Municipalities' Strategies in Combating Childhood Obesity: A Mixed Methods Approach

Master Thesis

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List of Abbreviations

BCB = Behavioral Change Ball

CBS = Centraal Bureau Statistiek (Central Statistical Office)

GGD = Gemeentelijke Gezondheidsdienst (Public Health Service)

GIDS = Gezond in de Stad (Healthy in the City)

JOGG = Jongeren Op Gezond Gewicht (Youth on a Healthy Weight)

NPA = Natonaal Preventie Akkoord (National Prevention Agreement)

NWGN = the Netherlands Working Group on International Nutrition

RIVM = Rijksinstituut voor Volksgezondheid en Mileu (National Institute for Health and Environment)

Abstract

The increasing prevalence of children suffering from obesity is a serious health challenge. In the Netherlands, municipalities are responsible for tackling childhood obesity resulting in different and diverse programs within the country. In order to gain an understanding of how municipalities decide their successful strategy in combating childhood obesity, 18 interviews with policymakers on the strategic level were conducted. Additionally, a multilevel regression was carried out in order to test the effect of the strategies on the percentage of obese people in the municipality. However, due to a low number of cases (n=18), no significant results were found. One of the main findings is that a program strongly depends on the individuals who are involved. The involved individuals change each four years, meaning that programs are often not sustainable. To overcome this issue, I would recommend policymakers to invest in long-term policies.

Keywords: **Childhood, Obesity, Municipalities, Integrated Program, Prevention**

1. Introduction

1.1 Problem Statement and Relevance

The increasing prevalence of childhood obesity instances is considered a serious health challenge for several reasons (Moore, Wilkie & Desrochers, 2017). First of all, because of the associated increased risk of serious health issues (Hemmingsson, 2018; Black, Hughes & Jones, 2018), such as emotional issues (Guh et al., 2009) during childhood. Secondly, childhood obesity is highly predictive of obesity in adulthood and associated diseases (Hemmingsson, 2018; Black, Hughes & Jones, 2018). Specifically, obese children are five times more likely to be obese in adulthood compared to children who are not obese (Bellew et al., 2019). Obese adults have an increased likelihood of suffering from lifestyle-related diseases such as diabetes type 2, cardiovascular diseases and various types of cancer (Guh et al., 2009). A consequence of higher lifestyle-related diseases in society is a significant increase in healthcare costs (Hendriks et al., 2013), resulting in needed action in keeping healthcare costs affordable.

Investments in the prevention and treatment of childhood obesity is imperative in ensuring a reduction of both social and personal burdens. In doing so, the role of the government has expanded over the years, so that the government often finances a large part of healthcare costs (Straube, 2013). Although governments of many countries make efforts to prevent and combat preexisting childhood obesity, none of them have successfully reversed the issue thus far (Roberto et al., 2015). Experts argue that health improvements can be achieved by involving all layers of society in its attempts (Hendriks et al, 2013). Specially, they recommend that governments adopt a so-called 'integrated approach', in which collaboration between multiple organizations and sectors is central in developing coordinated and effective interventions (Storm & Van Zoest, 2007). Unfortunately, however, less is known about the process required in implementing such a program. Therefore, this thesis will focus on investigating what successful strategies municipalities apply in program's targeting obese children. In doing so, I will focus on Dutch municipalities because a lot of different strategies were applied. I assume that the high diversity of strategies will make it possible to learn a lot.

1.2 The Netherlands

As this research takes place in the Netherlands, it is first important to provide some background information about the country and the way relevant processes are organized, in order to understand the implications they have on municipal strategies in combating childhood obesity.

1.2.1 Municipality Context

In the Netherlands, municipalities are responsible for tackling childhood obesity. Each municipality has different domains, for example the social domain, the sports domain and the physical domain. Each domain has one alderman who is responsible for the income and expenditure, the so-called portfolio within that domain. This responsibility gives the alderman the opportunity to manage the municipality independently

within the limits of the portfolio (Vuijk, 2020). In this way, the alderman can leave an important mark on policymaking within a municipality.

Municipal elections are held every four years, which means that the alderman in charge of a portfolio also changes every four years. In the Dutch municipal elections, citizens vote for the municipal council, which depending on the size of the municipality, consists of 9 to 45 councilors from various political parties. The municipal council then decides who becomes alderman for each portfolio.

Another organization that is often involved in health-related matters and has taken on a great responsibility for the health of residents is the Public Health Service (GGD). The GGD offers vaccinations, medical care, and advice on health and education. In addition, the GGD conducts research on various health-related topics and consequently, provides insight into the number of people who are obese in many municipalities. Thereby, the GGD plays an important role in raising awareness of the increasing number of obese people and tackling childhood obesity via its own programs.

1.2.2 Implemented Programs

In general, programs aim to encourage healthy behavior and to reduce socio-economic health inequalities in society (Van Koperen et al., 2018; Wilderink et al., 2020). While programs succeed already in the former, efforts made in the latter have been less successful. Although groups with a low socioeconomic status could most benefit from such programs, it seems hard to reach groups with a low socioeconomic status. Therefore, in order to avoid socio-economic health inequalities increasing in the future, special attention must be paid to the way vulnerable groups are reached.

The most well-known implemented program is the so-called Youth on a Healthy Weight (JOGG), inspired in concept by the French EPODE program (Van Koperen et al., 2013). The program aims to target *´multiple sectors and multiple levels of influence: interpersonal, organizational, community and policy'* implemented *'by multiple organizations in the community, both within and outside the health domain'* (Wilderink et al., 2020, pp 2). This program takes into account the various determinants underlying the prevalence of childhood obesity in society, which are reflected in JOGG's key elements: social marketing to promote healthier behaviors, political engagement to ensure the presence of an ambassador who advocates for the program, public-private partnerships to improve access to both monetary and non-monetary resources, and monitoring and evaluation to measure the process (Van koperen et al., 2013; Seidell & Halberstadt, 2020).

Alongside JOGG, more programs have been widely implemented in the Netherlands. For example, Cool2BeFit, a program in which children between 8 and 13 years old are motivated to work together with their parents, a dietitian, psychologist, physiotherapist and a sports coach in strive for a healthy and active lifestyle (Akkersdijk, 2013). Key element of Cool2BeFit is lifestyle change, specifically being increasing physical activity and the intake of more healthy foods, also emphasizing the needed engagement of parents (Klaassen, op Den Akker & op Den Akker, 2013). Another program example is 'enjoy being fit' (*Lekker fit*!), a program

targeting children between 6 and 12 years old in collaboration with elementary schools and day care organizations. In contrast to the previous programs mentioned, *Lekker Fit*! does not directly focus on reducing weight, but rather on achieving a healthy diet and active lifestyle. Attention is also paid to the obesogenic environment of children and parental engagement (Smit, Raat, Mölenberg, Wolfers, Bannink & Jansen, 2021).

However, each municipality is free to shape a program as it sees fit, resulting in a substantial diversity of implemented Dutch programs. For example, two municipalities that implement the Cool2BeFit program, although both interested the promotion of the Cool2BeFit lifestyle change in combating childhood obesity detailed above, both can look very different from each other. Namely, some municipalities may use a more integrated approach, while others may only implement a few interventions and activities. This observable municipal diversity will hopefully provide insights into what works and what does not work. Thus, it is worth taking a look at how various program decisions have been made in these municipalities.

1.3 Research Objective and Research Question

This study was conducted in collaboration with *Voedingsjungle*, an agency specialized in sharing the right knowledge and information about nutrition for children. *Voedingsjungle* conducted the Urban Learnings project on Dutch municipal approaches to combating obesity in children, initiated by the Netherlands Working Group on International Nutrition (NWGN). The NWGN is a platform where several organizations, institutes, the private sector and the government collaborate within the field of international nutrition. The objective of the Urban Learnings project is to gain insight into the experiences and approaches of Dutch cities in combating youth obesity from a whole-systems perspective and to share effective approaches with other cities internationally.

