in a Complex Problem

The project addresses not only consumers facing complex problems but also operates within a complex domain. Given the many factors influencing this domain, the proposed concept will represent only a small piece within a much larger puzzle.

Next to these limitations there are also still some uncertainties within the current state of the solution, like the eventual impact the campaign will have on meat consumption. The evaluation session within the project gave some insights on the effect, section 11.3 describes further steps that can be taken.

11.3 Recommendations

Further Research

To gain deeper insights into this domain, further qualitative research is recommended. To broaden the existing insights, it is advisable to conduct interviews in more diverse locations and in different languages. Additionally, stepping into the context of the target group for a longer period can provide a broader view of the obstacles and problems the target group deals with.

In addition to researching the target group more extensively, exploring behavior change theories that focus on leveraging ease, norms, and motivation to enhance behavior change can contribute not only to the research of the current project but also to the development of this concept or other future concepts within this domain.

Further Development of the Concept

To advance the concept, the Voedingscentrum should initiate collaboration with a supermarket. This step allows for discussions about the financial feasibility and possibilities within a potential partnership.

Alongside, the impact the meal box will have on consumers meat consumption is something that needs to be explored further. This can be done by creating a more realistic situation in which consumers are confronted with the ingredients of the meal and not mentioning that it is vegetarian. This way the impact and potential triggering of resistance can be measured more realistically.

Other aspects mentioned during the evaluation phase should be given further consideration. For instance, using the strength of a local aspect within the campaign and addressing potential negative spillover effects by incorporating instructions on food sharing or food saving.

Once these considerations are addressed, an approach for further development is to start with a pilot on a smaller scale. Implementing the campaign on a smaller scale allows for identification of unforeseen obstacles, assessment of additional spillover effects, and measurement of the achieved impact.

As the next step, a broader approach that includes the target group can be explored. This means not only involving consumers of the Voedselbank in the donation system but also considering a wider range of low socioeconomic status (SEP) target group through other help organizations like homeless shelters and nursing homes.

Recommendations for the Voedingscentrum

In addition to further developing the chosen concept, another recommendation based on this project is to explore the different approaches implemented in the other designed concepts (refer to chapter 8). This could involve investigating roadmaps towards changing food environments, both for consumers and food providers, as well as for internal use within the Voedingscentrum. Additionally, considering reframing messages, similar to what is done in concept 3, and implementing a reward system for desired behaviors may prove effective. Another interesting approach for the Voedingscentrum is to leverage their current consumer base through their existing channels, as described in concept 4. Activating these consumers to reach out to others can significantly broaden the reach of the information.

Furthermore, it is essential to acknowledge that when attempting to target a new audience, new methods of engagement will likely be necessary. For reaching people with a low socioeconomic status (SEP), focusing on practical methods and collaborating with parties that already have contact with the target group, both commercial and non-profit, can be highly beneficial.

In this project, the target group expressed diverse viewpoints regarding their opinion on the Voedingscentrum. It is advisable to conduct a specific study on the target group's opinion of the Voedingscentrum.

11.4 Conclusion

The goal of this graduation project was to explore the resistance people have towards the protein transition, especially people with a low socioeconomic position (SEP).

Research outcomes

The research was conducted through various research activities, including interviews with experts, stakeholders, and the target group, as well as literature studies. These activities provided insights into the protein transition and the resistance surrounding it. Insights were also gained from behavior change theories related to different forms of resistance.

In-depth research into the eating habits and other characteristics of the target audience resulted in valuable insights, offering the Voedingscentrum a contextual understanding of the target audience.

By utilizing the Social Implication Design method, this knowledge led to 10 clusters that elucidate the landscape of protein consumption among consumers with a low socioeconomic status (SEP). These research outcomes hold potential for application in future research and projects within this domain.

Design outcome

The final outcome of this project is an intervention that contributes to the protein transition. The concept consists of a savings campaign at the supermarket, allowing consumers to collect stamps while grocery shopping. By saving enough stamps, consumers can redeem them for a free meal box containing fresh ingredients for a healthy vegetarian meal, serving four people. This meal box provides all the necessary ingredients and encourages consumers to easily and freely engage with vegetarian meals, establishing the norm of vegetarian meals as the standard, and meat does not have to be part of a healthy meal.

To address concerns about food inequalities, a donation system is incorporated into this savings campaign. Consumers with financial limitations, who may find it challenging to spend a significant amount of money at one supermarket, will have trouble saving enough stamps. The donation system enables consumers with greater financial flexibility to donate their stamps to those who need them more. The donated stamps are used to redeem meal boxes that can be donated to the Voedselbank.

This outcome successfully addresses the design goal:

*“To facilitate a healthy shift towards a more plant-based diet,
we want to help consumers feel secure in such a change
by stimulating them to joyfully follow others.”*

The validation and evaluation of the concept provided insights from the perspective of the target audience and different stakeholders. The concept was positively received by both potential consumers and stakeholders. Further gathered insights led to some adjustments and iterations on the concept. Furthermore, the evaluation resulted in recommendations for future developments of the design.

In conclusion, This project contains an in-depth case study on how to apply behavior change theory when designing interventions. The project shows how this knowledge can help deal with different forms of resistance while trying to stimulate certain behavior through a design. It gathered insights on the eating habits and obstacles towards change from consumers with a low SEP and shows a case of how to design within this domain.

The project successfully contributes to its purpose of helping the Voedingscentrum in finding a way to include those who are not willing or able to participate in the protein transition. The research outcomes serve to expand the organization's understanding of the target group, while the design outcome proposes a practical solution. As mentioned, the financial feasibility of the concept is the biggest question mark, which can be further explored. Further opportunities mentioned in the recommendations will hopefully inspire future work on including those who are not willing and able in the protein transition.

Personal reflection

During this project, I immersed myself in the world of resistance that people have towards the protein transition, particularly individuals with a low socioeconomic position. I will reflect on the main challenges and lessons I encountered during the project.

The challenges

During this project, multiple challenges arose along the way. At the start of the project, the biggest obstacle was finding my way into different unknown complex subjects: the protein transition, consumers with a low socioeconomic position (SEP), and behavior change theory. While delving into these subjects, the subsequent challenge was to establish contact with the target audience. Not only was it difficult to get in contact with consumers with a low SEP, but another challenge also emerged: working on a project for people who do not share the same objectives as I do. This was an obstacle when conducting the interviews with the target group and experts but also made the 'Develop' phase very challenging.

The last, and perhaps the biggest, challenge I encountered in this project was finishing it. I had a really hard time reaching the end and accepting that there is always more to do and there are always more improvements that could be made.

Learnings

I learned a lot during this project, not only in terms of substance but also regarding the entire process.

This project made me realize that all the projects I have undertaken as a designer were for people who actually shared the same goal as I did. Designing for individuals who are not willing to collaborate towards a common objective was a very different experience, and it was quite a challenging aspects for me. It forced me to reflect on my own position on the subject and determine whether and how to communicate this perspective. Additionally, it highlighted the significance of maintaining a critical stance towards your own beliefs and reflecting on your ethical role as a designer.

Despite occasional frustration when dealing with this resistance, the exploration of behavior change and its integration into the design process has inspired and motivated me to further explore this direction in the future.

Furthermore, I feel that I trusted the process of this project and had confidence in my abilities as a designer. Even when I encountered uncertainty or found myself doubting my choices, I never became completely stuck in the process. This was something I had been afraid would happen, and I believe the experience gained from this project will greatly benefit me in the future.

The last important lesson is to always keep in mind that the complexities of such a domain cannot be resolved within six months.

Personal learnings

This project also made me reflect on my own view of the protein transition. Previously, I never understood why people would get mad at me when I told them I do not eat meat. This project resolved many awkward barbecue memories in which I did not understand why I was attacked as the vegetarian. It provided many insights into why people have such a hard time letting go of meat consumption and made me strangely feel lucky that I have never had the struggle of having to give up meat.

This project also introduced me to the world of food inequality and made me appreciative of all the volunteers and organizations that I contacted. The difficult stories of the target group, along with the kindness of both them and the volunteers, made me want to get involved and explore what I can do to help.

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Appendix A: Design brief

DESIGN
FOR OUR
future

IDE Master Graduation

Project team, Procedural checks and personal Project brief



This document contains the agreements made between student and supervisory team about the student's IDE Master Graduation Project. This document can also include the involvement of an external organisation, however, it does not cover any legal employment relationship that the student and the client (might) agree upon. Next to that, this document facilitates the required procedural checks. In this document:

- The student defines the team, what he/she is going to do/deliver and how that will come about.
- SSC E&SA (Shared Service Center, Education & Student Affairs) reports on the student's registration and study progress.
- IDE's Board of Examiners confirms if the student is allowed to start the Graduation Project.

USE ADOBE ACROBAT READER TO OPEN, EDIT AND SAVE THIS DOCUMENT
Download again and reopen in case you tried other software, such as Preview (Mac) or a webbrowser.

STUDENT DATA & MASTER PROGRAMME

Save this form according to the format "IDE Master Graduation Project Brief_familyname_firstname_studentnumber_dd-mm-yyyy". Complete all blue parts of the form and include the approved Project Brief in your Graduation Report as Appendix 1 !

family name	<input type="text" value="Dieben"/>	Your master programme (only select the options that apply to you):
initials	<input type="text" value="D.J."/> given name <input type="text" value="Daniek"/>	IDE master(s): <input type="radio"/> IPD <input type="radio"/> Dfl <input checked="" type="radio"/> SPD
student number	<input type="text" value="4448138"/>	2 nd non-IDE master: <input type="text"/>
street & no.	<input type="text"/>	individual programme: <input type="text" value="- -"/> (give date of approval)
zipcode & city	<input type="text"/>	honours programme: <input type="radio"/> Honours Programme Master
country	<input type="text"/>	specialisation / annotation: <input type="radio"/> Medisign
phone	<input type="text"/>	<input type="radio"/> Tech. in Sustainable Design
email	<input type="text"/>	<input type="radio"/> Entrepreneurship

SUPERVISORY TEAM **

Fill in the required data for the supervisory team members. Please check the instructions on the right !

