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Undesigning Snack Habits

Creating an Intervention Portfolio for MBO Students

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Colophon

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Preface

Looking back on this project, I realise how much it has pushed me beyond my previous experiences as a designer. Until now, I had not often applied my design knowledge to societal issues, nor had I worked with a government client. Both experiences were extremely valuable for me.

My intrinsic motivation for this project stemmed from my interest in the food domain, an area with many stakeholders and complex dynamics. I have often felt frustrated by the way things work, where what is best is often not what is dominant.

This is the reason why I was so interested in applying an exnovation lens. I had never before encountered a project explicitly focused on undesigning. Taking on this challenge has been an invaluable learning experience, expanding my perspective as a designer and, I hope, contributing to broader design knowledge.

Through my research, the significance of social context became clear. I found it fascinating, and at times frustrating, to explore how social norms shape behaviour. I have always been drawn to simple design solutions that require minimal effort, and in this context, it seemed so straightforward: just change the social norm. Yet, designing for it was very challenging.

I would like to take this opportunity to thank my supervisors and mentors. Jotte and Anna, your enthusiasm for my project has meant a lot. Jotte, thank you for your sometimes hard-to-follow yet insightful drawing explanations. Anna, I appreciate how you checked in on me beyond the project itself. Annemieke and Maria from VWS, thank you for your patience, trust in an unfamiliar process, and valuable feedback.

A special thanks to the students and teachers of Zadkine, who supported my field research and evaluation tremendously. I am also grateful to the experts: researchers, graduate students, and employees of health organisations, who took the time to speak to me, think along, and share their enthusiasm for my project.

To my ‘colleague’ friends in this project: Lutsia, Sophie, and Emma,thank you for making this individual project feel a lot less individual. You were always there when I needed the extra brainpower.

Finally, to my family and friends, your support, whether it was lending me an iPad for six months or playing Snack Attack for my evaluation, has been extremely valuable. A special thanks to Fedde, who was always there for me, either in comforting me before nerve-wracking street interviews or distracting me with funny messages.

To you, the reader, I hope you enjoy exploring the results of my master’s thesis. May it serve as a source of inspiration, whether in applying aspects of the design process, using an exnovation framework, leveraging social context for behaviour change, or in some other way entirely.

Mayra

Summary

Today's global food system faces significant sustainability and public health related issues. To address this, the Dutch Ministry of Health, Welfare and Sport (VWS) was interested in a designer's perspective to explore new ways of promoting adherence to the *Schijf van Vijf* (Wheel of Five), with a focus on MBO students in their school environment.

While most dietary interventions focus on promoting new and improved diets, this project applied the principle of exnovation: reducing or minimising foods that fall outside the *Schijf van Vijf*, along with a systemic approach.

Literature research revealed that young adults tend to mirror the eating behaviours of their social environment, making unhealthy habits socially contagious, particularly in group settings. Field research confirmed this peer influence, while also highlighting MBO students' values of impulsivity, freedom, and autonomy.

Recognising the role of social dynamics, the following design statement was formulated: **"To encourage better adherence to the Schijf van Vijf guidelines, I wish to inspire MBO students to minimise unhealthy snacking in and around the school environment by using social contagion."**

To address the complexity of shifting food behaviours within a larger system, an intervention portfolio that supports a month of action, Stoptober, was developed. This portfolio consists of four interventions:

1. A general campaign promoting the action month in schools, online and in public spaces
2. A campaign highlighting healthier alternatives in MBO school canteens
3. A Snapchat filter encouraging students to take the first step and share their commitment with friends
4. Lesson materials facilitating open group discussions

The Snapchat filter was evaluated as an effective tool for initiating healthier behaviour, while other interventions require further development and testing.

Beyond the intervention portfolio, the design process was valuable to VWS by reframing the problem, engaging the target group, integrating practical knowledge, and using an iterative approach. Reflection of the exnovation lens revealed it to be an inspiring and applicable perspective within existing design methods. It mainly required heightened awareness of perspective and reframing at important moments in the design process.

Glossary

Design-Related Terms

Design Statement | Also referred to as a design goal, a reframed statement that describes the design challenge and guides idea generation.

Exnovation | The intentional phase-out of a practice, product, or system, serving as the opposite of innovation.

Intervention | A designed solution or action intended to encourage behaviour change.

Social Contagion | The spread of behaviour through social influence and networks.

Social Design | A field of design where design methodology is applied to societal issues.

Systemic Design | A design approach that combines design methodology with systems thinking, acknowledging the complexity and interconnectedness of the problem.

Organisations

Gezonde School | A national programme aimed at promoting healthier lifestyles in schools.

Ministerie van Volksgezondheid, Welzijn en Sport (VWS) (Ministery of Health, Welfare and Sports) | The client for this project and a key policymaker in the Dutch government responsible for shaping public health strategies. In this project referred to as VWS.

Rijksinstituut voor Volksgezondheid en Milieu (RIVM) (National Institute for Public Health and the Environment) | An independent knowledge organisation and agency of VWS, conducting research on public health topics.

Schijf van Vijf | A practical tool developed by the Voedingscentrum, visualising the balance of food groups required for a healthy diet.

Stichting JOGG | A national organisation that builds local networks to create a healthier living environment for young people.

Voedingscentrum (Netherlands Nutrition Centre) | An independent organisation that translates scientific knowledge on nutrition into understandable information for the Dutch population.

Abbreviations

MBO | Middelbaar Beroepsonderwijs/Secondary vocational education, preparing students for professional practice or further education.

MBO Students | Students enrolled in secondary vocational education programmes.

SID | Social Implication Design method, a structured design method for addressing societal challenges and the chosen method for this design project.

VWS | *Ministerie van Volksgezondheid, Welzijn en Sport* (Ministery of Health, Welfare and Sports).

Chapter 1

Introduction

This report presents the final results of my master's thesis design project, conducted in collaboration with the Dutch Ministry of Health, Welfare, and Sport. The Ministry is interested in exploring a designer's perspective to identify new ways to promote adherence to the Dutch nutritional guidelines, as represented in the *Schijf van Vijf* (Wheel of Five).

To narrow the scope of this broad goal, this project focuses on a specific target group: *MBO students* (secondary vocational students). Additionally, the project is framed using an exnovation lens to investigate opportunities for systemic change.

Alongside the primary goal, encouraging MBO students to reduce their intake of foods outside the *Schijf van Vijf*, this project addresses two additional research questions:

1. What aspects of the design process could be valuable for VWS?
2. How does an exnovation frame influence the design process?

This project aligns with the field of social design, as its core objective is to contribute to societal well-being. The challenge at hand is a complex societal issue involving conflicting concerns (Tromp, 2013). Given this complexity, the project adopts a systemic design approach, integrating systems thinking with design practice. Rather than viewing the problem in isolation, it is studied as part of a larger interconnected system (van der Bijl-Brouwer & Malcolm, 2020). The systemic design framework structures both the design process and this report (the Design Council, n.d.), as can be seen in figure 2 on the next page.

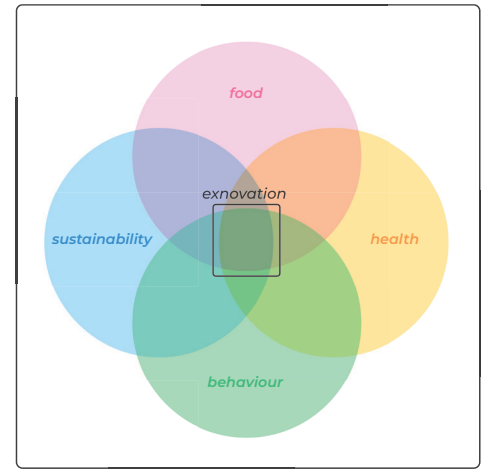


Figure 1 | Overview of the domains of this project

Process Overview

Orientation

This project integrates the domains of health, food, sustainability, and behaviour through an exnovation lens, focusing on MBO students (see Figure 1). The orientation phase establishes the status quo of the food system (Chapter 2) and unpacks the design brief (Chapter 3).

Explore

The exploration phase involves literature research in several areas, including behavioural psychology, exnovation processes, and food-related trends and developments. This research is conducted through desk research, expert interviews, and attending events (see Appendix B) and is described in Chapters 4-6.

To align insights with the target group's context, I conducted field research with MBO students through street interviews, observations, in-depth interviews and an in-class survey (Chapter 7).

Reframe

Findings from literature and field research are synthesised using the Social Implication Design (SID) method (Chapter 8). This helped develop a comprehensive worldview, which served as the basis for a design statement that guided the create phase.

Create

Using the selected design statement, ideation explored several ideas directions. Promising ideas were further developed into concepts (Chapter 9).

Catalyse

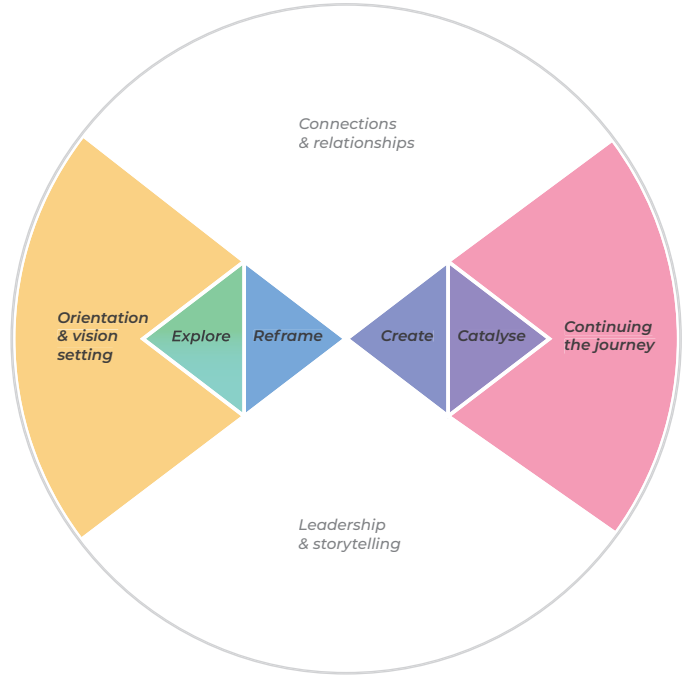
One concept was selected and refined into the final concept (Chapter 10). This phase also includes the concept's implementation and evaluation (Chapter 11).

Continuing the Journey

The final phase of this project involves formulating recommendations and drawing conclusions (Chapter 12). I reflected on my two additional research questions in Chapter 13.

Although this overview suggests a structured, linear approach, the process is iterative. I frequently moved back and forth between steps and activities, alternating desk and field research with design methods.

By combining a systemic design approach with an exnovation perspective, this project aims to identify new ways to support healthier eating habits among MBO students. In doing so, the insights could be valuable for both policymakers and designers as well as other practitioners working to promote healthy and sustainable behaviour.



Orientation	Explore	Reframe	Create	Catalyse	Continuing the journey
Debriefing	Desk research	Clusters	Analogy	Final concept	Recommendations
Deconstruction	Expert interviews	Worldview	Ideas	Implementation	Reflections
	Field research	Design statement	Morphological chart	Service blueprint	
	Context factors		Story boards	Evaluation	
			Service blueprints		
			Concepts		

Figure 2 | Overview of the process using the systemic design framework (the Design Council, n.d.)

Preface i

Summary iii
Glossary v

1. Introduction 1

2. Status Quo 8

2.1 Sustainability Issues 10
2.2 Health Issues 11

3. Unpacking the Brief 16

3.1 Client Profile 18
3.2 Project's Objective 18
3.3 Integrated Approach 19

4. Defining the Target Group 22

4.1 Focus on Young Adults 24
4.2 Focus on MBO Students 25
4.3 Demographics of MBO Students 26

5. Understanding Eating Behaviour 28

5.1 Evolutionary Drive 30
5.2 The Power of Habits 30
5.3 Context-Dependence 30
5.4 Social Norms and Identity Formation 33

6. Challenging Status Quo 36

6.1 Introducing a New Lens: Exnovation 39
6.2 Design for Exnovation 40
6.3 Design for Transitions 41
6.4 Design for Social Contagion 42
6.5 My Approach 43

7. Field Research 46

7.1 Goal of Field Research 48
7.2 Approach to Field Research 49
7.3 Insights of Field Research 53

8. Synthesis | Social Implication Design 58

8.1 Approach to Synthesis 60
8.2 Clusters 61
8.3 Worldview 66
8.4 Design Statement 68

9. Ideation 72

9.1 Laying the Foundation for Ideation 74
9.2 Approach to Ideation 77
9.3 Concepts 79
9.4 Selecting a Concept 85

10. Final Concept 88

10.1 Stoptober Intervention Portfolio 90
10.2 Implementing Stoptober 95

11. Evaluation 100

11.1 Goal of Evaluation 102
11.2 Approach to Evaluation 103
11.3 Insights of Evaluation 104

12. Discussion 108

12.1 Limitations 110
12.2 Recommendations 112
12.3 Conclusion 115

13. Reflections 118

13.1 On Designing for VWS 120
13.2 On Designing for Exnovation 121
13.3 On My Own Process 123

References 125
Appendices 132

Chapter 2

Status Quo

10 | Sustainability Issues

11 | Health Issues

Chapter 2

Status Quo

Issues of our Current Food System

This first chapter explores the dual impact of the current food system, addressing both its environmental and health-related consequences. These global trends are also reflected in the Dutch food system. Additionally, this chapter addresses key stakeholders involved in promoting healthier and more sustainable dietary habits within the Netherlands.

2.1 Sustainability Issues

Today's global food system faces significant sustainability and public health related issues. According to the EAT-Lancet report, the global intake of nutritious foods remains well below recommended levels, while consumption of unhealthy foods continues to grow. This dietary imbalance impacts public health and intensifies pressure on agricultural systems that are already struggling to keep up with future demands (Willett et al., 2019).

Overall food demand has risen due to population growth, increasing wealth and urbanisation. This rise in demand is also accompanied by a shift in dietary choices towards more resource intensive foods (Gladek et al., 2017).

In 2012, the FAO projected that, if current trends continue, food production would need to increase by 60% by 2050 to satisfy anticipated demand (FAO, 2013).

Our current consumption patterns are a major driver of environmental change. Research indicates that the food system accounts for between 26% (Poore & Nemecek, 2018) and 34% (Crippa et al., 2021) of total global greenhouse gas emissions. This makes it a leading contributor to climate change and environmental degradation, significantly impacting land and water resources as well as biodiversity (Ritchie et al., 2022), as can be seen in Figure 3.

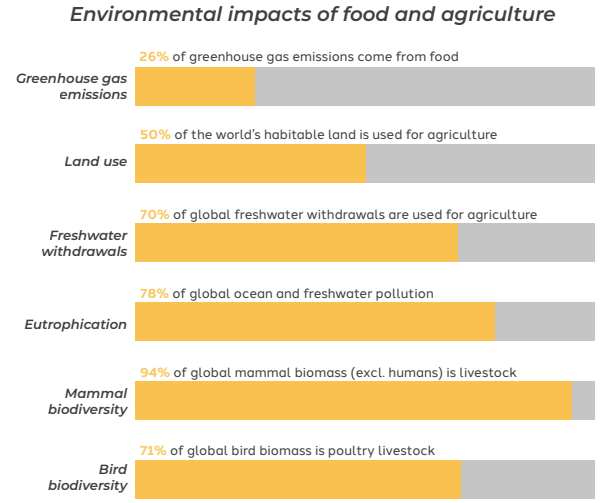


Figure 3 | Environmental impacts of food and agriculture (Ritchie et al., 2022)

2.2 Health Issues

Current dietary habits not only harm the environment but also have serious implications for public health. According to Green et al., (2022) food-related non-communicable diseases associated with overweight and obesity are now the largest contributors to the global burden of disease. These diseases, primarily cardiovascular disease, diabetes, and certain cancers, accounted for 26% of all adult deaths worldwide in 2021.

This global trend is also evident in the Netherlands, where unhealthy consumption patterns contribute to serious health concerns. Research highlights that high intakes of red and processed meats, sugars, saturated fats, and salt increase the risk of chronic diseases such as heart disease and diabetes (RIVM, 2021).

The *Gezondheidsraad* (Dutch Health Council) has studied the relationship between nutrients, foods, and dietary patterns in connection to chronic disease risk, focusing on the ten most prevalent diseases in the Netherlands. Based on this research, they issued dietary recommendations aimed at reducing the burden of disease. Key aspects of these guidelines emphasise plant-based foods over animal-based options, while advising limits on red and processed meats, sugary beverages, and salt (Gezondheidsraad, 2015).

Schijf van Vijf

To make these guidelines more accessible to the public, the *Voedingscentrum* (Netherlands Nutrition Centre) has translated them into practical advice known as the *Schijf van Vijf*, or Wheel of Five. This tool (see Figure 4) provides a structured and varied approach to nutrition, encouraging people to consume appropriate quantities from each of the five food groups while limiting foods that fall outside the wheel. (Voedingscentrum, 2017).

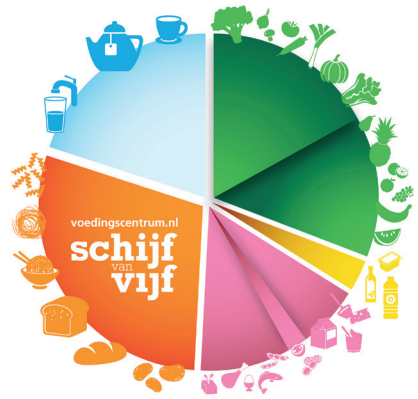


Figure 4 | Schijf van Vijf
(Voedingscentrum, 2017)

The *RIVM* (Dutch National Institute for Public Health and the Environment) periodically assesses whether Dutch citizens adhere to the *Schijf van Vijf* through the *Voedsel Consumptie Peiling* (Dutch National Food Consumption Survey). By analysing survey results, they track changes in dietary habits over time, comparing current eating patterns with previous data. A visual representation of the relations and interactions between the key stakeholders involved in promoting healthy and sustainable nutrition in the Netherlands can be found in Figure 5 on the next page.

In 2023, the *RIVM* released its latest report based on dietary data collected between 2019 and 2021. While the findings indicate some improvements since the previous survey conducted from 2012 to 2016, many areas still fall short of recommended dietary guidelines.

"The diets of most Dutch people do not comply with the Dutch dietary guidelines. Generally speaking, the diets of women, those aged over 65, and those with higher levels of education follow the guidelines more closely than the diets of men, young adults, and individuals with lower levels of education." (RIVM, 2023a)

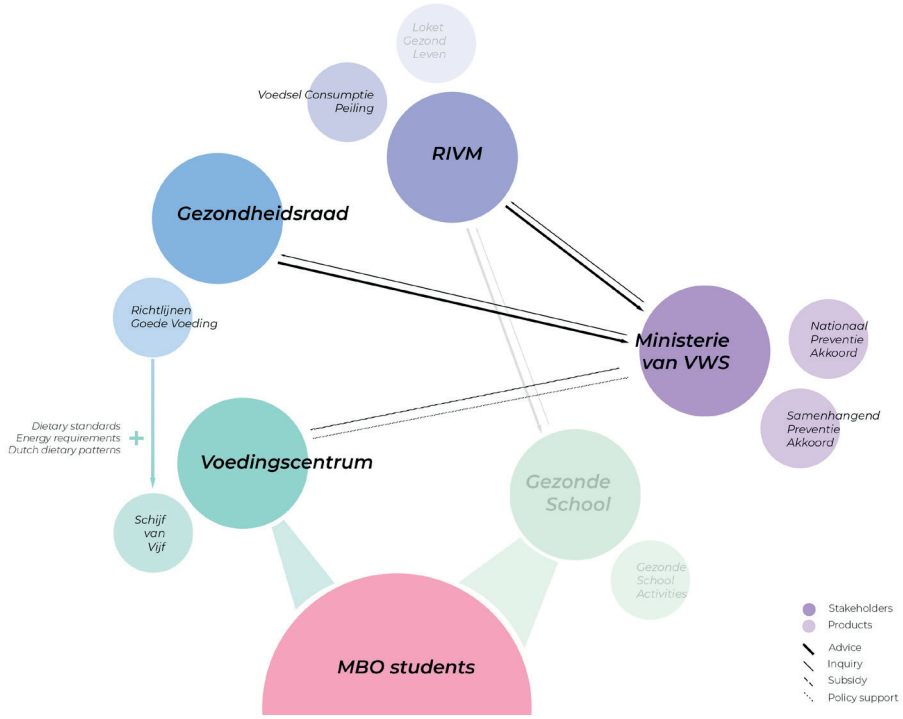


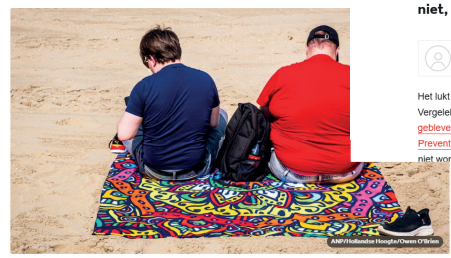
Figure 5 | Stakeholder map of the key stakeholders involved in promoting healthy and sustainable nutrition

Dutch citizens continue to consume more meat and meat products than recommended, and a substantial portion of what they eat and drink falls outside of the *Schijf van Vijf* guidelines (RIVM, 2020). These findings along with recently published news articles (see Figure 6) highlight ongoing challenges in promoting healthier eating habits among the Dutch population.

To conclude, our diets act as a bridge between human health and environmental sustainability because the foods we choose to eat impact both our personal health and the health of the planet. By selecting diets that prioritise nutrient-rich, plant-based foods, and limit processed foods and animal products, we not only support lower risks for chronic diseases but also reduce environmental impacts like greenhouse gas emissions, land use and water consumption.

NOS Nieuws • Woensdag 19 februari, 12:06

Door ongezonde leefstijl stagneert de levensverwachting, ook in Nederland



NOS Nieuws • Vrijdag, 18:27

Aantal Nederlanders met overgewicht daalt niet, hoe komt dat?

Jacokien van der Kleij
redacteur online

Het lukt Nederland niet om het overgewichtcijfer naar beneden te halen. Vergeleken met tien jaar geleden is het aandeel mensen met overgewicht gelijk gebleven. Dat betekent dat de doelstellingen van het Nationaal Preventieakkoord om overgewicht terug te dringen naar alle waarschijnlijkheid niet worden bereikt. Volgens experts maken omgevingsfactoren het ons te

NOS Nieuws • Vrijdag, 09:09

We roken en drinken steeds minder, maar blijven te zwaar

Roken en het gebruik van alcohol dalen al jaren gestaag in Nederland, maar overgewicht blijft een groot en hardnekkig probleem. Uit cijfers van het Centraal Bureau voor de Statistiek blijkt dat vorig jaar 18 procent van de volwassenen rookte, 6 procent overmatig alcohol dronk en 50 procent overgewicht had.

Figure 6 | Recently published news articles discussing the health implications of our current diets (NOS, 2025a, 2025b, 2025c)

Chapter 3

Unpacking the Brief

18 | Client Profile

18 | Project’s Objective

19 | Integrated Approach

Chapter 3

Unpacking the Brief

Understanding the Project's Foundations

This chapter introduces the project in collaboration with the Ministry of Health, Welfare and Sports (VWS), outlining the ministry's motivation, profile and current public health strategies. It also discusses how a design-based approach could offer new insights. In doing so, this chapter summarises the debriefing phase of the Social Implication Design (SID) method. The guiding questions of this phase were discussed with VWS to ensure alignment with their objectives.

