

# MOM, DAD, I AM GOING ON AN ADVENTURE !

*A research into the perception of children,  
parents, and initiators on the  
attractiveness of natural play spaces in  
Midden-Groningen*



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Master thesis

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# Abstract

Children are playing outside less, which is problematic since playing outside has benefits for their physical, mental, and social development. Children play outside less is because they perceive outdoor play spaces as rather boring. This is where natural play spaces come into the picture because they are more adventures and have natural element, which are liked by children. Natural play spaces are also increasingly initiated by citizen.

This research explores the perception of children, parents, and initiators about natural play spaces in Midden-Groningen. Through onsite observations and desk research the attributes and characteristics of nine natural play spaces were researched. Children and parents were interviewed about their (child's) outside play behaviour and perception of their local natural play space. Natural play space initiators; citizens and the municipality, were interviewed about their perception and initiation of their natural play space.

The main findings from this research show that children, parents, and initiators generally have a similar perception that is rather positive. They all liked the natural play attributes, play possibilities, and natural elements. Shared disliked aspects are instances of anti-social behaviour. While the groups have general similarities, differences in mentioned themes and topic can be seen in specific elements that are mentioned by the groups. Some elements were mentioned notably more often or less often by on group, while other aspects were mentioned exclusively by one group or not at all.

To improve natural play spaces children, and parents suggested adding more play equipment and possibilities. This is in line with future plans some initiators have for their natural play space. Bureaucracy and issues with money are seen as threads for citizen initiated natural play spaces. The involvement of citizens (through volunteering) is very important for the preservation and development of natural play spaces.

Key words: Natural play spaces, natural playground, play forest, playing outside, attractiveness, children's perception, parents' perception, citizen initiatives

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# Foreword

In front of you lies my master thesis about the perceived attractiveness of natural play spaces in Midden-Groningen by initiators, children, and parents.

The title of my master thesis is inspired by *The Hobbit* from J.R.R. Tolkien. In this story a hobbit; a small and most innocent creature in Middle-Earth, goes on a great journey. When he leaves his home, he shouts *I am going on an adventure!* Along the way the hobbit is accompanied by a wizard and 13 dwarves, but also has to face dangers including trolls and a dragon.

I found this to be very fitting for a research that is partly about children; also small and (often) innocent, and natural play spaces; adventurous natural places. Another small coincidence that seemed funny to me is that *The Hobbit* takes place in Middle-Earth, while my research took place in Midden-Groningen [Middle-Groningen].

Creating this thesis itself was also an adventure for me; visiting places I had never visited before and meeting new people along the way. While I did not have to battle a dragon, covid-19 made doing research more challenging. Fortunately, just like the hobbit from the story, there were several people who helped me along the way, and I would like to thank them all for that.

First, I would like to thank dr. Femke Niekerk for her great supervision and support. Secondly I would like to thank all the children, parents, and natural play space initiators that would let me interview them and gave me some of their wisdom and time. I also want to express gratitude to my boyfriend and sister who came along during the fieldwork research and helped with the observations. Besides, that they and my mother, father, and grandparents were also there for me for personal support.

With the help and support of these people this research was made possible.

Thank you all so much!

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# 1 Introduction

## 1.1 Background of the research

The current generation of children is playing outside less than the generations before (Wen et al., 2009; Clements, 2004). The time-space behaviour of children from the Netherlands has changed remarkably, with a clear shift from playing outside to playing inside (Karsten & van Vliet., 2006). This trend is also noted by Clements (2004) who found that children are taking part in more indoor play activities than outside play activities.

News outlets from different countries around the world including the United Kingdom (Grant,2019),Canada (Young,2019), the United States of Amerika (O'Mare,2018), the Netherlands (NOS, 2018) and Australia (Harris, 2018) are reporting this trend as well.

There are multiple reasons for why children are playing less outside then in the past. In a research about American children Clements (2004) found that one of the main obstacles to playing outside was the increased use of computers (gaming) and television at home. The time spend children spend with electronic devices increases with their age (O'Connor et al., 2017)

One of the reasons for children to play less outside, are parents regarding parks to be too dangerous for children to visit without an adult supervision (Karsten & van Vliet, 2006). A change in parents' perception of children can also be seen, where children in the past were seen as resilient, while they are now seen as vulnerable (Berg et al.,2007). The increase in cars, related to issues of traffic safety, and the decrease in play spaces for children, are also trends that influence the outside play behaviour of children (Karsten & van Vliet.,2006; Berg et al.,2007; Zeijl et al.,2005). Crime and safety concerns were a significant reason that prevent children from playing outside for their mothers (Clements, 2004). Besides that, a lack of time and adult supervision, and concerns of physical harm were also mentioned as factors why children were playing outside less (Ibid).A poll conducted by Playday (2013), an organization concerned with playing outside in the United Kingdom, shows that children as well as adults mention concerns for children's safety as a barrier to play outside (more), particularly related to danger from traffic, but also concerns about malintents from strangers. Older research (Sell, 1985; Blakely, 1994) also mentions traffic, harassment, and molestation as potential dangers for children.36% of Dutch parents were not satisfied with the safety and hygiene of the available play spaces (Zeijl et al., 2005). Furthermore, an association was found between the parents' play space satisfaction and the extent to which children play outside. Children whose parents were satisfied with the play spaces, played outside more compared to children from parents who were less/not satisfied (Ibid). The role of the parents for allowing or restricting children to play outside was emphasized by Loon et al. (2014).

Despite of the mentioned restrictions and possible dangers, going outside has several positive effects on human beings, including sunlight (vitamin D) and fresh air. Playing outside has even more benefits (for children) since it supports physical exercise but also social contact. Playing in general emulates an important role in the development of children, supporting their cognitive, motoric, and social skills (Burdette & Whitaker, 2005; Luchs & Fikus, 2013; Clements,2004). The following three purposes of natural play spaces are noted by Berg et al. (2007). 1) getting close to and developing a bond with nature 2) educational function 3) benefits for health and development.

Dutch children are also playing less outside than generations of children before them, as shown by a research from Jantje Beton (2018), a Dutch organization that is committed to playing outside. In this research children were also asked which barriers they perceived to play outside. The most common answers to these questions



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were: *because the play spaces in my area are boring*, followed by *because I rather play inside*. Three-quarters from the surveyed children in the Jantje Beton research stated that they would enjoy playing outside even more when play spaces would be more exiting. Being able to play with friends outside was also mentioned by the majority of children. In a news article Dave Ensberg-Kleijkers; director of Jantje Beton), states that: *“It is a problem that is self-reinforcing. When children come outside less, they do not attract other children who come to play. It is very simple: playing together is much more fun”* (van Heerde, 2019). This statement reminds a lot about the self-reinforcing process that Gehl (architect and urban designer) in his book ‘Life between building’. Gehl (2011) describes a pattern found in studying children’s play in Denmark where children stay and play mainly in places where the most activity is happening; something happens because something happens. This process can also turn negative, where nothing happens because nothing happens. Children prefer to stay in the house and watch tv because it is boring outside. This makes going outside also less attractive for older people since there is not much to experience (Ibid).

Playing outside is important for the development of children, however they are playing outside less, partly because they do not like the play spaces they are provided with. An obvious solution for a part of this problem would be to create more exiting play spaces. This is where natural play spaces come in the picture. Natural play spaces, a relatively new phenomenon, are places where children can play in a natural environment. It should not be confused with ‘just’ playing in nature, since natural play spaces are specially designed for play activities (Berg et al.,2017). They also tend to have a more adventurous character compared to traditional play spaces (Ibid.) Since children comment that their play spaces are boring, more adventurous natural play spaces can provide a solution, and support playing outside (more). Children also tend to have a preference for playing in nature and with natural elements (Norðdahl & Einarsdóttir, 2014; Luchs & Fikus, 2013). This claim is also supported by the Jantje Beton research (2018). These natural play spaces are also, in the frame of the participation society, increasingly initiated by citizens (Verstrate & Karsten, 2016).

## 1.2 Scientific relevance

This research elaborates on the knowledge about natural play spaces. Because natural play spaces are a relatively new phenomenon (Berg et al., 2007; Luchs & Fikus, 2013; Verstrate & Karsten, 2016), a lot can still be researched and learned about them. This research will take a deeper look at the attractiveness of natural play spaces by their accessibility and appreciation (perception) by children, parents, and initiators.

Previous studies with regard to play space perception either focus on the perception of children (Luchs & Fikus, 2013) or on the perception of parents (Cyrus & Javaneh, 2014), but not often on both. The paper from White & Stoecklin (2020) describes which aspect of playgrounds are liked by children, is based on literature, thus not containing first-hand data about the perception of children or parents. The perception of natural play spaces of children and parents is researched by Wang et al. (2018). This research was set in Chengdu, China, which has a different context compared to Midden-Groningen. Besides that, the research of Wang et al. (2018) only focuses on children aged four till six, while this research will focus on a broader, and slightly older age group of children. The development of natural play spaces in the Netherlands is described Verstrate & Karsten (2016), but no interviews with initiators were conducted for their research. This research did interview the initiators to gain more insight in their perception and motives.

This research will thus elaborate on the existing knowledge by providing a new context; Midden-Groningen, and also involving first-hand data collected among children (6-13), parents, and initiators. Besides that, onsite observations and desk research were used to research the present attributes and characteristics.

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## 1.3 Societal relevance

Children are playing outside less than in the past (Wen et al., 2009; Clements, 2004; Karsten & van Vliet, 2006). Playing outside has benefits for mental, physical, and social development on children, and is therefore very important for them (Burdette & Whitaker, 2005; Luchs & Fikus, 2013; Clements, 2004; Berg et al., 2007). To let children play outside more (again) it is important for their play spaces to be interesting. As mentioned before, Berg et al. (2007) name three important functions that natural play spaces can fulfil: 1) getting close to nature and develop a bond with it, creating a sense of responsibility. 2) Having an educative function. 3) Positive effect on health and development. It is of interest to research what children like about natural play spaces, so we can learn and improve on them. Creating even better spaces for children to enjoy. Besides knowing what children like, it is also important that they can actually go to natural play spaces, also in a safe way. What is the worth of a great play space if it cannot be accessed? Furthermore, great play spaces can also become great public spaces, that are engaging for all ages. The increase in natural play spaces initiated by citizens (Verstrate & Karsten, 2016), is also an interesting societal development. Since more participation is expected from citizens, they also would need to know how to participate and what is expected of them.

## 1.4 Expected results for academia and planning

Results of this study can be valuable for municipalities and other organizations that are responsible for playgrounds, thus also citizen initiatives. It is interesting for planners to know the perception on natural play spaces from children and parents so these spaces can be improved upon in the future and serve as a foundation for yet to be developed natural play spaces.

This research, that takes the view of children into account, can also help to make children heard in the planning process. Children are the primary users of (natural) play spaces, therefore their wants and needs should be considered. Especially since children are quite often overlooked in planning or seen as 'just a child'. Bishop (1972) also noted that the children's preferences are seldomly considered in the process of environmental design, even when the spaces are planned for them. One reason for this that political, economic, and planning processes are not organized for children and their direct participation. Their wants and needs are advocated by adults. The other reason Bishop gives for leaving out children is that it is difficult to collect useful information from them, because of their short attention spans and not fully developed skills. I however disagree with Bishop's last argument. Like Ergler et al. (2015) I believe that children can be capable of providing useful information; with the right tools and some guidance. Going from creating spaces for children to creating spaces with children.

The view of parents/caretakers will also be taken into account for this research. Parents are responsible for upbringing and taking care of their children, this also involves play activities. They can also allow or restrict children in their movement (Loon et al., 2014). Parents (adults) also have some power with regard to planning, either by being involved directly (through their occupation) or indirectly (through their voting right). Parents can also become natural play space initiators (Verstrate & Karsten, 2016).

The role and perception of initiators is also of importance for the practice of planning, especially since natural play spaces are increasing initiated by citizens (Verstrate & Karsten, 2016). Since citizen initiated natural play spaces follow a more bottom up process, a different role is expected from the planner. More and more is asked from citizens in the participation society. Therefore, planners should keep the question in mind what citizens ought to do and what should be done by the government.

Natural play spaces can also play a role with regard to climate change, fitting in with the rise of ecological and sustainable awareness (Verstrate & Karsten, 2016). Climate change has a remarkable effect on the environment

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including; heavy rainfall, loss of biodiversity, rising temperatures, and flooding. It also has effects on people including; scarcity of food and drinking water, economic problems, negative health effects (Ministerie van Infrastructuur en Waterstaat, 2020). By creating more nature, thus also natural play spaces, some of these negative effects could be countered (to some extent). Green (nature) has a cooling effect on surrounding areas (Hamada et al., 2013). Charlesworth (2010) pleads in her paper for sustainable drainage, which regard the water quantity, water quality, biodiversity, and amenity, to mitigate the effects of climate change (flooding in particular). Sustainable drainage systems bolsters detention and infiltration of surface water on site. This can be accomplished with 'hard' constructions such as porous paving systems or 'soft' constructions utilizing vegetation and ponds (Ibid). The green natural play space areas can help retain and conserve rainwater, especially with water play elements. Natural play spaces can also stimulate children to develop a bond with nature which can create a sense of responsibility for it as well as an educative function (Berg et al., 2007). This could help children understand the importance of preserving nature and making sustainable choices.

## 1.5 Research questions

The goal of this research was to gain more insight in the perceived attractiveness of natural play spaces by initiators, children, and parents. This will help to better understand their views, and could initially help to create better play spaces, especially by citizen initiatives. To conduct this research about the attractiveness of natural play spaces the following primary research question was made: *How do natural play space initiators, children, and parents perceive the attractiveness of natural play spaces in Midden-Groningen?*

To help answer the primary research question, the following six secondary research questions are addressed in this research:

*Q1: What are the features of natural play spaces in Midden-Groningen?*

*Q2: What are the motives for natural play space initiators to create natural play spaces in Midden-Groningen?*

*Q3: How do natural play space initiators from Midden-Groningen perceive the attractiveness of their natural play space?*

*Q4: How do children perceive the attractiveness of natural play spaces in Midden-Groningen?*

*Q5: How do parents/caretakers perceive the attractiveness natural play spaces in Midden-Groningen?*

*Q6: How can the attractiveness of natural play spaces in Midden-Groningen be improved?*

## 1.6 Structure

Chapter 2 will provide the theoretical framework, here the main theoretical concepts; playing behaviour, playing in nature, independent child mobility, and playground perception ids discussed. The Theoretical model will also be presented in this chapter. In Chapter 3 the methodology used for this research is discussed. A mixed method approach was used for this research consisting of onsite observations and desk research of natural play space attributes and characteristics and interviews with different target groups; children, parents, and natural play space initiators . Also, the research ethics are dealt with in this chapter, this is especially of importance since the research involves children. Besides that, there is an extra section about doing research during the covid-19 pandemic since extra requirements need to be kept in mind. In chapter 4 the results and findings drawn from the observations and interviews are presented. Finally, in Chapter 5 a conclusion is drawn based on the results and the main research question is answered. There is also discussion about how the research was conducted and suggestions for future research.