** chair	<input type="text" value="Paul Hekkert"/>	dept. / section:	<input type="text" value="Design Aesthetics"/>
** mentor	<input type="text" value="Anna Peeters"/>	dept. / section:	<input type="text" value="Design Aesthetics"/>
2 nd mentor	<input type="text" value="Eva de Groot"/>		
	organisation: <input type="text" value="Voedingscentrum Nederland"/>		
	city: <input type="text" value="Den Haag"/>	country:	<input type="text" value="The Netherlands"/>
comments (optional)	<input type="text" value="See final comments at page 7"/>		

Chair should request the IDE Board of Examiners for approval of a non-IDE mentor, including a motivation letter and c.v.

Second mentor only applies in case the assignment is hosted by an external organisation.

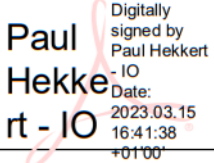
Ensure a heterogeneous team. In case you wish to include two team members from the same section, please explain why.

Procedural Checks - IDE Master Graduation



APPROVAL PROJECT BRIEF

To be filled in by the chair of the supervisory team.

chair date signature  Digitally signed by Paul Hekkert - IO Date: 2023.03.15 16:41:38 +0100


CHECK STUDY PROGRESS

To be filled in by the SSC E&SA (Shared Service Center, Education & Student Affairs), after approval of the project brief by the Chair. The study progress will be checked for a 2nd time just before the green light meeting.

Master electives no. of EC accumulated in total: EC YES all 1st year master courses passed

Of which, taking the conditional requirements into account, can be part of the exam programme EC NO missing 1st year master courses are:

List of electives obtained before the third semester without approval of the BoE

name date signature  Digitaal ondertekend door Robin den Braber Datum: 2023.03.20 08:58:12 +0100

FORMAL APPROVAL GRADUATION PROJECT

To be filled in by the Board of Examiners of IDE TU Delft. Please check the supervisory team and study the parts of the brief marked **. Next, please assess, (dis)approve and sign this Project Brief, by using the criteria below.

Content: APPROVED NOT APPROVED

Procedure: APPROVED NOT APPROVED

Does the project fit within the (MSc)-programme of the student (taking into account, if described, the activities done next to the obligatory MSc specific courses)?

Is the level of the project challenging enough for a MSc IDE graduating student?

Is the project expected to be doable within 100 working days/20 weeks ?

Does the composition of the supervisory team comply with the regulations and fit the assignment ?

comments

name date signature _____

Including the not willing or able in the protein transition project title

Please state the title of your graduation project (above) and the start date and end date (below). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

start date 27 - 03 - 2023 25 - 07 - 2023 end date

INTRODUCTION **

Please describe, the context of your project, and address the main stakeholders (interests) within this context in a concise yet complete manner. Who are involved, what do they value and how do they currently operate within the given context? What are the main opportunities and limitations you are currently aware of (cultural- and social norms, resources (time, money,...), technology, ...).

Food has always been one of the necessities in life. Yet the way in which we create access to food has changed a lot over time, especially in the last 100 years. The growing world population led to an increasing demand for food. Pushing our food system to move from a local and manual system to a complex, global and automatic one. Our current food system puts a lot of pressure on our planet, our global health, animal welfare and creates an unfair agricultural economy. One of the strategies to decrease this pressure while being able to serve the growing population is the 'Protein transition' (Weinrich, 2018): Shifting our collective diet from eating mainly animal proteins to focusing on more plant-based proteins.

To enable such a transition, a shift is needed in the regime of the food system, which refers to the existing dominant ways of thinking, doing and organizing (Loorbach, 2022). More specifically, the old regime, characterized by animal proteins, needs to be transformed into a one that is dominated by plant-based proteins, see figure 1 (Loorbach, 2014). In the past years, multiple interventions have been designed to achieve this and thereby accelerate the protein transition. These interventions can be plotted on 8 Design Frames, each of these frames approach the protein transition from a different angle (Peeters et al., yet to be published).

Looking at the existing interventions and design frames within the protein transition, it becomes clear that the current transition does not catch on with all people. Not everyone is willing or able to join in. Affective factors like emotions and social norms play a large role in the acceptance of plant-based proteins, which can result in people not wanting to change their diet, or creating a gap between their intentions to change and actual behavior (Omwezen, 2020). At the moment the protein transition is mostly focused on building up a new regime, but has a harder time dismantling the current one. When looking at barriers that hinder a change in diet, studies indicate personal, social and health barriers that show a fear of missing out on something (e.g. taste, social status or nutrients) (Lea et al., 2005) (Perez-Cueto et al., 2022). What is this resistance towards the transition and fear of letting go of animal proteins?

One of the stakeholders that is currently working within this context is Het Voedingscentrum (the Dutch Nutrition Center, financed by the Dutch government). Their goal is to offer consumers and professionals scientific and independent information about healthy, safe and more sustainable food choices. One of their project teams is specifically focused on encouraging people to join the protein transition by eating less meat. Next to that, another project within the organization is focused on reaching a broader public. At the moment their knowledge is mostly shared with highly educated women. It's hard to reach a broader public, and they are looking for interventions that will catch on with more people, especially focusing on people with a so-called low social-economic position (or 'SEP'). A group that often, due to more urgent matters, doesn't have much space to make changes that affect long term goals, like a healthy and sustainable diet (Graat, 2022). So how can the Dutch Nutrition Center reach and encourage this large group to join the protein shift?

One of the challenges within this project might be the wide range of reasons for people to stick to animal proteins. Habits, culture and image are hard to change. One intervention probably doesn't include all.

* Sources can be found in the separate file: Graduation Project Brief_Daniek Dieben_Sources

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introduction (continued): space for images

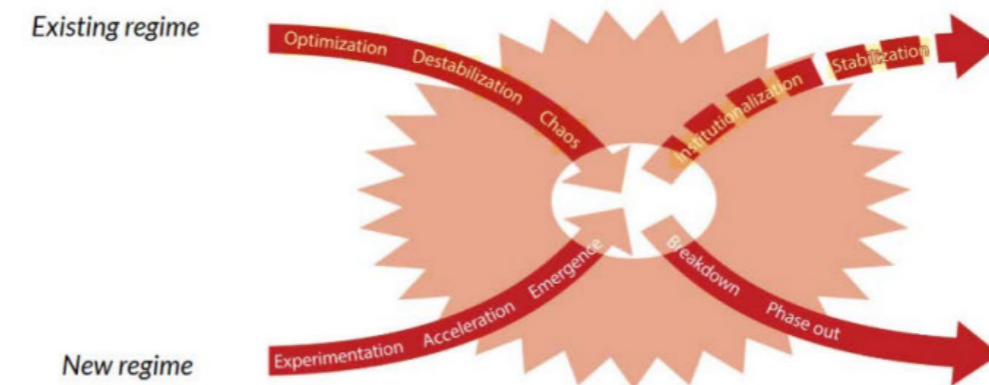


image / figure 1: Transition: the X-curve, visualizing the build up and break down of the regimes (Loorbach, 2014)

TO PLACE YOUR IMAGE IN THIS AREA:

- **SAVE THIS DOCUMENT TO YOUR COMPUTER AND OPEN IT IN ADOBE READER**
- **CLICK AREA TO PLACE IMAGE / FIGURE**

PLEASE NOTE:

- **IMAGE WILL SCALE TO FIT AUTOMATICALLY**
- **NATIVE IMAGE RATIO IS 16:10**
- **IF YOU EXPERIENCE PROBLEMS IN UPLOADING, CONVERT IMAGE TO PDF AND TRY AGAIN**

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PROBLEM DEFINITION **

Limit and define the scope and solution space of your project to one that is manageable within one Master Graduation Project of 30 EC (= 20 full time weeks or 100 working days) and clearly indicate what issue(s) should be addressed in this project.

The protein transition helps us to feed our growing world population in a sustainable, just and healthy manner (Pel et al., 2020). Currently the protein transition finds resistance from people who are not able or willing to change their consumption behavior. The Dutch Nutrition Center wants to reach a wider group and help them to participate in the transition. The goal within this project is therefore to design an intervention that tackles the resistance in the transition and enable the Dutch Nutrition Center to reach the 'unwilling and unable'. Looking at this group in general but also specifically focussing on the people with a low SEP that fit this description.

The initial part of this project consists of researching the domain. Firstly understanding the current interventions in the protein transition and their received resistance, followed by researching the experiences and needs of the target group within this domain. And eventually understanding the current relationship between the target group and the Dutch Nutrition Center. Next to the domain, researching designing for resistance, behavior change and transitions will also be important steps. The research methods will be a combination of desk and field research.

The leading question after the exploration of the domain, will be: What intervention(s) should the Netherlands Nutrition Center implement to achieve traction in the protein shift within the target group?

ASSIGNMENT **

State in 2 or 3 sentences what you are going to research, design, create and / or generate, that will solve (part of) the issue(s) pointed out in "problem definition". Then illustrate this assignment by indicating what kind of solution you expect and / or aim to deliver, for instance: a product, a product-service combination, a strategy illustrated through product or product-service combination ideas, In case of a Specialisation and/or Annotation, make sure the assignment reflects this/these.