3.1 Client Profile

The Ministry of Health, Welfare and Sport (VWS) is a key policymaker in the Dutch government, responsible for shaping public health strategies. Their mission, "*samen gezond, fit en veerkrachtig*" ("together healthy, fit, and resilient"), reflects their commitment to promoting health and well-being nationwide. While the ministry sets strategic directions and creates the necessary preconditions for interventions, other organisations, such as the *Voedingscentrum*, are responsible for developing and implementing these initiatives. These organisations receive subsidies from VWS and are held accountable for executing its policies.

The motivation of VWS for addressing dietary health issues stems from the role that healthier eating habits play in reducing the overall disease burden in society. By preventing diet-related health issues, improved nutrition not only enhances public well-being but also reduces the strain on the healthcare system. This aligns with VWS's broader mission of fostering a healthier and more resilient population.

3.2 Project's Objective

The ministry has expressed interest in exploring whether this project can generate valuable insights to improve adherence to the *Schijf van Vijf*. The core objective of this project is to contribute to societal well-being by encouraging healthier eating habits. In recent years, VWS has shifted its focus from primarily targeting individual behaviour change to addressing the entire system. This shift does not mean that individual-level change is no longer a priority. Instead, the ministry is adopting a more integrated approach to maximise impact. While this project takes a systemic perspective, the design of the intervention will focus on a specific user and situation. In doing so, the intervention could have the potential to act as a tangible and practical step toward realising the broader social impact.

The designed intervention would be considered a success if it inspires young adults to adopt, or at least consider, healthier eating habits. Additionally, the project would be deemed successful if it provides the ministry with a new approach to their mission, offering inspiration and demonstrating other ways of working towards a healthier society.

A designer's approach could be valuable for VWS, as it offers a fundamentally different perspective and could introduce new directions through creative problem-solving. While the ministry typically follows a linear approach to policymaking, a design process provides a more open and iterative process. Key characteristics of a design-driven approach include bringing together diverse perspectives and reframing the initial question, creating a new solution space. This process also involves making abstract ideas more tangible and moving toward concrete, actionable solutions (PONT, 2024; Event A; Event C, see Appendix B). All of these aspects have the potential to provide valuable insights and inspire the ministry's approach.

3.3 Integrated Approach

In recent years, VWS has emphasised a more integrated approach to public health. The *Nationaal Preventie Akkoord* (National Prevention Agreement, *NPA*), which addresses health challenges such as poor nutrition, smoking and alcohol consumption is an example of this approach. This agreement is a shared commitment between VWS and over 70 other key stakeholders, including healthcare providers, municipalities, sports organisations and educational institutions, working together toward achieving a healthier population by 2040. However, research performed by the *RIVM* has shown that the *NPA* has not sufficiently contributed to creating a healthier society (RIVM, 2024b).

In response, VWS is currently developing an updated framework: the *Samenhangende Preventie Aanpak* (Coherent Prevention Approach). In this approach they emphasise the importance of considering various environments, such as the school or commercial environment, to create integral policies. This approach aims to integrate multiple health factors, including diet, alcohol consumption, smoking, and physical activity, to create a more comprehensive public health strategy.

Chapter 4

Defining the Target Group

24 | Focus on Young Adults

25 | Focus on MBO Students

26 | Demographics of MBO Students

Chapter 4

Defining the Target Group

A Focus on MBO Students

To further define the project's context, young adults were chosen as the target group, with a specific focus on MBO students. This chapter will discuss the reasons behind this choice and provide an overview of the demographic characteristics of this group.

4.1 Focus on Young Adults

For this project, I chose young adults as my target group for several reasons. Firstly, the global and national challenges related to food and health, as previously discussed, are also evident within this demographic. Statistics indicate that 25% of young adults (18-25 years) in the Netherlands are overweight (CBS, 2023b). A recent report by the *RIVM* projects that by 2050, 64% of Dutch citizens will be overweight, compared to 50% in 2022 (see Figure 7). The most significant increase is expected among people aged 18 to 44 (RIVM, 2024a).

NOS Nieuws • Maandag 25 november, 07:43

RIVM: in 2050 heeft 64 procent overgewicht, vooral toename bij jongeren

Het aantal mensen met overgewicht in Nederland zal in 2050 zijn opgelopen tot 64 procent. Dat meldt het RIVM in zijn rapport Volksgezondheid Toekomst Verkenning. Ter vergelijking: in 2022 was het percentage van de bevolking met overgewicht 50.

Het RIVM, dat het rapport woensdag publiceert, verwacht dat in alle leeftijdsgroepen meer mensen met overgewicht zullen zijn. De grootste stijging is in de categorie 18-44 jaar.

Overgewicht is ook op steeds jongere leeftijd een probleem, ziet het RIVM. Zo had in 1990 17 procent van de jongeren van 20-29 jaar overgewicht, in 2020 was dat opgelopen tot 32 procent.

Figure 7 | *RIVM* Report in a news article (NOS, 2024)

Secondly, research highlights that young adults are particularly prone to unhealthy eating habits, characterised by a higher consumption of energy-dense foods, sugary snacks, and beverages (de Rosa Spierings et al., 2023). Foods that are not included in the *Schijf van Vijf*.

Thirdly, the phase of "emerging adulthood" (ages 18–25), is a period of significant transition, both physically and socially. During this time, young adults gain greater independence and autonomy, adapt to new physical and social environments, and develop their identities. Unfortunately, this phase is also associated with an increased risk of weight gain and challenges in maintaining healthy behaviours (de Rosa Spierings et al., 2023; Munt et al., 2017; Stok et al., 2018).

Research indicates that life course transitions, such as moving out of the parental home and leaving education, can significantly influence dietary habits (Winpenny et al., 2018). For university students, leaving their family home has been associated with decreased meat consumption (van den Berg et al., 2022), suggesting that such periods of change may serve as a window of opportunity to encourage broader shifts toward healthier or more sustainable eating patterns.

Lastly, from a policy perspective, focusing on younger generations offers a valuable opportunity to create lasting impact. Interventions introduced during this formative stage not only address immediate concerns but also help establish lifelong habits, contributing to a healthier future, or as the Dutch proverb says, "*Jong geleerd, oud gedaan*".

4.2 Focus on MBO Students

I chose to specify my target group further to MBO students. Research shows that individuals with vocational education tend to report poorer health and are overrepresented among those with less healthy lifestyles (CBS, 2025; Kraaykamp et al., 2018). Their dietary habits are generally less nutritious compared to those with university backgrounds, contributing to greater health challenges within this group. These disparities highlight the importance of developing interventions that target this group to improve their health.

Focusing on this demographic is expected to be impactful, as it represents a significant portion of the Dutch population (see Figure 8). Addressing the needs of this group can lead to meaningful progress in reducing health inequalities and promoting healthier lifestyles on a larger scale.

Education level	***Population*** x1000
Total	13326
Basisonderwijs	1034
Vmbo, havo-, vwo-onderbouw, mbo1	**2433**
Havo, vwo, mbo2-4	**4935**
Hbo-, wo-bachelor	2934
Hbo-, wo-master, doctor	1915
Unknown	76

Figure 8 | Education levels in the Netherlands (CBS, 2023a)

Moreover, MBO students are often overlooked in both research and interventions. When focusing on young adults, primary and secondary school students tend to be the main focus, while university students are frequently studied due to their presence in academic settings. A conversation with a representative from *Stichting JOGG* revealed that many intervention efforts are focused on children aged 0-12, as they are easier to influence due to their age and environment. Influencing MBO students, with schools often located in urban areas surrounded by unhealthy food options, is a greater challenge. Their increased autonomy complicates things further, making them a less prioritised group despite their vulnerability (Expert 4, see Appendix B)

4.3 Demographics of MBO Students

As a first attempt to better understand my target group, I explored several demographics of MBO students. These factors provide insight into their background, living situation and overall composition of the target group.

Secondary vocational education (*middelbaar beroepsonderwijs* or *MBO*) prepares students for professional practice or further education. In the Netherlands, the duration of an MBO programme depends on the chosen level, ranging from one year for level 1 to three or four years for level 4. In addition to different levels, MBO offers two learning pathways: the school-based pathway (*beroepsopleidende leerweg* or *BOL*) and the work-based pathway (*beroepsbegeleidende leerweg* or *BBL*). *BOL* students attend school daily and complete internships at training companies throughout their studies. *BBL* students typically attend school one day per week, while working under an employment contract at a training company for the rest of the week (Monitor Studentenhuisvesting, 2024; Nuffic, n.d.).

For the 2024-2025 academic year, preliminary figures from CBS indicate that there are a total of 466,830 MBO students in the Netherlands (see Figure 9). Among these students, the majority (328,990) follow a *BOL* pathway, while 137,850 are enrolled in a *BBL* pathway (CBS Statline, 2025).

More than half of the *BOL* students are 18 years old or younger, whereas most *BBL* students are 20 years or older (Ministerie van Onderwijs, 2024).

In terms of gender distribution, the numbers are quite balanced (see Figure 10). In the *BOL* pathway, there are slightly more women than men, while in the *BBL* pathway, the ratio is reversed (CBS Statline, 2025).

Regarding country of origin, approximately two-thirds of MBO students are Dutch-born. The remaining one-third primarily comes from other European countries, Turkey, or Morocco, as can be seen in Figure 11 (CBS Statline, 2025).

When it comes to living situation, about 80% of the MBO students still live with their parents. Among the 20% who live independently, the average age is 26 years (see Figure 12) (Monitor Studentenhuisvesting, 2024).

	Total MBO	Total BOL	Total BBL
Number of students	466 830	**328 990**	**137 850**

Figure 9 | Number of MBO students in the Netherlands (CBS Statline, 2025)

Gender	Total MBO	Total BOL	Total BBL
Total male and female	466 830	328 990	137 850
Male	**239 580**	**155 150**	**84 420**
Female	**227 260**	**173 830**	**53 420**

Figure 10 | Gender distribution MBO students (CBS Statline, 2025)

Country of origin	Total MBO
Total	466 830
Netherlands	**315 360**
Europe (excl. Netherlands)	**27 980**
Turkey	**17 440**
Morocco	**21 010**
Suriname	13 100
Dutch Caribbean	11 060
Indonesia	2 460
Outside Europe (excl. 5 main countries of origin)	58 200
Unknown	220

Figure 11 | Country of origin MBO students (CBS Statline, 2025)

	Living at home	Living away from home
Number of MBO students	**376 000**	**94 000**
Number of BOL students	305 000	25 000
Number of BBL students	71 000	69 000
Average age	**18.9**	**26.0**

Figure 12 | Living situation MBO students (Monitor Studentenhuisvesting, 2024)

Chapter 5

Understanding Eating Behaviour

30 | Evolutionary Drive

30 | The Power of Habits

30 | Context-Dependence

33 | Social Norms and Identity Formation

Chapter 5

Understanding Eating Behaviour

Uncovering the Factors behind Food Choices

Encouraging healthier behaviour requires a deeper understanding of the underlying mechanisms of eating habits. While people may believe their food choices are conscious decisions, many are automatic and shaped by external influences. This chapter explores these factors, with a focus on young adults.

5.1 Evolutionary Drive

From an evolutionary perspective, the human brain developed in environments where food was scarce, wiring us to prioritise eating whenever food was available. However, in today's context of abundant food availability, this survival mechanism often leads to overconsumption and difficulty in resisting food cues (Event B, see Appendix B).

5.2 The Power of Habits

Most daily food choices are made automatically, rather than through deliberate reasoning. According to Kahneman's dual system theory, food choices are often driven by System 1 thinking, which prioritises immediate rewards, emotions, routines and social interactions (Kahneman, 2011). While self-control and conscious decision-making (System 2 thinking) can occasionally override habitual eating patterns, this requires cognitive effort (Event B, see Appendix B).

Eating behaviours, such as meat consumption, are strongly habitual (van den Berg et al., 2022). These habits are shaped by repeated actions. Once established, these routines reinforce automatic behaviour, making it challenging to break away from unhealthy patterns.

5.3 Context-Dependence

Whether heuristic or conscious, food choices are not isolated decisions. They are shaped by multiple factors on individual, social and environmental levels. On an individual level, time constraints, mood, daily routines, but also personal beliefs, skills and nutritional knowledge play significant roles. On a social level, social influences from parents, friends and peers have a strong impact on young adult's eating behaviour. This could either be through conscious

instructions (e.g. parents teaching their children about healthy eating) or unconscious role modelling (e.g. adopting eating patterns from peers) (de Rosa Spierings et al., 2023). Research suggests that young adults tend to mirror the eating behaviour of their social environment, making unhealthy eating habits socially contagious (Liu et al., 2024; Montgomery et al., 2020). Additionally, unhealthy eating habits are often normalised in specific social settings, reinforcing unhealthy food choices. In terms of the physical environment, factors such as price, portion size and food availability are particularly influential (de Rosa Spierings et al., 2023; Kraaykamp, 2009). Environments where cheap, calorie-dense foods are readily available, such as in city centres, make it easier to develop and maintain unhealthy eating patterns.

Is obesity the problem or is our obese environment the problem?

As part of the *Samenhangende Preventie Aanpak*, VWS is exploring ways to improve food environments through policy interventions. Recently, several news articles have reported on actions aimed at regulating the food environment (see Figure 13). In Almere, for example, the municipality announced new regulations on fast food providers in hospital and school environments. However, these measures have been met with resistance (van Hoek, 2025). The main concerns include fears of restricted freedom of choice and scepticism about the effectiveness of such policies, as people may seek unhealthy options elsewhere. When NOS Stories asked young adults for their opinions on these plans, they expressed similar concerns (NOS Stories, 2025).

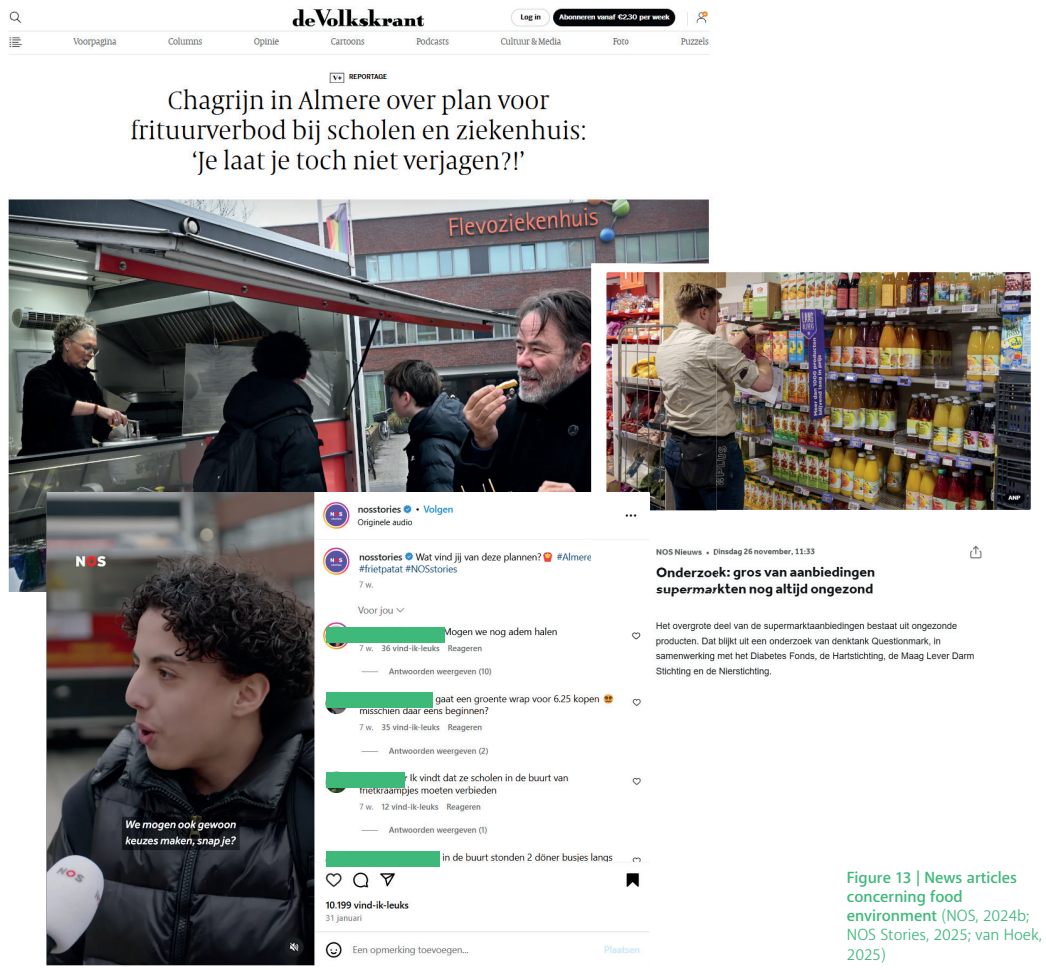


Figure 13 | News articles concerning food environment (NOS, 2024b; NOS Stories, 2025; van Hoek, 2025)

5.4 Social Norms and Identity Formation

Food is more than just functional, it is deeply embedded in social interactions. Beyond individual preferences, habits and environmental influences, social norms and identity formation play an important role in shaping young adult's eating behaviours. According to Faria & Kang (2022), food choices are often driven by three social factors: context, identity and norms. Meaning that people do not simply eat for nourishment but also to conform to social expectations, reinforce a sense of belonging, and express one's identity.

The social identity theory suggests that people derive part of their identity from the groups they associate with, which influences their behaviours (Scheepers & Ellemers, 2019). Cruwys et al. (2016) argue that the desire for social acceptance often outweighs nutritional considerations when making food choices. The Situated Identity Enactment (SIE) model (see Figure 14) explains how individuals process social cues, such as peer norms and identity alignment, when deciding what to eat. Particularly in group settings, young adults tend to adapt their eating behaviour to match those around them.

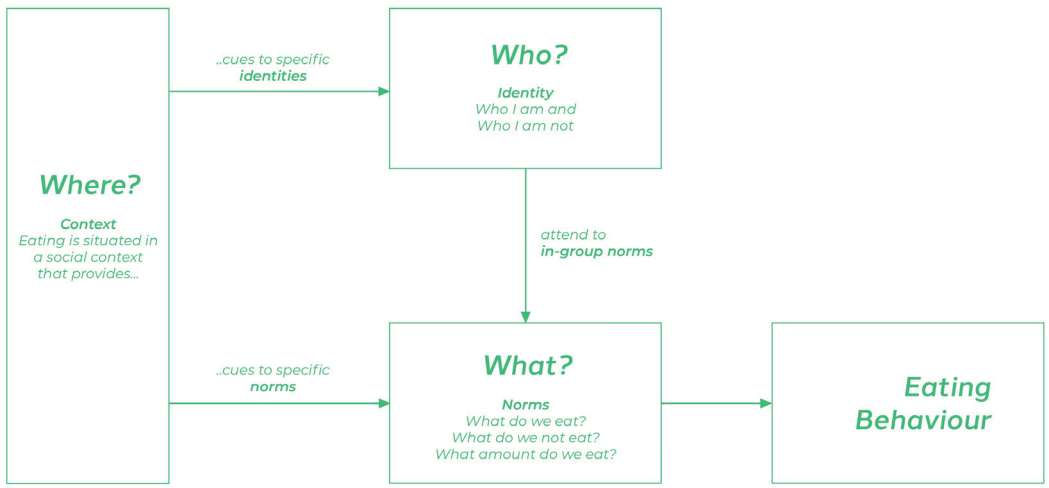


Figure 14 | Situated Identity Enactment model (Cruwys et al., 2016)

The impact of peer influence is particularly strong during adolescence and young adulthood, when social circles expand and independence from family increases (Montgomery et al., 2020). Adolescents and young adults become more motivated to fit into social group identities, adopting the eating habits and dietary norms of their peers (Stok et al., 2018). This process of social influence is especially evident in school and educational settings, making it a promising setting for improving young adult's dietary behaviour (Burgess et al., 2018; Devine et al., 2023).

This was acknowledged in a conversation with a PhD researcher of Wageningen University. While many initiatives focus on food knowledge, she pointed out a gap in addressing the social context of food, highlighting that it plays a social role, not just in consumption but also in acquisition. Interestingly, students with side jobs demonstrated greater autonomy in food choices, suggesting that financial independence influences dietary decisions. Additionally, she noticed older students were more motivated by health, appearance, and fitness in their food choices (Expert 1, see Appendix B).

Chapter 6

Challenging Status Quo

39 | Introducing a New Lens: Exnovation

40 | Design for Exnovation

41 | Design for Transitions

42 | Design for Social Contagion

43 | My Approach

Chapter 6

Challenging Status Quo

Design Opportunities for Changing Dietary Behaviour

While many existing interventions for changing dietary behaviour focus on promoting new and improved diets, this project takes a different approach. This chapter introduces the exnovation lens as a guiding perspective and discusses its potential value. It also examines other design opportunities and explains my approach to this project. This chapter also includes the design steps of deconstruction and defining the project domain, serving as the foundation for the SID process.

Deconstructing Existing Solutions

As a start of my design project, I looked into existing solutions that stimulate healthy eating or discourage unhealthy eating. These included interventions by VWS, *Voedingscentrum*, but also supermarkets and smaller organisations. I deconstructed these solutions, looking into why they were designed the way they were, what they communicated, how people interacted with them and what the context was the product was designed in (see Figure 15). What I found was that many existing interventions focus on the individual, trying to either improve knowledge or playing into the individual needs for comfort and convenience. Also the majority of products and interventions were focused on improving healthy eating.

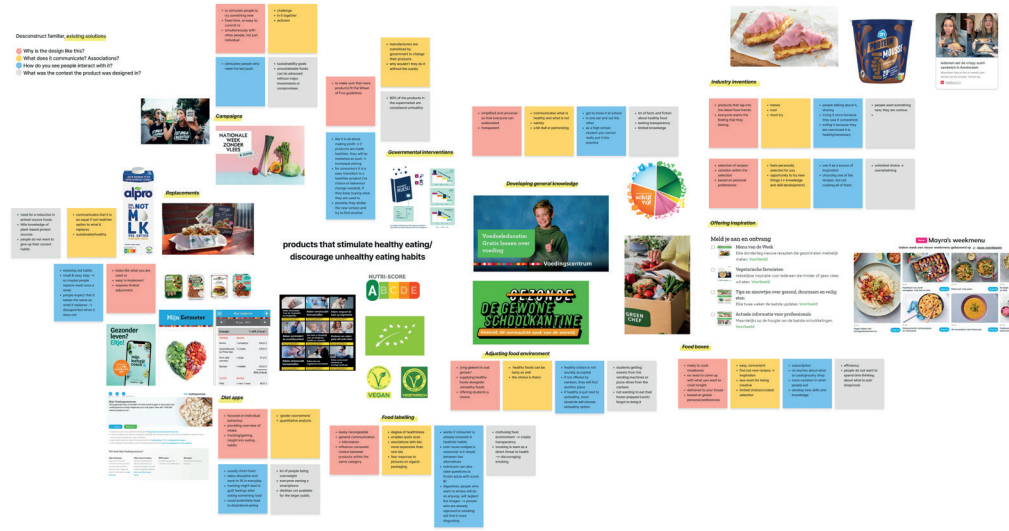


Figure 15 | Deconstruction of existing solutions

6.1 Introducing a New Lens: Exnovation

Many current interventions aimed to change dietary behaviour emphasise adopting new and improved diets, often neglecting the need to move away from established, unhealthy eating habits (Peeters et al., 2024). Without addressing the persistence of these existing behaviours, efforts to encourage healthier eating habits may only achieve limited success. Applying the principle of exnovation, the intentional phase-out of outdated or harmful practices, to the food domain offers an interesting perspective on driving dietary change.