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## 2 Theoretical Framework

This chapter will introduce the relevant concepts and theories for this research based on existing literature. The concepts that are discussed in this chapter are; playing behaviour, playing in nature, (independent) child mobility, perceived playground attractiveness, and participation society. It is important to gain more insight in these concepts because they help to better understand their definitions.

### 2.1 Playing behaviour

Play is used to describe a variety of behaviour and activities that children engage in. Play is done for fun, enjoyment, self-directed and self-motivated (Ridgers et al., 2012 ;Herrington & Brussoni, 2017). Playing is also beneficial for the social, physical, and cognitive development of children (Herrington & Brussoni, 2015). Three types of play are defined by Smilansky & Shefta (1990). 1) constructive play, where problem-solving skills are used to create or construct something meaningful. 2) Functional play is defined by repeated movements performed to master a skill. 3) symbolic play, also known as pretend- or dramatic play, is the use of imagination or roleplay to 'transform' the player. A similar distinction between different types of play behaviour is made by Luchs and Ficus (2013): 1) *Play for*: Play where rules are involved, could be competitive. 2) *play with*; constructional play and functional play. 3) *play as*; imaginary play and role play. A combination of different types of play is possible, and also an 'other' category is mentioned, where the play does not fit in any of the mentioned categories (Ibid). A case study from Brazil showed that children preferred siblings the most as play partners followed by classmates (Pfeifer et al., 2011). Mothers and fathers were less frequently preferred as play partners (Ibid).

#### 2.1.1 Gender and play behaviour

There is a difference in physical activity levels and play behaviour between girls and boys (Reimers & Knapp (2017). In their study about gender and play behaviour O'Connor et al. (2017) found that there is a difference in play patterns between genders. It was found that boys participated more with constructive play, physical play, and organised sports. Besides that, boys are also significantly more involved with electronic equipment (TV and video games). Girls are more involved with creative activities and spontaneous sports (Ibid). This gender difference in play is also noted by Gmitrova et al. (2009), who found that girls had a preference for pretend/imaginary play, while constructive play was preferred by boys. Another study found that boys and girls participate in pretend play with the same motivations, frequency, and maturity (Edwards et al., 2001). There are however difference in the type of role a child plays based on their gender. Boys prefer playing masculine roles such as father and traditionally male occupations (construction worker), while girls tend to prefer roles associated with femininity, such as mother and occupations that they perceive as female (teacher) (Ibid).

After the age of three, boys and girls start to play more separately (Edwards et al., 2001). Till adolescence, children tend to prefer other children of the same sex more and want to play with them more. It should be noted that generally children did not show aversion to the other sex entirely, but just have a preference for their own sex (Edwards et al., 2001). There are several reasons for separated play based on sex. One of these reasons is the difference of developmental stages at a certain age between girls and boys (Ibid). Playmates from the same sex seem to be more compatible in the flow and pacing of their play (Ibid.). Adults (teachers and caretakers) also have influence on the play patterns of children, where they encourage playing with the same or different sex. Furthermore, school structures and practices influence the interaction between sexes as well by separating on combining them during activities (Edwards et al., 2001).

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Location is also a distinct factor with regard to differences in play behaviour between sexes.

It was found by Brown et al. (2008) that boys have more independent mobility. Girls tend to play closer to their home or inside and have more contact with supervising adults (Edwards et al., 2001). Boys play farther away from home, outside and away from direct supervision by adults (Ibid). Boys also tend to take up more space during play (Karsten, 2003; Børve & Børve, 2017).

The segregation between boys and girls is most prevailing on the school yard (Edwards et al., 2001). Contrary, in backyards and around the neighbourhood, children tend to play more with mix-aged and mixed-sex groups (ibid). Related to this are the findings of Bourke & Sargisson (2014), who state that groups of children that play outside are more fluid in composition and larger in size, since they are easier to join for other children than indoor groups.

### 2.1.2 Age and play behaviour

As children age, their playing behaviour changes too. In the study of O'Connor et al. (2017) it was found that as children age, they play more with electronic games. There is also a decrease in the number of children who engage in spontaneous sports from the age of nine. The type of play which children involve themselves with also differs per age (Ibid). Children mainly play with children from their own age (Gray, 2011). This same-age play is further stimulated by age-graded schooling and activities organized by adults after school (Ibid). Grey (2011) however places objections to same-aged play, since children would benefit from mixed-aged play. The benefits of mixed-aged play are also noted by Gmitrova et al. (2009).

The play behaviour of children is of interest for this research because it tells how children play and use play spaces. Children perform different types of play behaviour; constructive, functional and dramatic/fantasy, these types of play behaviour can also be acted out simulations (mixed). The play behaviour of a child can differ due to different internal factors such as age and gender, but also external factors including location and play companions.

## 2.2 Playing in Nature

Playing outside has a lot of benefits for the development of children; it promotes their physical, mental, and social well-being and helps to improve motoric, social, and cognitive skills (Clements, 2004; Burdette & Whitaker, 2005; Luchs & Fikus, 2013; Broekhuizen et al., 2014). Playing in natural spaces also provides children with the opportunity to develop a bond with nature and to learn about it (Berg et al., 2005).

### 2.2.1 Play behaviour in nature

The environment has a strong influence on the play behaviour of children (Berg et al., 2007). There is especially a big difference between playing outside and playing inside (Ibid). The main reason for this difference is that children have the possibility to make contact with nature when they are outdoors (Berg et al., 2007). Children also move in a different way outdoors, where they have more room for physical active behaviour (Fjørtoft, 2004).

'Playing outside' and 'playing in nature' are, due to the direct relation with nature, often used as synonyms and are often assigned with the same benefits (Berg et al., 2007).

The observed play behaviour of children playing in nature could be categorized in three categories: 1) Physical active behaviour such as running, climbing and sliding was the most observed type of play behaviour. 2) Constructive behaviour such as building huts. 3) 'Dramatic' behaviour for example roleplay and fantasy play (Berg et al., 2007). In a study on Norwegian children the different types of play behaviour were connected to certain places and elements in the playspace (Fjørtoft & Sageie, 2000). Trees are often used for climbing (physical active behaviour), while bushes are used for constructive play behaviour such as building huts, as well as dramatic play behaviour like

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role playing games (Ibid). This same study also found that diversity in topography, like terrain levels, also provides diversity in playbehaviour. Steep slopes can be used for sliding while more even and open landscapes can be used for running (Fjørtoft & Sageie, 2000).

## 2.2.2 Natural play spaces

There are several different places for children to play in nature. The first one is to just go to a natural place and play there. This is however not always possible, especially in urban areas, where children do not have access to nature.

One option are so called *play forests*, where a pre-existing patch of nature is specifically transformed to create a place for children to play. This transformation usually involves small interventions such as removing some trees and placing play equipment (Berg et al. (2007). It should be noted that not all *play forest* have to be placed in a forest, there are also some located in floodplains and dunes (Ibid).

Another option are playgrounds. These are playground, grass lots or other terrains that are transformed to natural and often more adventurous playgrounds, which is done by adding natural elements (Berg et al. (2007).

Natural play spaces are described as play spaces that contain natural elements to play with, such as rocks, sand, plants, terrain, and water by Herrington & Brussoni (2015). Natural play spaces offer the possibility for different play structures, by offering unstructured elements that allow for a child's own interpretation how to use it. This opposes the traditional playground, where play equipment can often be used in one single way. A similar definition is given by Orta (2014) who describes natural playgrounds as places that allow children of different ages to play with natural elements such as trees and rocks to stimulate creativity and playability. Natural playgrounds promote children to become more physically engaged and comfortable with nature (Ibid). The distinction between play forests and natural playgrounds is not made by Verstrate & Karsten (2016), the term nature playground instead. They describe that in the nature playground, the landscape of the terrain in the main type of play equipment. The natural environment is the main attraction and not just an attractive background for play equipment (Ibid). Similarly, Herrington & Brussoni (2015) note that play spaces with natural elements that are purely decorative, or where children are not allowed to engage with natural materials, are not natural play spaces.

When looking at the design of already existing nature playgrounds several components stand out according to Verstrate & Karsten (2016). Playing with water and steppingstones are very often included in nature playgrounds. Besides that, vegetations and a diversity of it is also important for a nature playground. Asphalt and straight lines have no place in nature playgrounds (Ibid). Emphasis on the importance of natural elements: landform, vegetation, Insects and small animals, sand and rocks, and water is noted by Wang et al. (2018). Emphasise on the inclusion of natural elements in natural play spaces, such as vegetations, loose and moving parts, and natural materials is also mentioned by Woolley & Lowe (2013).

### 2.2.2.1 Natural play space development

On the basis of '*Development of Nature Playgrounds from the 1970s Onwards*' by Verstrate & Karsten (2016) a concise history of the development of natural play spaces in the Netherlands is given.

In the year 2000, one of the first natural play spaces in the Netherlands was opened in the Rotterdam. It is called the "Speeldernis" and it offers a place for urban children to (re)connect with nature. The concept of natural playgrounds quickly developed and spread to other places in the Netherlands and is still growing. Preceding to the opening of the Speeldernis, three (societal) developments aided the concepts of natural play spaces to gain momentum. It started with the rise of stricter regulations on play equipment and playgrounds, making the building and management of playgrounds more complex. Since natural playgrounds are defined as nature first and playground second, they do not have to adhere as much to playground regulations. The second

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development is the rise of a new middle-class, consisting of self-organizing (urban) professionals. Unsatisfied parents about playground options for their children, use their professional skills, connections, and knowledge to set up a natural playground with other parents. The third factor in the development of nature playgrounds is the idea of greener was to play, related to new notions of connecting children with nature. This can be set in the larger trend of turning back to nature through a greener lifestyle and ecological awareness. Even though natural playgrounds aim to create a sense of adventure and free play for children in a natural environment, it is still a highly pre-planned and regulated environment. Within fixed limits, children are allowed to experiment, be loud and dirty in a child-proof version of nature (Ibid).

Based on the definitions from Berg et al. (2007), Orta (2014), Herrington & Brussoni (2015), and Verstrate & Karsten (2016) natural play spaces will in this research be used as an umbrella term for natural/nature playgrounds and play forest, since they are all places with natural elements with the main purpose of providing a place to play (for children).

## 2.3 The participation society

A transformation is taking place from big government to big society; where to government transfers their responsibilities more and more to citizens (De Haan et al., 2018). This transition is in the Netherlands also referred to as the participation society. In the participation society it is expected that citizens become more active in solving societal issues (Ibid). The restructuring of the welfare state and austerity measures also advocated and required citizens to participate more actively (De Haan et al., 2018). The increase in self-organization of citizens fits in with the neoliberal policies in Western-Europe and thus also in the Netherlands (Verstrate & Karsten 2016).

### 2.3.1 Citizen initiatives

A citizen initiative is a group of citizens, organized formally or informally, who are active and contribute to the public domain. In a citizen initiative, citizen take action together to achieve a specific goal (De Haan et al., 2018). It should not be confused with citizen participation; where citizens are involved in local governance (Ibid). In the Netherlands citizens' initiatives are more often found in rural areas than urban areas (Houwelingen et al., 2014). This is mainly due to the pressure of population decline on the quality and number of services (Ibid). In their research, about success factors and limiting factors in citizens' initiatives in deprived neighbourhoods, Flink et al. (2014) found that the following factors helped the initiative to succeed:

- characteristics of the initiator at the start of the projects
  - strong intrinsic motivation
  - keyperson in the neighborhood
  - external connections (network)
- social function as primary goal
- informal contact

Contact; between municipality, initiators, and inhabitants, is very important (Klaver et al., 2014). From contact, trust can be built. And from trust, working together can be possible, making residents proud of the project. Furthermore, the trust can lead to involvement, that might also lead to involvement in the maintenance (Ibid).

It should also be noted that citizen initiatives have to deal with several limiting factors. The following limiting factors in citizen initiatives are noted by Flink et al. (2014):

- difficult to find replacement (volunteers)
  - one person 'pulling' the initiative
- no money to motivate volunteers

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- no time, money, or people to further develop the initiative
  - difficulties with working together with the municipality.

In their research about maintaining a natural play space, Klaver et al. (2014) found that after a year the core group, who started enthusiastically, is not as active anymore. Similarly, to Flink et al. (2014), Klaver et al. also found that one person was now pulling the initiative. Six big risks and obstacles for citizen initiatives, that could eventually cause the initiative to fail are noted by Meerstra-de Haan et al. (2020):

- volunteer burnout
- not representing the community
- lack of financial means
- relation with the government
- scale (levels of complexity)
- current and changing policies

A critique on the self-organizing society by Verstrate & Karsten (2016) is that it tends to benefit groups of people who already are knowledgeable and capable, while excluding marginalized groups.

The participation society is a shift in responsibility from the government to citizens. Citizen initiatives, where a group of people take action together, play a big role in this shift (De Haan et al.,2018). These citizen initiatives can be seen as both positive and negative manifestations. On the one hand gaps are filled and the sense of community can be strengthened. But on the other hand, more and more is asked from citizens and not every community is skillful and or knowledgeable to do so (Verstrate & Karsten, 2016). Besides that, there are several obstacles for citizen initiatives to deal with or eventually cause their failure (Klaver et al.,2014; Flink et al.,2014; Meerstra-de Haan et al.,2020)

### 2.3.2 Natural play spaces as citizen initiative

Natural play spaces can also be a form of citizen initiative. As mentioned by Verstrate & Karsten (2016) there is a rise in self-organization among middle-class (urban) professionals, who create natural play spaces for and with their neighbourhood. They use their connections, skills, and knowledge to create these new play spaces since they are often not satisfied with the current play opportunities in the neighbourhood (Ibid). The earlier mentioned issue of the exclusion of marginalized groups in citizens' initiatives is also applicable to self-organized natural play spaces in the Netherlands (Verstrate & Karsten, 2016). While natural playgrounds are open to everyone, their founders, volunteers, and board members are mainly middle-class, white, and well-educated professionals. Furthermore, Natural playgrounds are mostly located in the suburbs, making them harder or even inaccessible for children from low-income urban neighbourhoods (Ibid). Another issue related to the participation society and natural play spaces is related to the maintenance found by in the case used by Klaver et al. (2014) the municipality had in mind that citizens would take care of the maintenance of the natural play space. In practice this cause some issues since inhabitants were not motivated to remove the weeds. After this issue the core group, community workers, and the municipality took the maintenance as their responsibility (Ibid). This case thus shows that it can be difficult to motivate citizens to take up maintenance tasks.

## 2.4 Child mobility

The proximity to playgrounds determines the child's levels of play (Holt et al., 2008). A child that is living closer to a play space is more likely to engage in play activities than a child who lives farther away from a play space (Ibid). The location of the child's house is also related to time spend outdoors. Parents who live in a high-crime area are concerned for their child's safety and force them to remain inside (Orta, 2014).