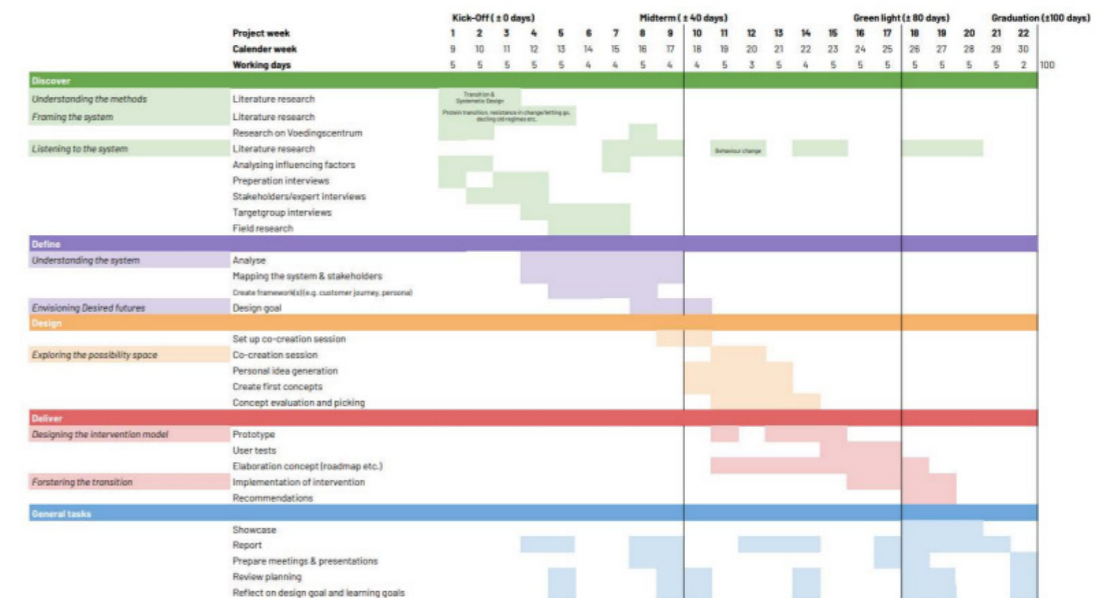
I'm going to research the resistance within the protein transition; why people are not willing or able to join the protein transition and how do we deal with this resistance through design. Based on this information, if possible, I'll be defining a 9th design frame, building on the work by Peeters et al (yet to be published). Lastly, I will be designing one or more interventions that help the Dutch Nutrition Center to reach, activate and allow this group to join the protein shift

The final intervention(s) will probably be in the form of a strategy through product or product-service combination ideas. Next to that I expect the research results to lead to an amount of recommendations for the Netherlands Nutrition Center on how to reach the target group. Alongside, this research might also deliver insights on how to design for resistance in transitions in general.

PLANNING AND APPROACH **

Include a Gantt Chart (replace the example below - more examples can be found in Manual 2) that shows the different phases of your project, deliverables you have in mind, meetings, and how you plan to spend your time. Please note that all activities should fit within the given net time of 30 EC = 20 full time weeks or 100 working days, and your planning should include a kick-off meeting, mid-term meeting, green light meeting and graduation ceremony. Illustrate your Gantt Chart by, for instance, explaining your approach, and please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any, for instance because of holidays or parallel activities.

start date 27 - 3 - 2023 end date 25 - 7 - 2023



I plan to work full-time on the project, but included the Dutch holidays in the planning.

The planning is based on the four steps of the Double Diamond, but more specified by the steps of the systemic design approach by Jones and Van Ael (2022).

Link to the planning:
https://docs.google.com/spreadsheets/d/1nUTym63943coFwmSuO2Vb_5zo7GLD-kaVA64Y9aL5ns/edit?usp=sharing

MOTIVATION AND PERSONAL AMBITIONS

Explain why you set up this project, what competences you want to prove and learn. For example: acquired competences from your MSc programme, the elective semester, extra-curricular activities (etc.) and point out the competences you have yet developed. Optionally, describe which personal learning ambitions you explicitly want to address in this project, on top of the learning objectives of the Graduation Project, such as: in depth knowledge a on specific subject, broadening your competences or experimenting with a specific tool and/or methodology, Stick to no more than five ambitions.

My interest in this subject was based on a number of factors. I was initially looking for a graduation project that focused on a complex, social problem. The relevance and complexity of transition design grabbed my initial attention within this project. The focus on food, specifically plant-based proteins, was a personal trigger for me. I have been a vegetarian my whole life and have seen and experienced a lot of change over the years. Lastly the focus on making this transition more inclusive captured my attention after doing an intern at Muzus, where many projects are focused on inclusivity, especially regarding the low SEP population

For this graduation project these are current competences that I want to use in this project are:

- Qualitative research:

Over the past 2 years, I gained a lot of experience in setting up exploratory and qualitative research, especially using context mapping.

- Become one with the problem:

I'm very curious and therefore can quickly make a problem my own. Making it easy to step into new territory and explore new paths.

- Enthusiasm:

This is not really a competence that I learned, but I did learn that being able to stay enthusiastic in a project comes a long way. Not only being able to push yourself but also to include and enthuse stakeholders.

During my graduation project I would like to learn the following competences:

- Co-create:

I don't have a lot of experience in co-creation and think this a very fitting project to gain experience in this field.

- Systemic & Transition Design approaches:

I have little experience in the field of systematic or transition design and would like to learn methods and approaches within this field that help me when facing more complex challenges.

- Work efficiently and keep your eyes on the price:

During projects I sometimes get stuck for too long, especially when analyzing data. Next to that my curiosity can lead to getting distracted by less important details. Within this project I want to learn ways in which I can keep my attention on the main objectives.

-Ask for help!

This is one of the tips I often get when getting stuck as mentioned before. I tend to feel the urge to do everything myself and forget that asking for help is always an option.

FINAL COMMENTS

In case your project brief needs final comments, please add any information you think is relevant.

For this project I purposely sought Anna Peeters and Paul Hekkert as supervisors, even though they both work at the HCD department. Anna is currently doing a PhD, studying framing in the context of the protein transition and this graduation project is fully in line with the implications of her first study. Paul's expertise surrounding design and behaviour change to address complex societal issues, provides a valuable complementary lens given the domain of the project.

Appendix B: Questions street interviews

- **Wat gaat u eten vandaag?**
Waarom heeft u hiervoor gekozen?
Hoe voegt u een maaltijd samen? (smaak, recept, voedingsstoffen)
- **Wat eet u het liefste?**
Waarom is dat uw lievelingseten?
Wanneer eet u dat?
Waar eet u dat?
- **Eet je wel eens iets nieuws? Een nieuw gerecht uit je comfortzone?**
Wanneer?
Waarom?
- **Wat zijn uw grootste zorgen wanneer het gaat over eten?**
- **Welke rol speelt eten in jouw leven?**
- **Wat is iets waar u echt niet zonder zou kunnen leven als het om eten gaat?**
- **Hoeveel besteed u ongeveer aan voeding per week? Hoeveel heeft u te besteden?**

Appendix C: Questions expert interview

The questions shown underneath are the base of the interviews with expert. They were adjusted towards the different organisation and experts

Vragen aan de vrijwilligers/organisatie:

Organisatie:

- Hoe werkt het?
- Wanneer komt het eten binnen? Waar komt het eten vandaan? Donatie is vorm van voeding of geld?
- Wie bepaald er wat er gegeten wordt?
- Hoeveel vrijwilligers werken er?

Publiek:

- Hoeveel mensen komen er per avond/per week?
- Wat voor mensen komen er op af? Dak thuislozen? Gezinnen? Ouderen?
- Hoe komen deze mensen bij jullie terecht?
- Zijn er mensen die elke avond hier zijn? Vaste klanten?
- Waar komen de mensen voor? Het eten, de gezelligheid?
- 'We vragen niet naar hun verhaal' Zijn het mensen die hun verhaal willen delen?

Het eten:

- Wat wordt er vaak geserveerd?
- Aan welke eisen moet een maaltijd voldoen? Hoe wordt het eten samengesteld?
- Hebben mensen wel eens specifieke dieet wensen/allergieën?
 - Hoe wordt hiermee omgegaan?
- Krijgen jullie wel eens opmerkingen over wat er geserveerd wordt?
- Willen mensen wel eens niet het eten wat geserveerd wordt?

Specifieke vragen: Mijn onderzoek gaat over eetgewoontes van mensen met een lage sep

- Heeft u een beeld van mensen hun eetgedrag buiten de organisatie?
- Regelen mensen op andere dagen zelf eten? Via de voedselbank? Via familie? Via andere organisaties?

Specifiek ook naar de weerstand die sommige mensen hebben naar het minderen van hun vleesconsumptie/zuivelconsumptie:

- Uitleg weerstand tegenover vegetarisch/vegan eten, is dat hier te merken?
- Weerstand tegenover verandering?

Vragen stellen:

- Als ik mensen vind die nog een keertje uitgebreider zou willen spreken zou dat dan hier kunnen?
- Heeft u tips over hoe ik deze groep kan bereiken?

The questions for the dietist were quite different, they are shown underneath.

Interview vragen – Diëtisten

Ik doe een project naar de eiwittransitie onder mensen met een lage sociaal economische positie. Hierbij ben ik vooral aan het kijken naar de weerstand die er binnen deze transitie is.

- Zou ik het gesprek mogen opnemen
- Zouden jullie je kunnen voorstellen?