A major obstacle to reducing meat overconsumption is the widespread assumption that technological innovations alone can address environmental and health concerns. This mindset overlooks the fact that meaningful change requires more than just improving existing systems, it also asks for actively moving away from unsustainable dietary patterns (Rust et al., 2020). Without a shift in focus toward eliminating harmful consumption, new solutions may struggle to achieve their full potential.

A focus on exnovation within the food domain, specifically reducing reliance on foods that fall outside the *Schijf van Vijf*, could provide an effective approach. By gradually phasing out the presence of unhealthy foods in everyday diets, space is created for healthier alternatives to become more dominant.

Establishing the Domain

Using the concept of exnovation, I have defined the domain in which this project aims to make a meaningful contribution. The domain should be broad enough to allow for exploration and creativity while giving direction to the design process. For this reason, I chose the domain "**consumption of unhealthy foods**" rather than the more straightforward "healthy eating". This framing suggests the goal of minimising unhealthy food consumption, and thus applying the exnovation lens, without limiting the further creative process.

6.2 Design for Exnovation

While innovation emphasises the creation of new ideas and solutions, exnovation deals with identifying and removing outdated and unsustainable structures (Noëth et al., 2023; Sharpe et al., 2016). The need for exnovation has gained increased public attention by societal incidents and developments that have exposed the limitations of current systems and highlighted the need for systemic change (Hebinck et al., 2022).

From a transition perspective, understanding and practicing exnovation is essential, as persistent existing patterns can significantly hinder progress toward a more sustainable future (Noëth et al., 2023). While much of the focus within innovation studies and transition theory has been on how new practices emerge and stabilise, the processes of phasing out, modifying, or repurposing existing structures remain less explored. However, these processes are equally important, as transformation is rarely a matter of simple replacement. Older or replaced elements often persist, adapt, or even resurface in new forms (Shove, 2012).

In academic literature, transition dynamics, including both exnovation and innovation processes, have been visualised through frameworks like the X-curve (Hebinck et al., 2022) in Figure 16. This framework illustrates how the build-up of new systems is naturally linked with the breakdown of existing ones, emphasising their interdependence.

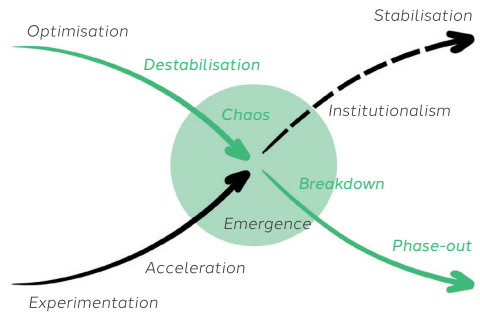


Figure 16 | X-curve framework (Hebinck et al., 2022)

Exnovation remains a relatively underexplored aspect of design. While Pierce (2012) argues that intentional removal can be seen as a part of design, there are little to no practical examples of products, services, or interventions where something is eliminated by design. The limited existing examples are all policy-driven. At a government-organised event on breakdown and design, discussions revealed that topics of breakdown and loss are often avoided (Event C, see Appendix B). This highlights not only the underexplored nature of exnovation, but also its potential, especially at the intersection of policy and design.

6.3 Design for Transitions

Given that exnovation is an underexplored field, no established design methods currently exist for addressing it. However, a review of systemic and transition design approaches has provided several useful insights into how design can support transitions:

- Creating a coherent environment | Ensuring that the surroundings reflect and reinforce the intended message (Expert 1; Expert 2; Expert 3; see Appendix B).
- Taking a portfolio approach | Using a combination of (small) interventions that encourage different ways of adopting new behaviours can increase engagement and exposure (van der Bijl-Brouwer, 2023).
- Enabling group discussions | Facilitating conversations within groups can encourage reflection, strengthen social influence and create a sense of shared commitment towards shifting behaviour (Peeters et al., to be published).

6.4 Design for Social Contagion

Since social dynamics significantly influence eating behaviour, another design opportunity lies in using social contagion. Social contagion refers to how behaviours spread through social influence and networks. While simple contagions require a single interaction, complex ones, like adopting healthier eating habits, demand repeated exposure from multiple sources, see Figure 17 (Centola, 2018).

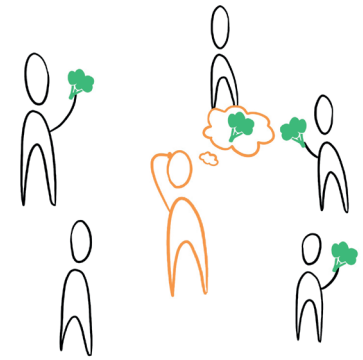


Figure 17 | Complex contagion

Social networks play an important role in this process. People tend to form connections based on shared attributes or environments, such as schools and workplaces (Boele et al., 2023). Social connections strongly influence food choices, shaping learning, consumption habits, and health-related behaviours (Wang et al., 2019). This is partly because food acts as a strong social connector, sparking conversations about meals, cooking, and dining experiences.

Using social networks can enhance behaviour change, particularly through friendship connections (Expert 3, see Appendix B). Research showed that school-based interventions using peer influence resulted in a greater shift in social norms than traditional teacher-based programmes (Montes et al., 2023). Additionally, interventions that involve social networks, such as collective efforts to change dietary habits, have the potential for longer-lasting results than individual-focused approaches (Severijns et al., 2024).

To trigger social contagion, behaviours must be activated and spread quickly through networks. This requires designing interventions, artifacts, and networks that facilitate this behaviour diffusion (Boele et al., 2023).

6.5 My Approach

This project uses a systemic approach with an exnovation frame, as well as incorporating aspects of transition design and design for social contagion. As a way to structure my process I applied the Social Implication Design (SID) method.

SID builds on the Vision in Product Design (ViP) method, a framework I have enjoyed using in past projects, but adjusted to fit societal design challenges. It emphasises context and user interaction, with the designer's personal vision driving the entire process (Hekkert & Tromp, 2019; Hekkert & van Dijk, 2011)

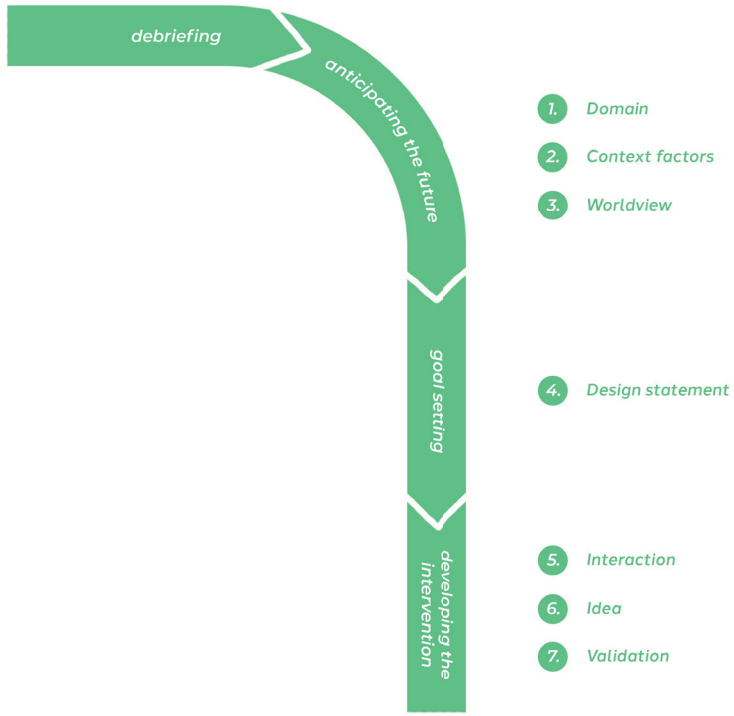


Figure 18 | Social Implication Design method
(Hekkert & Tromp, 2019)

Through the SID process (see Figure 18), the designer builds a plausible future world based on research and analysis, aiming to create a relevant, meaningful and inspiring context for the project at hand. This envisioned future, or worldview, serves as a framework for design decisions. From this worldview, the designer determines the desired human behaviours and interactions, a statement, for that future. In doing so, SID helps answer the critical question of where to begin small-scale interventions to address larger systemic issues. These steps are discussed in detail in Chapter 8.

A reflection on how the exnovation lens influenced my design process and whether this could be an appropriate approach to future undesign projects is included in Chapter 13.

Chapter 7

Field Research

48 | Goal of Field Research

49 | Approach to Field Research

53 | Insights of Field Research

Chapter 7

Field Research

Understanding the target group's context

To align the research with the target group and ensure the intervention meets their needs, while fitting into their context, field research was conducted. This chapter outlines the research activities and insights across several areas, showing how they provide inspiration for the next phases of the design process.

7.1 Goal of Field Research

The primary goal of this field research is to gain insights into the target group, ensuring that the designed intervention aligns with their daily lives, habits and values. Additionally, the field research helps to narrow down the project's broad scope by identifying important contextual factors that the intervention should address.

The field research was set up to find insights in the following areas:

1. MBO-students' daily context | Understanding their routines, school days, school environment and eating habits
2. Nutritional knowledge | Exploring what they perceive as healthy and unhealthy eating, their level of concern, and engagement with healthy eating
3. Attitudes toward changing eating habits | Investigating whether they have considered adjusting their diet, what changes they are contemplating and their motivations for doing so
4. Barriers to change | Identifying challenges that make it difficult to adopt new eating habits, past experiences with dietary changes and factors that influence success or relapse
5. Underlying values | Understanding the values that shape their eating behaviours and that should be considered when designing for this target group.

7.2 Approach to Field Research

This field research consisted of four steps: an exploratory interview, street interviews and observations, in-depth interviews and in-class surveys.

The exploratory interview was conducted to orient myself within the design context. The broad set-up of this interview helped identify topics that could be further explored in the subsequent research steps.

Street interviews and observations provided quick insights into the eating habits of MBO students within their school environments. These short interviews aimed to find motivations behind food choices and identify behavioural patterns. Additionally, short interviews with nearby food providers were conducted to understand their perspectives, main customer base and popular food offerings.

A series of in-depth interviews served to provide more insight into underlying motives and behavioural patterns. These interviews built on insights from previous steps, and were used to gain a better understanding of the student's eating behaviour.

Finally, in-class surveys were conducted to validate findings from earlier research steps and assess whether insights were consistent across a broader group.

7.2.1 Exploratory Interview

One of the first field research activities was an exploratory interview with a Dutch male MBO graduate who had recently moved out on his own at age 26, three years after completing his degree. This semi-structured interview aimed to explore his experiences and behaviours surrounding food and independent living for the first time. By discussing his daily eating habits, approach to cooking and challenges in the transition to independent living, the conversation provided relevant insights into the priorities and struggles of my target group. Initially, the research focused on MBO-students in the process of moving out of their parental home, but this focus was let go of as the group proved relatively small and difficult to reach.

7.2.2 Street Interviews and Observations

To better understand the eating habits of MBO students, I conducted field research around a Zadkine location in Rotterdam, focusing on Teilingerstraat, where several snack bars are located near the school. This research included observations and street interviews with eight students and three snack bar owners. Among the students, one group consisted of three male *BBL* culinary training students and the other group included five male students.

Figure 19 | Street interviews at Teilingerstraat

The goal was to gain insight into their eating habits around school, their motivations for food choices and patterns in their behaviour. I prepared a few initial questions but allowed the interviews to flow naturally based on the responses. Students were asked about their current meal choices, why they selected them and their usual eating habits. The interviews with snack bar owners provided insights into their best-selling dishes, customer base and peak hours. These findings helped to explore the role of the food environment in student's eating habits.

The interview questions can be found in Appendix C.

7.2.3 In-depth Interviews

In-depth interviews were conducted to understand the underlying needs and values that shape MBO students' eating behaviours. This field research step involved four MBO students, three male and one female, who were recruited through personal connections.

Since needs and values are abstract concepts that can be difficult to discuss directly, participants were sensitised before the interviews. They were asked to create photo diaries, in which they documented their daily eating habits (see Figure 21). This method encourages self-reflection, helping participants become more aware of their food choices. Starting the interview with this deeper awareness allowed discussion to move beyond surface-level information toward underlying motivations. Through analysing these personal stories, it became possible to deduce the deeper needs and values influencing their decisions (see Figure 20).

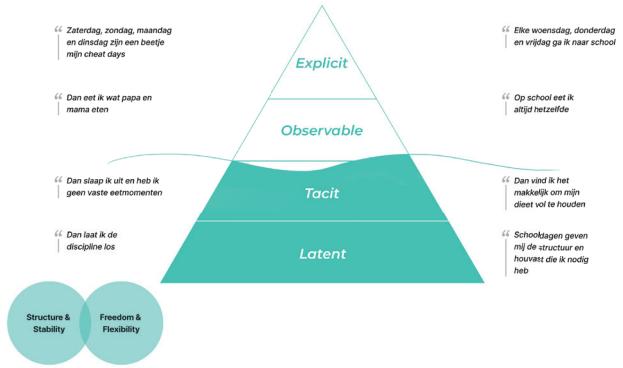


Figure 20 | Knowledge triangle (Sanders & Stappers, 2012)

The interviews, lasting 30 minutes to 1 hour, were structured around four themes, with the photo diaries serving as a conversation guide:

1. Reflection on own photos | Understanding daily routines and social practices around food
2. Reflection on eating habits | Exploring personal experiences and habits related to food
3. Changing and adapting eating habits | Investigating attitudes toward dietary changes
4. Minimising or avoiding certain foods | Examining motivations and challenges in reducing specific foods

The interview questions can be found in Appendix D.

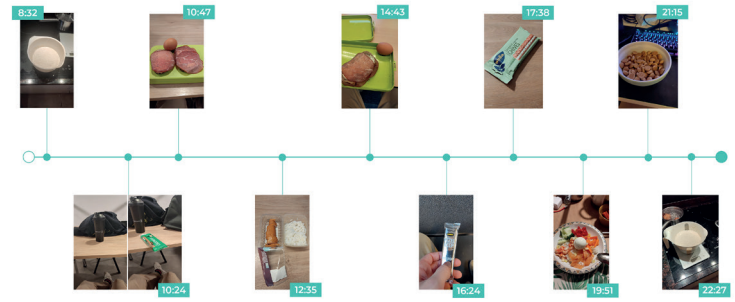


Figure 21 | Example of a photo diary

7.2.4 In-class Surveys

To validate findings from previous research steps and gain insights within the school environment, I organised three interactive lessons on reducing unhealthy foods at a Zadkine location in Rotterdam (see Figure 22). These lessons focused on MBO students' eating habits at school and were conducted with two fist-year classes and one second-year class from the nursing program. The students, primarily female, were aged 16-19.

Figure 22 | In-class survey using Mentimeter presentation

The lessons were structured using Mentimeter, an interactive presentation tool that allowed students to submit anonymous responses via mobile phones, which were displayed in real-time on the board. This approach encouraged reflection and open discussion, allowing students to engage with their own responses and those of their peers. Students answered questions about their daily eating habits, foods they considered unhealthy, and what they were considering reducing. The goal was to gain insights into eating behaviours at school, assess what foods students were willing to reduce, confirm their understanding of healthy and unhealthy foods and explore the influence of their social environment on their eating habits. The session included open-ended questions, polls on peer influence and a ranking activity on food healthiness.

The Mentimeter questions and students' responses can be found in Appendix E.

7.2.5 Data Analysis

Collected data included photos, interview excerpts, quotes and responses from the Mentimeter lessons. The data was analysed thematically, looking for recurring patterns and underlying values, which were then formulated into main insights.

7.3 Insights of Field Research

MBO Students' Daily Context

Eating in the moment

Impulsivity plays a big role in many young adults' eating habits, with decisions often driven by cravings in the moment. This spontaneous style of eating is valued for the freedom and flexibility it offers, allowing to satisfy immediate desires without being restricted by routines or plans. Bringing lunch from home is perceived as not cool, leading many students to purchase their food on the go. Additionally, rather than having structured meals like breakfast or lunch, many students tend to snack throughout their school day.

"Waar eet ik op school? - Ja overal"
"Wat eet ik op school? - Ja alles"

"Ik eet gewoon niet, ja een paar kleine dingen"

Nutritional Knowledge

Knowing but not acting

Students generally have sufficient nutritional knowledge to distinguish between healthy and unhealthy foods. They are aware of what food choice is the healthier option, but often do not apply this knowledge in their daily eating habits. Their decisions are more influenced by convenience, price, cravings or social factors rather than a lack of understanding.

"Die nieuwe drankjes in de kantine, die zijn helemaal niet gezond, daar zitten superveel zoetstoffen in!"

"Mevrouw, zijn de noten ongezouten of gezouten? En zijn ze gebrand? Want dat is ook weer slechter dan ongebrand"

Attitudes Towards Changing Eating Habits

Resisting temptation

When asked who could help them change their eating habits, most students responded, "No one but myself". They see resisting the temptations of an obesogenic environment as a personal responsibility. This effort requires discipline, self-correction and frequently saying 'no', both to indulgent foods and social influences. When they give in, they often justify their choices mentally, framing them as a well-deserved treat, a special occasion or a "cheat day".

"Ja op schooldagen is anders, dan is het vaak gezellig met vrienden wat eten"

"Jezelf, je moet zelf discipline hebben"

Sports Culture

A frequently mentioned motivation for changing eating habits was sports and physical appearance. As participation in sports increases, eating behaviours often shift, with a stronger focus on protein intake. Students who viewed themselves as sporters adapt their diets to align with what is considered normal within sports culture, prioritising foods that support training, recovery and muscle growth. In this context, food becomes a tool for achieving fitness goals. This protein trend was most apparent among male participants, though female participants also mentioned wanting a fit-looking body as a motivation for adjusting their eating habits.

"Alles voor die summer bod"

"Toen ik wat meer ging sporten ging ik ook gezonder eten"

"Voor lunch eet ik meestal proteïne reepje. Ik sport veel dus vandaar"

Barriers to Change

When asked what makes it difficult to reduce unhealthy foods, students identified several factors. Many described unhealthy foods as simply "too tasty" or something that "makes me happy". Convenience was another important factor with responses such as "it is quick and easy" and "it is right there for the taking". Additionally, price plays a role as students said another reason for choosing unhealthy foods was that "it is cheap".

"het maakt me gelukkig"

"het is verleidelijk"

"het ligt zo voor het pakken"

School & food environment

As discussed in literature, the environments around MBO schools often encourage unhealthy eating habits. This was confirmed during field research, where schools were observed to be surrounded by snack bars and fast-food providers. Owners identified students as their main customers and said they adjusted their opening times and menus to accommodate them. The social environment also plays a significant role in promoting unhealthy behaviours. In the in-class survey, 44 out of 47 students indicated that unhealthy eating is considered the social norm at school.

"als ik een keer nee zeg dan vragen ze 'Gaat het wel goed? Ben je op dieet??'"

"Iedereen op het MBO eet ongezond"

Underlying Values

Taste of independence

As young adults transition into adulthood, their desire for autonomy shapes their approach to food and eating. Personal choice, with the freedom to decide what, when, and how they eat becomes an important aspect of independence. This marks a shift away from familial routines and towards creating their own habits and preferences.

"Ik wil niet dat de kantine alleen maar gezond eten verkoopt. Ik wil zelf kunnen kiezen wat ik eet"

Eating as identity

For many, eating is also a way to express and shape their social identity. Food choices reflect who they are and how they want to be seen by others. People use food choices to express group belonging or to reinforce their individuality. This was observed in field research, where certain groups used the same products as part of their identity. For example, during street interviews, a group of students all had a cigarette tucked behind their ear. Branding also plays a role as specific brands or products can reflect a certain lifestyle. Carrying a protein bar, for instance, can signal an active and sporty identity.

"Ik koop altijd Spa Blauw maar dat is nooit in de aanbieding"

Socially shaped

Young adults use their social context to guide their eating choices. Food is used as an opportunity for bonding and building group identity. Social dynamics influence not only what they eat but also when, where and how they eat. The desire to fit in often overrides individual preferences, making eating a social act rather than just a personal decision.

"Als zij maccie gaan halen dan ga ik daar echt geen flesje water en bakje sla zitten eten"

Conclusion | How do these insights help shape the design?

MBO students value a lifestyle centred around impulsivity, freedom and flexibility. This lifestyle is reinforced by their physical environment, with the abundance of unhealthy food options and flexible school schedules, that support spontaneous food choices. Additionally, this focus on spontaneity and impulsivity also increases the influence of social dynamics on eating behaviours.

While students were aware of the physical temptations of unhealthy foods, they were less conscious of the role social influence plays in their choices. This aligns with existing literature, which point out peer influence as a powerful, but often unrecognised factor in shaping eating behaviour. Leveraging social influence for positive change rather than seeing it as a barrier, could serve as an opportunity for design.

Another insight that aligned with the literature research, is the gap between knowledge and action. Students generally know what is healthy and unhealthy, but this awareness does not translate into behaviour. Therefore, an intervention should not focus on just raising awareness but rather on bridging the intention-action gap by making the step towards action easier and more appealing.

Finally, independence and autonomy emerged as core values. The intervention should respect students' need for personal choice and control, ensuring they feel empowered rather than restricted. By designing with these insights in mind, the intervention will better align with MBO students' lifestyles and increase the likelihood of acceptance.

Chapter 8

Synthesis | Social Implication Design

60 | Approach to Synthesis

61 | Clusters

66 | Worldview

68 | Design Statement

Chapter 8

Synthesis | Social Implication Design

Reframing the problem

The SID method is applied to translate the findings from literature and field research into meaningful insights. Through gathering and clustering context factors as well as developing a worldview, a design statement is formulated that will become the guiding direction for the ideation and conceptualisation phase. This chapter will discuss these synthesising steps in depth.

8.1 Approach to Synthesis

The goal of this analysis process is to translate insights from literature and field research into meaningful takeaways that shape the design direction. Using the Social Implication Design (SID) method, these insights were transformed into context factors, which serve as the building blocks for understanding unhealthy food consumption (see Figure 23).

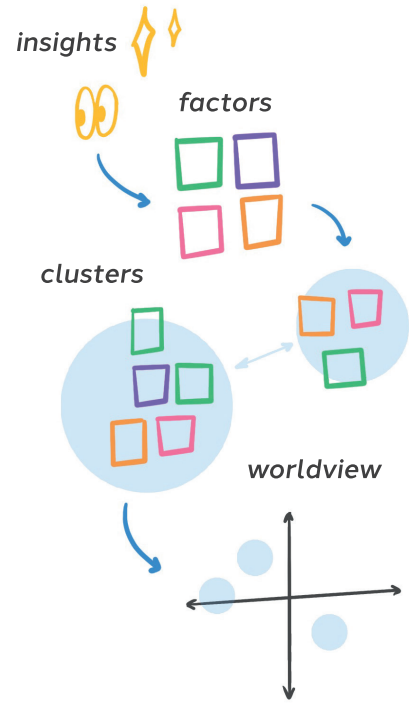


Figure 23 | Sythesis process

Factors were gathered from diverse sources, including scientific papers, news articles, reports, podcasts, documentaries, as well as conversations, opinions and observations. To ensure both depth and breadth, different types of factors, such as states, principles, trends and developments, were included, drawing insights from multiple disciplines (demographics, psychology, sociology, technology, politics, culture, economics, biology, evolution and design). In total, around 150 context factors were collected.

The collected context factors were organised to identify underlying patterns. By clustering related factors, different themes and behaviour patterns emerged. Thirteen clusters were created, each describing a driving force behind unhealthy food consumption. The clusters are described in detail in Chapter 8.2.

The clusters were then structured into a two-dimensional worldview, defining different mindsets within the domain (see Chapter 8.3). This process led to the design statement: ***"To encourage better adherence to the Schijf van Vijf guidelines, I wish to inspire MBO students to minimise unhealthy snacking in and around the school environment by using social contagion"*** (see Chapter 8.4).