Independent child mobility as is a child's degree of freedom to move around in their local area without being accompanied by an adult (Cordovill et al., 2019). A similar definition is also used by Vlaar et al. (2019) who add the company of a child's peers. It has been shown that the independent mobility of children has a positive effect on their development and well-being, that arise from higher levels of physical activity and sociability (Ferron et al., 2019). A child's independent mobility is crucial to their social, physical, and cognitive development (Cordovill et al., 2014). Risk management and problem solving, improved adaptability, enhanced spatial awareness, navigation and way-finding skills, and stress regulation to the list of positive effects of independent child mobility are further added by Vlaar et al. (2019). Regardless of the positive impact children's independent mobility, children's independent mobility is increasingly restricted by parents because they perceive the outdoors as dangerous for children (Ferron et al., 2019). This trend is especially notable in children in urban areas. Today many parents are afraid to let their child play outdoors because of safety concerns, resulting children to be forced to stay inside (Orta, 2014). This reminds of the glasshouse or cell type of environment from Kytta's (2008) Bullerby-model, (which will be further explained in this paragraph) where children have low degrees of independent mobility. Boys are more often allowed to conduct independent activities outdoor by their parents than girls that perceive more caution about safety (Little, 2010). The increasing perception of 'the dangerous outdoors' can be linked to parents giving their child a (smart)phone, for monitoring and tracking their child's activities and location (Ibid). Children worldwide receive their first smartphone at ages lower than before. The demand for location tracking apps as well as wearable location tracking devices is growing. This technology driven surveillance is generally advocated as a response to everyday dangers. However, this monitoring by parents could change children's way to relate to other people and their environment (Ibid).

The Bullerby model from Kytta (2008) can be used to assess environmental child friendliness based on two criteria: Children's opportunities to actualize several environmental affordances, and their possibility for independent mobility (Broberg et al., 2013). The Bullerby model (Figure 1) distinguishes four hypothetical types and levels of child friendly environments.

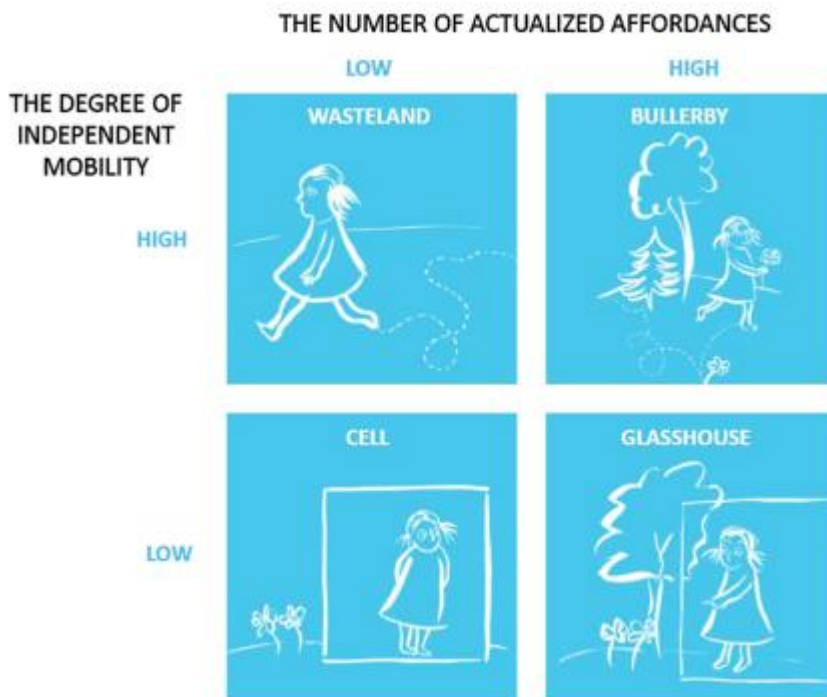


Figure 1: Bullerby Model (Broger et al., 2013)

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In a *wasteland* type of situation, the child has a high degree of independent mobility and can roam around by her/himself. The number of actualized affordances is low; there is not much to do in the environment (Broberg et al., 2013). The *Bullerby* situation seems to be the most optimal situation in the quadrant for a child. The number of actualized affordances is high, and the child also has a high degree of independent mobility to actually reach the affordances (Broberg et al., 2013). The Bullerby type of situation is based on a book by the Swedish writer Astrid Lindgren about a group of children and their life in a Swedish village. Despite of the background of the Bullerby label, it is not restricted to rural villages settings. It is also applicable for urban and suburban settings (Ibid). Opposite of the Bullerby type, is the *cell* type of situation, where the environment is dull, and the child has a low degree of independent mobility; they cannot go out, but the environment also has nothing to offer (Broberg et al., 2013). Lastly, there is the *glasshouse* situation where the environment itself has a high degree of affordances, but the child cannot reach them due to a low degree in independent mobility (Ibid).

The mobility of a child is of interest for this research because it can partly explain their outside play behaviour. It further tells us where a child is allowed or restricted to go. If a child is not allowed to go to a certain play space, they cannot make use of the affordances that this play space provides (Broberg et al., 2013). The independent mobility of a child also says something about the relation between the child and the parent since they allow or restrict the child. This is of interest since this research is about the perception of parents as well as children. The independent mobility of a child also provides insight in the perception the parent has about the environment.

## 2.5 Perceived playground attractiveness

Attractiveness is a subjective matter and thus differs from person to person. To gain more insight in the attractiveness of playgrounds, a look is taken through the lens of perception. By using perceived attractiveness, the subjective nature of it is taken into account.

A guide for creating successful play spaces was made by Shackell et al. (2008). In this guide they provide the following ten design principles (see Figure 2) for creating a successful play space. These then design principles are then formulated in the following golden rule; *“A successful play space is a place in its own right, specially designed for its location, in such a way as to provide as much play value as possible”* (Shackell et al., 2008).

- 1) Fit in with and enhance the environment
- 2) Located in the right place (accessible)
- 3) Usage of natural elements
- 4) Provide multiple play experiences
- 5) Accessible for disabled children
- 6) Meet the needs of the community
- 7) Allows for mixed-age play
- 8) Children can challenge themselves
- 9) Sustainable and well maintained
- 10) Allows for changes and evolution

Figure 2: Textbox 10 guidelines for a successful natural play space from Shackell et al. (2008)

### 2.5.1 Attributes and features

Objects and ‘things to do are meant with attributes and features, this includes objects that could be used for play and objects that are not (intended) to use for play.

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Since (natural) play spaces are also often public spaces, it is interesting what makes a good public space. The perception of young children and parents with regard to natural play spaces in Chengdu, China was studied by Wang et al. (2018). They found that 87% of the parents were aware of the advantages of natural elements on a playground. Greenery and water were mentioned as the most popular elements, followed by rocks and sand, terrain form, and small fauna. In the same study, when shown pictures of different types of playground, the main share of parents as well as children selected the natural looking playground as their preference (Ibid). Parents were more inclined to choose the picture of the playground with a higher degree of nature compared to children. Furthermore, parents considered the playground with a higher degree of nature aesthetically pleasing and of low risk (Wang et al., 2018). In a research on New Zealand children the most popular play activity was swinging, followed by climbing and spinning (Sargisson & McLean., 2013). This finding is backed up by Bourke & Sargisson (2014) who also, in their research on children from New Zealand, found that swinging, spinning, and climbing were the favourite play activity among children.

### 2.5.2 Location and environmental factors

The location of the playground also contributes to its' (un) attractiveness. As mentioned earlier in the paragraph playing in nature, there is a relation between play behaviour and landscape structure (Fjørtoft & Sageie, 2000). Various landscape elements afford specific and diverse possibilities for playing (Ibid). Besides that, proximity to a play space also influence a child's level of play, where children whose home is closer to a play space engage in more play activities compared to children who live farther away (Holt et al., 2008). The location of a play space is also related to the (independent) mobility of a child. If a play space is more difficult to reach, it might have a negative effect on its' attractiveness.

The absence of shade contributed to the under-usage of slide, since they became too hot to touch (Sargisson & McLean., 2013).

### 2.5.3 Other people

Outdoor play spaces supply a meeting space for all children and, opposed to playing inside, can accommodate more interactions with peers (Bourke & Sargisson, 2014). For children it is easier to join groups outside, making these groups larger and fluid (Ibid). Children appreciate places that give them the opportunity to meet friends (Korpela et al., 2002; Min & Lee, 2006). Besides that, activity fosters more activity as found by Gehl (2011) who observed playing children in Denmark. Children are staying and playing mainly in places where the most activity is happening; something happens because something happens, causing a self-enforcing positive cycle. If there is a lack of activity in a place, this cycle will turn negative; nothing happens because nothing happens. Children would rather stay indoors because it is dull outside (Ibid).

### 2.5.4 Safety and risk

Taking risks and getting challenged is important for the development of children, helping them to master skills and testing their limits (Shackell et al., 2008). While growing up, children look for different kinds of challenges and risks in their play. The perception of children liking risks is also shared by the research of Bourke & Sargisson (2014). A child's decision-making in risk situations depends both on factors including gender, age, experience with the activity, influences from others, and the environment (Little, 2010).

Parents think that encouraging their child to take an appropriate amount of risk is important for their development, but parent also feel the need to protect their child from risks (Little, 2010). Chinese parents perceive more natural looking play spaces as low risk (Wang et al., 2018).

While some risk are perceived as positive, dangers to the safety are perceived as negative by parents and children.

Children tend to dislike places that they perceive as unsafe, especially places where they could suffer from physical or social threats (Castonguay & Jutras, 2009). Furthermore, places with physical features that children associate with threats like litter, darkness and graffiti are also disliked (Ibid). Parents residing in areas with high crime rates, compel their children to stay inside due to safety concerns (Orta, 2014).

## 2.6 Conceptual model

Both children, parents, and initiators have a perception on the attractiveness of natural play spaces, which are divided into two subgroups; play forests and natural playgrounds (Figure 3). The perceived attractiveness of natural play spaces is viewed through their perceived accessibility and perception of the features. The child's accessibility is affected by their independent mobility that is allowed or restricted by the parents. There is also a relation between parent and child. Natural play spaces have features and accessibility (location). Natural play space initiators, either from a governmental level or a citizens' initiative, create natural play spaces and thus determine the features of the natural play space. Initiators also determine the location of the natural play space, which can be linked to the accessibility. In some cases initiators can involve parents and/or children in the creation of a natural play space. Parents can also initiate a natural play space through a citizens' initiative.

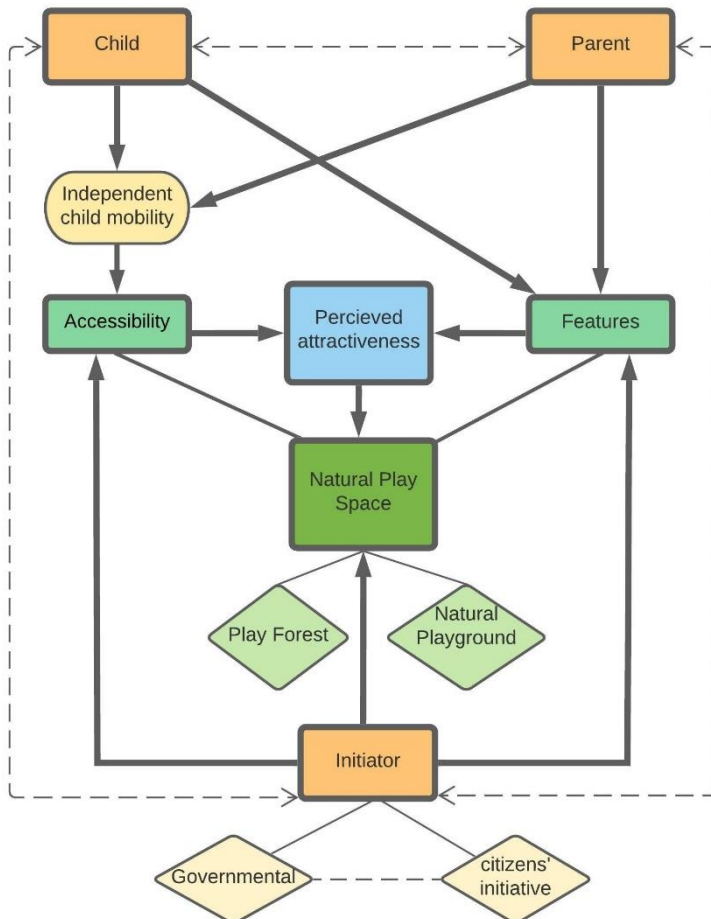


Figure 3: Conceptual model (Author, 2020)

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## 3. Methodology

### 3.1 Cases study description

For this research case studies were used to gain a better in-depth understanding of the natural play spaces in Midden-Groningen. A collective case study was used, this entail the involvement of multiple cases with the goal to learn more about the phenomenon and its general conditions (Punch, 2014). Multiple sources and data collection methods are often used for case studies (Ibid). This further confirmed the choice for the mixed method research approach.

After an extensive Google search, it can be said that the municipality of Midden-Groningen has the most natural play spaces in the province of Groningen, namely eleven (Ontdek Midden- Groningen, 2020). This extensive Google search was done through filling in the name of the municipality (newly formed name as well as pre-formed name) followed by natural play space and natural playground. After that, the multiple online sources that showed up from the search terms were read. When a source made a clear indication of the preces of a natural play space it was counted and the name of the natural play spaces was noted as well, since multiple sources could mention the same natural play space. The highest number of natural play spaces in province of Groningen can thus be found in the municipality of Midden-Groningen. The high quantity of natural play spaces allowed for a multiple usable case, and therefore the research was conducted in Midden-Groningen.

Midden-Groningen is a newly formed municipality since 2018 consisting of the former municipalities Hoogezand-Sappemeer, Slochteren, and Menterwolde. It is located in the province of Groningen, the Netherlands. In 2019 the municipality counted 60.899 inhabitants, from which 14.8% is aged between 0 and 15. The municipality is currently dealing with small population shrinkage (1%) (Alle cijfers,2020). Due to the merge, the three municipalities were transformed into one big municipality, that now also shares its' facilities. This could partly explains the highest number of natural play spaces in the province of Groningen. When looked at the former municipalities, three natural play spaces are located in Hoogezand-Sappemeer, five in Slochteren and three in Menterwolde.

The cases used in the research are the 11\* natural play spaces in the municipality of Midden-Groningen, that are listed on the website from *ontdek Midden-Groningen* (2020) and described as great places to play in nature. Additionally, Speelbos Meeden was added to the list. Figure 4 shows a map with the location of these natural play spaces.