Behandeling

- Hoe ziet een behandeling bij jullie eruit?
 - Om welke periode gaat het?
 - Hoe zien de gesprekken eruit?
 - Hoe worden doelen bepaald?
 - In hoeverre staat de behandeling met betrekking tot voeding in verband met andere behandelingen / problematiek?

Eiwitten

- Wat is jullie kijk op het gebruik van dierlijke of plantaardige eiwitten?
- Op basis waarvan geven jullie advies?
 - Hoe vinden jullie een weg in de wereld van voedingsadviezen?

Patiënten en hun eetpatroon

- Hebben jullie patiënten die onder de lage SEP vallen?
 - Waar merk je dit aan?
 - Is jullie aanpak dan anders?
- Hebben jullie een beeld van hoe het eetpatroon van deze patiënten eruit ziet?
 - Waar doet iemand boodschappen?
 - Met wie eten mensen?
 - Waar en wanneer eten mensen?
- Waar is een eetpatroon afhankelijk van?
 - In hoeverre speelt (sociale) omgeving een rol
 - In hoeverre speelt prijs / advertenties / de supermarkt een rol?
 - In hoeverre speelt gewoonte een rol?
- Kunnen jullie mij omschrijven hoe jullie zorgen voor verandering in iemands eetpatroon?
 - Wordt er gekeken naar de hele context van eten of specifiek advies over de voeding zelf?
 - Welke gewoontes proberen jullie aan te passen?
 - Welke drempels zijn het grootste?
 - Wat is de makkelijkste manier om gewoontes aan te passen?
 - Hoe ligt het balans tussen advies geven en informatie verstrekken
 - Hoelang duurt het voordat iemand zijn voedselpatroon echt heeft aangepast?

Weerstand

- Ondervinden jullie daarin weerstand?
 - Wanneer?
 - Bij wie wel en bij wie niet?
 - Hoe gaan jullie om met weerstand?

- Zijn mensen eerlijk over hun eetpatroon?

Appendix D: Detailed info on the experts

Volunteer Pauluskerk

The Pauluskerk offers a meal for 1 euro on Monday till Friday. The Pauluskerk is a diaconal center where everyone can walk in and functions as a homeless shelter, refugee aid and cultural center. People who join for the meals are often homeless, refugees, drug addicts or people from the neighborhood that can use a cheap meal. The meals are offered by the Salvation army, they also decide what's on the menu. The volunteers at the Pauluskerk have no say in what's been served. They offer 30-48 meals a day. The meals often are typical Dutch meals, always without pork and on Monday they join Meatless Monday.

Volunteer Gaarkeuken

De Gaarkeuken is an organization that, for five days a week, offers food at their two social cafés. People can eat a meal for 5 euros and enjoy the company or if they don't have 5 euros they can get a meal for free. De Gaarkeuken is focused on enabling everyone to have a healthy meal, fight against loneliness and food waste. No questions are asked which allows people who are not eligible for the Voedselbank to get help at the Gaarkeuken. The chef, who is the only paid worker, creates a menu for the week. This is based on the donations 'De Gaarkeuken' receives. All meals are without pork to allow Muslim guests to join as well. They are not able to consider other dietary wishes from guests. They used to do Meatless Monday, but now at random offer vegetarian meals. This is mostly since the turnout used to be lower on Mondays. With the random offer people show up and are quite accepting of the vegetarian meal when they are already there.

Volunteer Voedselbank

The Voedselbank is a national organization that offers groceries to people who are temporarily unable to provide for themselves. To qualify for this, you have to register beforehand and gain approval to pick up a food package. This depends on how much money you monthly have left for food and drinks. To continue receiving this aid, your documents need to be checked every 3 months and you can officially only receive this aid for 3 years. The Voedselbank location that was visited contains 8 different pick-up locations that distribute 60 - 105 food packages per week. The food they distribute is donated by mostly supermarkets or bought through monetary donations. The packages are filled with whatever food is donated and then supplemented with additional purchases to, as much as possible, fit the nutritional advice of the 'Schijf van Vijf'.

Dietists at Revalidation Centre

These two dietists treat patients within the revalidation center and advise them on changing their eating habits at home. They deal with people who have, among other things, heart diseases, muscle diseases. The majority of their patients are people with a low SEP.

Appendix E: Booklet

1. Even voorstellen

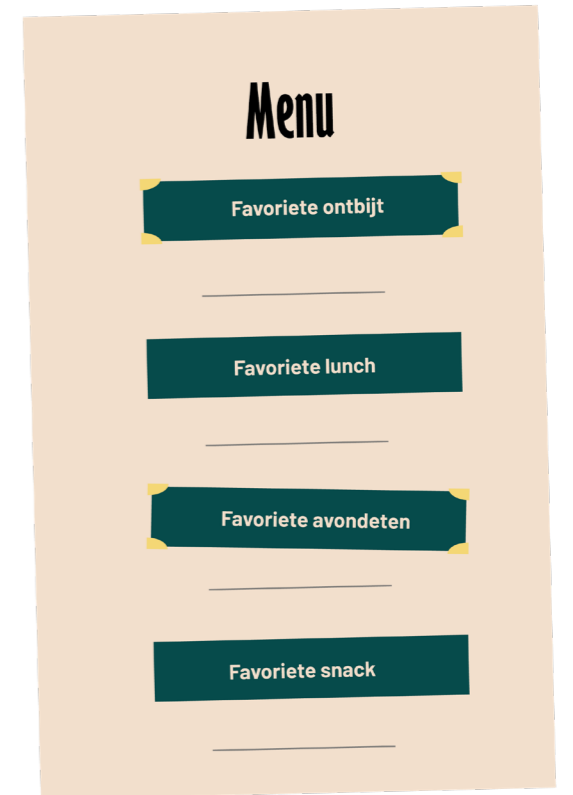
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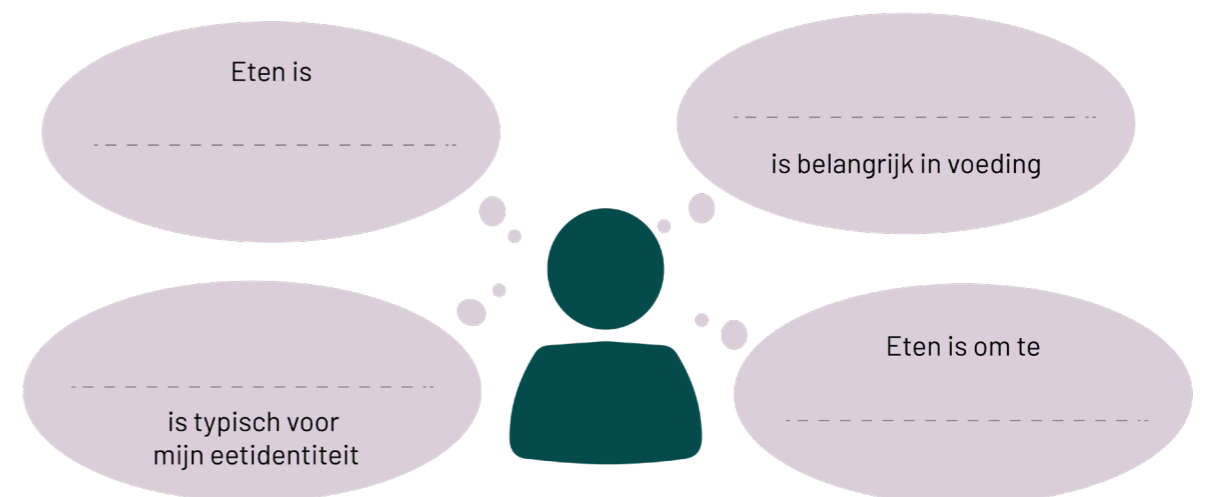
Opleidingsniveau: _____

Afkomst: _____

Woonsituatie: _____




















2. Mijn eetidentiteit



3. Mijn eetpatroon

Wat eet je het liefste uit elke categorie?

- | | | |
|--|---|--|
| ... x <input type="checkbox"/> Koffie  | ... x <input type="checkbox"/> Vlees  | ... x <input type="checkbox"/> Brood  |
| ... x <input type="checkbox"/> Thee  | ... x <input type="checkbox"/> Vis  | ... x <input type="checkbox"/> Pasta  |
| ... x <input type="checkbox"/> Frisdrank  | ... x <input type="checkbox"/> Peulvruchten  | ... x <input type="checkbox"/> Rijst  |
| ... x <input type="checkbox"/> Melk  | ... x <input type="checkbox"/> Noten  | ... x <input type="checkbox"/> Aardappelen  |
| | ... x <input type="checkbox"/> Ei  | ... x <input type="checkbox"/> Couscous  |
| | ... x <input type="checkbox"/> Kaas  | ... x <input type="checkbox"/> Noodles  |
| | ... x <input type="checkbox"/> Zuivel  | ... x <input type="checkbox"/> Andere graanproducten |

4. Tijdlijn



5. Nieuwe gewoontes

Wanneer heb je voor het laatst een nieuwe recept geprobeerd?

Wat was dit voor recept?

Hoe kwam je bij dit nieuwe recept?

Dit doe ik anders dan mijn ouders als het gaat om voeding

Dit doe ik hetzelfde als mijn ouders als het gaat om voeding

6. Mijn eetdroom

Welke eetgewoontes vind jij belangrijk, welke niet?
Welke gewoontes zou je liever weglaten of op een andere manier oplossen?
Wat zou je het liefste eten? Wat zou je nooit meer eten?
Met wie zou je het liefste eten?



Appendix F: Probe material

These character traits were used to stimulate the interviewee to describe themselves, describe how they would like others to see them and let them pick a trait that they wish they contained. These questions offered a deeper view of the values of the targetgroup.