7.2 Clusters

Organising the context factors resulted in thirteen clusters, each offering a different perspective on the forces that drive unhealthy food consumption.

#1 Dietary Conservatism

People often resist unfamiliar foods due to neophobia and the comfort of routine, creating psychological barriers to dietary change. This resistance is reinforced by cognitive dissonance, as people rationalise unhealthy choices or ignore conflicting information. Additionally, the overwhelming number of food options leads to choice fatigue, causing people to default to familiar choices, further discouraging dietary exploration and reinforcing existing habits.

#2 Meals in Minutes

With busy lives, many people prioritise convenience in meal preparation, defaulting to quick, familiar options. The food market caters to this demand with ready-to-eat meals and meal kits that require minimal effort, allowing consumers to enjoy home-cooked meals with minimal effort. This reliance on convenience also shapes food choices, where intuitive, emotional decisions often outweigh careful planning.

#3 Culinary curiosity

For some, cooking is more than a necessity, it is a fulfilling hobby. They explore new flavours, experiment with recipes and seek high-quality ingredients, using food as a way to expand culinary knowledge and connect with diverse cultures. Rather than sticking to familiar meals, they actively pursue variety and novelty, driving a demand for niche food products that emphasise authenticity and creativity.

#4 The world on your plate

Urbanisation and globalisation have expanded our access to the global food chain, creating a more uniform food culture. Large corporations and fast-food chains promote standardised, processed meals worldwide. Meanwhile, digital platforms blur the lines between online and offline food experiences. Sharing meals online and engaging with food content on platforms like Instagram and TikTok further shape and spread global food trends.

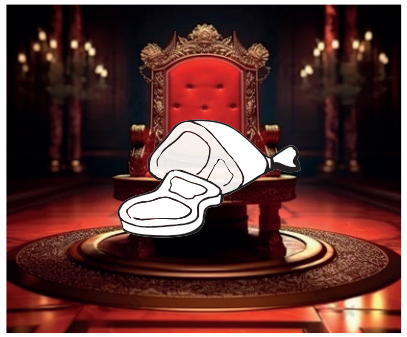
#5 Maximizing bang for buck

Financial concerns strongly influence food choices, with capitalism driving the food industry to offer products that maximise profits. Consumers often prioritise affordability over nutrition, opting for larger quantities or discounted options that lack nutritional value. Rising global food demand further promotes processed, cost-effective foods. As a result, financial considerations shape both the quality and diversity of our diets.

#6 Nourishing the Soul

Food is deeply intertwined with our emotions and celebrations. Unhealthy foods, in particular, provide comfort during difficult times, with many using snacks and treats to reward themselves or relieve stress. These indulgences bring joy and relief, while also playing a central role in festive traditions. Cakes, sweets, and sugary drinks are essential to celebrations, to the point where special occasions feel incomplete without them.

#7 Protein Obsession



Meat has a strong cultural significance in Western society, symbolizing strength, masculinity and prosperity. This status shapes dietary habits and often overshadows plant-based options. The rise of high-protein diets, fuelled by marketing, promotes protein as essential for health and fitness. Despite most people consuming enough protein, the increasing availability of protein-enriched foods reinforces this belief that meat and protein are fundamental for performance and vitality.

#8 Eating to Fit in

To avoid feeling isolated, people often adjust their food choices to align with those of the group, even if it contradicts their personal preferences. As people take on new roles, like entering adulthood or joining a movement, their food preferences shift to reflect these identities. In this way, food becomes a way to express and reinforce social identities and roles.

#9 Instant Success

People seek a sense of self-efficacy and prefer short-term, tangible results that offer a clear sense of accomplishment. Younger people, in particular, focus on the present moment, seeking quick, visible effects rather than long-term rewards. This desire for instant gratification is reflected in eating habits, where people often choose quick, indulgent foods that provide immediate pleasure over more time-consuming, fulfilling meals.

#10 Beyond Achievement

There is a growing cultural movement that values presence, authenticity, and emotional fulfilment over traditional achievements. People are prioritising well-being and mental health over work and material success, recognising that personal happiness is more fulfilling than external markers of success. As a result, people are seeking balance, shifting their focus from societal standards to self-acceptance and emotional well-being.

#11 Shaping a Sense of Self

The transition to young adulthood is marked by an increased focus on autonomy. As adolescents mature, their desire for independence shapes their identities and habits. This newfound freedom encourages empowerment and self-reflection, with young adults drawing inspiration from parents, siblings, and peers. Through these experiences, they refine their sense of self, aligning their behaviour with their evolving identity.

#12 Away from the Family Home

Rising living costs are delaying young adults' transition to full independence, with many staying at home into their twenties. The timing of this transition depends on education, with university students leaving earlier and MBO students staying longer, often until their mid-twenties. Co-living arrangements are becoming more popular as a cost-effective solution, also offering opportunities for personal growth by exposing young adults to diverse perspectives.

#13 The Art of Letting Go

Letting go is often difficult, as loss is seen negatively, and people resist it due to a desire for stability and fear of chaos. However, letting go can also spark positive change. In creative fields, discarding outdated ideas brings clarity. Releasing what no longer serves us offers relief and focus, while on a broader scale, letting go of entrenched norms can inspire cultural shifts toward more sustainable and mindful practices.

8.3 Worldview

Relationships between clusters were identified to create an inspiring view for the domain. These relationships can take various forms, such as being causal, contradictory, or reinforcing. Clusters can combine to form a cohesive narrative about the domain's future. Alternatively, opposing clusters may define dimensions that highlight tensions within the domain.

The clusters showed a conflicting attitude between using food for exploration and wanting food to be as simple and convenient as possible. By placing these two perspectives on opposite ends of an axis and incorporating two additional opposing clusters, the following framework was developed (see Figure 24).

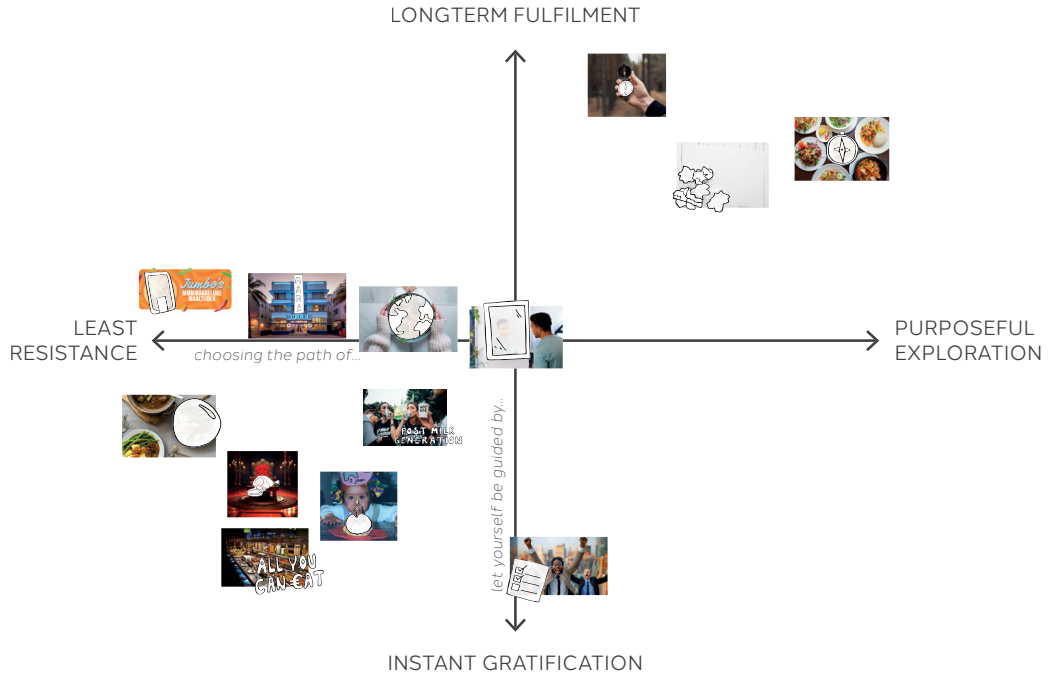


Figure 24 | Worldview with clusters

This framework illustrates a horizontal spectrum, with choosing the path of least resistance at one end and purposeful exploration at the other. The second vertical dimension contrasts instant gratification with long-term fulfilment. By combining these two dimensions, four quadrants emerge, each representing a different mindset (see Figure 25). Describing these mindsets offers a fresh perspective on eating behaviour and can help identify which behaviours to design for.

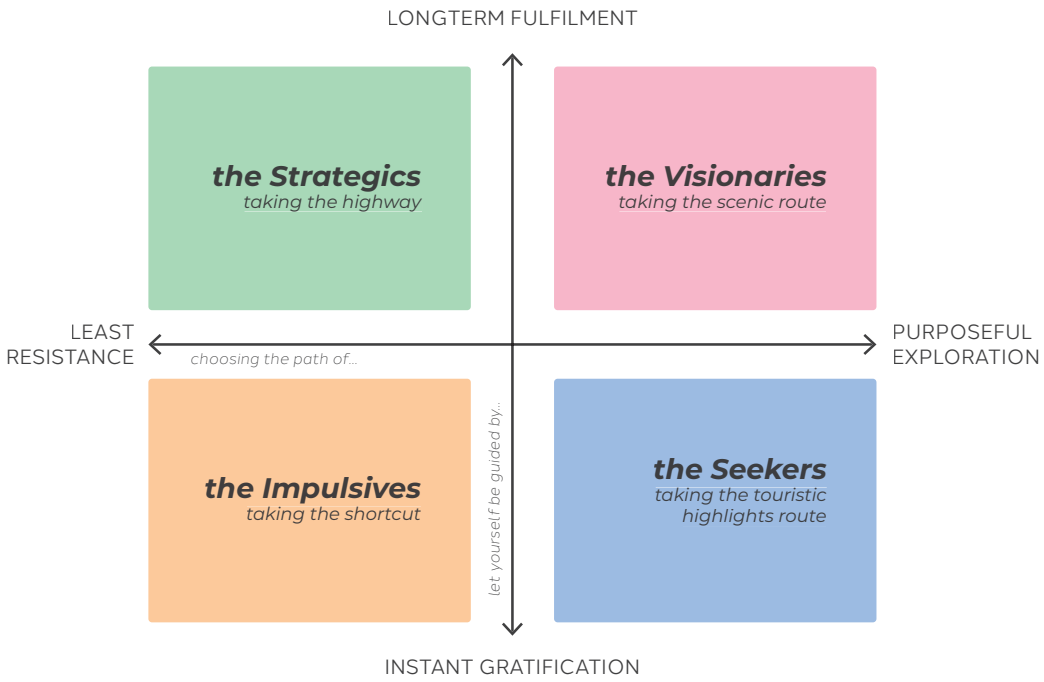


Figure 25 | Worldview with mindsets

The impulsive mindset was taken as the leading mindset for this project, as field research already revealed the significance of impulsive eating behaviours within the target group. This aligns with findings from literature and is further supported by the fact that most clusters are rooted in this quadrant. Focusing on this mindset makes sense, as it resonates with existing behaviours and therefore increases the likelihood of acceptance for the designed intervention.

8.4 Design Statement

In line with the SID method, a design statement consists of three key elements:

1. Effect | The behaviour you want to encourage or the specific change you want to achieve with your design
2. Mechanism | The way this behaviour will be facilitated or the new meaning this behaviour has for people
3. Social implication | The broader societal impacts of this behaviour

Effect | What?

Field research revealed that many MBO students struggle to reduce unhealthy snacking. While they show a willingness to change, certain barriers (outlined in Chapter 7.3) make this difficult. The behaviour chosen to encourage is the reduction of unhealthy snacks: energy dense foods and drinks that have poor nutritional value and are therefore not part of the *Schijf van Vijf*. This aligns with the project's exnovation frame. Designing to minimise unhealthy snacks is very different from promoting healthy ones. The main goal is not to replace unhealthy snacks but to inspire students to leave them behind.

Mechanism | How?

Furthermore, literature and field research identified the social context as a promising pathway for an intervention, aligning with the "Eating to fit in" cluster. Leveraging the social context and framing "not taking unhealthy snacks" as a social norm could be a promising approach. While past interventions often targeted nutritional knowledge, VWS shared that they are now focussing on the food environment. Incorporating the social context could offer a valuable and inspiring contribution to this area.

Social Implication | Why?

This approach could support better adherence to the *Schijf van Vijf* guidelines, reflecting the broader goal of VWS as well as the collective concern of a healthier society.

Context | Where?

To make the design direction more concrete, the context was chosen to be in and around the MBO school. Schools and workplaces are the second most common settings where food is consumed (RIVM, 2023b). Unlike the home environment, which varies a lot between individuals and is therefore more challenging to design for, the school context is relatively uniform within the target group, making it a logical and practical focus for intervention.

Combining these into a sentence gives the following design statement:

Figure 26 | Design statement answering Who? What? Where? Why? How?

"To encourage better adherence to the *Schijf van Vijf* guidelines, I wish to inspire MBO students to minimise unhealthy snacking in and around the school environment by using social contagion"

Chapter 9

Ideation

74 | Laying the Foundation for Ideation

77 | Approach to Ideation

79 | Concepts

85 | Selecting a Concept

Chapter 9

Ideation

Exploring possibilities

With the design statement defined, the project moved towards the ideation phase. This phase began by establishing guiding principles and developing an analogy. The approach to ideation is outlined in this chapter, followed by a discussion of the three resulting concepts.

9.1 Laying the Foundation for Ideation

Guiding Principles

The process of establishing the design statement as well as generating the first ideas led to the development of key guiding principles that shaped the further ideation process and helped evaluate ideas. These principles are:

1. Meet them where they are | Behaviour change is challenging, so it would be more effective to build on existing habits and motivations. Rather than introducing entirely new actions, interventions should align with what MBO students are already inclined to reduce or change. Similarly, integrating solutions into their current context makes adoption easier.
2. Bottom-up change | Forced behaviour change often leads to resistance (as with the snack bar regulations in Almere). Instead, I would like MBO students to feel like they are in charge. Autonomy is a core value for young adults, so the intervention should make them feel like they are in charge rather than being directed.
3. Positive peer pressure | Social influence can be a powerful motivator for healthier behaviours, but I want to frame it positively. The goal is to promote encouragement and support within groups rather than pressure or coercion.

Analogy

To bridge the gap between the design statement and concrete intervention ideas, an interaction analogy was developed. This step helps translate the abstract statement into tangible ideas by envisioning how the to-be-designed artefact might interact with its future users.

Figure 27 | Analogy

The chosen interaction analogy for this project was signing up for a marathon with a group of friends. Starting as a fun idea, it becomes a shared commitment once everyone registers (see Figure 27). The group then organises collective training sessions, creating mutual support and motivation to help each member reach their goal.

Exploring this analogy resulted in the mind map shown in Figure 28. Following practice theory, emotional and social qualities, as well as material and symbolic aspects, and the skills required for this interaction were explored.

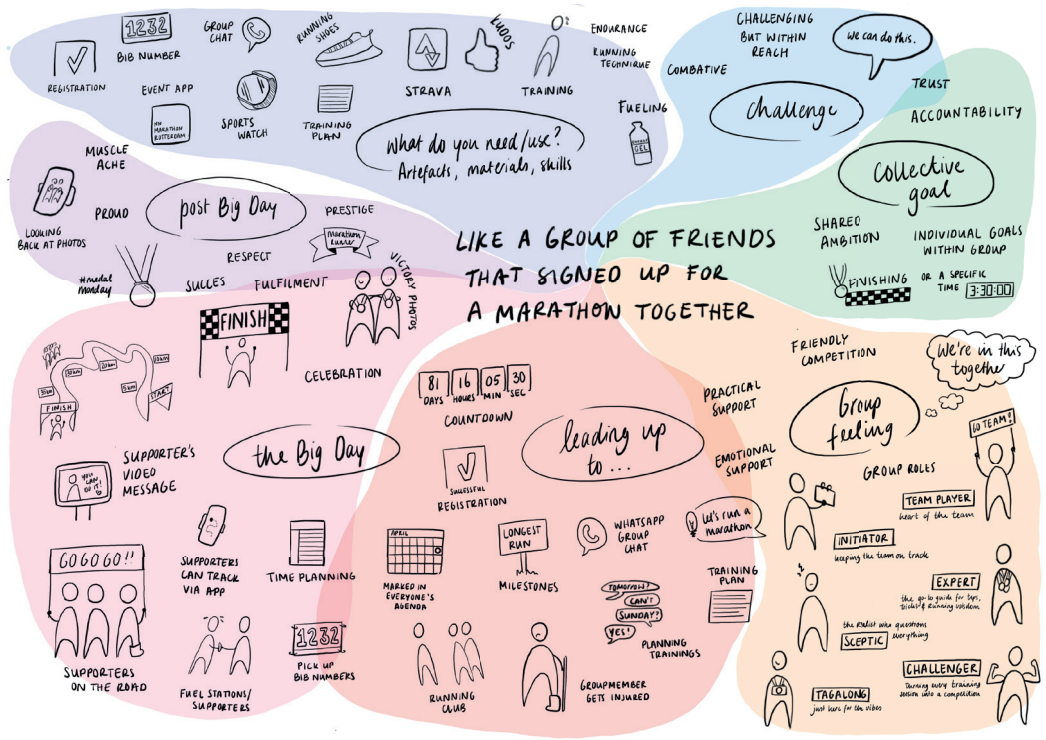


Figure 28 | Analysis of analogy

This mind map served as a source of inspiration for idea generation. Several qualities were specifically inspiring for the ideation process:

- A clear sense of commitment at the start of the challenge, symbolised by actions like registration and receiving a bib number
- Structured preparation, including countdowns and checklists
- The presence of individual goals within the shared challenge
- Friendly competition and comparison within the group
- Varied roles among group members, adding group dynamics
- Progress tracking through real-time feedback and milestones along the way
- Opportunities for others to follow the challenge without actively participating

9.2 Approach to Ideation

With the foundation in place, the ideation phase continued with several activities that inspired and refined ideas.

1. Creative session with IDE master students | A collaborative session was held with three other IDE master students to spark inspiration and generate a wide range of ideas. For this session, a set of "How-to" questions was developed, actively incorporating concepts of letting go and undesigning (see Figure 29 and Appendix F).
2. (Individual) ideation | Following the group session, individual ideation was carried out to further refine ideas. Regular discussions with peers and coaches provided valuable feedback, which helped shape and evolve the ideas. This process resulted in a series of promising directions, such as a toolkit, campaign month, Snapchat filter, in-class challenge, or game (see Appendix G).
3. Conceptualisation | Promising ideas were further developed into concepts using different design methods, including morphological charts, storyboards and service blueprints (see Figure 30 and Appendices H and I).

The ideation and conceptualisation phase resulted in three concepts: Stoptober, Snack Attack and Snack-off, which will be described in detail in the next chapter.

Figure 29 | Creative session with peers using how-to's

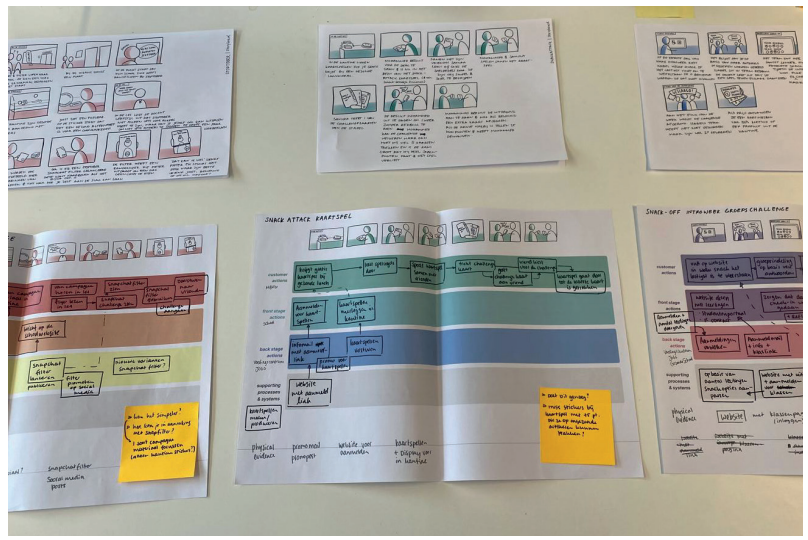


Figure 30 | Conceptualisation using storyboards and service blueprints

9.3 Concepts

Stoptober | A Campaign Month to Quit Unhealthy Snacks

Stoptober is an existing initiative that encourages people to quit smoking during a dedicated month. This concept expands on Stoptober by adapting it to promote minimising unhealthy snacks. A Snapchat filter serves as the core of this campaign, challenging MBO students to give up one of their favourite snacks for a day. The filter is promoted through campaign materials within the school's canteen.

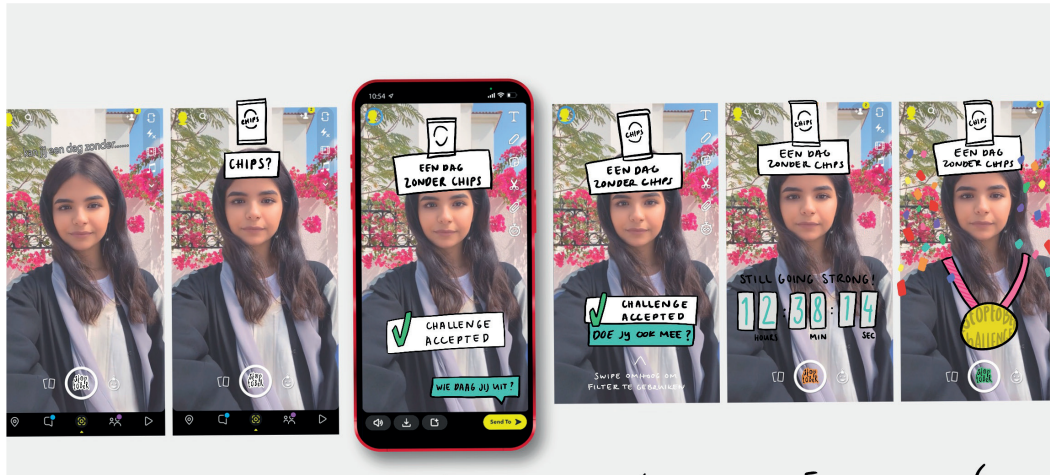


Figure 31 | Stoptober Snapchat filter

Figure 32 | Stoptober canteen materials

Encouraging Reduction of Unhealthy Snacks by Using Social Contagion

This concept encourages taking the first step towards healthier eating behaviour. It does so by making it into a fun, social and rewarding challenge. The Snapchat filter uses a randomiser that selects one of the 10 most popular snacks (see Figure 31, screens 1 and 2). By nodding, users can accept the challenge and a "Challenge Accepted" sticker will appear (screen 3). They can then send this to friends, who can swipe up to try it themselves (screen 4), facilitating quick and easy spreading through friends networks. Throughout the day, a countdown timer helps sustain commitment (screen 5), and if completed, users unlock a victory filter to celebrate their success (screen 6). This reward mechanism makes the challenge feel like an achievement and encourages further sharing.

Aligning with MBO Students

This concept meets students where they are by integrating the campaign into Snapchat, a social media platform that is widely used by MBO students. The interactive and gamified approach makes it engaging and peer-driven, increasing its chances of acceptability. Since participation is voluntary and fun, it facilitates bottom-up change, allowing students to feel a sense of autonomy.

Fitting into the MBO School Context

The campaign extends beyond Snapchat into the school environment. Stickers in the school canteen highlight healthy alternatives of the 10 popular snacks featured in the filter (see Figure 32). These stickers match the Snapchat filter's illustration style, ensuring visibility and recognition across different touchpoints.