While the Urban Learnings project has a clear goal of sharing knowledge with governments in low- and middle-income countries in particular, the main goal of this study is to summarize and extensively analyze municipal strategies. Furthermore, the study aims to test whether those strategies are successful or not. Specifically, the objective of this study is to collect, organize and analyze municipal information and experiences in answering the central research question addressed in this study: **What successful strategies do municipalities apply to combat childhood obesity?** In doing so, I hope that insights gleaned from this research in collaboration with *Voedingsjungle* will benefit municipalities looking to implement an effective approach in combating childhood obesity, both inside and outside the Netherlands.

2. Theoretical Framework

This section describes the existing literature on Dutch policies to combat childhood obesity and explains important concepts. To understand decision-making in Dutch municipalities, it is necessary to provide some more background information. First, relevant information is shared about Dutch municipalities and the people who work there. Then theory will be used to explain what is required to implement a program successfully.

2.1 The Social Domain

Programs that aim to combat childhood obesity are often created and implemented by the social domain, although other domains may be involved as well. The social domain of a municipality includes all efforts municipalities make regarding work, self-reliance, participation, care and youth (Jansen, 2018). The latter three are part of the social domain as a result of decentralization in 2015. Before 2015 these topics were managed by the central government. The process of decentralization resulted in lack of resources in many municipalities. While municipalities were confronted with increasing obligations in the various topics within the social domain, the resources did not increase and sometimes even cutbacks were made (Jansen, 2018). From 2009 the government has been arguing for an integrated program by supporting urban municipalities in the form of a benefit, the decentralization benefit Healthy in the City (GIDS). Another source of income for municipalities is the National Prevention Agreement (NPA), which includes the ambitions to reduce the number of smokers, problematic alcohol users and people who are obese by 2040 (Van Giessen et al., 2021). By signing the NPA, the government will provide help fund activities to realize these ambitions (Bommelé et al., 2020). In this way, municipalities are encouraged to use these benefits for prevention interventions and approaches. It is often decided on an annual basis what will be done with the available money.

2.2 The Behavioral Change Ball

In Dutch municipalities a distinction must be made between three different groups of policymakers: policymakers at the strategic-, the tactical-, and the operational level. Each group has different responsibilities (Hendriks et al., 2012). Although collaboration between the different levels is essential for achieving a successful health program, the collaboration is not always there. The Behavioral Change Ball (BCB), shown in figure 1, provides insight into how difficult it can be to achieve good collaboration between different groups of policymakers and how difficult it can be to realize changes in an already existing system (Hendriks et al., 2013). The ball is divided into several circles and these circles must be properly connected to each other in order to be able to develop a successful program (Hendriks et al., 2013). This means that all policymakers strongly depend on the performance of other policymakers at other levels to be able to do their job.

In the middle of the BCB, organizational behaviors for developing integrated health programs are shown (Hendriks et al., 2013). The three components in the second circle: capability, opportunity, and motivation, are necessary for each of the behaviors in the middle of the ball to take place. Capability is pertaining to the ability to adapt to change and continue to improve performance. For example by generating new knowledge (Fraser & Greenhalgh, 2001). Motivation refers to the decision-making process of local policymakers (Hendriks et al., 2013). Opportunity refers to all social, political and organizational factors within the system in which local policymakers operate (Hendriks et al., 2013). Frequently heard reasons for resistance to new policies are related to capabilities, opportunities and motivation. Examples are lack of financial resources, not being able to make the policy successful or that society does not consider the policy useful (Tummers, 2011). The third circle in the BCB shows interventions that can influence the processes in the inner

circles (Hendriks et al., 2013; the NWGN, GAIN and Voedingsjungle, 2021).

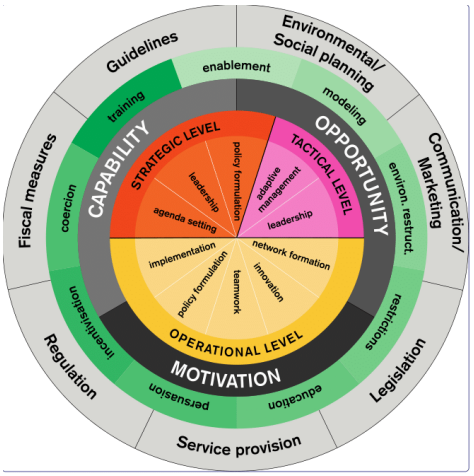

Figure 1: The Behavioral Change Ball (Van Koperen et al., 2013).

Although all organizational behaviors are interrelated, and all policymakers have important responsibilities and tasks, policymakers at the strategic level have a special role. Policymakers at the strategic level, including among others: the mayor, the aldermen, the municipal council, and policy advisors, are the ones who are in charge of policies because they create and influence policies. Furthermore, they need to make clear what policymakers at other levels need to do to implement the policies correctly (Van Koperen et al., 2013). To do so, policymakers at the strategic level have three important responsibilities, namely: Agenda Setting, Leadership, and Policy Formulation. First, agenda setting, defined as the first stage of the public policy process during which some issues are given attention by policymakers and others receive minimal attention or are neglected completely (Shiffman & Smith, 2007). Agenda Setting is important because the development of new policies only takes place when an issue is put on the political agenda (Kingdon & Stano, 1984). Childhood obesity is a broad topic, so many stakeholders must agree on budgets, visions and strategies (World Health Organization, 2003; Shiffman & Smith, 2007). Therefore, the topic must repeatedly and consistently be discussed between important stakeholders. Second, Leadership, which is defined as a process of social influence (Parry & Hansen, 2007). Leaders should have a clear vision on what they want to achieve on a certain topic. Leadership is particularly important in creating prevention policies because the benefits of prevention are only visible in the long run (World Health Organization, 2003). Therefore, a strong leader is needed to convince others about the benefits of prevention. Finally, Policy Formulation, which refers to the translation of agenda subjects into policies (McGee & Brock, 2001). Policymakers at the strategic level do have the most influential power because of their responsibilities.

Policymakers at the other levels strongly depend on what happens at the strategic level. Policymakers at the tactical level, including among others: department heads of involved organizations such as the GGD, sport organizations or wellbeing organizations, are responsible for adaptive management. This means that they decide what the policies that were created at the strategic level will

look like in practice (Hendriks et al., 2013). Furthermore, they are responsible for managing and monitoring the program. The third group of policymakers, including physician education teachers and dieticians, operates at the operational level. These policymakers carry out all tasks related to the policies (Hendriks et al., 2013). Figure 2 shows an overview of the different policymakers and their responsibilities.

Figure 2: Levels of policymakers and their responsibilities.

The aim of this thesis is to gain insight into the successful strategies that municipalities use to combat childhood obesity, which can be looked at in two different ways. On the one hand, the experiences of policymakers can provide valuable information on what strategies do work and what strategies do not work. On the other hand, a statistical test can provide whether strategies are successful in combating obesity or not. Therefore, both qualitative and quantitative methods will be used. For both methods it is important to look at the level where the decision-making process about strategies take place. Because this process takes place at the strategic level, this study will focus on policymakers at the strategic level.

2.3 Conceptual Model

Figure 3 shows the conceptual model, which is based on the theoretical framework. The model shows how the main concepts that influence the program of municipalities to combat childhood obesity are expected to be related. Policymakers at the strategic level do have a lot of influence compared to other policymakers. This means that policymakers at the strategic level are mainly responsible for the Agenda Setting, Leadership and Policy Formulation around a particular topic. Therefore, the other policymakers depend on the policymakers at the strategic level. Capabilities, motivations and opportunities within a municipality are expected to play a major role in this. While policymakers at the tactical and operational levels do the actual work in the field, the outcome, in this case an approach to combat childhood obesity, is expected to depend most on policymakers

at the strategic level.

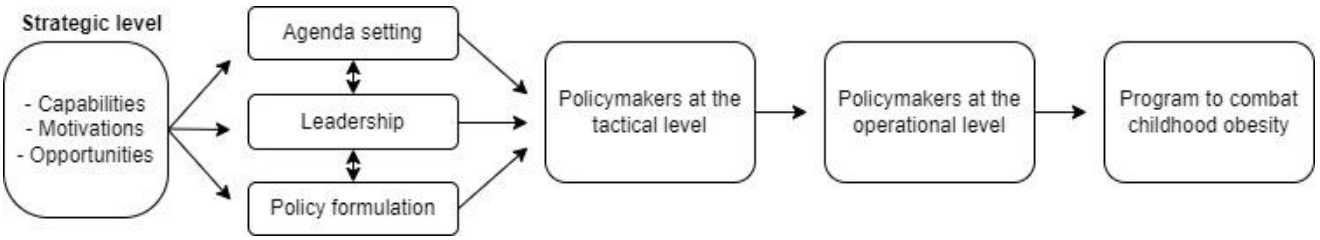

Figure 3: Conceptual Model.