- Dorpsrandpark Slochteren,
- Dorpsrandpark Zwaneveldsgat
- Dorpsrandpark Noorderwold
- Dorpsrandpark 't Kooiland
- Vos en Bos
- Jongenseiland
- De Noordbroeksterkroon
- Lutje Borg
- Speelbos Meeden
- Mammoetpad \*
- De Ent \*

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\*: Mammoetpad and de Ent were not included as cases

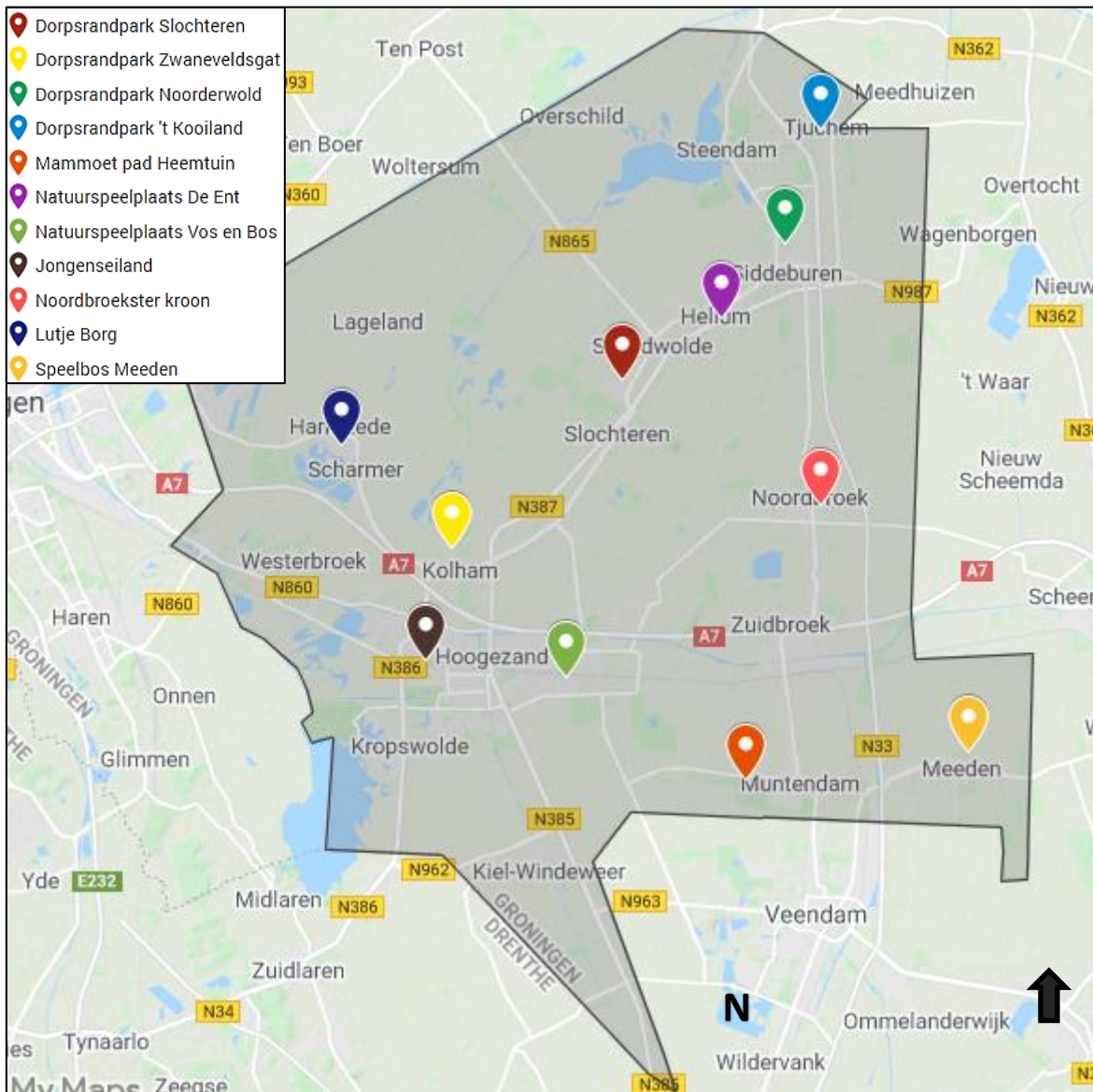


Figure 4: Map of natural play space location in Midden-Groningen (Author, 2020)

### 3.2 Data collection

This research dealt with an explorative main research question about the perceived attractiveness of natural play spaces by children, parents, and initiators. To answer this question, a mixed method approach was used. A mixed method approach involves collecting and analysing qualitative data as well as quantitative data (Punch, 2014). The advantage of a mixed method research design is that it combines the strength of quantitative and qualitative research methods. At the same time, mixed method research also compensates for the weaknesses of both methods (Ibid). With this mixed method approach quantitative data through on-site observations and qualitative data through interviews, were collected. Desk research was conducted to supplements the observations. Observations were a useful method to collect descriptive data about the features of natural play spaces. Interviews were used to gain a more in-depth view of the perception of natural play spaces, especially since this research deals with perception; which are subjective. The interviews were conducted among three different target groups namely, children, parents, and natural play space initiators. The results from the interviews helped gaining more insight in the perceived attractiveness of natural play spaces by children, parents and initiators.

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### 3.2.1 Desk research

To gain more insight in the natural play spaces in Midden-Groningen desk research was used, where secondary sources (mainly websites and news articles) were used to gain more information about the natural play spaces. It also provided background information about the creation, history, and management of (some) natural play spaces. The information about the features of natural play spaces, gathered from the desk research, was supplemented by on-sight observations (see paragraph 3.2.2). By using first-hand data as well as second-hand data a more complete image can be formed about the features of natural play spaces. This also balances the issues that observations and desk research have. Desk research is dependent on the works of others and could therefore be sensitive to subjectiveness.

### 3.2.2 Observations

Insight in the features of natural play spaces in Midden-Groningen was gained through observations and the earlier mentioned desk research. To gain a general impression of the natural play spaces in Midden-Groningen, the natural play spaces were visited in August and September 2020. In October, the natural play spaces were visited again for the observations. These observations were conducted through a quantitative structured approach, with the help of an observation schedule that was developed by the researcher, inspired by '*Design for Play: A guide to creating successful play spaces*' created by Shackell et al. (2008), see Figure 2 in chapter 2.5.

With inspiration from the guide by Shackell et al. (2008), and some specific point added by myself the following main observations point are used for the observation schedule (see appendix A)

- Observation characteristics
- Natural play space attributes (type and number)
- Traditional play attributes (type and number)
- Other attributes (type and number)
- Landscape characteristics
- Access routes
- Other remarks

Based on the location principle (2), observation point about the location and access roads were made. Usage of natural elements (3) and multiplicity of play experiences (4) inspired observations point about natural play space attributes and play equipment. The challengingness (8) can also be related to this. The environmental principle (1) and natural elements (3) were also used for inspiration for the landscape characteristics observations. Other type of attributes such as seating are also mentioned by Shackell et al. (2008), to make play spaces more comfortable, also for parents and other visitors. Fencing is also specifically mentioned in the guide from Shackell et al. (2008), since it is appreciated by parents of younger children, while older children could be discouraged from use by it. Therefore, fencing will also be used as a observational point. Pictures were also taken during the fieldwork excursions, to supplement the observation schedules and help to create a clearer image of the natural play spaces in Midden-Groningen.

Observations as a data collection method have some limitations that must be kept in mind. One of these limitations is that the observations are subjected to external forces, that could not be controlled. To take these external forces into account, the date and time of the observation were noted as well as the weather conditions. These factors could influence the number of people that are observed in natural play spaces. Another limitation of observations is the observer herself. The observation point from the schedule themselves are objective (types and numbers), but it could be possible that some observation points are missed or counted double. This issue was be countered by bringing an observation partner.

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### 3.2.3 Interviews

The qualitative data for this research was conducted through interviews with three different target groups; children, parents/caretakers, and natural playground initiators. Interviews as a data collection method were chosen because they are a very useful method to access the perception of people and, meanings and definitions (Punch, 2014). For this research semi-structured interviews were used to gain more in-depth information from the target groups. All interviewees of a target group were asked the same set of open-ended questions. The open-ended questions allowed for the possibility to ask follow-up questions. The order in which the interview questions were asked dependent on the interviewee, to allow for a more 'natural' flow in the interview.

The initial plan was to conduct all interviews on location (natural play space). This was unfortunately not possible due to Covid-19 restrictions and poor weather. Therefore, some interviews were held digitally. One interview was conducted per person. The length of the interview differed between interviewees. For children, the length of the interview was based on their age and attention span. All children were asked the general questions and the questions about their perception of the natural play space. When the child's attention span allowed it, questions about playing outside in general were asked as well. The interviews lasted 5 till 15 minutes. Parents received similar questions as children and were asked all the questions. The interviews with parents lasted 10 till 20 minutes. Children and parents were also shown three pictures of different types of play spaces; traditional playground, natural playground, and play forest (Appendix D), and asked to rank them based on their attractiveness. The idea to use pictures during the interviews was drawn from Wang et al. (2018) who also use this in their research about play space attractiveness. Initiators were asked a set of different questions. These interviews lasted 15 till 45 minutes, depending on how much an initiator had to tell.

The sampling method used to find interviewees differed per target group. Children and parents were found through a variation of different non-probability sampling methods, which are appropriate for explorative research (Punch, 2014). Criterion sampling was used since interviewees need to adhere to certain criteria to be useful for the interviews. Children that were interviewed had to be primary school age (6-13) and live in the municipality of Midden-Groningen because that is the spatial boundary of the research. Parents must have children who visit a natural play space and live in Midden-Groningen. The initial plan was to approach children and parents through primary schools and neighbourhood associations. This was however not possible because of covid-19. Instead, interviewees were found through snowballing and voluntary response sampling. This could be seen as convenience sampling, with the risk of missing information and lowering the credibility (Punch, 2014). To reach out to possible interviewees messages on social media pages from towns and neighbourhoods were posted. This resulted in a few more interviews but not much as hoped for. Furthermore, some interviewees I had made contact with stopped responding. Since I allowed them some time to maybe still respond back, there was not a lot of time to find new possible interviewees since a deadline was set to find and interview respondents.

Because there were only a small number of initiators, all initiators were contacted. Thus, not requiring a specific sampling technique. It was possible to reach out to all the initiators except the ones' from Noorbroeksterkroon. Multiple emails were sent, but unfortunately with no response back. Therefore, less can be said about the Noordbroeksterkroon. Only information from the observations and desk research was used for this case.

Due to the Covid-19 measurements from the Dutch government, I had to keep 1.5-meter distanced from the interviewees. This created another issue for the research, that was found during the interview pilot, were it was nearly impossible to audio-record the interviews. Due to this distance, the audio recorder (mobile phone) could not be placed close enough to myself and the interviewee, making it hard to listen back to the audio recording.



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Besides that, it was intended to conduct the interviews with children and parents on location. Audio recordings made outside are prone to nuisance such as wind, cars, and other noises outside. During the pilot it was made clear that outdoor audio recordings with 1.5-meter distance would not work. Therefore, it was decided to make notes during the interviews instead of audio recordings. This has unfortunately the disadvantage of not having the ability to listen the interview back. Given the circumstances this seemed the best approach.

### 3.2.3.1 Natural play space initiators

Initiators were interviewed because they could provide more insight in the developmental- and planning process of natural play spaces. They also provided the motive(s) for creating a natural play space. Initiators can be governmental or civil actors who come up with the idea of creating a natural play space. Parents can also be initiators (Verstrate & Karsten., 2016.). The four Dorpsrandparken were initiated by the former municipality of Slochteren (Vertisol, 2020). Vos en Bos was initiated by the neighbourhood associations of Boswijk and the Vosholen (Wijkkrant Boswijk, 2017). Speelbos Meeden was initiated by the village cooperation (Menterwolde.info, 2020). Vos en Bos and Speelbos Meeden are thus created by a group of organized citizens. Jongenseiland, and Noorbroeksterkroon were initiated by neighbourhood residents (Jansen, 2018; Kansrijk Groningen, 2017). Information about the initiator(s) of natural play space Lutje Borg in Harkstede could not be found, but pupils from the local school came up with ideas for this natural play space (RTV Noord, 2009). During the interview with the municipality, it became know that the municipality of Slochteren created Lutje Borg. Initiators were contacted through email or phone call. Citizen initiators were contacted on social media since their other contact information was not available elsewhere.

### 3.2.3.2 Children

Children were interviewed to gain in-depth knowledge about their perception of the attractiveness of natural play spaces and the accessibility. (Natural) Play spaces are designed for children, and in some cases with the involvement of children. Children are also the primary users of (natural) play spaces. Therefore, it is of interest how they think about these spaces. While interviewing children it is important to keep language use in mind. This means not using word that are too difficult for children to understand but also not belittling them by using only very simple words. Children are often capable of understanding and providing more information than they are given credit for (Ergler et al.,2015). Besides that, it was important to gain permission from the parents/caretakers before interviewing (See paragraph 3.4 Ethics).

### 3.2.3.3 Parents/caretakers

Parents were interviewed because they are responsible for raising their children, which also involves play. Besides that, parents control their child's mobility and allow or restrict their child. Because of this it is of interest to take the view of parents also into account. Parents were asked similar interview questions as the children with regard to their perception of natural play spaces. A difference between these two interviews is that parents were asked to answer questions about their children and themselves, while children were only asked questions about themselves. Another minor difference is the questions that were asked at the start of the interview to gain some information about the interviewee, since some questions were not applicable.

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### 3.3 Data analysis

The data gathered from observing the features of natural play spaces in Midden-Groningen was mainly for descriptive purposes. This data showed which features are present in natural play spaces in Midden-Groningen. The gathered data from the observations is displayed in tables, so it can be compared. The data from the observations was also used to compare the presence of certain natural play space features showing which features are common and which features are less or uncommon. Later the observations were also linked to the interviews to see how they correspond.

The interviews were analysed through coding, with software from Atlas.ti 8. After the interviews were transcribed, open coding was used to give general coded to text fragments. Thereafter axial coding was used to compare codes, merge codes, and create sub-codes. All transcripts are not attached to the appendices of this document, but submitted through an additional file (available by request).

### 3.4 Ethics

While conducting a research it was important to do this in an ethical manner. This means not causing harm to the involved participants and the environment (Clifford et al., 2016). For this research that entailed respecting people's privacy. To ensure ethical behaviour during this research, the following measures were taken. At the start of the interview, the interviewees were informed about the intentions of the interview. Interviewees were also be asked for permission to be recorded on audio. Since a part of the researched group involves minors, extra ethical considerations had to be taken into account. Before interviewing a child, their parent(s) was asked for consent, to interview their child. After that the child itself was also be asked for consent. The intentions of the research were then made clear to the parents and the child. For the children this was done in an easily understandable, but not degrading, way. Interviewees were told that they could withdrawal any moment during or after the interview. They also had the right to not answer a question(s) if they did not want to. Interviewees are kept anonymous, by not using their name in the research. Instead, the age, gender, and siblings (*n* brother/sister) of an interviewed child is used. For a parent their age, gender (mother/father), and the number and age of their child(ren). This way used quotes are given some context without affecting the interviewees privacy. Names and functions of initiators are used beneath the quotes.

Another ethical consideration kept in mind was my own positionality. By age I am not a child anymore and I am also not a parent. This could position me a bit as an outsider. This could be beneficial on the one hand since it gives me a more objective (distant) view, but on the other hand it could make it more difficult for me to fully understand the perception of children and parents.

Lastly, extra ethical considerations were added with regard to the Covid-19 pandemic. At the time of writing this, the Dutch government had set rules to prevent the virus from spreading (Rijksoverheid, 2020). During this research, these rules were followed. Thus Keeping 1.5 meter distance from interviewees and not shaking hands. Children did not have to keep 1.5 meter distance from each other (Ibid), but distance was kept from them. Interviews would be postponed or conducted digitally when the interviewer or the interviewee had Covid-19 symptoms. Interviewees were informed about this as well. This measure was however not needed.