Snack Attack | A Card Game to Challenge Each Other to Skip Unhealthy Snacks

Snack Attack is a card game inspired by Exploding Kittens, designed to make reducing unhealthy snacks fun and competitive. Students receive the game when purchasing lunch at the school canteen (see Figure 33). The game includes snack cards, action cards (such as steal, pick-two, and detox), and special cards (like snack shield, snack switch, snack attack, and snack challenge). When a snack attack card is drawn, players must pick additional cards. The game ends when the third snack attack appears and the player with the fewest snack cards wins.

Figure 33 | Snack Attack card games in canteen

Figure 34 | Snack Attack card game

Encouraging Reduction of Unhealthy Snacks by Using Social Contagion

Snack Attack encourages behaviour change in a subtle way by rewarding players who finish the game with as few snack cards as possible. To extend this into real life, the game features challenge cards (see Figure 34). There are three challenge cards (a 1-day, 3-day and week-long challenge) that players can use to challenge opponents to skip their favourite snack for the duration specified on the card. Accepting a challenge allows players to discard two snack cards, while declining means picking up five. The challenge cards introduce a fun and dynamic social element, motivating players to skip unhealthy snacks through peer challenges.

Aligning with MBO Students

The game is quick, easy to understand, and designed for short play sessions. The competitive element resonates with students, encouraging challenges within friend groups. By making healthy choices part of a game and coming from peers, it is less imposing.

Fitting into the MBO School Context

The game is distributed at the school canteen, making it easily accessible for students during lunch breaks. Its short playtime makes it convenient to play within breaks. By linking the game to the canteen, it could also subtly influence student's food choices.

Snack-off | A Week-Long Team Challenge to Give Up Unhealthy Snacks

Snack-off is a team-based challenge held during the introduction week, encouraging students to resist their favourite snacks. At the start of the week, students sign in to their school accounts (see Figure 35, screens 1 and 2) and complete a Buzzfeed-style quiz to determine their snack alter-ego (screen 3). They are then grouped with others who share similar snack preferences (screen 4).

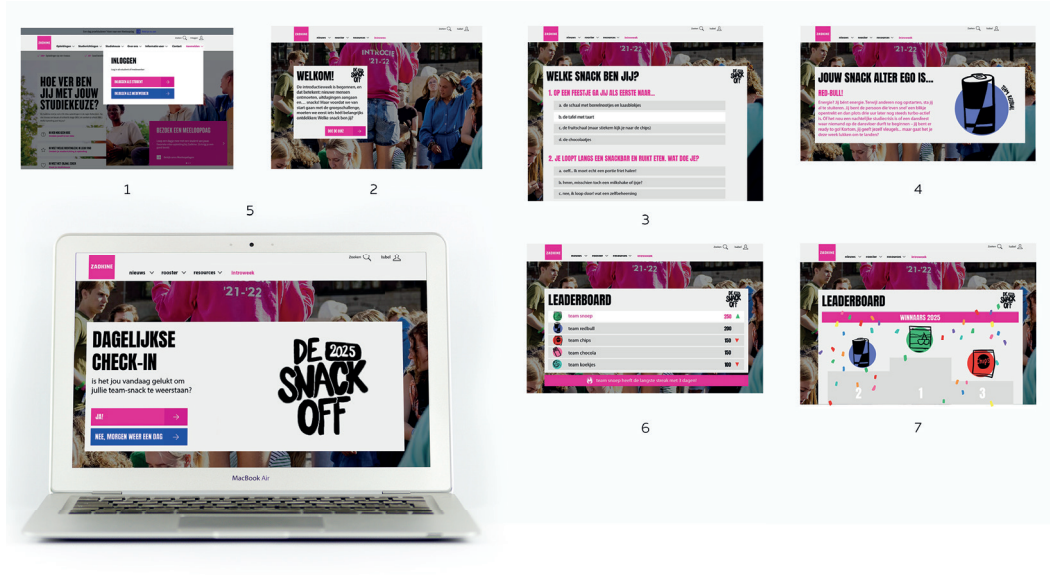


Figure 35 | Snack-off screens

Figure 36 | Snack-off vouchers

Encouraging Reduction of Unhealthy Snacks by Using Social Contagion

The challenge uses group dynamics and peer motivation to encourage healthier choices within a set time-frame. Throughout the week, teams work together to resist their favourite snacks, with students checking in daily to report whether they succeeded or gave in (screen 5). Each successful day earns points for their group, ensuring a sense of accountability and teamwork. A live leaderboard tracks progress (screen 6), adding an element of competition. At the end of the week, the top three teams (screen 7) receive a price: a voucher for a free or discounted school canteen product (see Figure 36). This provides a tangible reward, stimulating engagement and motivation.

Aligning with MBO Students

Snack-off integrates playfulness, competition and teamwork. The grouping mechanism ensures students work together and creates shared responsibility. It also makes the challenge more personal and stimulates friendly competition. However, because it is integrated into the introduction programme and the choice of snack is made through the results of a quiz, students may perceive it as a top-down initiative rather than a self- or peer-driven challenge.

Fitting into the MBO School Context

Held during the introduction week, Snack-off helps new students bond while promoting healthier habits. Introducing this intervention during a transitional period increases the potential for lasting habit formation and the creation of new social norms. Using canteen vouchers as a price, helps connecting the intervention to the school's food environment.

9.4 Selecting a Concept

Through discussion with VWS, a representative from *Stichting JOGG*, my coaches, and peers, the three concepts were evaluated based on the following criteria:

1. Potential for impact | To what extent can this concept influence student's snacking behaviours?
2. Likelihood of acceptance by MBO students | Will students find this concept appealing and engaging?
3. Ease of participation for MBO students | How effortless is it for students to take part? Does it fit in their daily routines?
4. Compatibility with the MBO school context | How well does this concept integrate into the existing school environment?
5. Ease of implementation for MBO school | How feasible is it for the school to adopt and execute this concept?

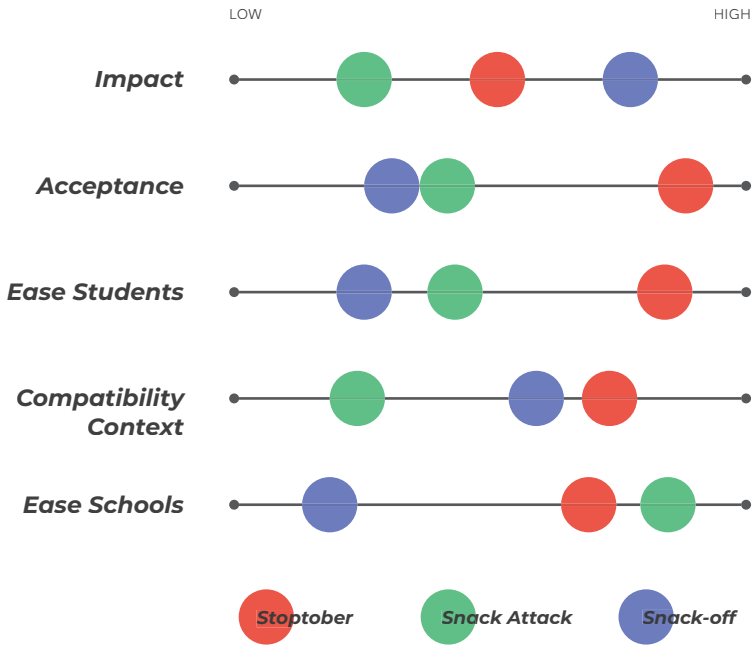


Figure 37 | Evaluating concepts on criteria

Since these criteria overlap and influence each other, the selection process is a trade-off. For example, a concept with high acceptability is more likely to have a greater impact. While no concept is a perfect solution, this assessment helped compare their strengths and weaknesses.

Based on the evaluation, Stoptober was selected as the most promising concept. It aligns best with MBO students and the school environment. However, its potential impact could be improved, and further development is needed so that its implementation does not place too much burden on the schools.

Snack Attack scored lower due to its limited potential impact and practical challenges. Since playing the game requires students to sacrifice their breaks, it may not engage as many students. On top of that, doubts were raised concerning the multiple time lines within the game. Further development and testing would be needed to see if having challenges that extend beyond playtime could work.

Snack-off was not selected because of its top-down feel. Initiated by the school, the chances of it leading to resistance are higher than for the other two concepts. However, using the transitioning phase from high school to MBO could potentially lead to the concept having a higher impact.

During the evaluation, the idea of developing an intervention portfolio, as discussed in chapter 6.3 Design for Transitions, was raised. As a result, the Stoptober concept was expanded with additional touchpoints, including a simplified version of the Snack Attack card game. The following chapter presents the final concept in detail.

Chapter 10

Final Concept

90 | Stoptober Intervention Portfolio

95 | Implementing Stoptober

Chapter 10

Final Concept

Bringing it all together

The final concept is an intervention portfolio built around the Stoptober campaign. This chapter discusses the interventions within this package, explaining their design, intended interactions, and implementation. It also includes a recommendation for role distribution and responsibilities, along with the initial steps needed to bring the concept to life.

10.1 Stoptober Intervention Portfolio

Stoptober is a concept that supports setting up a month of action aimed at raising awareness and encouraging initial steps toward reducing unhealthy snacks. The intervention package consists of five touchpoints: a general campaign to promote the action month both in and around the school environment and online, a campaign highlighting healthier alternatives in MBO school canteens, a Snapchat filter that encourages students to take the first step and share it with friends, and lesson materials that facilitate open group discussions at both the start and end of the month (see Figure 38).

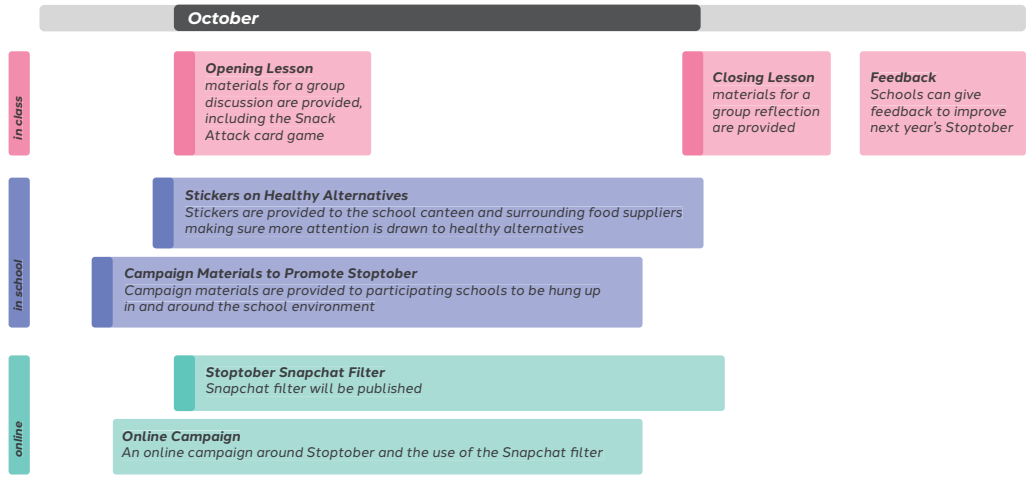


Figure 38 | Intervention portfolio

Campaign Materials

The campaign materials include posters for around the school, banners for in the school and wobblers for the canteen and surrounding food providers (see Figure 39). These materials focus on creating more space for healthier alternatives. The banners displayed within the school feature a snap code that links directly to the Snapchat filter. The posters for around the school are designed to be simple and clean. Variations of these banners and posters could be created to highlight other popular snacks.

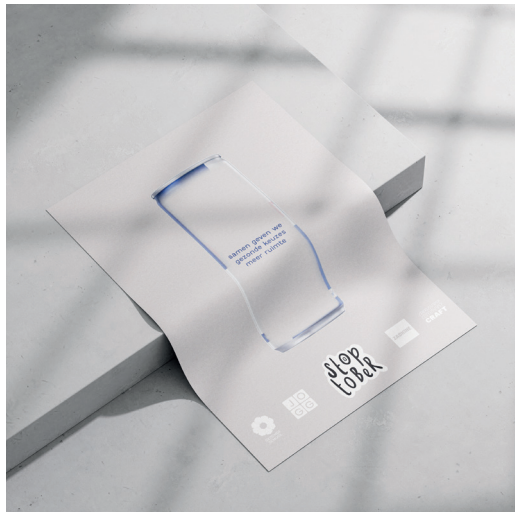


Figure 39 | Campaign materials

The wobblers placed in the school canteen and surrounding food suppliers feature the unhealthy snacks from the Snapchat filter alongside their healthier alternatives (see Figure 40). These wobblers serve to raise awareness of possible substitutions while also highlighting the healthier options already available. Additionally, the canteen can enhance visibility by positioning healthier choices more prominently. This combination of recognisability and strategic placement reinforces the campaign's message.

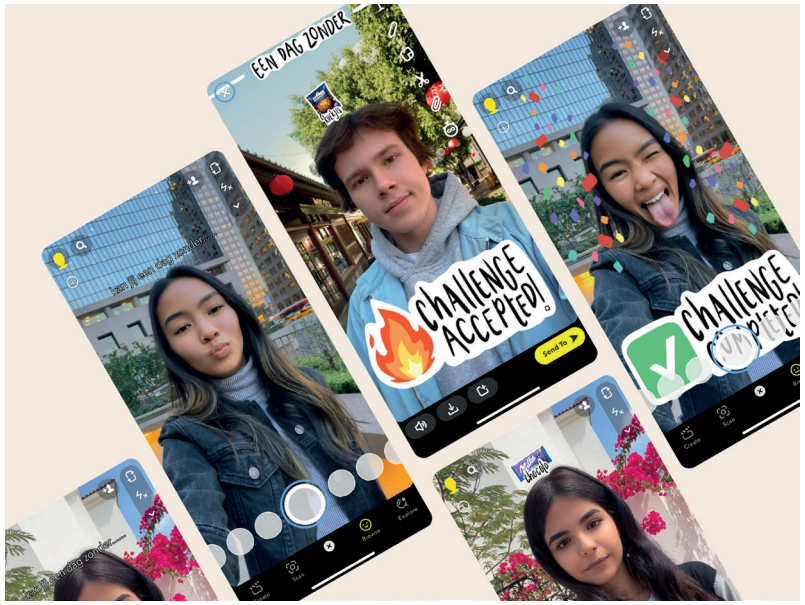
Figure 40 | Canteen materials

Snapchat Filter

To engage students digitally and encourage them to take the first step toward reducing unhealthy snacks, a Snapchat filter will be released (see Figures 41 and 42). The filter can be accessed via Snap codes displayed on the campaign banners.

The interaction begins with the question, "Could you go one day without...". When the user taps the screen, a randomiser selects one of the most popular snacks. Once the randomiser stops, the user can accept the challenge by nodding, triggering the message "Challenge accepted!" to appear on the screen. They can then capture a photo or video and send it to friends, who will then also gain access to the filter.

After 24 hours, users who participated will unlock a victory filter featuring confetti and the message "Challenge completed!" allowing them to share their achievement with friends.



Scan this code using Snapchat to try out the prototype!

Figure 41 | Snapchat filter

Figure 42 | Snapchat filter

Teaching Materials

To bring attention to Stoptober in the classroom, participating schools are provided with teaching materials (see Figure 43). These include suggestions for an opening lesson to facilitate a group discussion and a closing lesson for collective reflection. As part of the opening lesson, a fun card game is included in the package. This game is a variation of the short and simple Exploding Kittens card game, adapted to align with the message of the Stoptober campaign (see Figure 44).

Figure 43 | Teaching materials

Figure 44 | Snack-Attack card game

10.2 Implementing Stoptober

10.2.1 Implementation

To ensure implementation, I suggest the intervention to be integrated into the *Gezonde School* (Healthy School) programme. This will allow *Gezonde School* to promote and recommend the intervention package to participating schools, using an already existing network.

To become part of the *Gezonde School* programme, the intervention package must be officially recognised by undergoing the approval process of *Loket Gezond Leven*, an initiative of the *RIVM*. This recognition confirms that the intervention meets the criteria for effectively promoting a healthy lifestyle.

The implementation, roles and responsibilities are visualised in Figures 45 and 46.

10.2.2 Roles and Responsibilities

Voedingscentrum | will be the official intervention owner, responsible for content development, obtaining the approval from *Loket Gezond Leven*, and managing both the online and public campaigns. They will also handle the registration of participating schools, distribution of materials, and collection of feedback after the intervention period.

Gezonde School | will focus on promoting the intervention to schools and leveraging its existing network of participating schools to support implementation.

Participating schools | will receive the campaign and lesson materials. The school's *Gezonde School* coordinator will oversee internal distribution, notify staff, and organise a feedback session with teachers. Teachers will facilitate the opening and closing lessons and contribute to the feedback process.

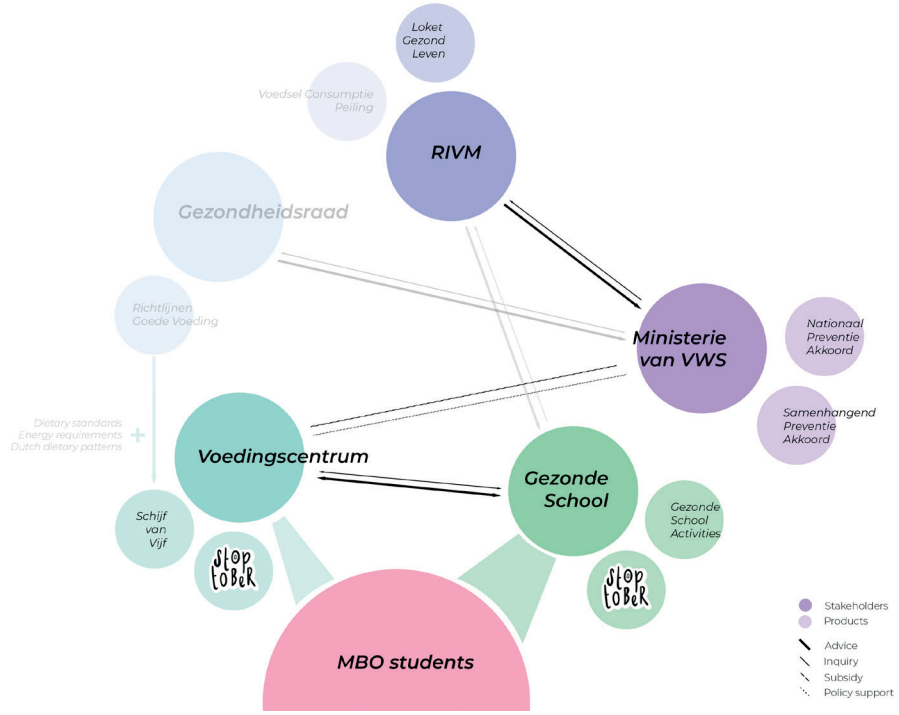


Figure 45 | Stakeholder map with Stoptober intervention

FINAL CONCEPT

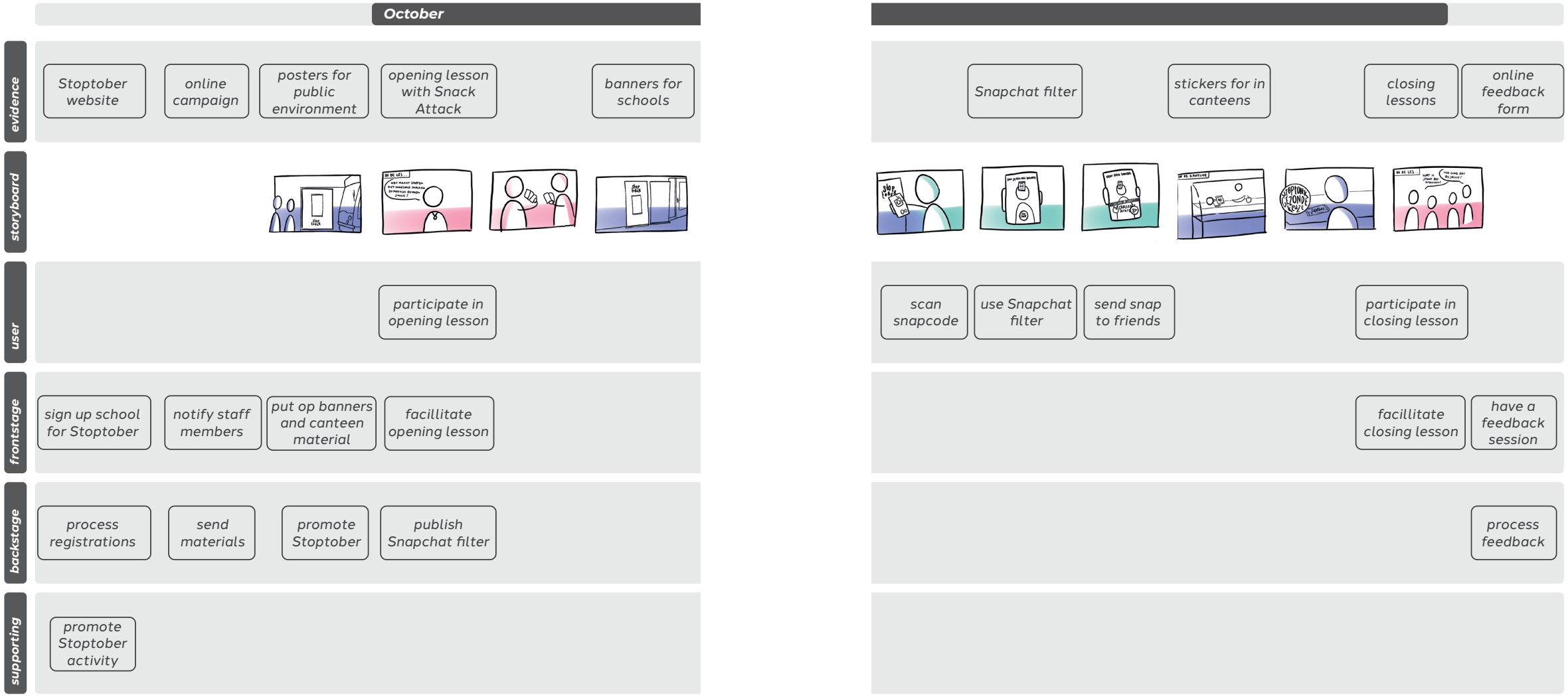


Figure 46 | Service blueprint
frontstage = school
backstage = *Voedingscentrum*
supporting = *Gezonde School*

Chapter 11

Evaluation

102 | Goal of Evaluation

103 | Approach to Evaluation

104 | Insights of Evaluation

Chapter 11

Evaluation

Assessing impact and gathering feedback

Throughout the design process, ideas and concepts were regularly evaluated through discussions with peers, VWS and experts in the field, including MBO teachers. For the final evaluation, multiple methods were combined. This chapter will discuss how I evaluated the final concept, assessed its effectiveness and appropriateness and identified areas for improvement.

11.1 Goal of Evaluation

Evaluating a design at an early stage helps determine whether it has the potential to be effective and whether it is worth realising. It also generates insights for further development.

The final evaluation had two main goals:

1. Assess the design's effectiveness and appropriateness | As stated in the design statement, the design aims to stimulate a specific behaviour, namely minimising unhealthy snacking. The evaluation examines whether the final design, in its current form, achieves this goal.
2. Identify areas for improvement | The evaluation also serves to find points of improvement that could enhance the design's effectiveness and appropriateness.