3. Methods

Previous chapters have focused on providing background information and existing literature on childhood obesity. With this basis, the next chapter focuses on explaining the methods used in to collect and analyze the data and is divided into six main paragraphs: First, the research design will be explained, distinguishing the qualitative part from the quantitative part of the research. Second, the research sample is discussed and then the way in which the data has been collected and analyzed is discussed, also differentiating the qualitative and quantitative parts respectively. Finally, the chapter takes a closer look at ethical considerations and positionality.

3.1 Research Design

3.1.1 Qualitative Part

Since the aim of this research is to understand the strategies and processes needed to develop a successful approach to combat childhood obesity, qualitative research is most appropriate. In-depth interviews make it possible to obtain information about the decision-making processes of policymakers and the motivations for certain behaviors (Hennink, Hutter & Bailey, 2011). To ensure that certain topics were covered, semi-structured, in-depth interviews were conducted that also left room for input from participants.

Because all participants are Dutch, the language of the interviews was Dutch. The interviews were conducted online via Zoom or Google Teams. The online setting could be seen as disadvantageous, as it makes it more difficult to read body language, however the COVID-19 pandemic made alternative face-to-face interviews impossible. To ensure that all possible information was gathered and potential issues with the internet could be easily addressed and thus not hinder the interview, an additional person was present in the background during each interview. The additional person was asked to listen and share any feedback with the interviewer via WhatsApp during the interviews. Doing so allowed an additional perspective and removed any limitations that having a one-person perspective during in-depth interviews might produce later in the analysis of the results (Hennink et al., 2011).

3.1.2 Quantitative Part

Based on the results of the interviews, a quantitative part was added to test whether the mentioned strategies are actually successful in combating obesity. The achieved information was put together in a STATA dataset, including the dependent variable and independent variables at the individual-, municipal-, and societal level. First, the dependent variable, pertaining to the percentage of obese people in a municipality. No data was available for obese children. Therefore, the choice was made to consider the percentage of obese people as dependent variable. The individual level referring to the interviewees' characteristics, the municipality level pertaining to how things are organized within the municipality, and finally the societal level referring to other characteristics in the municipality that tend to influence the number of obese people. These variables were used to estimate three different models: The first model tested the effects of the independent variables at the individual level on the dependent variable, the second model included those plus the variables at the municipality level, while the last and 'whole model' included all variables. An operationalization of the variables will follow in the next section.

3.2 Research Sample

Identifying the research sample involved two phases: defining the research population and recruiting participants from this research population (Hennink et al., 2011). The first was established by the NWGN. Recalling the main goal of the Urban Learnings project introduced above, namely to share knowledge with cities in other countries, the research sample had to be restricted to ensure that results contained useful findings for other countries. Meaning specifically, that because the average Dutch city is relatively small, the research sample was restricted to places that the World Bank would consider a city. Accordingly, based on its degree of urbanization, a municipality can be considered a city if it has at least 50,000 inhabitants in contiguous dense grid cells (Dijkstra et al., 2020). Thus only the largest 33 urban Dutch municipalities can be considered a city. These 33 municipalities were selected for the interviews, shown in Figure 4. Furthermore more shown in Figure 4 are the different program approaches categorized binarily; 23 municipalities have implemented the JOGG approach, represented with a green pin, while the other 10 municipalities that do not use JOGG, named non-JOGG, are shown with a blue pin.

Figure 4: Map with selected municipalities
Green = JOGG, Blue = non-JOGG.

The second step in identifying the research sample was the recruitment of participants. Via an online search, the various policymakers at the strategic level responsible in choosing and implementing a program to combat childhood obesity, were easily found. Unfortunately, however, privacy measures made it more difficult to get in touch with them electronically. In the end, most of the connections made were done so by calling the council's general phone number and requesting that the receptionist provide the information needed. This process proved to be both difficult and time-consuming, as it was not always clear which policymaker is most involved and would thus make for the best interviewee. Additionally difficult was that many policymakers at the strategic level work part-time and/or from home.

The final research sample, after several weeks of trying to get in touch with the right policymakers, consisted of 18 policymakers at the strategic level. Policymakers of 15 municipalities did not participate. In six cases the responsible person could not be reached, and in the case of the additionally nine municipalities, policymakers chose not to participate due to understaffing. Although, in the end, the research sample was smaller than desired, a saturation point, identifiable when information collected begins to repeat itself (Glaser & Stauss, 1967), was reached, and was therefore considered large enough to be able to obtain the desirable information.

3.3 Data Collection and operationalization

3.3.1 Qualitative art

Considering again that municipalities were divided into two groups, the study was thus aptly divided between two researchers: While one researcher focused on the JOGG-municipalities, the other researcher focused on the non-JOGG municipalities. Because it was important to keep a specific structure, ensuring certain topics were covered, for both groups of municipalities, a semi-structured interview guide of the same structure was created with the help of Hennink et al. (2011). Specifically, both guides started with a clear introduction to explain and clarify the interview, followed by some general opening questions, before getting into the core interview questions regarding key theoretical concepts: Agenda Setting, Leadership and Policy Formulation, ending with a few closing questions.

Because more information about the JOGG program was available beforehand, additional, more specific questions pertaining to JOGG were added to the interview guide for JOGG-municipalities (provided in Appendix 1). In contrast, this was not possible for non-JOGG municipalities because often nothing about the program was known beforehand. In order to be as prepared as possible going into the interviews with non-JOGG municipalities, participants were asked to fill out a short questionnaire beforehand (see Appendix 2), within which the participants were asked to provide information about what and by whom action has been taken within the municipality to combat childhood obesity. However, the majority of participants did not do so, so the interviews were conducted without any previous knowledge of specific arrangements within the respective municipalities.

Due to this lack in information, the interview guide for non-JOGG municipalities (see Appendix 3) was less structured than the guide for JOGG-municipalities, to allow participants more room to fill these gaps. In starting the interviews, the first question was used to determine whether the municipality even implemented a program to combat childhood obesity at the time of the interview. If so, the interview continued using the initial interview guide used for JOGG municipalities to find out all about the program implemented, with questions specifically related to JOGG omitted. If the municipality had not implemented a program at the time of the interview, then the second interview guide was used to find out what the municipality was doing in addressing the issue, if at all. However, both interview guides included the same questions regarding the main concepts: Agenda Setting, Leadership, and Policy Formulation. Therefore, making it possible to analyze all interviews in the same way, and thus, together.

3.3.2 Quantitative Part

As discussed earlier, a dataset was created in STATA using the information collected during the interviews. This dataset included variables at three different levels, addressed in further detail below. All variables were used to estimate a model explaining the dependent variable, which is the percentage of people with obesity in a municipality. These numbers were available on the website of the National Institute for Health and Environment (RIVM, 2020). Before estimating the model, the correlation matrix was checked in order to avoid multicollinearity. Some variables did indeed correlate with each other at a high rate ($p>.5$). Therefore, the decision was made to not include one of the two variables of the highly correlated pairs.

First, variables at the individual level included age, level of education, and gender. Oftentimes this information was volunteered during the interviews. Other times, the information was not offered and therefore filled out based on estimation and information on the interviewee's Linked-In profile. It was chosen to measure most variables categorically because exact information was not always available. Therefore, the age of the interviewee was measured in five categories: 0 = 20-29 years, 1= 30-39 years, 2 = 40-49 years, 3 = 50-59 years, 4 = 60 years and older. The variable gender is defined as 0 = male, 1 = female. Lastly, the variable education was measured with the categories: 0 = Bachelor's degree, 1 = Master's degree, 2 = PhD.