Hoe zou je jezelf omschrijven?

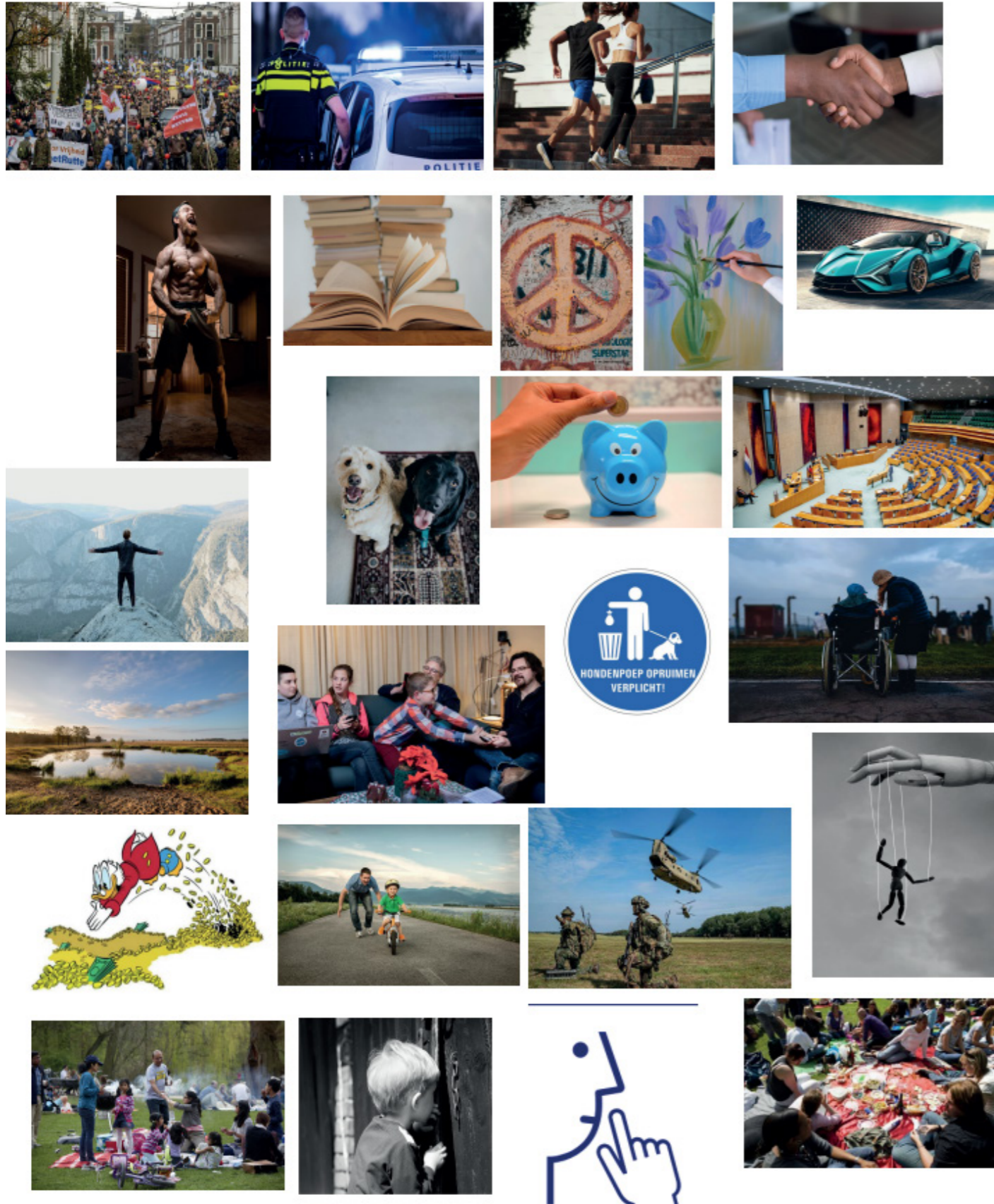
Hoe wil je graag dat anderen jou zien?

Trots	Stoer	Gezellig	Slim
Afwachtend	Vriendelijk	Behulpzaam	Mooi
Verantwoordelijk	Gezond	Creatief	Dapper
Koppig	Loyaal	Wijs	Grappig
Gesloten	Invloedrijk	Eerlijk	Traditiegetrouw
Doorzettend	Enthousiast	Bijzonder	Lief
Chaotisch	Sterk	Gehoorzaam	Meelevend
Angstig	Trouw	Flexibel	Zelfstandig
Nuchter	Accepterend	Hardwerkend	Geduldig
Vroom	Populair	Ambitieuus	Optimistisch
Serius	Rustig	Succesvol	Rebels
Rechtvaardig	Kalm	Nederig	Respectvol
	Wantrouwig	Nieuwsgierig	Spiritueel

These values were used to stimulate the interviewee to describe their values. They had to pick three to five values that were most important to them and pick three values that they did not find important. The empty spaces could be used for the participants own suggestions.

Vrijheid	Privacy	Harmonie	
Gezondheid	Creativiteit	Zelfstandigheid	
Loyaal	Wijsheid	Gelijkheid	
Invloedrijk	Wereldvrede	Eenheid met de natuur	
Nieuwsgierigheid	Vriendschap	Schoonheid	
Durven	Rechtvaardigheid	Plezier	
Cultuur	Ambitieuus	Geniet van het leven	
Rijkdom	Succesvol	Intelligentie	
Vriendelijk	Nederig	Traditiegetrouw	
Respect voor ouderen	Discipline	Respectvol	
Spiritueel	Schoonheid	Vergevend	Gehoorzaam
Verantwoordelijk	Eerlijkheid	Behulpzaamheid	Natuur beschermen
Accepterend	Vroom	Wederkerigheid	Hygiëne
Veiligheid	Nationale veiligheid	Gemeenschap	Erbij horen
Spiritueel	Geloof	Sociale orde	Familie
Aanzien	Behouden van imago	Authoriteit	Spanning
Macht	Zelfrespect	Genot	Gevarieerd leven

Appendix G: Target group interview questions



Interview Doelgroep

Introductie onderzoek:

[Uitleg onderzoek]

[Toestemmingsformulier]

1. Introductie

- Kun je jezelf kort voorstellen: zou je deze willen invullen?
- Wat is je favoriete ontbijt? /lunch/avondeten/snack
 - o Hoe ziet je ontbijt er meestal uit?
 - o Eet je alleen/gezamenlijk?
 - o Waar eet je je ontbijt?
 - o Hoe laat eet je je ontbijt?
- Is er iets waar je niet zonder kan?

2. Jouw eetidentiteit

- Waar denk je aan bij voeding?
- Wat vind je belangrijk in voeding?
- Hoe belangrijk is voeding voor je?
- Wat maakt jouw eetpatroon anders dan die van anderen?
- Wat is jouw voornaamste doel tijdens het eten?

3. Jouw eetpatroon

- Welke optie eet je het liefst uit elke categorie?
- Hoe vaak eet je die optie?
- Wat moet je vaak bijkopen? Waar doe je dat?

4. Tijdlijn: Welke stappen moeten er gezet worden voordat er een maaltijd op tafel staat?

- Waar komen de ingrediënten vandaan?
 - o Hoe vaak wordt er gewinkeld?
 - o Hoe wordt bedacht wat er gehaald moet worden?
 - o Door wie?
 - o Wanneer?
 - o Heb je een bepaald budget waar je je aan moet houden?
- Wat gebeurt er met het eten nadat het gekocht is?
- Hoe wordt bedacht wat er gegeten wordt?
- Moet er nog iets voordat er naar de winkel gegaan wordt gedaan?
- Wanneer wordt het eten gemaakt?
 - o Door wie?
 - o Wat wordt er gekookt?
 - o Hoe vaak wordt er gekookt?
 - o Voor wie wordt er gekookt?
- Eten:
 - o Met wie wordt er gegeten?

Appendix H: Clusters structure

Here a more elaborate explanation of the relationships between the clusters in chapter 7 can be found.

Reinforce:

Cluster 5 reinforces Cluster 1: the less time, money, and energy someone has, the scarier exploring on your own becomes.

Cluster 5 also reinforces the feeling of powerlessness and the distance from more abstract societal problems described in Cluster 10.

Clusters 1 and 7 reinforce each other: shame and feeling different hold you back from exploring on your own. When exploring on your own is scary, it's better to act normal and eat what the rest is having.

Cluster 6, which describes the role of family in food consumption, reinforces the joy people aim for every day. Including the family makes it more joyful. The social and cultural power of food described in Cluster 5 also reinforces the feeling of enjoying every day.

Clusters 2 and 8 reinforce each other: the recognition that might be missing makes people feel like they know themselves better, reinforcing

the high value of freedom and autonomy described in Cluster 2. Likewise, this high value of freedom reinforces the feeling of knowing it best.

Attenuate:

The 'trust in exchange for trust' described in cluster 3 makes it less scary to explore in your food habits, as described in cluster 1.

The scary side of exploring of cluster 1 reduces the enjoyment of the day, thereby affecting the feeling in Cluster 9.

Contradict:

Clusters 8 and 2, which reinforce each other and focus on independence, autonomy, valuing freedom, and knowing what is best, contradict the feeling of fear associated with exploring on your own as described in Cluster 1.

- Waar wordt er gegeten?
 - Wanneer?
 - Is dit met lunch en avondeten ook zo?
 - Hoe vaak eet je iets tussendoor?
- Welke stap vind je het makkelijkste?
 - Welke stap vind je het moeilijkste?
 - Welke stap vind je het leukst?
 - Welke stap vind je het stomst? Als je één ding mocht weglaten?
- Eet je wel eens buiten de deur?
 - Wat eet je dan?
 - Waar eet je dan?