A set of evaluation criteria was set up to help shape the approach and assessment. The design's effectiveness, whether the design achieves its intended impact was based on:

1. Impact | Does it encourage reflection or discussion?
2. Personal engagement | Do individuals feel personally motivated to participate?
3. Social engagement | Does it stimulate group participation or discussions?

The design's appropriateness, how well the design fits the target group and context, was evaluated through:

1. Acceptability | How is it received? Is it well received, or does it generate resistance?
2. Feasibility | Does it work within the intended context?
3. Usability | Is the message clear? Is the design easy to understand and use?

11.2 Approach to Evaluation

The evaluation consisted of three evaluation moments:

1. Expert narrative-based test | A review of the entire intervention package with two representatives from *Stichting JOGG*, *MBO Raad* (MBO Board) and *Gezonde School*
2. In-class prototype user test | Testing the campaign materials and Snapchat filter with 16 MBO students
3. Prototype user test | Evaluating the card game with peers

11.2.1 Expert Narrative-based Test | Intervention Portfolio

The goal of this first evaluation step was to assess the practical feasibility of the final design and its desirability from stakeholders. This test was conducted through two online interviews, one with a representative from *Stichting JOGG* and the other with a representative from the *MBO Raad* and *Gezonde School*. Each session began with a short presentation of the final concept, followed by an open discussion where participants provided feedback. Besides identifying areas for improvement, this preliminary test also helped clarifying questions regarding implementation.

11.2.2 In-class Prototype User Test | Campaign & Snapchat Filter

This prototype test focused on how MBO students responded to the campaign and Snapchat filter, as well as identifying areas for improvement. The test lasted approximately 15 minutes and began with a brief introduction to the final design. Students then interacted with the Snapchat filter and provided direct feedback through a Google Forms survey (see Appendix J). Alongside this written feedback, observations during the test provided valuable insights.

Figure 47 | In-class evaluation at the same location as the in-class surveys during field research

11.2.3 Prototype User Test | Card Game

The purpose of this test was to determine whether the game functioned as intended and, more importantly, whether the underlying message was understood and sparked discussion. This test was conducted with peers. The game was played three times with different sample groups, ranging from 2 to 4 participants per session.

Figure 48 | Card game test

11.2 Insights of Evaluation

Effectiveness

The in-class evaluation showed that the Snapchat filter was an effective medium for engagement. As soon as students scanned the filter, they were interacting with it and started discussing which snack they had received and whether they would find the challenge difficult.

Furthermore the filter encouraged sharing, as students compared their challenges and asked if they could send it to their friends.

Students indicated that the campaign materials would not naturally become a topic of discussion among friend groups. This could indicate that the subject does not resonate with their daily discussions. It could also be due to the testing context and that other results would be found if the materials were introduced in a real-world setting.

During the card game test, conversations about the topic rarely arose. This could be an area for improvement. Despite not sparking in-depth discussions, it did create playful engagement with campaign concepts as players referenced campaign terms while playing.

"een leuke manier om een uitdaging aan te gaan"

"misschien dat we samen de uitdaging kunnen aangaan aan de hand van welke snack we krijgen"

"O wat heb jij? Haha als jij energy hebt dan ga je het echt moeilijk krijgen" "Gelukkig, ik heb frisdrank, dat is easy"

"nou dat maakt me helemaal niks uit, want ik heb een Stoptober"

"Snack-swap!"

Appropriateness

While the introduction of the Stoptober campaign initially was met with some resistance, the Snapchat filter was well received by students. One of the students noted that the filter featured foods they consume daily, demonstrating that it resonated with their everyday context.

"Stoptober. O noo, help"

"Het is een filter met dingen die wij dagelijks eten/drinken"

Students generally found the campaign feasible within their school environment, which was supported by results from the narrative-based study. However, concerns were raised about whether it would place too much responsibility on schools. This showed the need to reconsider the role of the intervention owner and the distribution of responsibilities (see Chapter 10.2.2 Roles and Responsibilities).

"het valt op voor jongeren"

"gezonder te eten en stoppen met roken in oktober"

The use of a popular snack on the campaign posters worked, as the majority of students said it was the first thing they noticed. However, the name Stoptober led to some confusion, with some students assuming it was about smoking prevention. The campaign's message was interpreted in two ways: half of the students saw it as promoting healthier eating, while the other half viewed it as reducing unhealthy eating.

For the Snapchat filter, nearly all students identified that it was about reducing or stopping unhealthy food consumption. Since Snapchat is a medium they use on a daily basis, they understood how it worked without needing instructions. However, it was not immediately clear that they could nod to accept the challenge.

During the card game test, participants sometimes mixed up the cards with their Exploding Kittens equivalents. However, as the game progressed, they began using the Stoptober terms more frequently. This was partly because they were familiar with Exploding Kittens. The game was quick to understand and played in a short time (15-20 minutes), making it appropriate for use in classrooms.

The evaluations suggest that the campaign would be feasible within the MBO school context. The campaign's message was generally well understood, though revision of the name 'Stoptober' may be needed. Using Snapchat as a medium to initiate the first steps toward behaviour change appears promising, and the concept could be further developed with more engaging filters. The card game proved suitable for playful engagement with the campaign's terms, although improvements could be made to ensure it conveys the message more clearly and stimulate discussions. These areas for improvement are further explored in Chapter 12.2 Recommendations.

Chapter 12

Discussion

110 | Limitations

112 | Recommendations

115 | Conclusion

Chapter 12

Discussion

Beyond the project

This chapter concludes the design process, discussing the limitations of both research and design steps in the project. Recommendations for further steps in research and development of the concept are included as well as an overall conclusion of the design project.

12.1 Limitations

Research

While the field research provided valuable insights, several limitations must be acknowledged. One limitation was the small sample size of the in-depth interviews. Although the interviews provided interesting findings, the small sample size limited the range of perspectives. Ideally, more in-depth interviews would have been conducted to ensure a wider range of experiences and opinions.

Although the four participants went to different MBO schools from various regions of the Netherlands, none of them had a migration background and the majority was male. This may have influenced the research outcomes. A more diverse sample group, with MBO students form different cultural or ethnic backgrounds, might have revealed different perspectives on eating behaviour.

Both the street interviews and in-class surveys were conducted in Rotterdam. While Rotterdam is a large and diverse city, this limited geographical context may have influenced the results. MBO schools are usually located in urban areas, but the possibility remains that students from rural areas would have had different views and opinions.

Additionally, the in-class survey was exclusively conducted with students from the nursing programme. These students, primarily female, may have a greater awareness of health-related topics due to the nature of their studies. This pre-existing knowledge and interest in health and nutrition might have influenced results.

Design

The current name of the concept was chosen because it aligns with the goal of reduction and moderation while providing a clear month-long framework. Additionally, using the existing Stoptober name helps with recognition and avoids the need to introduce an entirely new themed month. However, this choice also has potential drawbacks. Preexisting associations with Stoptober may not align with the campaign's intended message, and the abundance of dedicated action months and weeks may lead to resistance among users.

The final concept developed is an intervention portfolio consisting of multiple interventions. However, due to the scope and time constraints of this project, some interventions were more developed than others. In particular, the lesson materials require further research and development. The Mentimeter lesson that was used as a field research step could serve as a preliminary prototype, but additional iterations and testing are necessary to fully develop this intervention.

Furthermore, because the chosen implementation strategy is through the *Gezonde School* programme, the reach of the intervention is limited to MBO schools that are already participating in this initiative. Schools that are not part of the *Gezonde School* programme may not have access to or be aware of the intervention, reducing its potential impact.

Evaluation

The evaluation of the final concept also had some limitations. Testing primarily assessed the first encounters and initial interactions with the interventions. While this provided useful insights, it did not evaluate whether it contributed to behaviour change. To determine whether the interventions influence behaviour, a longer testing period is necessary.

Furthermore, the final evaluation took place in a classroom setting, which may have influenced participant's responses. Although individual Google Forms was used to mitigate this, students may still have provided socially desirable answers rather than honest ones. Additionally, the testing was conducted with only one class, all enrolled in the nursing programme. As previously mentioned, their background in healthcare may have influenced their responses.

Another limitation of the evaluation process was the controlled context of the testing. The campaign was not tested in its natural environment, which means its full impact could not be evaluated. For example, students indicated that the campaign's message would not be a conversation topic within their friend groups. However, in a real-world setting, sudden exposure to a Stoptober banner displayed within the school might have sparked a conversation.

12.2 Recommendations

Research

To address the limitations in the research phase, future studies could include a more diverse sample group, including students from different study programmes, urban and rural areas, and a variety of cultural backgrounds. Additionally, conducting a greater number of in-depth interviews would help capture a wider range of experiences and perspectives.

Design

The current Snapchat filter was well received. Future iterations could benefit from collaboration with an experienced Lens Studio designer to increase its usability and effectiveness. The group challenge aspect could be further strengthened, for example by linking users with friends who received the same snack challenge, adding a share challenge button or incorporating a leaderboard to increase social engagement.

Further development of lesson materials and card game is needed. To maximise their impact, these materials could be co-designed with the target group to ensure they align with students' needs and preferences. The card game could be further refined so that it facilitates discussions and serves as a conversation starter in the introductory lesson, for example by incorporating truth or dare questions.

Despite the limited reach of the chosen implementation strategy, I would still recommend integrating the designed intervention portfolio into existing programmes such as the *Gezonde School*. To address the challenge of reaching only participating schools, I would recommend focusing on expanding the reach of the *Gezonde School* programme rather than creating a new, isolated initiative. By building a stronger network between existing initiatives, the potential impact could be increased. This would also ensure a more unified message and provides clarity for participants, such as MBO schools, on where to find support.

Another recommendation to enhance the intervention's impact is to extend collaboration beyond the *Gezonde School* programme to include *Stichting JOGG* and municipalities. These partners could help in expanding the reach of the interventions beyond the school context into the broader school environment.

As a final recommendation for the design, it is important to consider how the intervention is presented to schools, as some are more into promoting healthy eating behaviours than others. One possible approach is to frame it as a vitality programme under the broader umbrella of general well-being, rather than focusing on healthy eating. This framing could make the initiative more appealing to a wider range of schools, as well-being programmes often align with their prioritised goals, such as reducing early school dropouts (Expert 4, see Appendix B).

Evaluation

A full-scale test of the Snapchat filter as an independent element could be implemented quickly and cost-effectively. This large-scale test would provide valuable data on the filter's impact. Lens Studio offers detailed insights into user engagement, such as how often a filter is used and shared. These insights could help in better assessing the filter's effectiveness and refining its design for better engagement.

Further evaluation of the remaining interventions should take place in real-life settings, such as school canteens, public spaces, or online. Special attention should be given to assessing potential backfire effects. It is possible the interventions unintentionally increase student's focus on snacks, ultimately making them more tempting.

12.3 Conclusion

The main goal of this design project was to encourage young adults, specifically MBO students, to reduce their consumption of unhealthy snacks. The research performed showed that while young adults frequently consume unhealthy snacks, many have a desire to cut them down, yet struggle to do so. Existing initiatives primarily focus on raising awareness and educating on what is healthy and unhealthy. However, research revealed MBO students are already well aware of this distinction. The challenge lies in translating this knowledge into action within their daily environments – environments that are full of temptations.

A key insight in this project was that, besides the influence of the physical food environment, social influence plays a significant role in maintaining unhealthy eating behaviours. This led to the following design statement: *"To encourage better adherence to the Schijf van Vijf guidelines, I wish to inspire MBO students to minimise unhealthy snacking in and around the school environment by using social contagion"*

The resulting intervention portfolio addressed this through multiple touchpoints:

1. A public and online campaign emphasising the importance of reducing unhealthy snacks to make room for healthier alternatives
2. Canteen materials that highlight and promote these healthier options
3. A Snapchat filter designed to encourage MBO students to take the first step towards moderating unhealthy snacks
4. Lesson materials, including a card game, to facilitate group discussions about unhealthy eating

Together, these interventions formed Stoptober, a month-long initiative focused on reducing unhealthy snacking.

Evaluations showed that the interventions had potential, with the Snapchat filter being particularly well-received. This underscores the importance of aligning interventions with the target group's existing habits and behaviours. Additionally, the evaluation process led to several recommendations for improving the current design and suggestions for future development.

Ultimately, this project highlights the important role of social influence, alongside the physical food environment, in shaping eating behaviours. While social dynamics are less tangible and more challenging to design for, their impact may be greater than often acknowledged. By recognising and using these influences, designers, policymakers and other practitioners, can create more effective interventions. I hope this project inspires further exploration into how social environments can be used to promote healthier and more sustainable habits.

Figure 49 | Intervention portfolio

Chapter 13

Reflections

120 | On Designing for VWS

121 | On Designing for Exnovation

123 | On My Process

Chapter 13

Reflections

Insights from my process

In addition to the main goal, this project explored two parallel research questions: what aspects of the design process could be valuable for VWS, and how an exnovation frame influences the design process. This chapter reflects on these secondary objectives, as well as my personal experiences throughout the project.

13.1 On Designing for VWS

Beyond exploring new ways to address the social challenge of unhealthy eating, VWS was also interested in the design process itself. Reflecting on my experience working with them throughout this project, I can identify some areas where I observed differences in approach and where I believe the design process could offer valuable insights for VWS.

One of the differences between our ways of working was in the research approach. While VWS conducts in-depth, fundamental research, my research was broader and more qualitative. The advantage of this approach is that it allows for quick learning across multiple disciplines, allowing you to combine various perspectives of the problem in one design statement, while still leaving enough time to develop the actual intervention. However, this broad approach also made incorporating VWS into the process more challenging. Design processes often begin with a "fuzzy front end", a phase where the direction is unclear and results are not yet concrete (see Figure 50). Looking back, I found it difficult to engage VWS during this chaotic stage. It was only after the design statement was formulated and the problem reframed that the project became more tangible and easier to discuss.

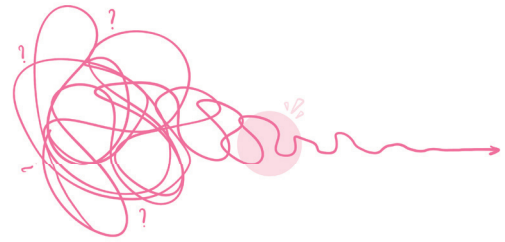


Figure 50 | Visualisation of the design process with its fuzzy front end

Throughout this project, I experienced how VWS operates at a strategic level, focusing on setting directions and creating preconditions rather than directly developing and implementing interventions. As a result, I found it challenging to receive detailed feedback when presenting ideas and potential concepts. One of the strengths of the design process is its ability to combine research insights with practical knowledge from the field. I think this is a very valuable aspect, since ultimately the effectiveness of an intervention relies on its feasibility and relevance in context.

Looking back at the project as a whole, I believe one of the most valuable contributions designers can offer the government is their ability to navigate between macro needs (what does society need as a whole?) and micro needs (what does this specific target group need?). These perspectives ensure that interventions are built on a foundation of both research and practical knowledge, resulting in solutions that work both on paper and in real-world contexts.

13.2 On Designing for Exnovation

Another secondary objective of this design project was to explore how adopting an exnovation perspective would influence the design process. Starting with this frame from the beginning onwards, I can reflect on how it has impacted each stage of the project. While the exnovation perspective shaped most framing steps, it did not significantly change my overall design approach. This could be due to my decision to maintain an original approach to designing.

In the early stages of my project, I incorporated the exnovation frame by conducting additional literature research into the topic. This led to the development of one of my thirteen clusters, "The Art of Letting Go". Besides this cluster, however, this research did not have strong impact on the rest of my project. Though some exnovation principles came back in other clusters that covered reluctance to change and persistence of habits.

During field research, I intentionally applied the exnovation perspective by asking questions about reducing certain foods and letting go of habits. These led to valuable insights, showing the importance of adjusting interview questions when focusing on letting go or undesigning something. Shifting the focus in this way can help identify certain struggles and barriers that the target group faces, which might otherwise be overlooked.

The exnovation frame also played a role in shaping my design statement. Approaching the ideation phase with a statement that encourages students to eat healthier is fundamentally different from one that encourages them to reduce unhealthy foods. This change in framing opens up new possibilities and could lead to novel ideas that might not occur when focusing solely on promoting positive behaviour. I believe it is valuable to explore both the positive and the double negative framing of a design statement, in any design process, to see which sparks more creative and effective solutions.

In the ideation phase, I experimented with exnovation by incorporating it into the formulation of my How-to questions. I found that these alternative framings influenced the ideas that were generated. Even in design projects that do not explicitly take an exnovation stance, it could be interesting to frame some How-to questions from this perspective, as it encourages a broader exploration of solutions.

In conclusion, while taking an exnovation perspective did not drastically change my design process, it made me more aware of the perspectives I was applying. It helped me recognise when I was approaching something with an innovation standpoint and how I could shift towards an exnovation perspective instead. This is different to previous design projects, where innovation was default. Given the complex design challenges we have in today's world, I think it would be very valuable if more design projects take on an undesigning perspective. I hope my project has inspired future work in this area by demonstrating that taking an exnovation approach does not require significant changes, only a shift in perspective.

13.3 On My Own Process

Personally, one of the most challenging aspects of this project was conducting field research. As an introvert, this is not one of my natural strengths, making it a difficult but valuable learning experience that pushed me out of my comfort zone. Once I established contact with a school, it became slightly easier, though still nerve-wracking at times. In a future project, I would prioritise finding a collaborator early in the process to make this phase smoother.

On the other hand, what came naturally to me was gathering context factors, forming clusters, and identifying worldviews. I think this "sponge mode", absorbing large amounts of information and distilling it into meaningful insights, is one of my strengths. However, sometimes it was difficult to switch out of this mode. Even during a weekend walk through the city centre, I found myself stopping to take pictures of posters, constantly analysing how they might relate to my project.

What I particularly enjoyed about this project was how easily people engaged with the topic. Food is such a universal and social connector that almost everyone has an opinion or personal experience to share. In previous projects, I sometimes struggled to discuss my findings, but this time, asking questions, gathering feedback, and seeking help felt more natural. I also believe I grew in this aspect, partially because this was an individual project, which encouraged me to step outside my comfort zone and reach out for input when needed.

In the beginning, I was concerned that the project might be too broad and overwhelming. At times, it certainly felt that way, and I think the exploration and reframing phases required more time than I expected. However, looking back, I see that this broadness was valuable. Without it, I might not have come to the social context of food, which I now believe is a significant yet often overlooked part of the issue.

To manage the overwhelming nature of the project, I learned the importance of taking a step back. There were moments when I looked at my Figma masterboard, wondering how all the insights would ever come together into a cohesive story. I found that consciously stepping away, whether by going for a walk or a bike ride, allowed my subconscious to process the information. Often this resulted in clear priorities and new insights. I now recognise this as an essential part of my process, even though it is something that is not often documented in design research.

It feels unnatural to finish this project, knowing there are so many ways I could further improve the designs and research. It has been a valuable learning experience that has strengthened my passion for social design. I leave this process with a deeper understanding of how design can contribute to societal challenges and I am excited to carry these insights forward into my future career.

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Appendix

133 | A. Design Brief

136 | B. Experts & Events Overview

137 | C. Interview Questions Street Interviews

138 | D. Interview Guide In-Depth Interviews

140 | E. In-class Survey Questions and Results

142 | F. Creative Session Results

145 | G. Ideas

147 | H. Morphological Chart

148 | I. Storyboards and Service Blueprints

151 | J. Google Forms Survey Results

A. Design Brief

The design project was kicked-off with the following design brief.

DESIGN FOR our future

TU Delft

Personal Project Brief – IDE Master Graduation Project

Name student Mayra Cöp **Student number** 4,667,441

PROJECT TITLE, INTRODUCTION, PROBLEM DEFINITION and ASSIGNMENT
Complete all fields, keep information clear, specific and concise

Project title Inspiring future generations to eat healthier by minimising their intake of foods outside the Wheel of Five

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

Introduction

Describe the context of your project here; What is the domain in which your project takes place? Who are the main stakeholders and what interests are at stake? Describe the opportunities (and limitations) in this domain to better serve the stakeholder interests. (max 250 words)

This project, in collaboration with the Ministry of Health, Welfare, and Sport, focuses on the Dutch food system. As a key stakeholder, the ministry is interested in encouraging greater adherence to the Netherlands Nutrition Centre's Wheel of Five guidelines (see Figure 1). This is in their interest because healthier eating habits help decrease disease burden by preventing health issues such as cardiovascular diseases, cancer and diabetes (Gezondheidsraad, 2015).

The project combines the domains of health, food, sustainability, and behaviour (see Figure 2). Research highlights that the current high consumption of red and processed meats, sugars, saturated fats, and salt increases the risk of chronic illnesses like heart disease and diabetes (RIVM, 2021). Beyond health concerns, this consumption pattern also contributes to serious environmental damage. Strong evidence shows that food production is one of the main contributors to global environmental changes, including climate change, biodiversity loss and alterations to land systems (Willett et al., 2019).

The project's primary focus will be on reducing the intake of animal-based foods, but will include parallel research and analysis on minimising sugary drinks and fatty foods as well. The ministry has expressed interest in targeting younger generations, recognising that new policies will have the greatest long-term impact on them. The target group is further specified to young adults moving out of their parents' homes, as such a significant life transition can create ideal conditions for habit change (White et al., 2019).

While this multidisciplinary approach offers valuable opportunities to gain new insights, it also introduces complexities. The overlapping domains provide interesting perspectives, but the interconnected nature of the food system could make it challenging to predict which strategies will be most effective and what unforeseen impacts might emerge.

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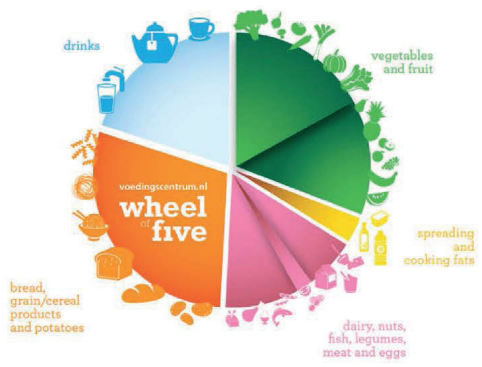


image / figure 1 The Wheel of Five (Netherlands Nutrition Centre, 2015)

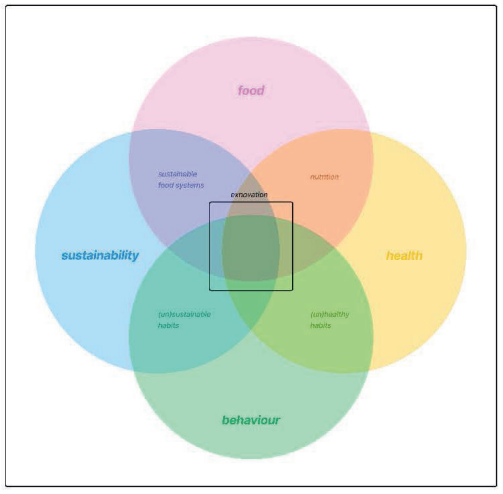


image / figure 2 Visualisation of project's domains

Problem Definition

What problem do you want to solve in the context described in the introduction, and within the available time frame of 100 working days? (= Master Graduation Project of 30 EC). What opportunities do you see to create added value for the described stakeholders? Substantiate your choice.
(max 200 words)

The core problem this project addresses is the widespread failure to adhere to the Wheel of Five guidelines. According to the National Institute for Public Health and the Environment, most Dutch citizens do not follow these guidelines; for example, two-thirds of the population consume more meat (products) than recommended (RIVM, 2020). A key challenge is that unhealthy foods, like processed meats and sugary snacks, are deeply embedded in cultural and social norms, making it difficult for individuals to reduce or eliminate them from their diets. The development of meat substitutes has not contributed to a significant reduction in meat consumption (Witlox, 2024). This suggests that simply innovating new alternatives is not enough to change eating habits on a large scale.