Second, at the municipality level, again referring to how things are organized within the municipality, specifically, whether the coalition is more left-winged or right-winged, whether the municipality knows a strong leader on prevention, explained in more detail below, how many domains are involved in the program to combat childhood obesity, and whether the municipality takes part in a national program. In keeping with the measures taken above, these were also measured categorically: The direction of the coalition was measured in three categories: 0 = right-winged, 1 = middle, 2 = left-winged. In determining to which category a municipality belonged, research was done into what coalition a municipality worked within at the time of the interview as well as in the past four-year period. The variable 'strong leader' refers to whether the municipality knows somebody, this can be for example an alderman, who is an active advocate in the fight against childhood

obesity. The variable was divided into three categories: 0 = yes, 1 = neutral, 2 = no. The category neutral was used when the person in charge of prevention was not strongly pro or against prevention. The variable 'national approach' was measured in the categories: 0 = yes, 1 = almost, 2 = no. The 'almost' option was added to include the various municipalities that mentioned that they were planning to join a national approach. Lastly, and in contrary to all previous measures, the variable 'domains involved', was measured numerically, simply measuring how many domains were involved within the implementation of a program to combat childhood obesity.

Variables at the last level, the societal level, include all other characteristics in the municipality that are known to influence the number of obese people, however, in the end, due to high correlation between variables, this level only included the variable population size. Because the municipalities differ a lot in size, tis variable was measured in categories: 0 = very small, 1 = small, 2 = large, 3 = very large. Very small pertaining to municipalities with less than 100 thousand inhabitants, small to municipalities with less than 200 thousand inhabitants, large to municipalities with less than 300 thousand inhabitants, and very large to municipalities with more than 300 thousand inhabitants. Numbers originate from the Central Statistical Office (CBS).

3.4 Data Analysis

3.4.1 Qualitative Part

During the data analysis process a thematic analysis was carried out, with themes having already been established and a common and essential element of each interview. Additionally, because theoretical concepts, Agenda Setting, Leadership and Policy Formulation were discussed as part of each interview, not only were inductive strategies, but also deductive strategies were used in the analysis of the data.

The first step in the data analysis process is was the verbatim transcription of each interview, which started immediately after the end of the first interview (Hennink et al., 2011). These verbatim transcripts not only include every word said by both the participant and the interviewer during the interviews, additionally, some aspects of speech were also included in order to understand what was being said (Hennink et al., 2011). For example, if a participant laughed, [laugh] was written down and when there was a short silence, three dots were written down. After transcribing the interviews, the second step in the data analysis process was developing a code (done so with the help of Hennink et al., 2011). A code book was created with both inductive and deductive codes (See Appendix 4) and ATLAS.ti was used to encode the transcripts, from which the following results were written.

3.4.2 Quantitative Part

To test whether the strategies actually seem to be successful, a linear regression including a continuous dependent variable and multiple continuous or categorical independent variables will be executed: a so-called multiple linear regression (Mehmetoglu & Jakobsen, 2017). As discussed in the previous section, the dependent variable will be the percentage of people with obesity within a municipality. The independent variables will be

the ones described in the previous section. The multiple regression analysis consisted of the estimation of three different models: The first model only included variables at the individual level, the second included the municipality-level variables in addition to the individual-level variables and the last, or 'whole model' included all variables. Based on these models, the results were written. The software package that was used for this analysis is Stata (14.0 SE-Standard Edition).d

3.5 Ethical Considerations

Of course, when research involves the collection of personal data, such that described above, several ethical concerns should be addressed. These issues can be divided into four different areas: harm to participants, informed consent, invasion of privacy and deception (Hennink et al., 2011).

There was a low risk of this research harming participants in anyway. Arguments could be made that participating in such interviews could potentially waste time needed to otherwise address the more pressing issue at play, childhood obesity. However, participation in the study was voluntary, so the interviewees deliberately set aside time for the interview. In that same vein, during the interviews, a few policymakers did show signs of emotional and psychological distress; such as anger and despair. However, due to their active professional role within the topic, such cases were believed to be in response to the troubling nature of the topic of childhood obesity itself and not as a response to the interview specifically. Additionally, in these instances, I tried to put the distressed interviewees at ease by responding emphatically.

A precaution taken at the start of each interview was to explained the purpose of the interview and to make sure that participants were aware that the information they shared would be completely anonymized and used only for the purpose of this thesis and the Urban Learnings Project. Furthermore, participants were asked whether they agreed with the interview being recorded or not. Although most agreed, one participant disagreed with the recording of the interview, but allowed notes to be taken during the interview, which was done. Interviews were recorded for the purposes of correctly and efficiently transcribing them.

3.5 Positionality

During interviews it is inevitable that both the researcher and interviewee influence each other (Hennink et al., 2011). Therefore, it was important to reflect upon my own positionality within this research, as it can influence the data and interpretation of it later. During the time in which the interviews were conducted, I worked as a coach of children either underweight or overweight, positioned at the operational level. This means that I had a certain mindset that I had to change while talking with policymakers at the strategic level. For example, my focus as a coach was more on the individual level while the policymakers focused a lot more on budgets and the whole picture. On the one hand, I needed to be aware of this difference and try to look at the transcripts from a mindset of somebody at the strategic level. On the other hand, it could be interesting to look into how both mindsets differ from one another because collaboration between actors at these two levels is important in achieving a successful program.

4. Results

This section describes the results of the study. First, the thematic analysis of the interviews will be discussed. Second, the regression analysis will be discussed.

4.1 Thematic analysis of the interviews

This section discusses the overall results of the interviews. It provides an overview of facilitating factors and barriers encountered in implementing an approach to combat childhood and obesity. It is important to realize that the included municipalities are very different from each other. Although some municipalities have implemented an integrated approach, five municipalities do not have specific policy on childhood obesity. First, the deductive findings about the topics: Agenda Setting, Leadership, Policy Formulation, and integrality of the program will be discussed. Secondly, inductive findings about the role of residents will be discussed. The results count for both the JOGG- and non-JOGG municipalities, unless else mentioned.

4.1.1 Deductive: Agenda Setting

When discussing agenda setting, it seemed that childhood obesity was already on the agenda in the majority of the non-JOGG municipalities at the moment of the interview. Four policymakers mentioned that the topic is not on the agenda yet. However, all of them said that they focus on health as a whole, including obesity in general. The JOGG-municipalities already implemented a whole program, that means that childhood obesity is on the agenda within those municipalities as well. Therefore it can be concluded that each municipality does something to combat childhood obesity.

Policymakers mentioned different facilitating factors to get the topic on the agenda. Most mentioned is the process of awareness that childhood obesity is an increasing issue in society. Data from the GGD helped to gain insight into the increasing number of people who are obese. Additionally, policymakers see the COVID-19 pandemic as a new motivation to invest in prevention. People who are obese are more likely to get very sick from covid and other diseases. A high percentage of obese individuals in society leads to high healthcare costs. Investments in prevention can prevent these high expenses and COVID-19 made policymakers realize this. Therefore COVID-19 can be considered a strong motivator for policymakers to invest in a program to combat obesity.

''We see that obesity is one of the issues, one of the bigger issues of course, in the Netherlands. And that also applies to [name municipality]. The number of obese children increased, especially among kids, but also among elderly. If you look at the percentage in society with an unhealthy weight, it is huge'' [municipality D].

''And I see now that, because of corona, this topic gets a lot of attention as well which helps us to put it on the agenda and really get the focus on it and invest in it.'' [municipality F].

On the other hand policymakers mentioned the decentralization of the social domain as the main barrier to get childhood obesity on the agenda. The decentralization resulted in more demand for action in the social domain while often resources did not increase. Therefore, municipalities face hard decisions about where to invest in, because there are simply not enough resources to invest in everything. Because the results of investing in prevention are only visible a long time after the investment, investments in prevention do often not get priority. Additionally, although it is mandatory by law to invest in all topics included in the social domain, the guidelines for investing in prevention are vague compared to other topics. Therefore, it is easy to cut costs on prevention rather than other topics.

> *''And on the other hand yes, it is noticeable that we need to make very hard choices and therefore not always choose for prevention. I think this is often a sin.''* [municipality O]

> ''*Yes, there is a legal task that you have to invest in prevention, but how much is not clear. So prevention is one of the first things to scrap when less money is available.''* [municipality J].