## 4. Results

### 4.1 Observations and desk research

#### 4.1.1 Desk research

In the following section the ten natural play spaces, as listed by Ontdek Midden-Groningen (2020) and additionally Speelbos in Meeden, will be described based upon the desk research. It should be noted that not a lot of information was available online about some natural play spaces. The results from the desk research are supplemented by the observations (see paragraph 4.1.2.). Pictures taken during the fieldwork are added in this paragraph to give a better image of the natural play spaces.

#### Dorpsrandparken

The Dorpsrandparken Slochteren, Zwaneveldsgat, Noorderwold , and 't Kooiland were all created by Vertisol; a landscaping company. These parks fulfil multiple function including; walking areas, natural play spaces and also rainwater collection (Vertisol, 2020). The construction of the Dorpsrandparken was commissioned by the former municipality of Slochteren.

#### *Dorpsrandpark Slochteren*

Dorpsrandpark Slochteren facilities a high hill and climbing tower with a view over the whole park (Ontdek Midden-Groningen, 2020). There are also Scottish Highlanders (cows) roaming around (Ibid).



*Figure 5: Pictures of Dorpsrandpark Slochteren; name-sign, watchtower, log (Author, 2020)*

#### *Dorpsrandpark Zwaneveldsgat*

In Kolham the Zwaneveldsgat is located. This Dorpsrandpark offers a parcour (trimbaan) and raft over a pond (Ontdek Midden-Groningen, 2020). In the Dorpsrandpark Zwaneveldsgat Exmoor ponies roam around for green maintenance (Ibid).



Figure 6: Pictures of Zwaneveldsgat; landscape, kabouterpad, parcours (Author, 2020)

### Dorpsrandpark Noorderwold

Dorpsrandpark Noorderwold in Siddeburen offers a playground, cross track, and football field (Ontdek Midden-Groningen, 2020). A bat-basement (vleermuiselder) and sand-martin wall (oeverzwaluwenwand) were created together with an ecologist (Vertisol, 2020). Scottish Highlanders walk around freely in the park (Ontdek Midden-Groningen, 2020).



Figure 7: Pictures of Noorderwold; name-sign and landscape, hut, landscape (Author, 2020)

### Dorpsrandpark 't Kooiland

't Kooiland, located in Tjuchem, used to be a land consolidation forest (ruilverkavelingsbos) that was transformed into a Dorpsrandpark (Tjuchem.net, 2020). Because it was intended for the park to also have a play function, pupils from a local elementary school could bring up ideas (Ibid). During the realization, that started in 2011, inhabitants were also involved. A hill was created as well. Besides that, benches, a fireplace, and an information board were places. The natural maintenance is partly done by Soay sheep (Ibid).



*Figure 8: Pictures of 't Kooiland; wooden bridge, bench in landscape, entrance with trashcan (Author, 2020)*

### Vos en Bos

Vos en Bos, located in Hoogezand-Sappemeer, was a small birch forest that was meant to be cut down by the municipality, but was instead transformed into a natural play space by the neighbourhood associations Stichting Bewonersorganisatie Boswijk e.o. and the Vossenstreek, together with the Belevingscollectief ((Wijkkrant Boswijk, 2017). The project started in 2017 with the first phase where the first steps were made to create a natural play space. This included the creation of log paths, a fireplace, wooden sculptures, benches, and a wooden name sign (Ibid). In 2018 the second phase was started called waterworks. As the name shows water play elements were added in this phase, including a water pump. Furthermore, sand was added around the water play area (Wijkkrant Boswijk, 2018).



*Figure 9: Pictures of Vos en Bos; entrance with sculptures, waterplay, log parcours (Author, 2020)*

### Jongenseiland

Jongenseiland offers an open space with football field, forest edge, cross track, and surrounding water (ontdek Midden-Groningen, 2020). The creation of Jongenseiland supposedly started in the early 1970's and was owned by a local farmer who let the neighbourhood children play there. The farmer later donated the patch of land to the municipality, given that it always must be a play space for the youth (Jansen, 2018). In 2017 one of residents (Martina), who grew up near the Jongenseiland as a child, noted that Jongenseiland had a neglected impression. The grass was seldomly mowed, the forest edge has grown over and children were rarely (seen) playing there.

The large private gardens in the area provide a place for children to play outside but are not suitable for making contact with other children from the neighbourhood. Playing on the street is too dangerous due to traffic and there is no playground nearby (Ibid). In the summer of 2017, a local supermarket hosted a campaign where a local initiative could win 1000 euro. The initiative to revive Jongenseiland won. Initiator Martina first consulted other neighbours who organize the annual neighbourhood-day (burendag), who referred her to the area director (gebiedsregisseur) (Jansen, 2018). Because it was intended to make Jongenseiland an adventurous and natural play space again, the Belevingscollectief (group of artists involved with environment design) were involved. The initial ideas for Jongenseiland would exceed the 1000-euro budget, but the municipality provided extra funding through the neighbourhood budget (Ibid). The initiator finds it very important that all ages feel welcome at the Jongenseiland. Therefore, the revived Jongenseiland has different components for different age groups. Besides the name (Jongenseiland translates to boys-island), girls are also very much welcome. The initiator hopes that the Jongenseiland would become a place of connection, for children as well as adults. (Jansen, 2018)



*Figure 10: Pictures of Jongenseiland; log parcours, wooden play ship, fishing pier (Author, 2020)*

### Noordbroeksterkroon

The Noordbroeksterkroon, located in Noordbroek, started in 2016 as a patch of wasteland that was transformed by local residents into a communal village garden. The initial idea was to clean up the wasteland and create a safe space for children, but it grew out in much more with the ideas from other inhabitants. The Noordbroeksterkroon offers a variety of amenities including a fireplace, fruit trees, wooden amphitheatre, rope and walking bridges, benches, and vegetable garden. The Noordbroeksterkroon is maintained by a group of volunteers (Kansrijk Groningen, 2017). Since 2018 the Noordbroeksterkroon also features a wheelchair assessable path, that was created by pupils from a local school and the Belevingscollectief (Menterwolde.info, 2018).



*Figure 11: Pictures of Noordbroeksterkroon; rope bridge, landscape, wooden bridge also usable for disabled people (Author, 2020)*

### Lutje borg

Just as the Dorprandsparken, natural play space Lutje borg, located in Harkstede, was also created by Vertisol (Vertisol, 2020). It features a water element with poles and rocks to climb on (Ontdek Midden-Groningen, 2020). Lutje borg was opened in 2009 and is based on ideas from local primary school pupils. It was even nominated for the national green play space competition in 2009, but did not win (RTV Noord, 2009).



*Figure 12: Pictures of Lutje borg; tree log, vertical logs over water, landscape (Author, 2020)*

### Speelbos Meeden

At the start of this research Speelbos Meeden did not exist yet, but it was decided to still add it to the natural play spaces that are researched, since it matches the definition of a natural play space used in this paper. Speelbos Meeden, located in the town of Meeden, was opened on the 26<sup>th</sup> of September by the children of the village (Muntendam.info, 2020 b). Speelbos Meeden was created by the Werkgroep Outdoor Meeden (village council), together with the Belevingscollectief (Menterwolde.info, 2020). The creation of Speelbos Meeden started in 2019, it took the volunteers a year to finalize (Menterwolde.info, 2020 b). Funding for the project was provided by the municipality of Midden-Groningen, several subsidies, donations from local companies, and a sponsor campaign held by children from the village (Menterwolde.info, 2019). The cost of the project were 79.000 euro (Menterwolde.info, 2020).



Figure 13: Pictures of Speelbos Meeden; mix of traditional and natural play equipment, hut (frame), tree log parcours (Author, 2020)

### De Ent\*

The Ent is a natural play space located in Hellum. Children can play in the wooden play-ship or with water and sand (Ontdek Midden-Groningen, 2020).

No observations were conducted at the Ent (see text below \*)

### Mammoetpad \*

The Mammoetpad (mammoth path) is a part of the Heemtuin; a landscape garden and forest in Muntendam. In 2015 the Mammoetpad was created in cooperation with the Belevingscollectief (Heemtuinmuntendam.nl, 2020). It is characterized by its' playfulness, use of natural materials and variation in wooden structures on land and in the water. the Mammoet pad is inspired by the prehistory, hence the name. It also features a watchtower (Ibid). No observations were conducted at the Heemtuin (see text below\*)

\* After visiting all ten natural play spaces in Midden-Groningen for the first time, to gain a general impression, it was decided to exclude Mammoetpad and the Ent. The *Mammoetpad* is excluded, since it is part of the *Heemtuin*, which has opening and closing times and is even closed on some days (entrance is free of charge). This makes it more difficult to access and a kind of outlier compared to the other natural play spaces that are always open and thus accessible. The Ent in Hellum is excluded because it seemed not to fit with the description of a natural play space during the visit. The play space did feature natural elements such as sand, waterplay equipment and wooden play equipment, but it was not set in a natural area. The Ent is located behind a former elementary school and surrounded by pavement. Due to the exclusion of these two plays paces, nine natural play spaces remained as cases for this research.

## 4.1.2 Observations

All the observations made during the fieldwork are displayed in the table in appendix F. This table show the number and type of play attributes, number and type of other attributes (not for play), landscape characteristics, and other remarks. Attributes that could be counted are displayed with a number, attributes that were present but could not be counted in number are marked with an X.

Logs (in several cases placed in a parcours) were the most observed natural play equipment both in absolute numbers and were seen at every location (Figure 7, Figure 9, Figure 10, Figure 12, Figure 13). Tree stumps were also observed multiple times, but not at every location. Paths made from natural materials were also observed at nine out of ten locations. Huts, waterplay (pump), and play sand were only observed in a few locations and in smaller numbers (Figure 7, Figure 9, Figure 10)



Traditional types play equipment were only observed around three natural play spaces (Figure 13). Sport facilities were also observed near most of the natural play spaces, with football field/goals being the most observed sport facility. Bike cross was also observed at a few locations.

Other attributes that are not meant for play were also observed during the fieldwork. Benches were the most counted type of other attribute and were also present at all locations (Figure 8). Trashcans were also observed at several locations, except three of the Dorpsrandparken. Name signs were observed at all the locations except Zwaneveldsgat. Information signs were only present at the Dorpsrandparken as well as walking routes (Figure 6) except for Slochteren.

The type of landscape of the natural play spaces was very similar. All locations featured an open grass field, and all except one featured deciduous forest (Figure 5, Figure 6, Figure 11, Figure 12). A Pine forest was only seen at one location. Types of vegetation that were present at all locations were grasses, bushes, and small trees. Medium sized trees were seen at nine locations, and big trees at eight. Height differences were also noted at all locations, but was at some locations more severe than others. Water was also present at or around most of the locations, specifically ponds. (Figure 7, Figure 10, Figure 12). Only the Dorpsrandparken were fenced, these were also the only locations with animal for green maintenance.

## 4.2 Interviews

The interviews with initiators created more insight in the processes of creating and maintaining a natural play space and their perception. Through the conducted interviews with children and parents a deeper insight was gained in their perception of natural play spaces and play behaviour.

### 4.2.1. Interviews natural play space initiators

For this research six initiators were interviewed, Table 1 gives an overview of their function and type of initiator (municipal/citizen), and the natural play space(s) the interview was about.

Table 1: Overview of interviewed natural play space initiators (Author, 2020)

Name	Function	Type of initiator	About	Interview conduction	Date
Hendrik de Jong	Chairman of Stichting Bewonersorganisatie Boswijk e.o.	Citizen (organized)	Vos en Bos	In person	12-11-2020
Ciske van Egeraat	Chairman and secretary of the Vossenstreek	Citizen (organized)	Vos en Bos	In person	11-11-2020
Marijke Smit	Volunteer at Outdoor Werkgroep Meeden	Citizen (organized)	Speelbos Meeden	Digital (email)	20-11-2020
Martina Hoogerhuis	Citizen re-initiator	Citizen (unorganized)	Jongenseiland	Digital (video call)	18-11-2020
Klaas Schipper	Supervisor green and play policy Midden-Groningen	Municipal	Natural play spaces in Midden-Groningen	In person	11-11-2020
Klaas Kiewiet	Policy officer green municipality Midden-Groningen	Municipal	Dorpsrandparken and Lutje borg	Digital (phone call)	23-11-2020

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## The creation of natural play spaces: organization and motives

The municipality of Midden-Groningen does not create (natural) play spaces. If citizens want a natural play space, they have to organize and create one themselves. Furthermore, the municipality of Midden-Groningen also transferred the maintenance of many play spaces to citizens (neighborhood organizations). Citizens are thus responsible for the (natural) play spaces themselves. Repairs are still done by the municipality due to safety laws and regulations. The municipality still does some green maintenance including mowing the grass and removing hogweed, as stated in the following quote:

*“Maintenance is also placed with the residents as much as possible. The technical aspect of natural play spaces is different from ordinary playgrounds. For the maintenance of the playground, the residents must do as much as possible themselves, they are not allowed to do repairs themselves.”*

– Klaas Schipper: supervisor green and play policy Midden-Groningen

The initiation of a natural play Space in Midden-Groningen differs between the nine researched play spaces. The four Dorpsrandparken and Lutje Borg, that were mainly initiated by the former municipality of Slochteren. With the creation of the Dorpsrandparken and Lutje Borg inhabitants were informed about the plans. The quote below shows the involvement of citizens in these developments. Besides informing, residents were also asked to help with the construction. In the cases of the Dorpsrandparken and Lutje Borg a more top down process can be seen, with some involvement of citizens.

*“We first made a sketch and then we showed it [to inhabitants] at an information evening. And residents were also asked to help with the construction, as in Tjuchem.”*

-Klaas Kiewiet: Policy officer green municipality Midden-Groningen

The creation of Vos en Bos, Jongenseiland, Speelbos Meeden, and Noordbroeksterkroon were done by citizens; thus a bottom-up process. However, there are differences between the creation of these play spaces by citizens. Vos en Bos and Speelbos Meeden were created by citizens who were already organized in some way. Vos en Bos was initiated by the neighborhood associations of Boswijk and the Vosholen. Similarly, Speelbos Meeden was created by the Werkgroep Outdoor Meeden as part of the village cooperation.

Jongenseiland and Noordbroeksterkroon on the other hand were initiatives that started from one or a few unorganized citizens. About the Noordbroeksterkroon not a lot can be said, since it was not possible to arrange an interview. Jongenseiland was initially started by one inhabitant who had won a prize from, from a local supermarket, that could be used for improving social cohesion in the neighborhood. The subsequent quote from the re-initiator of Jongenseiland explains how the initiative eventually got started.