This project aims to add value by focusing on exnovation - the phasing out of reliance on foods outside of the Wheel of Five - rather than introducing alternatives. This approach may generate new insights on how to shift dietary habits by reducing dependence on unhealthy and unsustainable foods. Furthermore, the design-focused nature of this project brings the potential for concrete solutions. A designer's ability to use visualisations and storytelling can help the ministry gain broader support for new policies and inspire actionable changes.

Assignment

This is the most important part of the project brief because it will give a clear direction of what you are heading for. Formulate an assignment to yourself regarding what you expect to deliver as result at the end of your project. (1 sentence) As you graduate as an industrial design engineer, your assignment will start with a verb (Design/Investigate/Validate/Create), and you may use the green text format:

Create a strategy for the Ministry of Health, Welfare and Sport to support future generations to minimise their intake of unhealthy foods

Then explain your project approach to carrying out your graduation project and what research and design methods you plan to use to generate your design solution (max 150 words)

The project approach involves an all-round research and design process. Initially, a literature study will explore behavioural psychology, transition and systemic design literature and aspects of the food industry to build a foundational theoretical understanding of the phenomena surrounding the consumption of unhealthy foods. This will be complemented by field research involving interviews with the target group to gather qualitative insights. The data will be analysed thematically using the Vision in Product design (ViP) approach, leading to a comprehensive worldview and a design statement. Based on this statement, a design intervention will be developed. This will be evaluated with the target group. Finally, the project will include recommendations for implementing this concept effectively.

B. Experts & Events Overview

Literature research consisted of desk research, as well as expert interviews and attending events. The table below lists the experts and events.

	Role	Topic	Phase	Reference Code
Interviewee 1	PhD researcher at Wageningen University	Promoting healthier and more sustainable eating among young adults	Orientation	Expert 1
Interviewee 2	Design graduate	Designing for healthier eating habits among MBO students	Explore/Reframe	Expert 2
Interviewee 3	Design graduate	Designing for social contagion	Create	Expert 3
Interviewee 4	Employee of Stichting JOGG	Role of Stichting JOGG and interventions	Catalyse	Expert 4
Interviewee 5	Employee of MBO Raad	Implementation of interventions	Catalyse	Expert 5
Event A	Dutch Design Week lecture	Design and government	Orientation	Event A
Event B	Lunch lecture at VWS	Current health issues and promoting healthy behaviour	Explore	Event B
Event C	Innovember lecture	Afbouw by design	Explore	Event C

C. Interview Questions Street Interviews

Street interviews Zadkine

- Hoe ziet een typische lunch er voor jou uit?
- Hoe vaak eet je dat?

- Hoe vaak eet je in de schoolkantine? Eet je wel eens in de schoolkantine?

- Hoe vaak eet je bij de snackbar/broodjeszaak?
- Welke zaak is jouw/jullie favoriet? Waarom?

- Wat is voor jou/jullie belangrijker: smaak, gezondheid, gemak?

- Welke social media gebruik je het meest?
- Welke accounts volg je graag?

- Wat doe je graag in je vrije tijd?
- Werk je nog naast school?

- Woon je nog thuis?
- Heb je vrienden die al op zichzelf wonen?
- Denk je wel eens na over uit huis gaan?
- Op welke leeftijd zou jij op jezelf willen gaan wonen?

- Eet je meestal alleen of samen?
- Eet je vaker met je familie, vrienden of alleen?
- Hoe ziet een typische maaltijd met je familie of vrienden eruit?
- Hoe belangrijk vind je het om samen te eten?
- Denk je dat je andere dingen eet als je alleen eet dan wanneer je samen eet?
- Als jullie samen afspreken/Als je vrienden langskomen, wat eet of drink je dan meestal samen?

- Wat is het populairste gerecht? Welk gerecht verkoop je het vaakst?
- Wie is je grootste doelgroep? Is het menu daarop afgestemd?
- Wat zijn de drukste tijden van de dag?

D. Interview Guide In-Depth Interviews

Interview Guidelines n.a.v. photo diaries

Introductie

- Korte uitleg over onderzoek
- Benadrukken dat er geen goede of foute antwoorden zijn, maar dat het gaat om hun ervaring
- Toestemming vragen

A. Algemene vragen
Inzicht krijgen in dagelijkse routine rondom opleiding
- Welke opleiding doe je?
- Hoe vaak moet je daarvoor op school zijn?
- Hoe ver moet je daarvoor reizen?
- Neem je eten mee van huis, of koop je iets op school of onderweg?
- Heb je al een idee wat je na deze opleiding wil doen?

B. Reflectie op de foto's
Inzicht krijgen in dagelijkse routines & social practices rondom eten (zowel op doordeweekse dagen en weekenddagen)
Ontbijten/lunchen/avondeten/snacken/boodschappen doen/koken/on-the-go eten/op school eten/alleen eten/met familie eten/met vrienden eten
- Kun je me iets vertellen over de dag waarop je de foto's maakte? Kun je me meenemen door deze dag?
- Was dit een typische doordeweekse dag voor jou? Waarom wel/niet?
- Wat eet je het vaakst voor ontbijt/lunch/diner/snacks?
- Hoe verschilt een gewone schooldag van een weekenddag of een dag thuis?
- Heeft dat invloed op wat je eet?

C. Reflectie op eetgewoontes
Inzicht krijgen in persoonlijke ervaring van eetgewoontes
- Wat vind je belangrijk aan eten?
- Wat vind je van je eigen eetgewoontes?
- Heb je hier wel eens eerder over nagedacht?

D. Verandering en aanpassing van eetgewoontes

Inzicht krijgen in houding tegenover aanpassen van eetgewoontes

- Heb je ooit overwogen om iets aan te passen aan hoe je eet?
- Wat was daarvoor de reden?
- Wat zou je bereid zijn om aan te passen?
    - Geen frisdrank meer → minder frisdrank?
    - Geen vlees op brood → minder vlees?
    - Geen snacks onderweg naar/op school kopen → minder snacks (onderweg)?
    - Niet meedoen aan sociale verwachtingen → iets anders eten dan je vrienden/sociale omgeving?
    - Eten voorbereiden → minder gemak?

E. Minderen of laten staan van bepaald eten

Inzicht krijgen in keuzes en uitdagingen van minderen of laten staan van eten

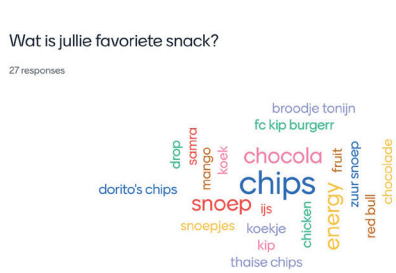
- Is er iets wat je (bewust) niet eet of minder probeert te eten?
- Hoe is dit zo gekomen?
- Zijn er situaties waarin het moeilijk is om bepaalde dingen te laten staan?
- Wanneer lukt het wel om bewuste keuzes te maken, en wanneer niet?

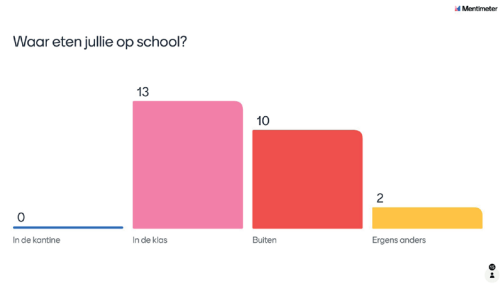
Afsluiting

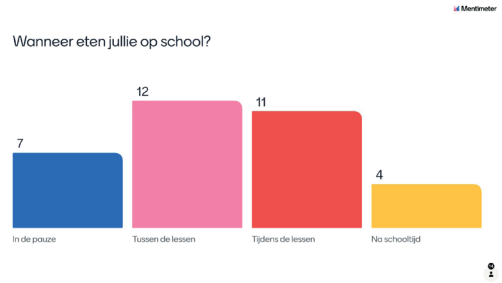
- Zijn er nog dingen die niet ter sprake zijn gekomen die je nog zou willen toevoegen?

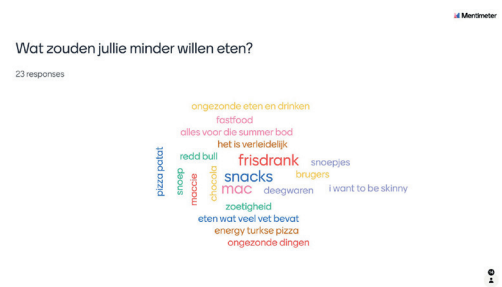
E. In-class Survey Questions and Results

Below are the questions and results for one of the in-class surveys. For the other classes, the same questions were used. If interested, I could provide the additional results.



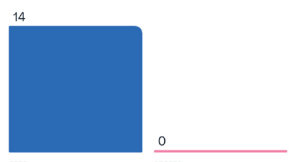




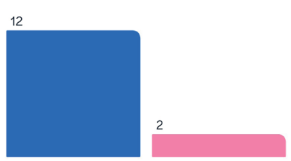


Wat maakt het lastig om deze dingen niet te eten?

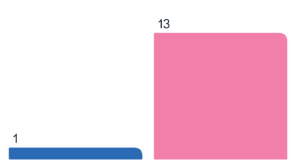
Het is op onze school normaal om ongezonde snacks te eten/drinken



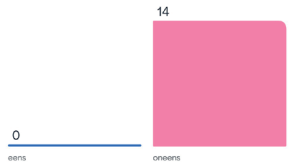
Als mijn vrienden iets ongezonds halen, haal ik het meestal ook



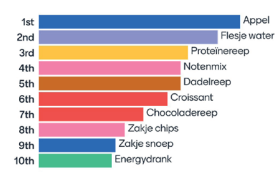
Als anderen een gezonde keuze maken, zou ik dat ook doen



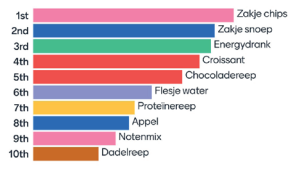
Ik voel me gesteund door mijn vrienden als ik een gezonde keuze maak



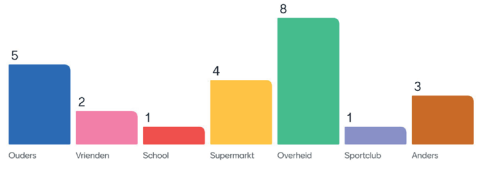
Wat is het gezondst?



Wat is het moeilijkst om te laten staan?

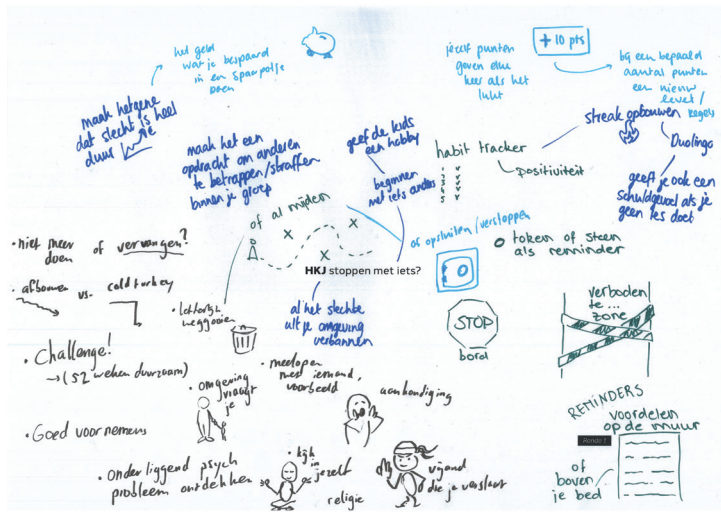


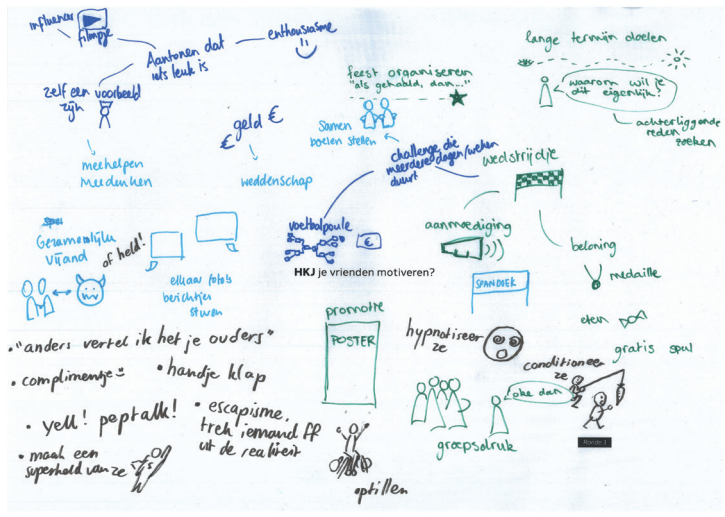
Wie zou jullie kunnen helpen ongezond eten te minderen?

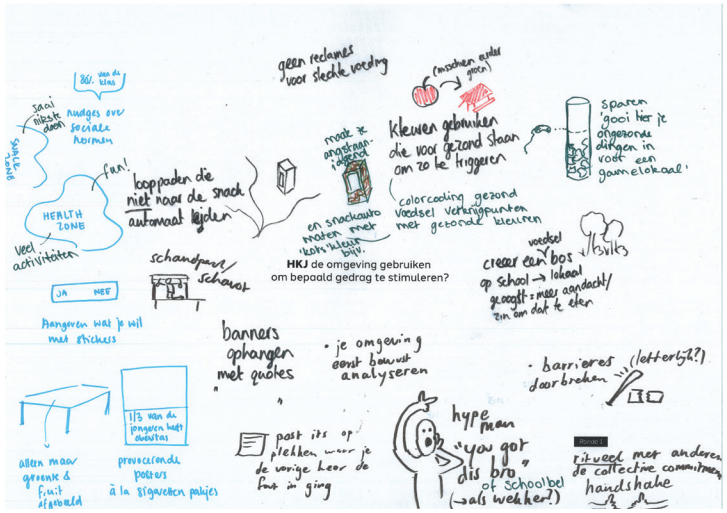


F. Creative Session Results

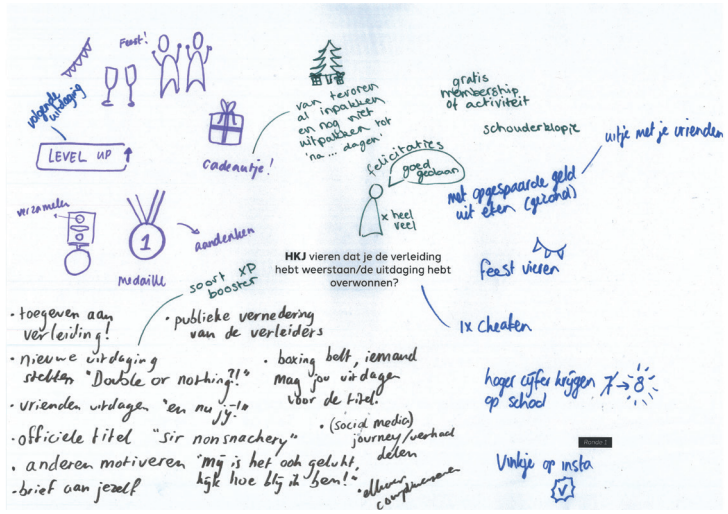
Below are the results of the creative session that was held using the How-to method.

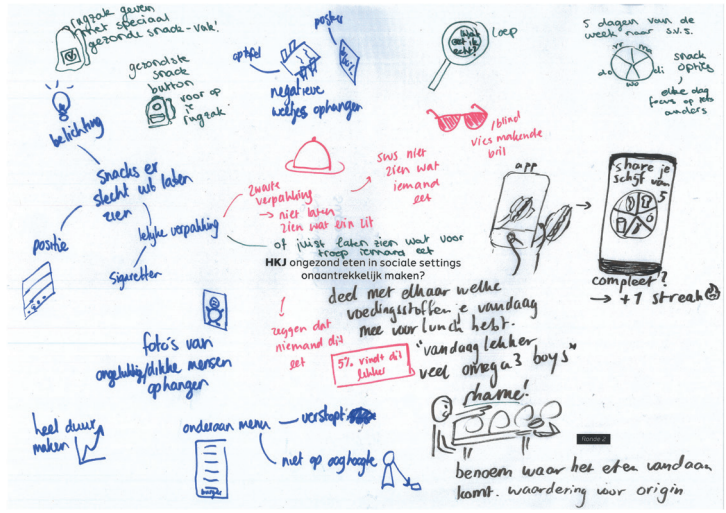


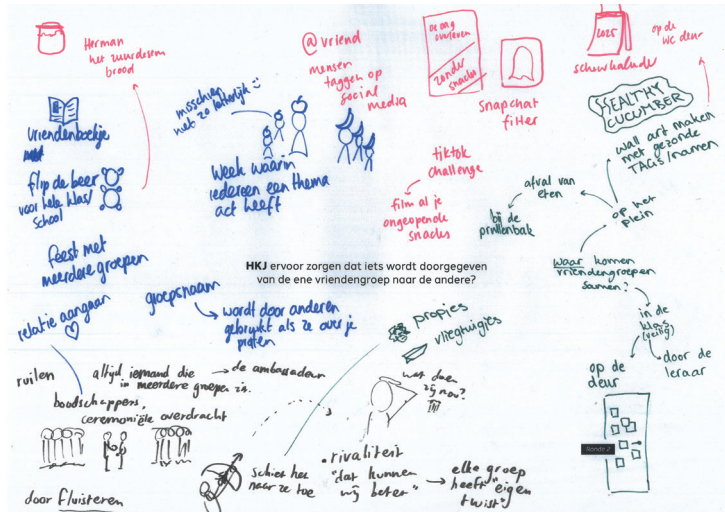


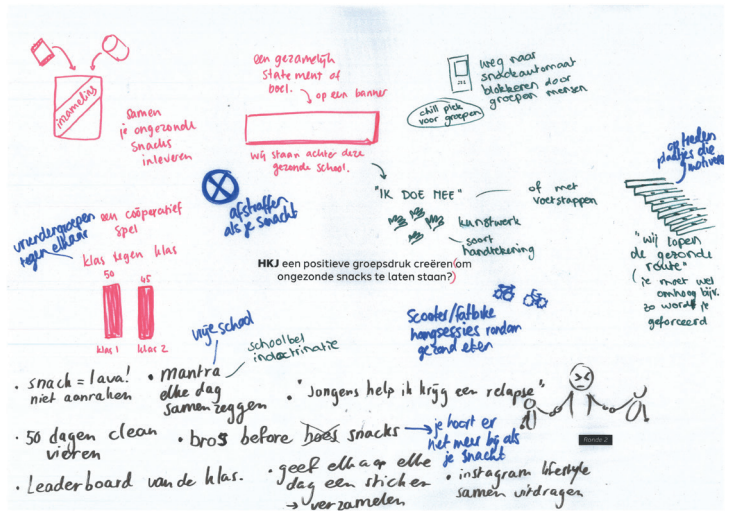

HKJ de omgeving gebruiken om bepaald gedrag te stimuleren?
geen reclames voor slechte voeding
kleuren gebruiken die voor gezond staan om zo te triggeren
sparen 'gooi hier je ongezonde dingen in voor een gezonde kaal'
looppaden die niet naar de snack automaat leiden
HEALTH ZONE
veel activiteiten
schaampaal schaamrek
JA NEE
hangeren wat je wil met stickers
alleen maar groente & fruit afgewald
1/3 van de jongeren haat dadelijk
provocerende posters à la sigaretten pakjes
banners ophangen met quotes
je omgeving eerst beter analyseren
past its op plekken waar je de vorige keer de fout in ging
barrières doorbreken (letterlijk?)
hype maar "you got dis bro" of schoolbel (→als wekker?)
ritueel met anderen de collective commitment handshake
creeer een bos op school → lokaal gecreëerd = meer aandacht/ zin om dat te eten
voedsel
bosrijk

HKJ stoppen met ongezond eten een leuke uitdaging maken?
anderen helpen tijdens je challenge
delen in de klas
duolingo bedreigingen
doorgeef challenge, alhankelijk van elkaar
#nofap
maak heerlijke gerechte dingen (bv. mensen weten niet hoe je champignons lekker maakt)
vooruitgang laten zien
strava conditie score → snack score
op maandag lopen we geen snacks
samen een challenge
dry january
meatless mondays
advent calender
koppel aan maand
met vriendin
broodkuis
de enge frisdrankfles
tegenstelling geven 'gymbro' & fitgirl
spanning
wat is uitdagend?
winner of verliezen
saai maken
alles bruin/grijs
saai lekkertype
supermarkt gamme
dáár wordt het gekocht dus moet iets veranderen
wie koopt het beste ei?
korting geven als jij het beste koopt
gooien op persoonlijke ontwikkeling
trading filmpjes
geld € verdienen
spel maken / competitie
iets winnen
tegen elkaar
tegen jezelf
tegen andere vriendengroep
maakt gezo leuker


HKJ vieren dat je de verleiding hebt weerstaan/de uitdaging hebt overwonnen?
LEVEL UP
cadeautje!
van tevoren al inpakken en nog niet uitpakken tot 'na ... dagen'
gratis vriendschap of activiteit
schouderklopje
felicitaties
goed gedaan
x heel veel
uitje met je vrienden
met opgespaarde geld uit eten (gezond)
verzamelen
medaille
aanbieden
soort XP booster
feest vieren
1x cheaten
toegeven aan verleiding!
publieke vernedering van de verleiders
nieuwe uitdaging stellen "Double or nothing?!"
vrienden uitdagen "en nu jij."
officiële titel "Sir nonsnachery"
anderen motiveren
brief aan jezelf
baxing belt, iemand mag jou uitdagen voor de titel.
(social media) journey/verhaal delen
"myy is het ook gelukt, kijk hoe blij ik ben!"
elkaar complimenteren
hoger cijfer krijgen → 8
Vinkje op insta


HKJ ongezond eten in sociale settings onaantrekkelijk maken?
ragrak geven het speciaal gezonde snack-vak!
gezondste snack button voor op 't ragrak
opkijken
negatieve weetjes ophangen
5 dagen voor de week naar S.V.S.
snack opties
elke dag fruit op een ander
belichting
snacks er slecht uit laten zien
positie
lekkere verpakking
sigaretten
zwarte verpakking → niet lekker zien wat erin zit
of juist laten zien wat voor troep iemand eet
sms niet zien wat iemand eet
app
share je schijf van 5
compleet? → +1 streak
deel met elkaar welke voedingsstoffen je vandaag mee voor lunch hebt.
"vandaag lekker veel omega 3 boys"
foto's van ongelukkig/dikke mensen ophangen
zeggen dat niemand dit eet
57% vindt dit lekker
heel duur maken
ondervan menu
verstopt
niet op ooghoogte
shame!
benoem waar het eten vandaan komt. waardering voor origin