4.1.2 Deductive: Leadership

Leadership was expected to be important in creating and implementing approaches because the benefits of investments in prevention are only visible in the long run. A good leader is expected to be required to share his clear vision on the health care system and to convince other parties.

Indeed, the interviewees pointed out the importance of a strong leader. Often the alderman responsible for the domain portfolio and the JOGG-director in JOGG-municipalities were seen as the main leaders. Especially between aldermen large differences can be observed. Aldermen differ in their attitudes towards prevention. The one will commit himself to investments in prevention and the other will prioritize other subjects. Furthermore, not every alderman has the same power to persuade. One alderman can provide many resources and determine what happens in a municipality, the other cannot. This directly affects the opportunities of policymakers at the operational and tactical level. Leadership is thus important to achieve the desired results and resources.

> *''The one alderman is not the other alderman and at this point in time we have an alderman who is not that strong. It happens. And because of that you suffer four years. You hope to get a stronger person with more administrative power and strength again in the elections in two or four years''*. [municipality G]

> *''But if I look at the current council for a moment, look, with the current alderman I do dare to go into that battle. Because he will stand on top of the box and proclaim everywhere how important it is. And I think that the previous alderman, let us say, that his position within the council itself, well it is a bit more about politician relationships. He has less there. So yes, a very good alderman who proclaims and believes the story, contributes. So with the current alderman I dare to go into the battle. Of course that is why we try to achieve as much as possible now, before next years' elections''*. [municipality M]

Many policymakers mentioned the difficulties of the change of aldermen every four years and the dependence on the alderman to what will happen in the municipality. It seems to help if a municipality applies a national approach. This means that there is also a director of the national program in the municipality with relatively much power. This person is involved in the subject and his job is to make people aware of the subject. It is not a way to reduce the power of the alderman, but it can help to bind and motivate the alderman as well. In order to reduce the power of one particular alderman, municipalities try to invest in long-term policy. The new alderman must act within the policy framework and thus the achievements of the previous alderman are not

lost and one particular alderman has less power.

''*Because we work in a political organization where elections take place every four years, you depend on an alderman who gets the topic. That is why I am very happy that we have long-term policy, so the framework is there.*'' [municipality F]

''We are really going to work on this the upcoming 10 years. And what [interviewee 2] just said: a barrier is: we are currently in a year of elections and political parties just want to shine let us say. And so we said well, in 2021 we are not only going to update the health policy, but we will work on non-smoking and healthy weight as well. And that is why we choose for JOGG as well, because such a director can just immediately identify himself in the neighbourhood. He can immediately start to think about an approach on the short-term. He can also just, yes he will be felt in the neighbourhood and that is where an alderman can say look, we made it together''. [municipality D]

4.1.3 Deductive: Policy Formulation

Different factors influence whether an intervention or an approach will actually be formulated and implemented or not. First, the construction of the municipal council. During the interviews it became clear that political parties differ in ambitions and ideals, and therefore in motivation. This means that some parties are more likely to invest in prevention than others. A liberal political party will for example state that health and obesity is someone's own responsibility and a social party will state that policies should be created to help those who struggle. When various political parties with different ambitions are present in the municipal council, this can create difficulties for the policy-making process of interventions related to prevention. Furthermore, it seemed that the choice for policy formulation is not always explainable and depends on the dynamic in the municipal council.

''So within the municipality council is a very, a very specific dynamic. Sometimes it just depends on what is going on with the alderman. From well, you know I think something needs to happen. I say yes, I just say something. Sometimes it is very content driven, sometimes it is very financial driven. Yes and some say well yes if I you get this, then I want to get that. And that is why projects also fail. Oh, you do not give me this? But then you also will not get that.'' [municipality P]

4.1.4 Deductive: Integrated Approach

All policymakers agreed on the importance of an integrated approach in which as many parties as possible, and especially domains within the municipality, work together. The aim of such a program is to improve the health of residents in general and thereby also tackle obesity. However, such a program is difficult to implement. First, because, as discussed earlier, municipalities often do not have sufficient resources. Secondly, because it is difficult to realize good collaborations between all domains. Good collaboration is even more difficult to achieve due to the various motivations and interests of aldermen.

''Stimulating living environment, to mention something, is something completely different. You can think of playgrounds, but also safe cycling routes to school. You can think of a healthy food environment, so ensuring that there is no snack bar next to secondary education. As far as we can steer that as a municipality, because we do not have that many resources yet to be able to steer that. They are therefore very diverse and it is therefore useful to do this integrally and not to see it separately from each other''. [municipality N]

''I have to say that in the past it was fairly separated. We had ambitions on obesity and all other themes, separately from each other. Health policy actually stood on its own. But we also know that with that the effects are very limited and especially among those groups who are health deprived and often less educated and often have poverty or debt issues. Yes, that is very difficult to achieve with standard interventions. So that must… So we work a lot on making our approach more integrated''. [municipality F]

Participation in a national program can help to arrive at an integrated. Most national programs are aimed at connecting parties. JOGG seems to be the national standard, but there are other programs too. Policymakers indicated that participating in a national program helped make their approaches to combat childhood obesity more integrated.

''And look, for us it was clear where we could improve, namely in integrated collaboration. And look, JOGG is of course a bit the national, yes, if you look at the NPA, the aim is to increase the number of JOGG municipalities. So it became a bit the national standard. And you know of course and see, it helps to learn from each other, but also with the JOGG-approach counts: you have to make it fit locally. But for us it is and especially the fact that it is the national standard. The fact that you can simply use the expertise that is available, the fact that it fits our view of working integrally, making the living environment more healthy. And yes, that was for us the reason to say we will do it.'' [municipality D]

''Lekker Fit! was set up at the time as an integrated approach that transcends domains, in which we collaborate with other departments as youth, education, and sports. We collaborate as well with urban development and city management, for example the realization of water taps. Integrated working takes place in several ways: with multiple departments and clusters''. [municipality L]

Another way to make the approach more integral is to formulate a clear vision or mission within the municipality. The presence of a clear common goal can ensure that domains converge more and that activities and policies are more coherent.

''We determined an impact we want to achieve with, with the health policy. I will mention it. Residents live long and happier. They are in control of their own health and life as much as possible and have equal opportunities in this regard. Municipality … is a city with a social and green living environment where a healthy life expectancy and quality of life increase and you like to participate actively in society. Actually a statement with which you cannot disagree''. [municipality D]	*''Now I mainly work together with my colleague from the Social Support Act (WMO), who also handles health policy and thus youth policy. But in the end poverty policy is also part of it and they also do activities. For example, they are busy offering healthy breakfast at school. That is now being done in certain neighbourhoods. So separate things do actually serve the same group, but it is not yet completely together and usually at the implementation level, so especially partners, such as schools, are often fully involved. But beyond policy, there is actually a lack of a very clear vision underlying all activities.''* [municipality R]

4.1.5 Inductive: Residents' Role

Multiple interviewees mentioned the importance of the residents themselves. It is important to connect with societies interests and needs and to have a good strategy on how to approach the target group. The distance between government and residents is often experienced as large. First, obese children and their parents do not always realize by themselves that their weight is problematic. The municipality has a significant duty to help them in the awareness process. Without awareness the target group might show resistance to offered help. To help children and parents realize the urge of their situation it helps when the approach is integrated, thus when multiple parties and domains are included. For example the health domain: a doctor can help in the process of awareness because in general, people look up to doctors. Furthermore, doctors could make the distance between government and residents less large because doctors are already connected with residents. Besides the health domain, the physical domain can also play a key role. The presence of many outside spots to practice sports can influence to what extent people practice exercises and leave their houses. People move more when their environment actually invites them to move. Finally, interviewees mentioned the importance of including the target group into the search for a fitting solution as well: not only talking about them, but also with them.