*“Well it has been my initiative. In 2016 there was a Lidl prize, that was Lidl helps the neighbourhood or Lidl helps locally. And then you had 1000 euros as the main prize and then you could register something like a bingo evening or something for the elderly. And then I thought gosh it might be useful to renovate Jongenseiland so that children can go there.”*

-Martina Hoogerhuis: re-initiator of Jongenseiland

The reasons for creating natural play spaces in Midden-Groningen also vary between the play spaces. Vos en Bos, the four Dorpsrandparken, Jongenseiland and Speelbos Meeden were all places that were in some way redeveloped. In the case of the Dorpsrandparken, already existing (land consolidation) forests were moderated to create parks. In the case of Dorpsrandpark Slochteren the municipality wanted to redevelop an allotment

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complex due to a decline in members. This caused some uproar among inhabitants and the alderman so nothing was done. With the new alderman the idea of creating a park was looked at again and the park was created. After that the municipality also looked at the possibilities to create parks in Kolham, Tjuchem and Siddeburen. Thus the creation of one Dorpsrandpark in Slochteren resulted into the creation of the other Dorpsrandparken. Different organisations were involved with the creation of the Dorpsrandparken. Within all the Dorpsrandparken the inhabitants were involved and the municipality was responsible for the construction. In Tjuchem and Kolham the local primary school were involved. Besides that the forestry commission was also involved in the creation of Dorpsrandpark Kolham. Furthermore a nature and agricultural organisation was involved as well. The Dorpsrandparken are not only place that provide a place to play in nature for children, they also fulfill other recreational purposes for other age groups. Natural play is encouraged in the four Dorpsrandparken since it fits in with their natural- and ecological value.

Vos en Bos was established due to the redevelopment of a small birch forest, that would otherwise have been cut down by the municipality. Since the neighbourhood organizations of Boswijk and Vosholen wanted to keep the forest, they wanted to create some purpose for it.

*“So we managed to keep it [forest] in the first instance, because houses are going to get build. But we are really fighting to preserve it, because we put a lot of energy into it. So well then we had the forest and together with Boswijk we thought it would be nice if there was something exciting for the children as well. Then we started working on it and with the Belevingscollectief. They made drawings and well that's actually how it was established.”*

-Ciske van Egeraat: Chairman and secretary of the Vossenstreek neighbourhood association

After the two neighbourhood organisations consulted with each other and the municipality the idea to create a natural play space was made. The municipality brought them in contact with the Belevings collectief; a group of artists that create natural applications with only natural materials; and thus also natural play equipment.

Jongens eiland and Speelbos Meeden have a similar way in which they were created. Both were already existing play spaces that were neglected. Jongenseiland was, as mentioned earlier, a patch of land donated by a farmer where children could play. For several years it was getting neglected till it was re-initiated by a citizen., as can be read in the quotes below. The reason for making it a natural play space was to make it fit in with the environment.

*“All around it [jongens eiland] is only a forest edge that you can walk all around. So everything is actually made from natural material. Then I think it is such a shame. Throughout the municipality you already have those standard metal playracks, plastic and that just doesn't fit here [jongens eiland]. We thought it really is a piece of natural landscape, and a natural playground really fits with that.”*

- Martina Hoogerhuis: re-initiator of Jongens eiland

Speelbos Meeden was also a playground that was in decay but transformed into a new natural play space, while also keeping some of the playequipment that was already there. Inspiration for Speelbos Meeden was drawn from Vos en Bos by one of the volunteers who used to live there.

Reasons for especially creation natural play space that are named by the initiators of Vos en Bos, Speelbos Meeden, Jongens eiland and the Dorpsrandparken is that it fits nicely with the environment. Besides that it is also mentioned by the initiators of Vos en Bos and Speelbos Meeden that natural play space are more challenging for children to play.

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*“It fits nicely into nature. You have a beautiful natural appearance and it is often more of a challenge for the children. [...]. This is with tree trunks that children use for different things and their imagination is stimulated. They can clamber, climb, and often have some balance exercise, jumping, and discovering. Well there is more creativity in it, it is just a bit more exciting than a normal playground.”*

-Ciske van Egeraat: Chairman and secretary of the Vossenstreek neighbourhood association

For the construction of natural play spaces money, materials and labour are needed. How these means are allocated differs between the natural play space. The Dorpsrandparken and Lutje Borg were created by the former municipality of Slochteren, therefore the means needed for the construction mainly came from them. Besides that residents were also asked to help with the construction.

For the natural play spaces initiated by citizens money had to come from different parties. Citizens' initiatives can get funding from the government and external parties such as companies. In the case of Vos en Bos a part of the funding came from the neighbourhood budget of Boswijk (since it has the attention neighbourhood status). The case of Jongenseiland is extraordinary since a part of the funding came from a local supermarket. Some materials that are needed for the natural play spaces that were initiated by citizens, mainly trees, were donated by the municipality of Midden-Groningen. Labour that was needed to construct Vos en Bos, Jongenseiland, Speelbos Meeden was mainly provided voluntarily by residents. Besides that the Belevingscollectief was also hired to oversee and help with the construction. The following quote from the chairman of neighbourhood association Boswijk shows how and where a citizens' initiative gets funding, and the importance of self-reliance in citizen initiatives

*“I was also working to obtaining subsidies from all kinds of clubs, Jantje Beton, Rabobank, the province [Groningen], the municipality, Westerkwartier, the NAM. So we had that question everywhere to help us financially with a subsidy. That was also possible because the plan included a lot of self-reliance. If you had everything carried [by others] it would be too expensive. But because we would also do a lot ourselves, we could also apply for a subsidy.”*

- Hendrik de Jong: chairman of Stichting Bewonersorganisatie Boswijk e.o.

### Natural play space perception

When asked about how successful the natural play spaces in Midden-Groningen are, all initiators gave positive reactions. The successfulness of a natural play space was mainly defined by how much it was used. When a natural play space gets used a lot it was deemed successful. Additionally, the usage of the natural play space by different age groups of children was also seen as a strong point. As the following quote shows, the chairman of neighbourhood association Boswijk views the natural play space as more challenging and exciting, also for older children.

*“In general, older children can just go about their business in that forest, light a fire in the evening and act tough, that sort of thing”*

- Hendrik de Jong: Chairman of Stichting Bewonersorganisatie Boswijk e.o.

Additionally, to the usage of natural play spaces by children of different ages, they are also used by people from all ages. Teenagers, adults, and the elderly have also found their way to these spaces. The Dorpsrandparken, Vos en Bos and Jongenseiland managed to become spaces for all ages. The following quotes from the chairman of Boswijk and the re-initiator of Jongenseiland emphasize how Vos en Bos and Jongenseiland have become places for everyone. The position of the Dorpsrandparken might differ a bit, since they are parks with a general recreational function, while Jongenseiland and Vos en Bos have the main function of play spaces.

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*“It [Vos en Bos] is used a lot, not only by what we had in mind, a playground for children and then also the older youth. You also see many people who walk the dog and then sit on a bench to chat, you see a lot of smaller children at the waterplay areas with parents, who can also socialize there. We like that. That people come into contact with each other”*

- Hendrik de Jong: chairman of Stichting Bewonersorganisatie Boswijk e.o.

*“That it has become a place that benefits teenagers as well as children and adults. So, for the younger children you really have the survival track [parcours] and the pirate boat, where they can really use their imagination. For the teenagers you have a bench and a fishing spot where they can chill together. You have the cross track for the older youth and some young people who go cycling there. All around it, we have made sure that the elderly people can walk their dog or take a walk.”*

-Martina Hoogerhuis: re-initiator of Jongens eiland

With regard to the participation society, the involvement of inhabitants with the natural play spaces is seen as a positive aspect by the municipality as well as the initiators of Vos en Bos. Since the municipality does not create play spaces residents have to take action if they want a new play space. From the standpoint of the municipality citizens' initiatives are appreciated since it is something that is really carried by the citizens. The effectiveness of citizens' initiatives is further empathized by the following quote from Klaas Schipper.

*“That is why the residents' initiative is much better, that they do something themselves. Whether that is natural play or just playing, if the residents pick it up that way, they also support it.”*

- Klaas Schipper: supervisor green and play policy Midden-Groningen

For the neighborhood organization of Boswijk it was really nice to see the involvement from the neighborhood, since one of their goals is to improve the involvement and social cohesion, as illustrated by the quote from the chairman of Boswijk's neighborhood organization. The second quote from Klaas Schipper shows that the municipality is also satisfied with the process of Vos en Bos, but that citizen initiatives would not be possible in some other neighbourhoods in Hoogezand.

*“If you asked to come along to help, it was sometimes difficult, but for Vos en Bos it was no problem. A lot of people also children came to help, which I thought was very nice, that children came to help. They also shoveled and pruned and remove things. I thought that was the most positive thing about the whole project that we just made something beautiful out of it together.”*

- Hendrik de Jong: Chairman of Stichting Bewonersorganisatie Boswijk e.o.

*“Look Vos en Bos is of course the story that the residents also do the regular maintenance. At the moment I think that is still a successful process there. They are working on a new project. At the school there, at that wadi. I am also involved in this, also with the area manager. I assume that it will be handled well in that neighbourhood. But I do not really think starting such a project in other neighborhoods in Hoogezand will get off the ground. When it is really purely a residents' initiative, they [residents] pick it up.”*

- Klaas Schipper: supervisor green and play policy Midden-Groningen

Besides strong aspects, the natural play spaces in Midden-Groningen are also struggling with some negative aspects. Some of these negative aspects lie in the natural play space itself, while others are more of a (anti)social kind. Issues related to the natural play spaces themselves mentioned by Outdoor Werkgroep Meeden as well as

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the municipality is the usage of natural materials. These issues are brought up in the quotes below. For the municipality the usage of natural materials causes some issues with safety laws and regulations, since they are still responsible for play spaces in the public domain, as illustrated by the quote from Klaas Schipper. Besides that natural materials can also decay faster.

*“The only negative thing we now discover is that some wooden parts get slippery in the autumn and winter and this leads to unforeseen falls”*

*-Marijke Smit: Outdoor Werkgroep Meeden*

*“Plus the fact that they worked with tree trunks and stuff. That natural wear and tear is very fast and then I get involved. How do I manage my annual inspection? And what can I change before it has to have another TUV inspection? Because it must remain safe”*

*-Klaas Schipper: supervisor green and play policy Midden-Groningen*

Anti-social behaviour that is mentioned by all initiators is littering. Besides that, vandalism is also an issue for Vos en Bos and Jongenseiland, as stated in the quote below. The initiator from Jongenseiland also reported drug use and drug dealing. When talked about these kinds of anti-social behaviour, teenagers were quite often mentioned. Both Vos en Bos and Jongenseiland are sheltered, which sometimes attract the wrong kind of people who perform anti-social behaviour. In the Dorpsrandparken anti-social behaviour was less common, as can be read in the quote from Klaas Kiewiet. Apart from a one-time incident involving teenagers, the only real issue was littering.

*“And they [negative aspects] may be part of it. And those are the things you do not really want. It is also a place that is very isolated from the rest. So it is also a place where a number of teenagers are able to deal and smoke weed together and use laughing gas.”*

*- Martina Hoogerhuis: re-initiator of Jongens eiland*

*“In itself it is not too bad here. and young people must also have a place and may also be in the parks. The teenagers themselves do not cause a lot of problems, sometimes a bit of noise. It is mainly the waste they leave behind, cans and plastic, but also glass bottles. And they also break and there is glass everywhere. And that is of course not safe if children are also playing there, but also of course for the grazers. So we will clear that up as soon as possible.”*

*- Klaas Kiewiet: Policy officer green municipality Midden-Groningen*

While no interview with the initiators of Noordbroeksterkroon could be arranged, it was found in a news article that they also had to deal with vandalism and littering (Menterwolde.info c, 2020). Instances of anti-social behaviour were also here related to teenagers (ibid) as the quote from the newspaper interview with one of the initiators illustrates.

*“The Noordbroeksterkroon is a place for young and old. Unfortunately, we notice that primary school children are now leaving the garden, because rude teenagers from Noordbroek and Zuidbroek are hanging around. They shout nasty comments. They don't have to be vandals, of course, but this atmosphere is also very unfortunate.”*

*- Marjolein Eikenaar: initiator of Noordbroeksterkroon*

### **Threads for natural play spaces**

Initiators have to deal with different kind of threads that complicate the existence of natural play spaces and could even cause their removal.

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One of these threads is a shortage in volunteers. Because inhabitants are now responsible for the creation and maintenance of (natural) play spaces they have to do everything themselves. Thus, volunteers are needed for these tasks, finding volunteers at the start of the creation did not seem to be a problem for the natural play spaces that were initiated by citizens'. Inhabitants are enthusiast that something is created and are willing to help. After a while, this enthusiasm seems the shrink. This causes especially issues for the maintenance of the natural play space. Due to issues with finding enough volunteers the neighbourhood association of Boswijk has outsourced the maintenance of the traditional playground to an external company, that is paid for from the neighbourhood budget. The maintenance of Vos en Bos is still done by volunteers from Boswijk and the Vosholen. Jongenseiland also has issues with finding enough volunteers for the maintenance. Their position is further complicated by the fact that they do not have a neighbourhood organization, and thus no budget. The obstacles that Jongenseiland is facing with volunteering are further demonstrated in the following quote.

*“That is [volunteering], in short, very much a drama. There were 3 of us who started it. And now I am alone. The other two have said I like it, but my kids are too old now and I have other activities so I don't participate anymore. The first day that the boat and pier were placed, I think we were with 25 people. And the 2<sup>nd</sup> time it was already about 10. And again later with the maintenance to make things tidy again, then it became 5 and now I'm pretty much alone. So I was a bit done with it by now.”*

- Martina Hoogerhuis: re-initiator of Jongens eiland

In the Dorprandsparken there seems to be less problems with volunteering and the maintenance according to Klaas Kiewiets' quote below. The primary maintenance tasks there are still done by the municipality, such as pruning and feeding the grazers. Residents take care of the other maintenance through working groups. Through these working groups some residents were trained to also use big equipment.

*“With the working groups we still have enough people to do this work, but citizens are indeed increasingly busy, and more is being asked of them.”*

-Klaas Kiewiet: Policy officer green municipality Midden-Groningen

Another thread mentioned by the initiators of Vos en Bos and Jongenseiland are related to funding. As mentioned before the Julianastraat where Jongenseiland is located does not have a neighborhood association, which makes it very difficult to get funding. There hope is now that the neighborhood organization of Foxhol will take them in. As described in the following quote, the chairman of neighborhood association Boswijk fears that when the distribution of the livability fund will change in 2022, they will have less money.

*“That is something I am afraid of. That if we will soon have no more money as Stichting Bewonersorganisatie Boswijk. That we get much less, then you have to cut back somewhere, and the largest costs are Vos en Bos and the playgrounds. So yes, then we will have to do a little less with it. Then either the Vosholen has to help out or find external money somewhere else, otherwise we will not get further than just maintaining it a bit, and if something breaks, we have to request money or try to get money to replace it. That is what I fear for the future.”*

-Hendrik de Jong: chairmain of Stichting Bewonersorganisatie Boswijk e.o.

Another issue that natural play spaces, that were initialized by citizens, face is the bureaucracy they have to deal with. This was especially raised in the following quote by the neighborhood association of Boswijk. They face problems with dealing with the municipality and how difficult it is to get things done. Furthermore, they find it also difficult to keep up with the shifts within the municipality, as can be read in the second quote.