5. Nieuwe gewoontes

Iets nieuws proberen

- Wanneer heb je voor het laatst iets nieuws geprobeerd?
- Wat was dit voor recept?
- Waarom heb je er toen voor gekozen om iets nieuws uit te zoeken?
- Kook je vaak iets nieuws?
- Hoe vind je het om iets nieuws te koken?
- Hoe kom je bij een nieuw recept?

Eetgewoontes ouders

- Wat zijn dingen rondom voeding die je anders doet dan je ouders?
- Wat zijn dingen rondom voeding die je hetzelfde doet als je ouders?

6. Waarden & Eigenschappen

- Hoe zou jij jezelf omschrijven? Kun je 3 eigenschappen kiezen? Je mag er ook zelf eentje bijschrijven
- Hoe zou je graag door je omgeving gezien worden? Kun je weer 3 eigenschappen kiezen?
- Welke eigenschap vind je zelf dat je niet hebt maar zou je wel graag willen hebben?

- Welke waarden zijn voor jou belangrijk? Kun je er 5 kiezen?
- Welke waarden zijn voor jou helemaal niet belangrijk? Kies er 3.

7. Advies

- Wie geeft jou wel eens advies?
- Naar wiens advies luister je?
- Naar wiens advies luister je niet?
- Zijn er ook mensen die je niet persoonlijk kent waarnaar je luistert?
- Zijn er ook organisaties waarnaar je luistert?

- Heb je nog vragen/opmerkingen/dingen die je wilt delen?

Appendix I: Elaboration on Assessment concepts

This appendix elaborates on the assessment of the four concepts in chapter 8.

Joyfully

Concept 1 and 3 contain a strong joyfully following element that is focused on saving and accomplishing. In concept 3 this focus is even more present, also containing the joyful element of a game, the focus on children and dinner with family. Concept 2 mostly focuses on the existing joy from the consumer that they have for meat consumption. While concept 4 is least focused on joy, here the focus lies in generation relationships.

Following others

All four concepts have a clear element of following others. Concept 1 and 2 are mostly focused on silently steering, see chapter 2.2.4, and therefore contains the following unknowingly. Concept 1 has a little bit more active following since the consumer still makes the choice to know the campaign, while the consumer in concept 2 is fully unknowingly following. Concept 3 and 4 have a more active element of following, in concept 3 it contains not only following the campaign but also the children.

Deals with resistance

Concept 1 and 3 deal mostly with reactance and inertia. Concept 1 and 3 have very effective ways of dealing with the resistance that could be experienced in making a change. In which concept 1 is slightly more efficient in achieving self efficiency to overcome inertia. Concept 2 mostly triggers skepticism and has the resistance of both the intermediate parties and the consumer. Concept 4 is, even when offering help, mostly dependent on the change makers in dealing with resistance

Fitting to low SEP

Concept 1 is very focussed on the target audience, achievable for people with a low SEP and offering something very fitting. Concept 2 is not specifically focused on the low SEP target audience, but takes

a more general approach to change the norm that could also fit the low SEP target audience, however the interventions for outdoor dining are a little less fitting for this group. Within concept 3, the reward is very focused on a low SEP audience, but to generate the wanted effect, certain healthy skills are needed that might not align with the target audience. Lastly, concept 4 is focused on reaching the target group through the activated group, creating a delayed effect for change within the target group.

Fitting to VC

All concepts are quite different from the working method of the VC. This is not surprising considering that their current approach often does not reach the Low SEP group, which might mean a focus on a new method can open new doors.

Concept 1 & 3 are in collaboration with a commercialized party, which is not preferred but possible. Concept 3 has an element of education in it, which is very fitting to the Voedingscentrum. While concept 1 is more focused on steering instead of educating. Looking at concept 2, this approach is most fitting to the steps the Voedingscentrum is already taking by contacting different and encouraging food environments to make a change. The biggest difference here is the approaches to take away resistance at the mediating parties. Concept 4 mostly contains a new approach by activating others instead of trying to reach the target audience directly.

Desirable for VC

Concept 1 is highly desirable for the Voedingscentrum. It provides a practical way of having an impact on what people are eating without gaining much resistance. Which could lead to not only focusing on meat consumption but also thinking of impact on general food consumption. Changing the norm, as approached in concept 2 is also very desirable by the Voedingscentrum. When looking at concept 3, education is wanted, especially more knowledge on legumes. Looking

at concept 4, it would be helpful to have a larger base of people advocating your story to a larger audience that can now not be reached.

General feasibility

Looking at concept 1 in general, disconnected from the Voedingscentrum, it's a very feasible concept. Most elements are known and have been done, the most important question is if it is profitable toward the supermarket. Concept 2 contains a lot of very simple and feasible steps, especially in the beginning of the roadmap. These steps are mostly depending on the willingness of the parties. The steps later in the process need more effort and more willingness. Considering concept 3, the implementation of the concept does not contain big obstacles. However some other barriers need to be taken into consideration; ensuring that the game will catch on is a big 'if' and there is no guarantee that consumers will actually start eating less meat by eating more plant-based proteins or that they actually eat the protein products. The feasibility of concept 4 is very high, there are no big obstacles.

Feasibility VC

When specifically looking at the feasibility for the Voedingscentrum, the biggest obstacle for concept 1 is the collaboration with a commercial party, the supermarket. This is not easy, but not impossible looking at past projects. This concern also applies for concept 3, adding on to it that the collaboration should also include restaurants. Looking at concept 2, the points made earlier on general feasibility still apply. It might be more feasible for the Voedingscentrum because of their current connections, image and experience in trying to influence the food environment. The feasibility of concept 4 is still high, regarding the Voedingscentrum creating enough content and promoting the website might be hard with limited capacity.

Viability

Looking at the viability of concept 1, food is always something people need and want which helps create long term viability. Concept 2 is built as a long term solution and will only increase in

effectiveness. Same goes for concept 4, while concept 3 has a shorter life span. After a while the hype is over or the consumer already has all the cards.

Side effects

Looking at positive and negative side effects, concept 1 contains one big positive side effect which is the impact the Voedingscentrum can also have for more general food consumption. Looking at the negative side, the field research (see Chapter 6) showed that consumers with a low SEP often spread their grocery shopping expensive over multiple supermarkets and in general spend less than other consumers. Consequently, saving for a free meal goes at a slower pace. The biggest negative side effect of concept 2 is the risk of focusing on the positive side of meat and letting it become special but not exclusive. For concept 3, it is important to think about the risk of people still eating meat while joining the campaign or it becoming a hype with consumers that already eat a lot of alternative proteins. An unwanted effect of concept 4 is mostly the fact that resistance can also increase when it's not handled correctly.

Appendix J: Estimated price meal boxes

Underneath the roughly estimated price of the meal boxes is calculated.

Vega boxes	Price box	Additional ingredients		
tomatenrisotto (AH)	€ 6,49	€ 0,89	€ 7,38	
shaksuska (AH)	€ 5,49	€ 0,85	€ 6,34	
gado gado (AH)	€ 5,49	€ 0,56	€ 6,05	
* These boxes were selected based on the fact that they are originally vegetarian.		Average	€ 6,59	
		- 3,5% profit margin	€ 0,23	
		Average price per box	€ 6,36	
Schijf van Vijf action: 100 euros per product of 1,50				
		average price /1,5	€ 4,39	
		x 100 euro	€ 439,30	euros spend to get a free meal
			43,93	stamps for a full card

Appendix K: Storyboards from the evaluation

Storyboard 1A: with surprise box



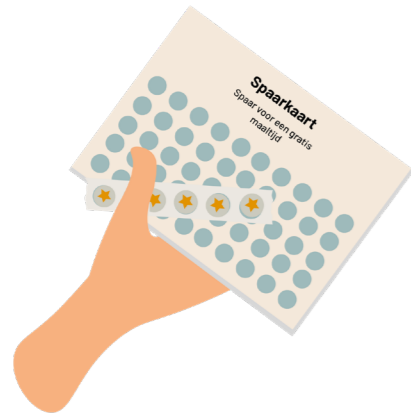
Dit zijn Tom (52), Katie (45) en hun zoontje Liam (13). Ze wonen met z'n drieën in Den Haag, waar Thom en Katie elkaar hebben leren kennen. Thom en Katie zijn dol op hun zoon, maar door de drukke baan van beide ouders is het soms lastig om veel tijd als gezin door te brengen. Daarom is het avondeten voor Katie altijd belangrijk; dat is de enige maaltijd die ze altijd met z'n drieën eten. Ze kijken vaak samen naar het nieuws met een bordje op schoot.

Katie is degene die meestal het eten kookt. Liam vindt niet alles lekker, maar ze weet goed wat ze hem wel en niet kan voorschotelen. Hij is dol op kip en Mexicaans eten. Tom klaagt niet vaak over het eten; hij zegt dat hij alles lust, hoewel er een aantal dingen zijn die Katie bewust wat minder vaak op tafel zet.

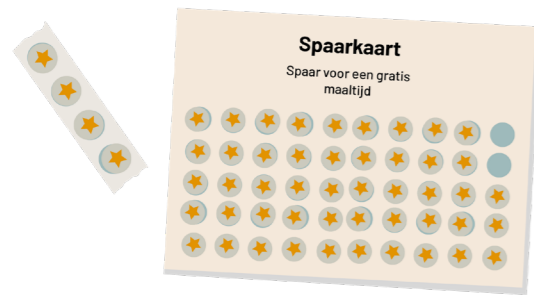
Uiteindelijk komt het erop neer dat het gezin meestal aardappelen met een stukje vlees eet, af en toe pasta en soms kip met rijst. In het weekend maken ze vaak iets makkelijkers of bestellen ze iets bij de Chinees.