''In the end no parent wants their child to be bullied at school. Of course that is not always the approach you use, but in the end they want the best for the child so that is often the approach you use. Deciding together what would be the best way to make their child happy. And then you try to include parents from that point of view. But still, as long as it is voluntary and parents do struggle with it as well, it remains difficult.'' [municipality R]

''School doctor, general practitioner, exercise manager. And where you can just say: ''Make a plan for those parents together''. And those parents are open for it as well, because if the doctor says so, well, then it must be true. While if an exercise manager says it, then they will say more or less: ''Mind your own business and I do not want to be held accountable for it''.'' [municipality G].

The importance of citizens was showed as well by looking at all initiatives organized from within society. Interviewees mentioned individuals more and more often grab opportunities to come up with their own ideas and initiatives. Therefore the role citizens play in the creation of an approach to combat childhood obesity cannot be denied.

''We are increasingly trying to work with the city, organizations, residents and initiatives from the city, whereby we as a municipality are one of the partners and not the one who always arranges everything everywhere. And we have not been sitting at our desks for a long time now inventing all kinds of things and dropping them into the city. No. Together with our partners who have also committed themselves all these years, we really try to look at what really contributes to encouraging children, young people, but also adults to adapt a healthier lifestyle and what is necessary to achieve this.'' [municipality A]

''We think it is very important that organizations, companies and residents also provide input and are able to participate in plans. And yes, they would like to listen to it *and that is becoming increasingly important I think''.* [municipality P]

4.2 Regression analysis

The results of the quantitative part will be divided in two parts. First, the descriptive statistics and some general information about the variables will be provided. Next, the results of the multiple regression analysis will be discussed.

4.2.1 Descriptive Statistics

Before deciding on the final variables, the correlations were checked in order to avoid multicollinearity. Correlations with a value higher than .5 were considered problematic and only one variable was kept. For example, the correlation between the variables age and work experiences was high (p=.63). Therefore it was decided to keep only the variable age in the model. The correlations of the final variables are shown in table 1.

Table 1: Correlations of the Variables

	Obesity Percentage	Age	Gender	Education	Coalition Direction	Involved Domains	Strong Leader	National Approach	Inhabitants (thousands)
Obesity Percentage	1.00								
Age	.06	1.00							
Gender	.04	.10	1.00	.					
Education	.06	.21	.23	1.00					
Coalition Direction	.49	.00	-.13	-.15	1.00				
Involved Domains	.15	.12	.23	.39	.14	1.00			
Strong Leader	.33	.07	-.05	-.46	-.19	-.37	1.00		
National Approach	.02	-.07	.00	.05	.06	-.04	.20	1.00	
Inhabitants (thousands)	.02	.01	.31	.30	-.21	.57	-.35	-.35	1.00

Table 2 shows the descriptive statistics of the variables. Most variables seem to be normally divided with a relatively low standard deviation and the minimum- and maximum value not too far away from each other. For example the dependent variable, obesity in percentage, which has a mean of 15.28%, a minimum of 11 and a maximum of 19. In combination with a low standard deviation (SD=2.42), the variable is normally distributed. The same counts for the variable age, the variable seems to be perfectly normally distributed and the majority of participants are in their forties (44.44%). The variable gender is almost divided 50/50, 44.44% of the participants is female and 56.56% is male. Most participants do have a master's degree (n=9) and the direction of the coalition is most often left-winged (n=7). By far the majority of municipalities applied a national program (n=12). Lastly, it is striking that the majority of the municipalities is relatively small with less than 100 thousands inhabitants (n=7).

Table 2: Descriptive Statistics of the Variables.

Variable	Percentage	Mean	Standard Deviation	Minimum	Maximum
Obesity in Percentage (dep)	-	15.28	2.42	11	19
Age					
0=20-29 years	11.11	-	-	-	-
1=30-39 years	16.67	-	-	-	-
2=40-49 years	44.44	-	-	-	-
3=50-59 years	16.67	-	-	-	-
4=Over 60 years	11.11	-	-	-	-
Gender					
0=Female	44.44	-	-	-	-
1=Male	54.56	-	-	-	-
Education					
0=Bachelor's	27.78	-	-	-	-
1=Master's	50.00	-	-	-	-
2=PhD	22.22	-	-	-	-
Coalition Direction					
0=Left-winged	38.89	-	-	-	-
1=Middle	50.00	-	-	-	-
2=Right-winged	11.11	-	-	-	-
National Approach					
0=Yes	66.67	-	-	-	-
1=Almost	16.67	-	-	-	-
2=No	16.67	-	-	-	-
Involved Domains	-	3.28	.89	2	5
Population Size (thousands)					
0=Less than 100	38.89	-	-	-	-
1=Less than 200	27.78	-	-	-	-
2=Less than 300	22.22	-	-	-	-
3=Over 300	11.11	-	-	-	-

Notes: N=18, mean not presented for binary and categorical variables.

4.2.2 Multiple Regression Analysis

In table 3, models 1 to 3 show that none of the variables explains a significant part in the percentage of people with obesity. It is striking that variables as ''Strong leader'' (*b*=-.51, p>0.05), and ''National program'' (*b*=.53, p>0.05) do not show a significant effect, because the interviews showed that these variables are very important when it comes to the success of a strategy in combating childhood obesity. When comparing the different models, model 2 can be considered the best model because

the value of R-square increases from .01 to .34 when adding the variables on the municipality level. Model 3, where the society level variable was added, does not explain more in the percentage of people with obesity because the value of R-squared stays the same. However, none of the models can be considered good, because no significant effects were found. This could be due to the small number of cases (n=18).

Table 3: Linear regression model: dependent variable: percentage of people with obesity.

	Model 1	**Model 2**	**Model 3**
Age Category	.16	.27	.28
	(.58)	(.58)	(.62)
Gender	.23	.50	-.48
	(1.29)	(1.29)	(1.39)
Education Category	-.29	-.75	-.74
	(.93)	(1.13)	(1.19)
Coalition Direction		1.42	1.44
		(1.03)	(1.15)
Involved Domains		.04	-.00
		(.81)	(1.02)
Strong Leader		-1.15	-1.13
		(1.05)	(1.12)
National Program		.17	.19
		(.84)	(0.96)
Population Size			.00
			(.01)
Constant	15.12*	14.75*	14.76*
	(1.46)	(3.00)	(3.16)
N	18	18	18
R2	.01	.34	.34

Notes: *p<0.01.

5. Conclusion and Discussion

In this thesis I investigated, using both quantitative and qualitative methods, which strategies municipalities adopt to combat childhood obesity. The research question, which was based on the aim of the research, is: *''What successful strategies do municipalities apply to combat childhood obesity?*''.

5.1 Summary of the Results

In summary, the main findings are that municipal strategies highly depend on individuals with important positions at the strategic level, the capacity of municipalities in terms of money and people, and the connection with society and residents. The former is difficult to influence because most individuals change positions at least each four years, which makes the sustainability of existing programs vulnerable. The importance of connection with society and residents is an important inductive finding, which will be discussed further in detail in the next section.

5.2 Reflection on the results

In conclusion, most findings were in line with the expectations. The importance of the concepts in the conceptual model were indeed shown in this study. The way in which Agenda Setting, Leadership, and Policy Formulation is shaped on the strategic level strongly influences the outcome of the whole program. Therefore, the study supports the conceptual model. Furthermore, other concepts, such as ''Frequently changing staff'' could be added in the conceptual model as well, because it negatively influences the final program. Alongside of the conceptual model, the importance of connecting with society and the target group, was not expected. However, this finding totally fits the trend of participatory approaches in society in which those targeted by research are involved in every stage of the research process (French & Swain, 2004). The study has been carried out in The Netherlands, meaning that the findings are country specific. However, given the fact that both the conceptual model and the trend of participatory approaches were supported, the findings tend to be valuable for other countries as well.

When looking at the quantitative part of the study, it was not expected that only insignificant effects would be found because based on the interviews, strong relationships were expected. However, the research sample only existed of 18 cases, which could be an explanation for the insignificant results.

5.3 Limitations to the Study

First, it must be mentioned that this study started as part of a larger project: the Urban Learnings project. Therefore, the way the qualitative part of the study looked like was predetermined. However, the quantitative part was added to the study in a later stage, which caused issues with seeing the study as a whole instead of two different parts. In the end it was chosen to use the interviews to get insights into the different strategies and experiences within municipalities, and to use the regression analysis to

test the success of these strategies. A lot of effort was put into putting the two parts together, but unfortunately I was unable to completely let the distinction disappear.