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*“One of the points that bothers me very much is that it is very difficult to get things done by the municipality. An example of this is that from the beginning it has been agreed that we maintain the forest, we do that properly, but the hogweed is a task of the municipality. And every year you have to discuss with them again; why did you remove the hogweed from the ditch, but not in the forest? Because they do not go further into the forest than only a meter or 2”*

- Hendrik de Jong: chairmain of Stichting Bewonersorganisatie Boswijk e.o.

*“You also have a lot of shifts. We have got a new area director, we now have a temporary one, and the area manager, who is the man who controls the greenery, we just got a new one. Each time you have to reinvent the wheel. I find that difficult.”*

- Hendrik de Jong: chairmain of Stichting Bewonersorganisatie Boswijk e.o.

A similar issue was also mention in the quote from Outdoor Werkgroep Meeden. Where they did not anticipate how much time it would take up and the complexity of applying for subsidies.

*“What we as a working group did not expect how much time it takes as a volunteer to always connect all parties with each other and arranging volunteers. Subsidy application is a complex world, you need to know how it works. It is a very substantial investment of time.”*

-Marijke smit: Outdoor Werkgroep Meeden

### **The future of natural play spaces**

When asked about the future of their natural play space, initiators were generally optimistic. The reaction of some initiators could best be described as carefully optimistic. How the future looks for the natural play spaces will differ a bit from one natural play space to another. Generally, to sustain the natural play spaces in Midden-Groningen threads need to be overcome and money and volunteers are needed to maintain and even expand the natural play spaces. The involvement of inhabitants is especially important because without them natural play spaces could not exist. New natural play spaces might also come to exist if citizens really want them. It should however be noted that within the participation society, more and more is asked from citizens, which is also mentioned by Klaas Schipper from the municipality of Midden-Groningen.

*“I hope people have time to continue to support and request things like that. Because if you look at what people have to do nowadays; public space, informal care, you name it. Then I think, I don't know if there are still many people who have time to do that.”*

- Klaas Schipper: supervisor green and play policy Midden-Groningen

Meanwhile the initiator of Jongenseiland hopes, in the quote below, to be able to lift onto the neighbourhood association of Foxhol for maintenance, volunteers and subsidies.

*“The intention is that the maintenance will profit a bit from Foxhol. That just a larger group of people around it who will also feel responsible for it. Hopefully, the other plans will be realized sometime in the future. That it [Jongenseiland] remains a nice place for children and everyone who comes there.”*

- Martina Hoogerhuis: re-initiator of Jongens eiland



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Vos en Bos was dealing with uncertainty if they could stay existing due to neighborhood development. For now, it seems almost certain that they could stay. The neighborhood associations of Boswijk and Vosholen are now working on some plans to further develop Vos en Bos with a zipline, outdoor gym, and bike cross. The statement from the Hendrik de Jong shows optimism for the future of Vos en Bos.

*“I think just if it's really official; black on white, that it [Vos en Bos] will continue to exist.  
Then it will just go on and never stop, I think.”*

- Hendrik de Jong: chairman of Stichting Bewonersorganisatie Boswijk e.o.

The Dorpsrandparken will keep on existing according to Klaas Kiewiet, as can be read in the quote below, but are subject to dynamics. The natural play function of some of the parks might decline.

*“The function of the Dorpsrandparken will continue to exist, people who walk there and as a meeting place.  
In a number of places, playing diminishes somewhat due to the disappearance of primary school and the death  
of that teacher. But it all seems dynamic to me what happens to the parks.”*

-Klaas Kiewiet: Policy officer green municipality Midden-Groningen

#### 4.2.2 Interviews with children

For this research 12 children were interviewed about their play behaviour and perception of natural play spaces. In Table 2 an (anonymised) overview of the interviewed children and parents is given. Children and parents from the same household are given the same number behind their *'gender characteristic'*<sup>2</sup>. Children that were interviewed together are given the same capital letter behind their gender characteristic. Since not all natural play spaces are covered with interviews, and a 2/3 was conducted about Vos en Bos, the results of the interviews with children are not representative for Midden-Groningen. The interviews with children can still be used to gain insight in the perception of children with regard to their play behaviour and perception. With the issue of representativity in mind, the results of the interviews with children are discussed further in the following paragraph.

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<sup>2</sup> Girl/boy or mother/father

Table 2: Overview of interviewed children and parents (Author, 2020)

First letter	Gender	Age	Sibling/child (age)	About	Interview conduction	Date	Contacted through
<b>Children</b>							
L	Boy A	11	1 sister (7)	Vos en Bos	In person	16-11-2020	snowballing
A	Girl 1 A	11	1 brother (8)	Vos en Bos	In person	16-11-2020	snowballing
T	Boy 1 A	8	1 sister (11)	Vos en Bos	In person	16-11-2020	snowballing
M	Girl 2	10	1 brother (6)	Vos en Bos	In person	3-11-2020	Facebook post
T	Boy 2	6	1 sister (10)	Vos en Bos	In person	3-11-2020	Facebook post
S	Boy 3 B	10	3 stepbrothers (13, 16, 19)	Vos en Bos	In person	5-11-2020	snowballing
A	Boy B	10	1 brother (7) 1 sister (5)	Vos en Bos	In person	5-11-2020	snowballing
D	Girl 4	11	Only child	Vos en Bos	In person	10-11-2020	snowballing
T	Boy 5	8	Only child	Speelbos Meeden	Digital (phone call)	19-11-2020	snowballing
T	Boy 6	9	1 sister (12)	Jongenseiland	Digital (video call)	28-11-2020	Facebook post
M	Girl 6	12	1 brother (9)	Jongenseiland	Digital (video call)	28-11-2020	Facebook post
D	Girl 7	11	1 stepbrother (23)	Jongenseiland	In person	24-11-2020	snowballing
<b>Parent</b>							
B	Mother 1	39	1 daughter (11) 1 son (8)	Vos en Bos	In Person	16-11-2020	snowballing
C	Mother 2	40	1 daughter (11) 1 son (6)	Vos en Bos	In Person	3-11-2020	Facebook post
F	Mother 3	41	1 son (10) 3 stepsons (13, 16, 19)	Vos en Bos	In Person	5-11-2020	snowballing
P	Father 4 C	49	1 daughter (11)	Vos en Bos	In Person	10-11-2020	snowballing
H	Mother 4 C	47	1 daughter (11)	Vos en Bos	In Person	10-11-2020	snowballing
M	Father 5	44	1 son (8)	Speelbos Meeden	Digital (phone call)	19-11-2020	Facebook post
M	Mother 6	37	1 daughter (12) 1 son (9)	Jongenseiland	Digital (video call)	28-11-2020	Facebook post
M	Mother 7	50	1 son (23), 1 stepdaughter (11)	Jongenseiland	In person	24-11-2020	snowballing
R	Mother	34	1 son (4)	Jongenseiland	Digital (video call)	24-11-2020	Facebook post
L	Mother	32	1 daughter (2)	't Kooiland	Digital (chat)	23-11-2020	Facebook post
S	Father	45	2 sons (9, 12)	't Kooiland	Digital (phone call)	2-12-2020	Facebook post

### Playing outside behaviour

From the interviews it can be noted that children generally liked playing outside. None of them said that they would rather play indoors. Reasons for preferring playing outdoor, as illustrated by the quote below, included; more possibilities for activity, doing your own thing, positive effects on health, meeting with friends, and a list of play activities; running, cycling, and climbing in trees.

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*“Preferably outside, because then you can do your own thing and climb trees.  
That is not possible inside, because there are no trees there.”*  
- Girl M (10), 1 brother (6): Vos en Bos

3 children stated that they liked playing outdoor and indoor equally as much. When children liked both, they all named a condition when they liked playing indoors or outdoors more. This is illustrated by the following quote.

*“I like both equally. It depends mainly on the weather.  
With nice weather in prefer [playing] in the forest, or Foxhol, or in the garden.”*  
-Girl D (12) one stepbrother (23), Jongenseiland

The time spend playing outdoor by the children ranged from 45 minutes till ‘the whole day’. How long they spend outdoors depended for some also on conditions like the weather or day of the week, as shown by the following quote.

*“Basically just every day, we get out of school at a quarter past two and then we play outside until the evening  
and all day on weekends.”*  
-Boy S (10) tree stepbrothers (13,16,19), Vos en Bos

There were a lot of location named by the children when asked where they played outside. The schoolyard as a place to play was most often named, namely 8 times, followed by a local natural play space which was named 7 times. Other locations where the children played outdoors were in the neighbourhood and in the garden. The quote from boy T shows some of these places;

*“Preferably here [Vos en Bos], also often in the garden and cycling and running through the street,  
I am a real speed champion!”*  
– Boy T (6) one sister (10), Vos en Bos

When asked with whom the children liked to play outdoor, several different kind of relationships were named; friends, siblings, children from school, and neighbours. Some children answered the question by naming some names, as shown by the quote from girl A

*“Almost with the whole class and with [name friend] and [name brother], and also with the girl next door.”*  
- Girl A (11) one brother (8), Vos en Bos

### **Play space preference**

To make the interview a bit more interactive, the children were shown 3 pictures (appendix D) of different play spaces; a traditional playground, a natural playground, and a playforest. Thereafter, they were asked to rank these play spaces from 1 to 3, and tell something about their ranking. The main share of the children preferred the natural playground the most followed by the play forest, see

Table 3 for all the rankings of children and parents. Reasons for liking the natural play ground the most were about its’ look/aesthetic, being different from a traditional playground, and the possibility for play activities. The quote from girl D gives an example of this. Reasons for liking the play forest the most, as illustrated by boy L , were about liking nature/forest and possibilities for play activities such as building huts, tag, and hide and seek.

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*"I liked the look of the natural one [natural playground] ,there are a lot of things you can play on" -  
Girl D (11) one stepbrother (23), Jongenseiland*

*"I like being in nature and just doing fun things, and it [play forest] is just not made by people".  
- Boy L (11) one sister (7), Vos en Bos*

Notably, none of the children likes the traditional playground the most. This goes even further, since they all ranked the traditional play ground 3th place. Reasons for ranking the traditional play ground last include it being boring, childish/for small children, and them being very common. This sentiment can also be seen in the quote below:

*"Because it's just a little bit boring and for toddlers."  
- Boy T (8) only child, Speelbos Meeden*

### **Local natural play space perception**

When asked about their opinion on the local natural play space, the children were positive in general. The word that was used most to describe their opinion was nice [leuk]. Their opinion was often followed by the possibilities that the play space provided as can be seen in the following quote:

*"yes, I like it, I have been there often and also building huts and the parcours."-  
Girl D(11) only child, Vos en Bos*

Despite the positive remark that was made first, some children followed it up by a negative remark, as can be seen in the quote below. These negative remarks were about anti-social behavior such as littering and vandalism mainly from teenagers.

*"Just nice, but it is a pity that there is a lot of trash and things that are damaged"  
- Girl L (11) one brother (8), Vos en Bos*

What children likes the most about their local natural play space varied. It should be kept in mind that not all natural play spaces have the same attributes and elements, See chapter 4.1 for more information on this. The following quotes from three different natural play spaces illustrate what children liked the most about their local natural play space:

*"That there are many branches, you can make huts, climbing trees and you can play hide and seek very well".  
- Boy T ( 9) one sister (12), Jongenseiland*

*"Building huts, and those tree trunks to walk on, and you can also play hide and seek very well here"  
- Girl D (11) only child, Vos en Bos*

*"The parcours, and [building] huts, and the forest"  
- Boy T (8) only child, Speelbos Meeden*

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As shown by the quotes, despite of the different play spaces, children tend to like similar activities and attributes. The favorites of the children could be classified into three different categories:

- play activities: climbing in trees, building huts, hide and seek,
- play attributes: parkour (tree logs), waterplay (water pump), paths
- Natural elements: water, sand, trees/branches

Another favorite aspect that some children mentioned, but would not fit in one of the categories, was the big size of their natural play space, mentioned about Vos en Bos and Jongenseiland.

When asked about their opinion on the natural play space a few children already mentioned some negative. When children were asked what they disliked about their local natural play space the most common answer was related to anti-social behaviour including littering, vandalism, and nuisance. Boy L stated the following issues as problems, and also proposed a solution to them:

*“It is a shame that everything is broken and that there is so much trash.  
We could clean this up with the neighborhood on a Saturday”*  
-Boy L (11) one sister (7), Vos en Bos

Dislikes related to the natural play space itself were the natural play space being a bit empty (about Jongenseiland), disliking some play equipment, and thorny bushes (about Vos en Bos), as illustrated by girl M:

*“Bushes and plants that prick, if you are there in the summer with bare arms and legs you get a lot of scratches, and boys who destroy everything.”*  
- Girl M (10) one brother (6), Vos en Bos

Another more ‘unique’ problem was stated by six-year-old boy T, as illustrated in the following quote:

*“There are not enough hard branches to chop and make a hut,  
and other children who take the branches home”*  
– Boy T (6) one sister (10), Vos en Bos

### Natural play space improvements

To improve their local natural play space the children suggested several ideas. These improvements were either about adding liked elements or removing disliked elements. Elements that children wanted to add were more or new play equipment such as swings, a zipline and, bike cross. Some children also wanted to add more trees. The quote from girl M shows the desire for more play equipment. The quote from boy L illustrates adding favourite elements and removing disliked elements. Boy T mentions the wish for a bigger natural play space.

*“That there would be more in the middle part like a zipline”.*  
-Girl M (12) one brother (9), Jongenseiland

*“Even more Vos and Bos, and all new equipment,  
and the prickly bushes have to go, and the teenagers have to go; they destroy everything.”*  
-Boy L (11) one sister (7), Vos en Bos

*“yes, it is already a lot of fun, but the play forest can be even bigger, as big as the whole village.”*  
– Boy T (8) only child, Speelbos Meeden

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### Local natural play space accessibility

The accessibility of the local natural play space was mainly dependent on the age of the child. The children aged six and eight were not allowed to travel to their local natural play space by themselves. For boy T of eight it dependent on his father or mother as shown in the quote below:

*“Usually, Dad crosses the busy road with me, and Mom comes along.”*

– Boy T (8) only child, Speelbos Meeden

The interviewed children age 9 and older, were allowed to visit their local natural play space by themselves. The most common mode of transport to get to the natural play space was by bike and walking, which were both mentioned 7 times. Besides that, two more unexpected modes of transport were also mentioned namely, by hoverboard and boat, see quote below.

*“By foot or with the boat, you can just dock it there”*

– Boy T (9) one sister (12), Jongenseiland

The accessibility of their local natural play space was broadly deemed safe by the children that had independent mobility. Their biggest safety concern in traffic was speeding cars. The following quote from nine-year-old boy T illustrates this traffic concern:

*“Yes, that the people who drive very fast in the street, and then have to drive less fast, just the normal speed.”*

– Boy T (9) one sister (12), Jongenseiland

The accessibility of the local natural play spaces is mainly age dependent. Older children are allowed to visit the natural play space by themselves, while younger children need a supervisor. The route to their local natural play space is safe according to the children with independent mobility, but speeding cars are an issue to their traffic safety.