Tom doet altijd wekelijks de boodschappen, vaak op donderdagavond. Katie stelt van tevoren een lijst op zodat hij snel de winkel door komt.

Bij het afrekenen vraagt de caissière aan Tom of hij wil sparen voor een gratis maaltijd. Ze legt uit dat hij bij elke 10 euro aan boodschappen een zegel ontvangt, waarmee hij kan sparen voor een gratis maaltijdbox.



Tom denkt: "Een gratis maaltijdbox kan nooit kwaad", en hij stemt ermee in om mee te doen. Hij ontvangt een spaarkart en zes zegels voor de boodschappen die hij zojuist heeft gekocht.



In de daaropvolgende weken ontvangt Tom bij elke boodschoppentrip een aantal zegels. Na ongeveer 3 weken heeft hij eindelijk zijn spaarkart volledig gevuld.



De volgende boodschappenbeurt gaat hij op zoek naar de gratis maaltijd. Deze vindt hij in de koeling bij de andere maaltijdpakketten.



Op de box staat 'Verrassingsmaaltijd', dus Tom kan niet zien wat voor maaltijd hij pakt. Hij voelt aan twee dozen en uiteindelijk kiest hij de zwaarste doos uit.



Bij de kassa legt hij de maaltijdbox op de band en overhandigt hij zijn volle spaarkart.



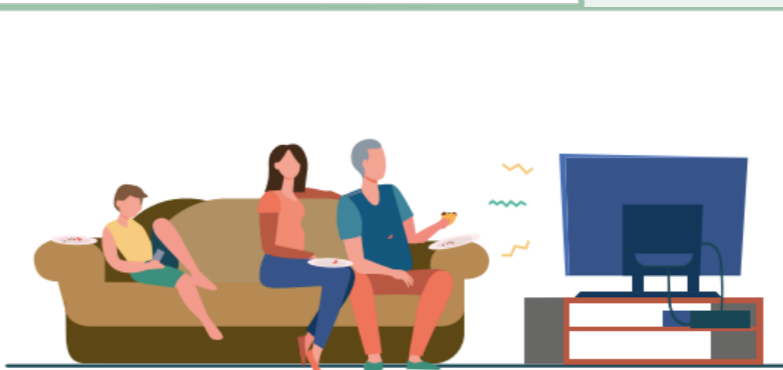
Thuis aangekomen kan Tom niet wachten en opent meteen de maaltijdbox om te zien welke maaltijd hij heeft gekregen. Hij ontdekt dat er ingrediënten voor taco's in zitten, wat goed uitkomt, aangezien Liam dol is op taco's. Naast de ingrediënten zit er ook een kaartje in met uitleg over hoe het gerecht bereid moet worden. Op dat kaartje staat vermeld dat het recept is opgesteld door het Voedingscentrum.



De volgende dag pakt Katie de maaltijdbox erbij. Ze is net klaar met werken en is blij om te zien dat de doos aangeeft dat het bereiden van het gerecht maar 20 minuten duurt.



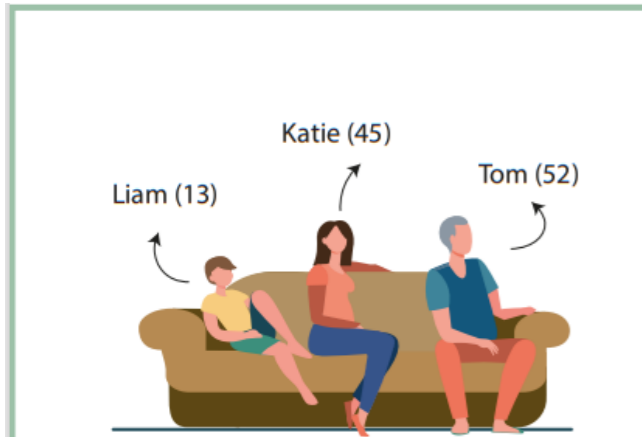
De ingrediënten in de maaltijdbox zijn anders dan wat Katie normaal in de taco's doet. Ze maakt ze meestal met gehakt in plaats van bonen. Ze houdt het kaartje met de bereidingswijze erbij om te zien hoe deze specifieke taco's gemaakt moeten worden.



Omdat het weekend is, heeft het gezin die avond tijd om samen een film te kijken tijdens het eten.

De bordjes worden leeggegeten en gelukkig was de maaltijd ruim genoeg voor drie personen.

Storyboard 1B: without surprise box

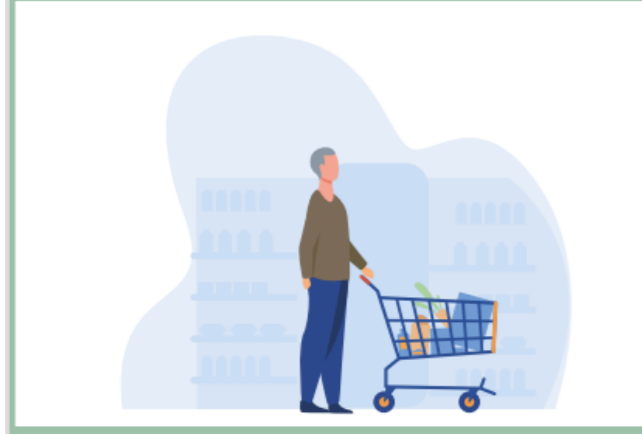


Dit zijn Tom (52), Katie (45) en hun zoontje Liam (13). Ze wonen met z'n drieën in Den Haag, waar Tom en Katie elkaar hebben leren kennen. Tom en Katie zijn dol op hun zoon en ondanks dat het financieel niet altijd makkelijk is, werken ze erg hard om ervoor te zorgen dat Liam daar niets van merkt. Door de drukke baan van beide ouders is het soms lastig om veel tijd als gezin door te brengen. Daarom is het avondeten voor Katie belangrijk; dat is de enige maaltijd die ze altijd met z'n drieën eten. Ze kijken vaak samen naar het nieuws met een bordje op schoot.

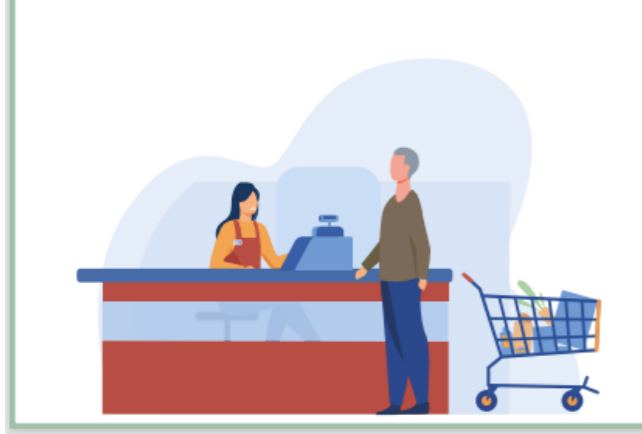


Katie is degene die meestal het eten kookt. Liam vindt niet alles lekker, maar ze weet goed wat ze hem wel en niet kan voorschotelen. Hij is dol op kip en Mexicaans eten. Tom klaagt niet vaak over het eten; hij zegt dat hij alles lust, hoewel er een aantal dingen zijn die Katie bewust wat minder vaak op tafel zet.

Uiteindelijk komt het erop neer dat het gezin meestal aardappelen met een stukje vlees eet, af en toe pasta en soms kip met rijst. In het weekend maken ze vaak iets makkelijks of bestellen ze iets bij de Chinees.



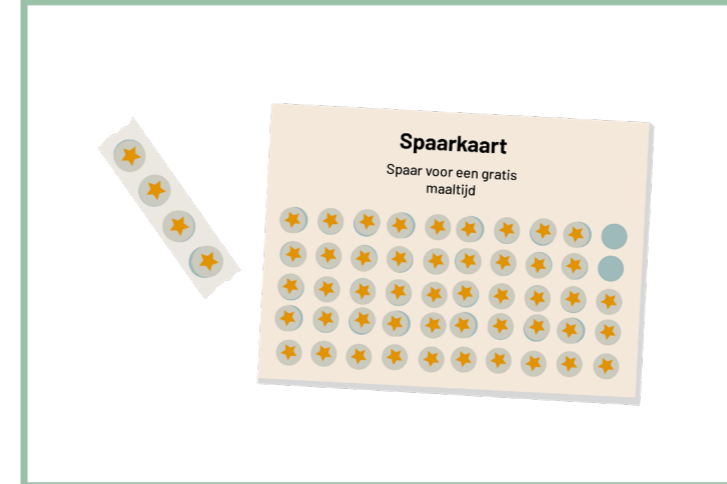
Tom doet altijd wekelijks de boodschappen, vaak op donderdagavond. Katie stelt van tevoren een lijst op zodat hij snel de winkel door komt.



Bij het afrekenen vraagt de caissière aan Tom of hij wil sparen voor een gratis maaltijd. Ze legt uit dat hij bij elke 10 euro aan boodschappen een zegel ontvangt, waarmee hij kan sparen voor een gratis maaltijdbox.



Tom denkt: "Een gratis maaltijdbox kan nooit kwaad", en hij stemt ermee in om mee te doen. Hij ontvangt een spaarkart en zes zegels voor de boodschappen die hij zojuist heeft gekocht.