A limitation of the qualitative part is the recruitment process of the participants. In the process of recruiting participants, it became clear that nine out of 33 municipalities could not participate because of understaffing. This is a lot and it would have been interesting to have an interview in these municipalities as well. Right now a specific group could not be reached and therefore important information may be lost. Furthermore, only the 33 largest municipalities were selected to participate in the study. It would be interesting for future researchers to look at smaller municipalities as well.

Looking at the quantitative part, the main limitation is the way in which the dependent variable was measured: the percentage of people who are obese. It would have been preferable to have used data on obese children, but this data was not available. Therefore, data on adults were used. However, given the fact that obese children often become obese adults, both the percentages of obese children and adults will be high in the same municipalities. Based on that, the decision was made to use data on obese adults. Furthermore, the small number of cases was a limitation as well. It is possible that because of the small number of cases no significant results were found. It would be interesting for future researchers to estimate a similar model with a larger sample size. The model could then perhaps be more comprehensive, because multicollinearity is less common in larger sample sizes. In this study the variables: percentage of poverty, percentage of migrants, coalition size, and work experience could not be added to the model because of high (p>.5) correlations with another variable.

5.3 Policy Recommendations

The findings in the study stress the importance of solving capacity issues in terms of money and staff in municipalities. Policy recommendations to solve the issues would be to join a national program and to invest in long-term policies. The former will provide a budget, and long-term policy will set a fixed budget for prevention for the upcoming years. Furthermore, when long-term policies are developed, new policymakers, who might not be interested to invest in prevention, are forced to do so. Finally, to fix the capacity issue in terms of people, it would be wise to collaborate as much as possible with residents. The findings showed a mutual desire of policymakers and citizens to collaborate more. If they do, the distance between policymakers and residents will become smaller as well, which makes it easier to connect with the target group.

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Appendixes

Appendix 1 Interview guide municipalities with program

Interview guide

The purpose of the interview is to gain insight into the reason and the way in which health policy has been put on the agenda in your municipality. The aim of the interview is to map out which hindering and promoting factors play a role in a municipal approach on obesity in children at policy level.

Introduction

- Introducing interviewer(s) proposals: name, study, intern at Voedingsjungle (knowledge and communication agency about nutrition for children).
- Aim of the study: to gain insight into the approach of municipalities with regard to obesity in children.
- What we will do with the information: the interview will only be used for research purposes. The municipalities can be mentioned as a case in the report, but there will be no names of the persons involved.
- There are no right or wrong answers.
- For the research we would like to record the interview so that we can work it out later. Do you give permission for this? The recording is handled with care and will be deleted after replay.
- The interview transcript will also be sent to you to check whether everything has been understood correctly or whether additions are needed.

Opening

When the recording has started, ask again for permission to record.

Introducing interviewee: who are you, for which municipality do you work and in which domain, which function, since when?

Part I: focus on the approach

- Is there a municipal approach to combat childhood obesity in your municipality?
    - If yes, this interview guide.
    - If no, the other interview guide.

Municipal organization

- Why was this approach chosen?
    - What factors play a role by making a choice for an approach to combat obesity?
    - Was everyone in the municipal council in favor of the approach?
- When was the program implemented?
    - Has the approach always been the same or has there been a different approach in the past? If changed: why?
- Which domains are involved in the approach to combat childhood obesity?

- Who is responsible for the implementation of the approach?
    - Is this a central person? If yes: where does this person work? (GGD, sport organization)
    - How many hours are available?
- Did your municipality identify a target group? For example children between zero and four years, certain neighborhoods or environments (school, sport associations)
    - If yes: how was this decision made?
    - If not: why not? Conscious choice?
    - What is the budget?

Collaborations

There are various parties with which partnerships may be concluded with regard to the policy on childhood obesity: (i) social partnerships, (ii) academic collaborations, and (iii) public- private partnerships (PPP).

- With which organizations does your municipality collaborate regarding the municipal approach to combat childhood obesity?
    - Can you tell a bit more about how this collaboration arises and progresses?
- Are there goals regarding the collaborations?
    - Does the municipality monitor the goals?

Activities

A policy can help to carry out various activities with the aim to combat childhood obesity in a municipality. This concerns interventions and activities within the approach that focus on prevention or care of childhood obesity.

- When it comes to prevention: what does your municipality organize?
    - Why and how?
- When it comes to care: what does your municipality organize?
    - Why and how?

Communication

Municipalities use multiple ways of communication about the approach to combat childhood obesity, for example with a name. Examples are: B-Slim and Youth on a Healthy Weight (JOGG)

- How do you communicate within the approach towards the target group?
    - How do you communicate towards the parties that play a role in the approach?
    - How do they know what they need to know?
    - How do parties know from each other what is happening, what the plans are and what each party is doing?
- What is going well in this municipality when it comes to communication?
- What is experienced as difficult when it comes to communication?

Monitoring and evaluation

- What does your municipality do when it comes to monitoring and evaluation of the approach to combat childhood obesity?
    - Why, how and by who? (GGD)
    - What are the benefits for the municipality?
- What do you know about the efficiency of the approach?
    - Are there any results? If yes: which results?

- How does the municipality ensure that the approach of childhood obesity stays efficient and appropriate?

Integrated municipal approach

- Would you say that the approach in your municipality is an integrated approach?
    - Why?

Part II: Deepening at policylevel

Agenda setting

Policy can only be made if an issue is given enough attention and placed on the political agenda (Hendriks et al., 2013).

- How did obesity among children in your municipality come up on the agenda, what was the reason for this?
    - How does that work? How and by whom are the figures supplied? Who receives those figures (at what level) and how are those figures shared within the municipality?
    - When is it determined that action will be taken based on those figures and by whom? How does that work, can you describe it?
        - How important is childhood obesity as a theme within your municipality? And why is it important?
- Which persons or parties were involved in the agenda setting of obesity among children? How did that go back then, can you describe the process? Who took the lead in this?
    - Were all persons or parties on the same page regarding the sense of urgency of the matter? And who or what were those persons or parties? (job level for example?)
        - If so, what did this show? What is the reason for this shared sense of urgency?
        - If not, how has this been handled (to get everyone in the same direction)?
- How did support for the approach aimed at obesity among children come about within the college? Can you describe that? How does such a thing go?
    - What was important in this?
    - Did that go smoothly or were there any limiting factors?
- What contributed to the process of setting the agenda?
- What contributed converting this agenda setting into an approach aimed at obesity among children? Can you tell us more about that? (keep asking)
- What hindered the agenda setting?
- How does obesity in children remain on the agenda in your municipality? Is someone or a party responsible for this? How does that work? Can you describe that?
    - What is facilitating or hindering in this?

Leadership

- Who is in charge of the development and implementation of the municipal approach on obesity in children?
    - Is this a central person in the entire approach or is it subdivided into multiple organizations or levels?

    - Why has (one person or more) been chosen?
- How is capacity made available for policy on obesity in children? (such as persons, hours, financing)
    - By whom, how does that work? Who decides that? For what period will capacity be made available?
    - Which factors promote or hinder this?
- Is there a steering committee with regard to the municipal approach on obesity in children?
    - If so, who are in the steering committee and are these also the parties that were intended for the establishment of the steering committee? Why was this steering committee chosen and what is the aim of the steering committee? What does the steering committee do?
    - If not, why not?

<u>Policy formulation</u>

Health policy such as the approach on obesity in children can take different forms, where on the one hand the focus can be on the long-term approach, while on the other hand there is more focus on individual interventions and the connection between them.

- Which vision is central to the approach on obesity in children in your municipality?
    - Can you explain that?
    - Long term vs short term
- Which factors play a role in the choice of the type of policy?
- Is there a focus on cooperation within the municipal organization?
    - Which domains within the municipality are involved in the approach?
        - Does this happen more often within the municipality or is it quite unique when it comes to how the municipality works?
- How can the continuity of the approach on obesity in children be safeguarded within your municipality and which factors play a role at a strategic level?
    - Who is involved at a strategic level?