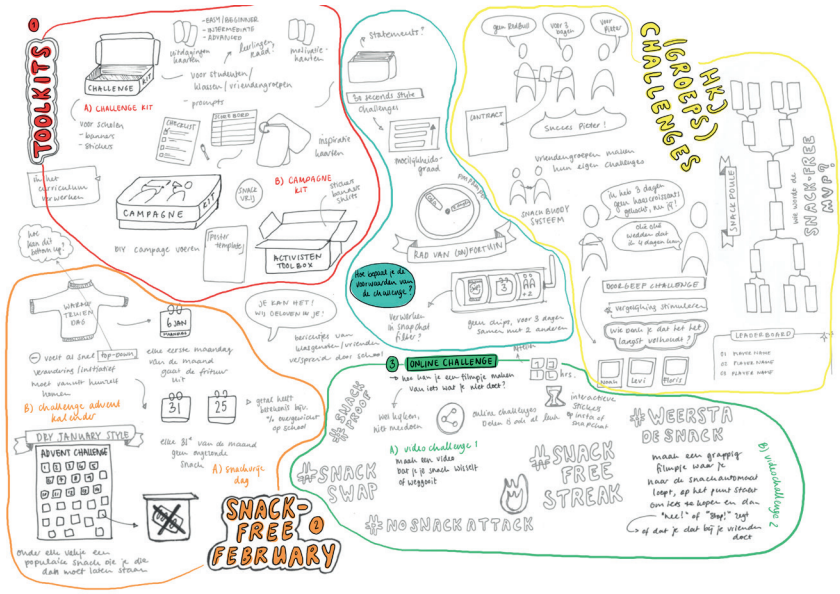

HKJ ervoor zorgen dat iets wordt doorgegeven van de ene vriendengroep naar de andere?
Herman het zuurdesem brood
@ vriend
mensen taggen op social media
vriendenboekje
flip de beer voor hele klas/ school
Week waarin iedereen een thema act heeft
tiktok challenge
film al je ongezonde snacks
Snapchat filter
op de WC deur
afval van eten bij de prullenbak
op het plein
wall art maken met gezonde TACOS tramen
feest met meerdere groepen
relatie aangaan
groepsnaam
wordt door anderen gebruikt als ze over je praten
ruilen
boodschappers, ceremoniële overdracht
door fluisteren
de ambassadeur
rivaliteit
"dat kunnen wij beter"
elke groep heeft eigen twist
propjes
vliegtuigjes
waar komen vriendengroepen samen?
in de klas (gang)
door de leraar
op de deur

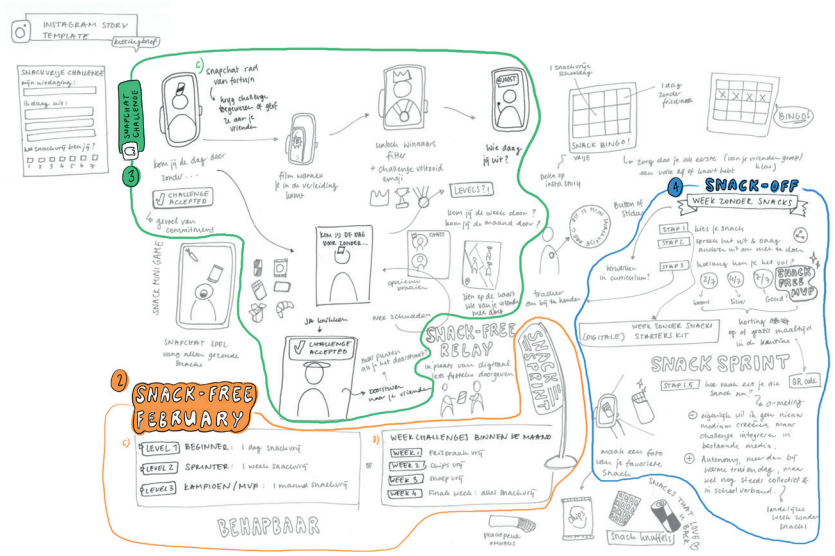

HKJ een positieve groepsdruk creëren om ongezonde snacks te laten staan?
samen je ongezonde snacks inleveren
een gezamelijk statement of doel.
op een banner
wij staan achter deze gezonde school.
afstraffen als je snackt
"IK DOE MEE"
of niet voorstappen
kunstwerk
soort handtekening
vrienden groepen tegen elkaar
een coöperatief spel
klas tegen klas
50
45
klas 1
klas 2
Scooter/fatbike hangsessies rondom gezond eten
vaste school
schoolbel indoctrinatie
snack = lava! niet aanraken
mantra elke dag samenzeggen
"jongens help ik krijg een relapse"
50 dagen clean vieren
bros before hoes snacks
je hoort er niet meer bij als je snackt
leaderboard van de klas.
geef elkaar elke dag een sticker → verzamelen
instagram lifestyle samen uitdragen
"wij lopen de gezonde route"
(je moet wel omheen bijv. zo word je geforceerd

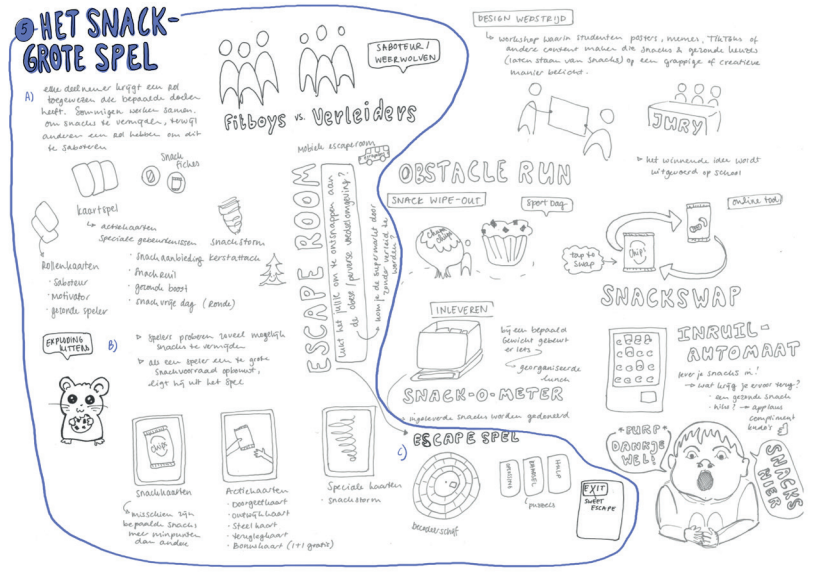
APPENDIX

G. Ideas

Individual ideations resulted in the following ideas.







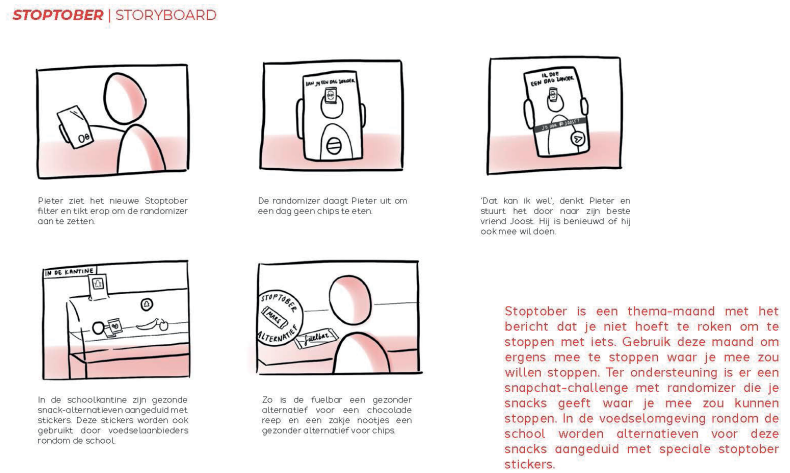
H. Morphological Chart

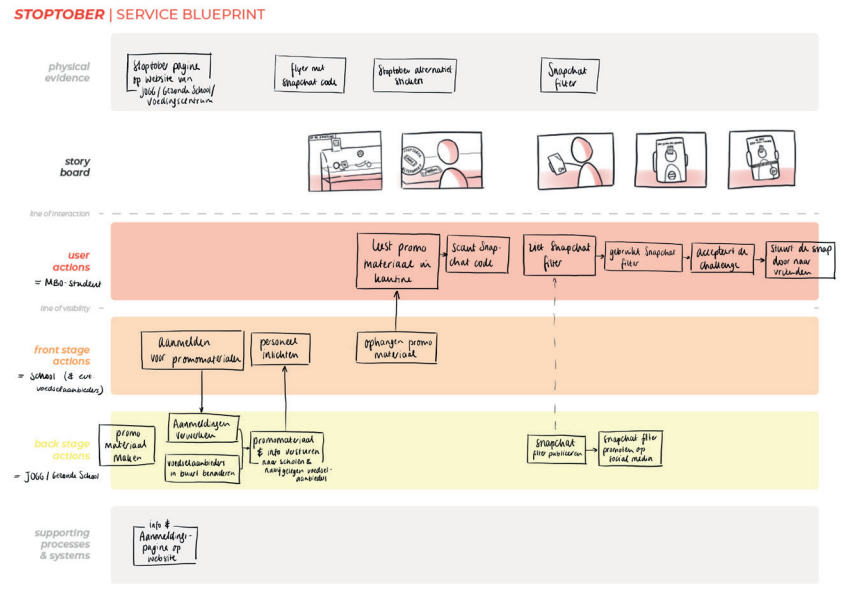
To combine different ideas into concepts, a morphological chart was used.

	Initiation	Touchpoints	Group	Spreading	Timeframe	Individual Goal	Shared Goal	End
	iemand binnen de vriendengroep doet het	via een eigen website	de hele school	mond tot mond	1 dag (eenmalig)	zelf kiezen (vanuit niets)	puntensysteem	level behaald
Snack Attack	introductie in les	via een bord/ kaartspel	alle mbo's in Nederland	door de school uitgedragen	1 week	zelf kiezen tussen opties	voucher (korting op eten)	challenge volbracht
	een keuzetool	via social media	een klas	door JOGG of Voedingscentrum uitgedragen	1 maand	van tevoren bepaald	sociale erkenning (likes, reacties, respect)	timeframe voorbij
	een uitnodiging/ uitdaging van vriend	via een flyer/poster	een grote vriendengroep (10)	online platform	variabel (gekozen door deelnemers)	random	certificaat/diploma	een gezamenlijk evenement/ ceremonie
	kiezen van een persoonlijke uitdaging	via een app	een kleine vriendengroep (3)	een score board/ ranking	geen vaste einddatum	de groep kiest jouw doel	voldoening/trots	een evaluatiemoment
	ontvangen van een startpakket	via de school website	random groep	een fysiek symbool (button/sticker)			gezondheid	
	ondertekenen van een belofte/ commitment	via een workshop	alleen	verhalen/foto's delen			een level omhoog	
Stoptober	inschrijven	via een evenement	in duo's	iemand direct uitnodigen			overwinnaarsfoto	
Snack-off	tijdens de introductie periode	via een salesperson					toegang tot een speciaal evenement	
	invullen van een quiz of test	via de studentenportaal						
	gezamenlijke kick-off	via een uitnodiging						
		via een docent/ mentor/studie loopbaan begeleider						
		als onderdeel van een lesaanbod						
		op aansporen van de kantine						

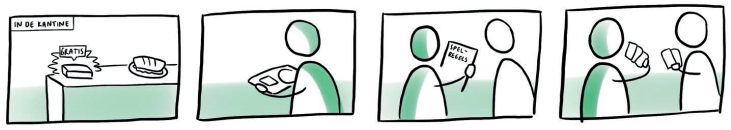
I. Storyboards and Service Blueprints

To refine concepts storyboards and service blueprints were made for each concept.





SNACK ATTACK | STORYBOARD

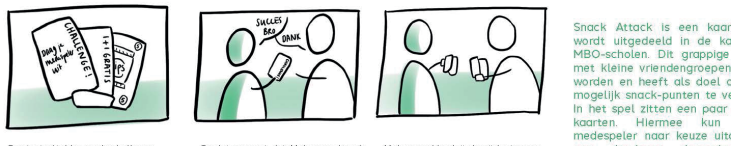


In de kantine liggen kaartspellen die je gratis krijgt bij een gezonde lunch deal.

Mohammed besluit voor de lunch deal te gaan en is nu in het bezit van het Snack-Attack kaartspel (en een lekker broodje hummus).

Samen met zijn vriendin Samira leest hij snel de spelregels door. Ze zijn vrij simpel en snel te begrijpen.

Mohammed & Samira spelen samen het kaartspel tijdens de rest van de pauze.



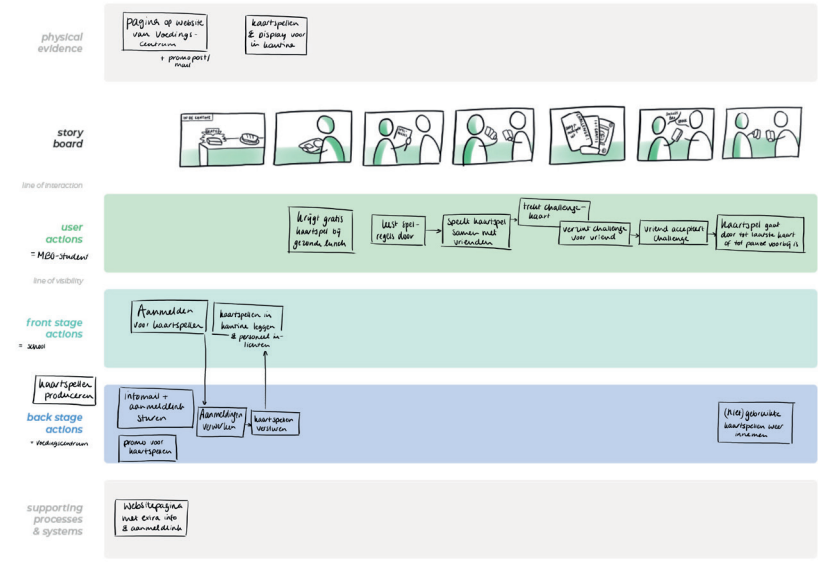
Samira trekt één van de challenge-kaarten van de stapel. Er staat dat ze één van haar medespelers uit kan dagen om een week lang een snack niet te eten/drinken.

Omdat ze weet dat Mohammed vaak een frikandelbroodje eet, besluit ze hem uit te dagen om een week lang geen frikandelbroodjes te eten. Mohammed kan ervoor kiezen om de challenge te weigeren, maar dan moet hij wel 5 kaarten trekken en is de kans groot dat hij veel snack-punten pakt en het spel verliest.

Mohammed besluit de uitdaging aan te gaan en mag als beloning een extra kaart afleggen. Als de pauze voorbij is/de kaarten op zijn tellen ze hun punten en heeft Mohammed gewonnen.

Snack Attack is een kaartspel dat wordt uitgedeeld in de kantine van MBO-scholen. Dit grappige spel kan met kleine vriendengroepen gespeeld worden en heeft als doel om zo min mogelijk snack-punten te verzamelen. In het spel zitten een paar challenge kaarten. Hiermee kun je een medespeler naar keuze uitdagen om een dag/paar dagen/week hun favoriete snack te laten staan. De challenge accepteren zorgt voor een betere spelpositie, weigeren zorgt voor extra punten.

SNACK ATTACK | SERVICE BLUEPRINT



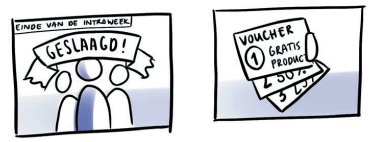
SNACK-OFF | STORYBOARD

Op de eerste dag van haar intro-week kiest Isabel welke snack ze het lastigst vindt om te weerstaan. Ze is benieuwd waarom ze dat moet invullen.

Het blijkt dat ze op basis van haar antwoord in groepen worden gedeeld. Isabel zit in team Redbull. De docent legt uit dat ze spellen tegen elkaar gaan doen.

Ze kunnen punten winnen door een week hun favoriete snack te laten staan. Elke dag zijn er klassikale check-ins. Ze kunnen ook punten winnen met andere (al bestaande) intro-week activiteiten.

Elke dag na de check-ins wordt het leaderboard bijgewerkt waarop te zien is welk team er op dat moment voor staat.

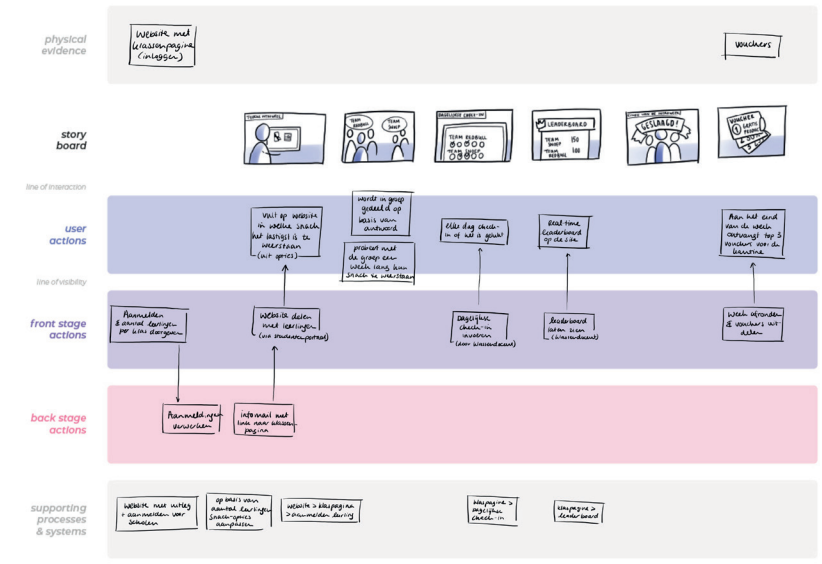


Aan het eind van de week wordt de challenge afgerond. Isabels team heeft niet niet gewonnen, maar zijn wel tweede geworden.

Als prijs ontvangen ze een kortingsbon voor 50% korting op een product uit de kantine.

De Snack-Off is een extra toevoeging aan de al bestaande introductie week van MBO-scholen. Voorafgaand aan de week vullen studenten hun favoriete snack in. Op basis van hun antwoord worden klassen in groepen verdeeld. De uitdaging is om als groep de hele week hun snack te weerstaan. Voor elke voltooide dag krijgen ze punten. Er zijn ook punten te verdienen met andere (al bestaande) intro-activiteiten. Het team dat aan het eind van de week de meeste punten heeft wint een voucher voor een gratis product in de schoolkantine.

SNACK-OFF | SERVICE BLUEPRINT



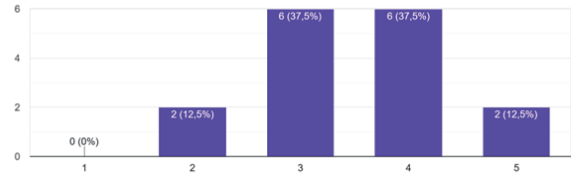
J. Google Forms Survey Results

As part of the evaluation, an in-class survey was conducted. Below are its questions and results.

Tijdstempel	Wat valt je als eerste op aan de campagne?	Wat denk je dat de boodschap van deze campagne is?	Deze camp	Dit zou een
12-3-2025 11:27:47	Eten	Gezonder eten	4	3
12-3-2025 11:28:34	Het valt op voor jongeren	Stoppen met ongezeond eten	5	5
12-3-2025 11:28:36	Dat het om iets dat over gezondheid moet gaan	Dat je gezonder moet zijn	2	1
12-3-2025 11:28:41	De stoptober stickertje	Om alles wat ongezond is te minderen	4	3
12-3-2025 11:28:53	de posters hebben weinig kleur	gezonder eten	4	2
12-3-2025 11:29:05	Snapchatfilter	Om te minderen met ongezond eten	5	3
12-3-2025 11:29:14	Eén energie met water	Dat je het beste water kunt drinken	3	2
12-3-2025 11:29:15	Het is best wel aantrekkelijk gemaakt	Om mensen aan te sturen om gezonder te eten	4	3
12-3-2025 11:29:19	Water energieblikje	Om sneller water te nemen inplaats van iets ongezonds	4	2
12-3-2025 11:29:27	Redbull blikje	Gezonder eten en drinken	3	3
12-3-2025 11:29:30	Bij de stoptober posters is het een redbull blikje	Gezonder te eten en stoppen met roken in oktober	3	2
12-3-2025 11:29:42	De tekst	Goed	3	4
12-3-2025 11:29:42	dat het in een redbull blikje is gezet	stoppen met ongezonde dranken/eten	3	3
12-3-2025 11:30:36	Er worden verschillende communicatiemiddelen gebruikt om de boodschap over te brengen	Stoppen met roken in oktober	3	1
12-3-2025 11:30:44	Dat het over gezond eten gaat	Gezond te eten	2	2
12-3-2025 11:31:40	Dat de kantine en posters vrij leeg zijn	Zorgen dat je minder ongezond gaat eten	4	2

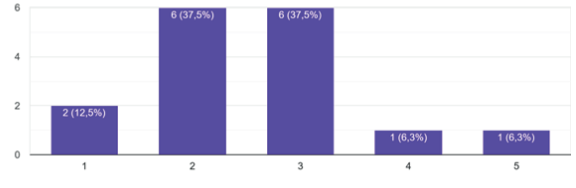
Deze campagne zou passen binnen onze school

16 antwoorden



Dit zou een gespreksonderwerp kunnen zijn binnen onze vriendengroep

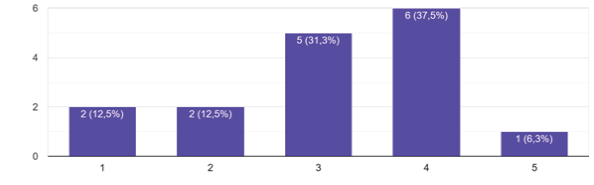
16 antwoorden



Als ik dit fi	Ik zou dit d	Hoe zou jij dit filter omschrijven aan iemand die het nog niet gezien heeft?	Hoe zou je dit filter beter kunnen maken?	Heb je zelf nog ideeën, suggesties of tips?
1	1	Ja	Nee	Nee heel leuk verzonnen !
5	5	Een filter die je laat zien waar je zonder mee zou kunnen een dag	Ik vind hem perfect	Nope
1	1	Iets wat je een challenge geeft met hoelang je zonder iets lekkers kan	Ja niet echt iets	
4	3	Dat het een handige filter is als je gezond wilt eten	Geen idee	Nee
2	2	een vraag of je zonder bepaalde snacks kan	-	meer kleur in de posters
4	4	Een filter waar uiteindelijk 1 ongezond ding yit komt met de vraag kan jij 1 dag zonder dit	Niet denk ik	Nee
3	3	Een filter die je een snack in beeld geeft en vraagt of je zonder kan	Niet	
3	3	Een filter die een challenge aan je geeft om van iets af te blijven	Misschien meer snack toevoegen	
3	3	Kan je een dag zonder bepaald eten of drinken	Nee denk het niet	
4	4	Kan je een dag zonder bepaald eten of drinken	?	Nee
4	3	Het gene wat je krijg mag je een maand vlgm niet eten of drinken	Ik vind hem wel goed zo	Nope
4	3	Vertellen wat het inhoudt en miss dat we samen de uitdaging kunnen aan gaan aan de hand van welke snack we krijgen	Denk misschien dat je het kan ranken van 1 tot 5. Om vervolgens dan te kiezen welke snack je niet zo doen en welke wel	Nee
2	3	een filter met dingen die wij dagelijks eten/drinken	x	nee
4	4	Een leuke manier om een uitdaging aan te gaan	Misschien meer opties	Nee , ik vind het een leuke manier om een uitdaging aan te gaan en de snapchatfilter kan mensen aanmoedigen en motiveren
3	1	Van probeer deze challenge	Meer keuzes bijv door iets te maken wat je juist moet eten	
3	4	Een filter om te kijken of je een dag kwa iets ongezond kan	Mischien iets meer soorten tegelijk inplaats van maar 1 dus niet maar 1 ding met de vraag of je daar zonder kan maat dat er bijvoorbeeld 3 komen te staan of je daar zonder kan.	

Als ik dit filter tegen zou komen, zou ik het gebruiken

16 antwoorden



Ik zou dit doorsturen naar mijn vrienden

16 antwoorden