In de daaropvolgende weken ontvangt Tom bij elke boodschappentrip een aantal zegels. Na ongeveer 3 weken heeft hij eindelijk zijn spaarkart volledig gevuld.



Bij zijn volgende boodschappenbeurt gaat Tom op zoek naar de gratis maaltijd. Hij vindt deze in de koeling bij de andere maaltijdpakketten. Bij twee boxen hangt een bordje met "Gratis maaltijd bij volle spaarkart". Hij kan kiezen tussen twee maaltijden: taco's of shakshuka. Aangezien hij nog nooit van shakshuka heeft gehoord, kiest hij voor taco's. Dat komt goed uit, want Liam is dol op taco's.



Tom kan niet precies zien wat er allemaal in de box zit. Op de box staat aangegeven dat het enige wat je zelf moet toevoegen olijfolie of zonnebloemolie is. De rest van de ingrediënten zitten in de box en zijn voldoende voor een maaltijd voor 4 personen.



Bij de kassa legt hij de maaltijdbox op de band en overhandigt hij zijn volle spaarkaart.



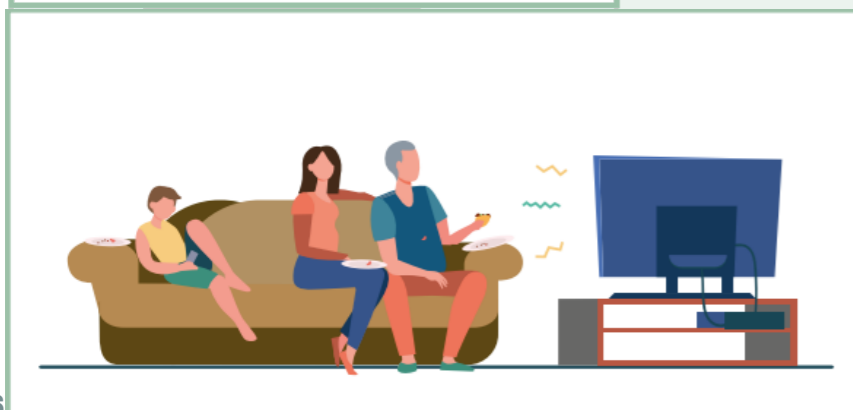
Thuis aangekomen opent Tom de box om te zien welke ingrediënten erin zitten. Hij merkt op dat er andere ingrediënten in zitten dan hoe Katie normaal taco's klaarmaakt. Naast de ingrediënten zit er ook een kaartje in met uitleg over de bereiding van het gerecht. Op het kaartje staat vermeld dat het recept is opgesteld door het Voedingscentrum.



De volgende dag pakt Katie de maaltijdbox erbij. Ze is net klaar met werken en is blij om te zien dat de doos aangeeft dat het bereiden van het gerecht maar 20 minuten duurt.



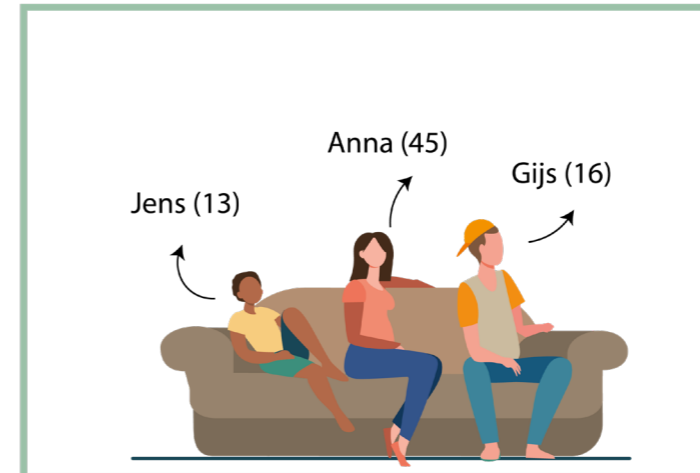
Deze manier van taco's klaarmaken is nieuw voor Katie. Ze is gewend om ze met gehakt te maken in plaats van bonen. Ze houdt het kaartje met de bereidingswijze erbij om te kijken hoe deze specifieke taco's gemaakt moeten worden.



Omdat het weekend is, heeft het gezin die avond tijd om samen een film te kijken tijdens het eten.

De bordjes worden leegegeten en gelukkig was de maaltijd ruim genoeg voor drie personen.

Storyboard 2



Dit is Anna (45) met haar twee zonen Gijs (16) en Jens (13). Ze wonen met z'n drieën in Den Haag. Anna houdt veel van haar kinderen, maar merkt dat het financieel niet gemakkelijk is om het gezin te onderhouden, vooral nu beide jongens in de hongerige puberfase zitten. Anna kan wekelijks ingrediënten bij de Voedselbank ophalen. Gijs heeft recentelijk een bijbaantje bij de supermarkt gekregen, waardoor hij wat extra geld te besteden heeft. Het is wel jammer dat hij vaak 's avonds moet werken en het gezin niet altijd samen kan eten. Anna doet haar best om zo vaak mogelijk toch samen te eten, omdat ze het belangrijk vindt om die tijd als gezin door te brengen. Het liefst kijken ze samen naar het nieuws tijdens het eten, vooral nu de jongens wat ouder zijn en de nieuwsitems interessant vinden om te bespreken.



Dit is Richard. Sinds zijn twee kinderen het huis uit zijn, woont hij alleen met zijn vrouw Maja. Het is ontzettend wennen voor hen, zelfs bij het doen van boodschappen. Richard heeft namelijk nog steeds de neiging om te veel boodschappen te doen.



Deze keer vraagt de caissière bij het afrekenen aan Richard of hij wil sparen voor een gratis maaltijd of dat hij zijn zegels wil doneren aan iemand die het harder nodig heeft. Ze legt uit dat hij bij elke 10 euro aan boodschappen een zegel ontvangt en zo kan sparen voor een gratis maaltijdbox. Als hij ervoor kiest om zijn zegels te doneren, zullen ze worden opgehaald door de voedselbank.



Richard besluit de zegels te doneren. "Als wij zo'n box krijgen, is dat toch te veel voor twee personen. Het is beter als iemand anders er blij van wordt." denkt hij.

Hij kan doneren door te stemmen op zijn favoriete gerecht. Het gerecht met de meeste stemmen zal worden toegevoegd aan de maaltijden waar mensen voor kunnen sparen.

Richard stemt op Andijviestamppot. Het was vroeger altijd een feest als zijn moeder dat maakte.



De gedoneerde zegels worden aan het einde van de week verzameld door de supermarkt.



Samen met de andere voedseldonaties worden de gedoneerde zegels richting de Voedselbank gestuurd.



Bij de Voedselbank worden, net als de andere donaties, de gedoneerde zegels verdeeld over de voedselkratten.



Die week haalt Anna haar boodschappen op bij de Voedselbank en ziet ze tijdens het inladen 15 zegels liggen. Ze vraagt aan de vrijwilliger waar deze zegels voor zijn, en de vrijwilliger legt uit dat ze kunnen worden gebruikt om te sparen voor een gratis maaltijd bij de supermarkt. De vrijwilliger informeert Anna dat als ze geen interesse heeft, ze de zegels kan achterlaten voor anderen die wel willen sparen. Echter, Anna besluit wel mee te doen met de actie en neemt de zegels mee.



Thuis aangekomen maakt Anna de box alvast open om te zien welke ingrediënten erin zitten. Ze ontdekt dat er andere ingrediënten in de box zitten dan ze normaal gebruikt voor het klaarmaken van taco's. Naast de ingrediënten vindt ze ook een kaartje met uitleg over de bereiding van het gerecht. Het kaartje geeft stapsgewijze instructies over hoe de taco's moeten worden bereid. Op het kaartje staat vermeld dat het recept is opgesteld door het Voedingscentrum.



De volgende dag pakt Katie de maaltijdbox erbij. Ze is net klaar met werken en is blij dat op de doos staat vermeld dat het bereiden van het gerecht slechts 20 minuten duurt.



Deze manier van taco's klaarmaken is nieuw voor Katie. Ze is gewend om ze met gehakt te maken in plaats van bonen. Ze houdt het kaartje met de bereidingswijze erbij om te kijken hoe deze specifieke taco's gemaakt moeten worden.



Omdat het weekend is, heeft het gezin die avond tijd om samen een film te kijken tijdens het eten.

De bordjes worden leeggegeten en gelukkig was de maaltijd ruim genoeg voor drie personen.

Appendix L: Questions evaluation

1. Stel de 'Spaar je vol' actie is ontwikkeld en ingevoerd, hoe aannemelijk vind jij de gebeurtenissen die in het verhaal worden uitgelegd?



2. Hoe aannemelijk vind je dat mensen deel willen nemen aan deze spaaractie?



3. Hoe aannemelijk vind je dat mensen een verrassing box accepteren?



4. Hoe aannemelijk vind je het dat mensen de maaltijd precies maken zoals in de bereiding weergegeven?



5. Hoe aannemelijk vind je dat de spaaractie logistiek haalbaar is?



6. De aanname dat de spaaractie ervoor zorgt dat mensen zich veilig voelen in een verandering naar een gezonder dieet is realistisch.

Waar / niet waar

Waarom?

7. Het is geloofwaardig dat de spaaractie bijdraagt aan een verandering naar een gezonder dieet

Waar / niet waar

Waarom?

8. De aanname dat de spaaractie ervoor zorg dat mensen zich veilig voelen in een verandering naar een dieet met minder vlees is realistisch.

Waar / niet waar

Waarom?

9. Het is geloofwaardig dat de spaaractie bijdraagt aan het minder eten van vlees

Waar / niet waar

Waarom?