Wrap-up

- If you could go back in time to implement the approach on obesity in children again in your municipality, would you do the approach differently than now?
    - Why different or the same?
- Do you have an addition about the approach in your municipality that we should definitely include in our analysis?

Appendix 2 Questionnaire that municipalities without program could fill out on beforehand.

Table. Major themes for evaluation of Dutch municipal approaches to combatting childhood overweight and obesity

	Municipal organization and political support	Collaborations			Activities			Monitoring & evaluation
		Civil society collaboration	Academia collaboration	Commercial collaboration	Prevention	Communication	Care	
What do they do (process)?								
What are the results (output/outcomes)?								
What are facilitators?								
What are barriers?								
Relevant contextual factors								

Appendix 3 Interview guide municipalities without program

Interview guide

Interview purpose

The purpose of the interview is to gain insight into the reason and the way in which health policy has been put on the agenda in your municipality. The aim of the interview is to map out which hindering and promoting factors play a role in a municipal approach on obesity in children at policy level.

Introduction

- Introducing interviewer(s) proposals: name, study, intern at Voedingsjungle (knowledge and communication agency about nutrition for children).
- Aim of the study: to gain insight into the approach of municipalities with regard to obesity in children.
- What we will do with the information: the interview will only be used for research purposes. The municipalities can be mentioned as a case in the report, but there will be no names of the persons involved.
- There are no right or wrong answers.
- For the research we would like to record the interview so that we can work it out later. Do you give permission for this? The recording is handled with care and will be deleted after replay.
- The interview transcript will also be sent to you to check whether everything has been understood correctly or whether additions are needed.

Opening

When the recording has started, ask again for permission to record.

Introducing interviewee: who are you, for which municipality do you work and in which domain, which function, since when?

Part I: focus on the approach

- Is there a municipal approach to combat childhood obesity in your municipality?
    - If no, this interview guide.
    - If yes, the other interview guide.

Within your municipality there is no specific municipal approach to combat childhood obesity.

- Is it a conscious choice?
    - If yes, why has it been decided?
- Are there other things that your municipality does/organizes that contribute to the prevention or reduction of childhood obesity?
    - If yes: what? Why has it been decided to do so? Who is responsible for it?

Are there other policies aimed at, for example: general health or sports?

- If yes, from which domain has it been established? What is the target group? Is it targeting the whole city or just particular neighborhoods? How was this policy

established?

- Are there multiple domains involved? If yes, what domains exactly?

Agenda setting

- Is childhood obesity – apart from the fact that there is no municipal approach – an issue that is receiving attention within the municipality?
  - Is there a sense of urgency?
    - If yes, why did this sense of urgency not lead to a municipal approach yet? How do you see this in the future?
    - If not, why not?
      - Are there other prioritized issues or issues with a higher sense of urgency?
- Is there any data available about childhood obesity from for example the health services (GGD).
  - If yes, is this data shared with the municipality? How? Does the municipality use the data?

Other organizations

- Are there interventions within your municipality that contribute to the prevention and reduction of childhood obesity? Examples are: B-Fit, B.Slim and The Healthy School.
  - If yes: which organization(s) and/or partie(s) organize(s) these interventions (GGD, school)? Does the municipality have any insight into the results of these interventions?
- Are there any activities organized within your municipality with the aim to contribute to the prevention and reduction of childhood obesity?
  - If yes: which organization(s) and or partie(s) organize(s) these activities?

Wrap-up

- When you think about the future, do you think your municipality will deal with childhood obesity in the same way?
  - If yes, why?
  - If not, why not? What will change in your opinion?
- Do you have an addition about the topic that we should definitely include in our analysis?

Appendix 4: Codebook

Theme	Theme description	Underlying codes	Strategy used for code	Code description
Barriers of implementing an approach (Deductive)	Describes the factors that prevent or block the implementation of an approach to combat childhood obesity.			
		Insufficient support	Deductive	Use when the participant indicates that there´s insufficient support for the approach. The lack of support can occur within the municipality, within collaborating parties or within the target group.
		Lack of resources	Deductive	Discussions around needed resources to implement an approach. For example about needed manpower, budgets and the ability to fund an approach.
		Other priorities	Deductive	Describes that more priority is given to other (health) issues within a municipality.
		No obligation	Deductive	Pertaining to the fact that it's easy for municipalities to minimize investments in prevention because these investments are not mandatory by law, while some other investments are obligated by law.
		Replacement of policy officers and aldermen	Deductive	Describes the process of election in the Netherlands which take place every four years. This can hinder the process of implementing an approach to combat childhood

				obesity.
		Bad quality of collaboration(s)	Deductive	Used when a participant talks about the negative consequences of having low quality collaborations inside or outside the municipality. This can hinder the process of the implementation an approach.
		Decentralization social domain	Deductive	Use when a participant talks about the negative consequences of the decentralization in the social domain in the Netherlands.
		Difficult to guarantee sustainability	Deductive	Pertaining to the fact that municipalities need to deal with many uncertainties, so that even if an approach can be implemented today, there is no guarantee that it can last.
Facilitating factors of implementing an approach (Deductive)	Describes the factors that ease the process of implementing an approach to combat childhood obesity.			
		Strong leader	Deductive	Use when the participant mentions that there's a specific person who takes responsibility for implementing and creating an approach.
		Increasing resources from the state.	Deductive	Describes that municipalities nowadays get more resources from the state due to national agreements and developments.
		COVID-19	Inductive	Describes that due to COVID-19 there's more attention for prevention which makes it easier to

				implement an approach.
		Attached and responsible individuals.	Deductive	Describes that in order to implement an approach successfully, individuals who feel responsible and attached with the subject are needed at all different levels.
		Increasing number of childhood obesity	Deductive	Describes that the increasing number of obese children helps municipalities to see the need to implement an approach to combat childhood obesity.
		Importance of prevention is clear	Deductive	Use when a participant mentions that the importance of investments in prevention are seen in the municipality.
		Enough capacity	Deductive	Use when a participant mentions that there's enough manpower and budget in the municipality to be able to implement an approach.
		National agreements	Deductive	The national government funded municipalities who started formulating prevention agreements. This worked as a motivational factor for many municipalities.
		Having a clear vision	Deductive	Use when the participant tells that there´s a clear vision inside his municipality.
		GLI	Inductive	Use when the participant talks about GLI
		Use a positive brand name	Inductive	Use when a participant mentions that a positive approach is important to be able to implement a successful approach.
Politics (Deductive)	Describes the political factors that influence strategies	Agenda setting	Deductive	Describes if/how/when childhood obesity was set on the political agenda within the municipality.

	municipalities choose to implement an approach.			
		Political parties	Deductive	Describes that the composition of political parties in a municipality determines how childhood obesity is perceived in the municipality. Every political party has its own ambitions and ideals.
		Collaborations between domains in the municipality	Deductive	Discussions about the collaborations within the municipality. This includes the collaborations between the different domains, but also the collaborations between policy officers working at the three different levels within the municipality.
		Domain interviewee	Deductive	Use when the participant tells in which domain he works within the municipality.
		Collaborations extern	Deductive	Use when the participant talks about collaborations outside the municipality. This can be collaborations with organizations, professionals or other municipalities. Relations based on public-private collaboration should not be included.
		Involved domains	Deductive	Use when a participant talks about which domains are involved with the approach.
		Policy formulation	Deductive	Discussions about the process of policy formulation.
		Specific dynamic in politics	Inductive	Use when a participant describes the way the decision-making process in Dutch politics work.
		Support for	Inductive	Discussions about whether there is

	prevention in politics		much support for prevention within the municipalities politics or not.
	Power and strength of aldermen	Inductive	Describes that the personality and motivation of the alderman really matters in order to formulate and implement an approach.
The role of individuals (Inductive)			
	Involve target group in the policy making process	Inductive	Use when the participant mentions that the target group was involved into the process of policy formulation.
	Increasingly initiatives from bottom-up	Inductive	Describes the process by which the decision-making process becomes increasingly bottom-up rather than top-down. This includes initiatives from everyone who is not working at the tactical and the strategic level. For example people working at the operational level or people who are part of the target group.
	Resistance to help	Inductive	Use when the participant describes that the target group is not always open to help.