### 4.2.3 Interviews with parents/caretakers

For this research 11 parents were interviewed about their child's outside play behaviour, their own preference for play spaces and their perception of the local natural play space (see Table 2). Their children were aged between 2 and 23 years, but the interview questions were only about the children aged below 13. Some of the interviewees were also stepparents. The biggest share of the parents were interviewed about Vos en Bos, thus issues related to representativeness must be kept in mind.

### Play behaviour

According to the interviewed parents, there are several benefits of playing outside for their children. Some of these benefits are related to health such as fresh air, exercise, and sunshine. Stimulating creativity and the imagination were also named by some parents. Learning about nature and developing a bond with were also mentioned as benefits. The benefits that parents mention of playing outside are also supported by scientific literature (Burdette & Whitaker, 2005; Luchs & Fikus, 2013; Clements, 2004; Berg et al., 2007). The quote from mother B shows some of the mentioned benefits of playing outside according to a mother. Furthermore, being away from the screen (watching television and gaming) was also mentioned several times. Father S however remarked that gaming was not always bad, and that children can also learn from it as illustrated by the second

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quote. The last quote from mother L illustrates that playing outside is also a part of a child's upbringing and the role parents play in it.

*"I think it is important for their imagination that they decide for themselves what they are going to do. And it is healthy, in nature, fresh air. It is often active rather than sitting at the computer. So yes, it is actually healthy for body and mind. "*

-Mother B (39) of one daughter (11) and one son (8), Vos en Bos

*"I understand that the world of the PlayStation is also important, that they control that for the future. A bit of a combination of both. I do not like the shooting games as much, but 'farm simulator' that they buy things there and learn a bit of entrepreneurship. That is also interesting. I think a PlayStation is certainly not bad. It is also cooperating with others, that is also important. Going along with developments. I also think playing outside is always important, which can also be playing football. "*

-Father S (45) of two sons (9 and 12), 't Kooiland

*"Children develop through play; learning through discovery. A child must therefore move in order to develop. We go out every day. Around the house, to the kabouterpad or the forest at 't Kooiland. We have an outside child and that is and because of the upbringing, but it may also have to do with our attitude. [...] I always go with her because of her age. In addition, children mirror your behavior, so I think involvement is very important. "*

-Mother L (32) of one daughter (2), 't Kooiland

Parents were mixed about the playing outside behaviour of their child(ren). Some parents stated that their child played outside enough, while others stated that their child should play outside more. This difference can even be seen within children of the same household as the following quote from mother C illustrates.

*"[Name daughter] should play outside more often, luckily she discovered Vos and Bos with the class. [name of son] plays outside enough. When we have just returned from school, he often stays outside. [name of daughter] is allowed to visit Vos en Bos by herself and is often here with children from her classroom. We try to encourage this too. [name of daughter] also often wants to use the tablet, she asks for this in the morning."*

- Mother C (40) of one daughter (11) and one son (6), Vos en Bos

Parents named a variety of locations where their child(ren) played. Locations that were named often include the backyard, local natural play space, local traditional play space, street/neighbourhood, and the schoolyard. The first quote shows some of these mentioned locations. The second quotes from mother R also mentions play spaces that are further away.

*"The football field of VV Hoogezand and otherwise they often play in the schoolyard, but less often since that new school there, and secretly also in the Vosholen on the sandheaps and where they are building. And also in Vos en Bos, but I must say that that is more often in the summer."*

-Mother F (41) of one son (10) and 3 stepsons (19,16,13), Vos and Bos

*"Sometimes at Jongenseiland, not alone; he it is too small for that, and in the garden. We also go to other nature play spaces, Vos en Bos, and at Kolham and in Groningen there is also one at Kardinge. Because of corona you can't do much, so we are discovering all those places in the area. And also, at school of course. And then in playgrounds but we don't really have a playground in the area, then you soon have to go to Foxhol and*

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*at the Jumbo [supermarket] and there is a mini playground that is a slide and tumblebar then you are quickly bored.”*

-Mother R (34) of one son (4), Jongenseiland

If parents came along with their child(ren) when playing outside mainly depended on the age of the child. Younger children were not allowed to go alone, while older children were allowed to. Some parents also came along sometimes just for fun [gezelligheid], as illustrated by the following quotes from mother B and father F. The quote from the father also shows a social aspect to coming along; meeting other parents.

*“In the beginning yes, but now they can go alone.*

*I sometimes come along with the dog, but that is for fun.*

-Mother B (39) of one daughter (11) and one son (8), Vos en Bos

*“Yes sometimes, my wife sometimes comes along.*

*It is also a bit dependent on the weather and if there are other parents you will indeed come along.”*

-Father F (44) of one son (8), Speelbos Meeden

To improve the time spend outside, parents suggested several ideas such as adding more play equipment and opportunities. Organizing activities was also mentioned by a few parents. The quote below mentions how playing outside can be improved according to a mother by adding more play equipment and organizing activities. The mother is however a bit skeptical if this would be possible in her neighbourhood due to a lack of resident involvement.

*“More possibilities I think, you have seen that ship here, you have that parcour here that is completely overgrown, that also makes it less interesting. Something with water like a pump, that is nice, and height differences that's nice too, they have a cross track here, but it is also overgrown. I believe that residents should do it themselves, It is surprising that such thing is allowed, but that is why the residents should probably do it themselves. Height differences, Something with huts or something, in Drenthe you have the Boomkroon pad, there you also have large huts made from branches. You could do that yourself if you are physically capable of it. And occasional activities that are fun too, but that is not possible with corona. Only our neighborhood is not that much in favor of that, I have the idea, they are a people who say that's nice, but then they do nothing.”*

-Mother R (34) of one son (4), Jongenseiland

The following quote from stepmother M also shows the relation between improving playing outside behaviour and parenting, and also the relation between playing outside and increased gametime. It further illustrates the difference in relationship between a stepparent and stepchild.

*“I can say stricter rules, that is again the case of being a stepparent and not the real parent.*

*If she were my daughter, I would give her a little less game time, but her mother and father are more responsible for that I think.”*

-Mother M (50) of one son (23) and one stepdaughter (11), Jongenseiland



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## Play space preference

Parents preferred a more natural type of play space, ranking either the play forest or the natural playground the highest, or choosing for a draw between these two. The play forest was a few times more often ranked as number 1 compared to the natural playground. Reasons for liking the natural kinds of play spaces were for their play possibilities, look/aesthetic and liking nature. The first quote from a mother shows her ranking and the reason behind it. None of the parents ranked the traditional play space the highest, it was even ranked 3<sup>rd</sup> by all parents, except one father who stated that all playgrounds were good but dependent on the age of a child, as illustrated by the second quote. Reasons for ranking the traditional playground last were it being very common and a bit boring. Some parents did not particularly dislike the traditional play space, but stated one of them had to be last, also illustrated by the first quote from mother F.

*“1 play forest: well because I think that you can really enjoy nature. And that as a child you get a positive association with it and at a later age as an adult you are inclined to also go out into nature. And because that place actually makes the greatest appeal to make something out of nothing, playing in the leaves, building huts, discovering things.*

*2: natural playground: it actually attracts me the most afterwards. It is also what you prefer, but I myself still love those natural elements, the robust ones.*

*3 traditional playground: it's not that I find it unattractive or anything, but you have to make choices.”*

*-Mother F (41) of one son (10) and three stepsons (19, 16,13), Vos and Bos*

*“I think it differs per location, you can't make that everywhere, I think that a 1st [traditional playground] is very good, but that really belongs in a village or neighborhood. Someone aged 6 thinks that is childish. I think they are all very important. I think that 2nd [natural playground] is very good, but if there is already a forest then the play forest. Actually, I like them all. I also really liked that 2nd [natural playground], that is something you build. I think play forest, but that really age dependent, up to 6 years the 1st [traditional playground] and from 6 to 10 the 2nd [natural playground] and someone over 10 will no longer play in that 2nd [natural playground].*

*There are more challenges in the forest. Not one is the most beautiful, it really has to do with age.”*

*- Father S (45) of two sons (9 and 12), 't Kooiland*

## Local natural play space perception

Most parents had a positive perception of their local natural play space. Despite having a preference for a natural type of play space, parents were more critical about their local natural play space. There were even a few parents who had a negative perception of their local natural play space. The first two quotes from father F and (step)mother M show a positive perception toward their local natural play space. The third and fourth quote from two mothers show a rather negative perception. Differences in perception of the same natural play space were also found. The second quote from a (step)mother shows a positive perception about Jongenseiland while the third quote from a mother shows a more negative perception about the same play space.

*“I think it's amazing that they have set this up with a group of volunteers. There is a lot of enthusiasm for it. A lot of children play here [...] so nothing more than praise for it!”*

*- Father M (44) of one son (8), Speelbos Meeden*

*“Yes I like it, we use it more to walk the dog. It's also a safe place they [children] can't leave. Unless you have very small children the water can be dangerous. And no cars can come here.”*

*-Mother M (50) of one son (23) and one stepdaughter (11), Jongenseiland*

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“Well as I said, I think it is a bit mediocre compared to other places like Vos en Bos, you have more nice places there, you have more height difference there, a circle in the middle, you do not have many options here.

It is a bit boring and it is not well maintained now.”

-Mother R (34) of one son (4), Jongenseiland

*“Quite closed, I don't know what [who] is in here and if I think that's something for our daughter.”*

- Mother H (47) of one daughter (11), Vos en Bos

Aspects that parent perceived as positive about their local natural play space were that it was natural/wild and challenging, natural elements like trees and branches, play attributes such as the parcour and waterpump (if present), and play possibilities. The first and second quote from a mother M and F mention some of these positive aspects. Some parents also found it positive that it was made with/by the community as the third quote from mother B shows.

*“That it is really natural, the branches that children can drag along, building huts.*

*Not everything is maintained by the municipality. We must do that as residents.*

*but that it is really natural and that the children can enjoy dragging.”*

-Mother M (37) of one daughter (12) and one son (9), Jongenseiland

*“I think what I find a very powerful point is freedom; in 2 sentences that the children have the feeling that they have a whole forest and also the freedom that they can light a fire, which is not the intention. There are no signs that says this is not allowed, that is not allowed. I also really like that water pump that has been installed. Everyone runs towards it. But after 2 pumps it is ready enough. Also, that it is nice and unspoiled, you have play elements but also nature itself. That they do not make use of the play elements but of other things, that they run after each other with branches.”*

-Mother F (41) of one son (10) and three stepsons (19, 16,13), Vos and Bos

*“Very beautiful, it is beautifully made by the resident organizations.*

*I have also worked on it myself. Making paths and wood chips on Saturdays.*

*Very nice because there is already little nature here, that they [children] can really play outside.”*

-Mother B (39) of one daughter (11) and one son (8), Vos en Bos

Parents were also asked about aspects they perceived as negative. Negative aspects can be divided in two groups. The first one being issues that are related to the natural play space itself such as issues with moisture; swampiness and equipment getting slippery. One of these issues is illustrated by the quote below from father M. These type of issues were not mentioned a lot.

*“Yes, it is located in a forest, but certain places are very swampy. I understand that the municipality will be improving that. So, I hope for that.”*

- Father M (44) of one son (8), Speelbos Meeden

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The other kind of issues were not particularly related to the natural play space itself and mainly relate to anti-social behaviour including littering, vandalism, conflicts, and in some case drug use/dealing. These kinds of anti-social behaviour were by several parents also linked to teenagers, as can be seen in the first quote from mother C. Another negative aspect that was mentioned was the lack of surveillance, which is illustrated by the second quote from father S. Besides that, a few parents were not satisfied with the state of the maintenance.

*“The youth [teenagers] who demolishes and smudges things here. I find this a pity. And they used to play here themselves and are now ruining it for others. Sometimes the greenery is not maintained so well, the municipality should come here more often for the greenery. And there is often trash, but that is more up to the people themselves, there is a trash can. I told my children too, put it in your pocket or throw it in the trashcan.”*

- Mother C (40) of one daughter (11) and one son (6), Vos en Bos

*“You always have a part about supervision. it is a bit away from the built environment. And a child alone? When you are there as a child, a child does not go there alone. I do not always assume the negative, but if something happens then you have nowhere to go. Due to lack of supervision. You can safely send away 10 to 12 years old, if the eldest [son] goes alone, the youngest cannot come along yet, but when he is 10 it will be different.*

*Everything has to do with age.”*

- Father S (45) of two sons (9 and 12), 't Kooiland

### Local natural play space improvements

When asked about how the local natural play space could be improved parents had several ideas. Some parents suggested place more play equipment and possibilities, like father F. Other parents proposed ideas to improve the negative aspects they mentioned, such as creating more surveillance and better maintenance, as illustrated by the second quote from mother B. There were also a few parents, including the mother F who were already satisfied with the local natural play ground and thus did not propose any improvement

*“I believe they are going to do some more things, there will be an adventure path, it is also not completely finished, but already opened. Even more play attributes. You have a slide and swing, a natural climbing frame or something like that, I think it would be nice to have a climbing frame with natural wood there.”*

-Father M (44) of one son (8), Speelbos Meeden

*“Maybe a fence around it, to close it, and more surveillance, Maybe camera's?*

- Mother B (39) of one daughter (11) and one son (8), Vos en Bos

*“No actually not. I would like to see these things develop more in the municipality.”*

-Mother F (41) of one son (10) and three stepsons (19, 16,13), Vos en Bos

### Local natural play space accessibility

How parents viewed the accessibility of the local natural play space mainly depended on the age of their child(ren). Some 'obstacles' that were mentioned by parents were crossing the road and speeding cars. The following two quotes from mothers B and C show how they regard the accessibility and safety of their local natural play space. The first quote shows the care a mother has for her children. The second quote highlights the age dependency of accessibility.

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*“Yes in itself it is, just in terms of traffic it is [safe]. They only have to cross one 50 kilometer road, but they will always remain your children. I am always happy when they get home \* laughs \*.*

*-Mother B (39) of one daughter (11) and one son (8), Vos en Bos*

*“[name of son] is still too small to go here himself. It's a bit too far away. He has sometimes done this secretly, but I still find it a bit too dangerous, especially because of the route.*

*[Name of daughter] is already old enough to go here herself and meets up with classmates here.”*

*-Mother C (40) of one daughter (11) and one son (6), Vos en Bos*

Although most parents perceived the route to the natural play space safe, if their child was old enough, some parents proposed safety improvement. These proposed improvements include limiting traffic speed, creating a bike line, and creating a (zebra)crossing, as can be seen in the quote from mother R.

*“Yes, that is of course we just live on an asphalted road where cars drive. And they have of course also done all kinds of things. We had an action, maybe you have already seen that. With those 30 plates and all stickers. It might be best to make it a dirt road \*laughs\*. It just really invites hard driving on asphalt. The only thing that might work is a sidewalk on both sides of the road, but then people have to give up their front garden. But I don't care much about that, but don't think they want to. Maybe I should paint a pedestrian crossing myself to the other side \*laughs\*.”*

*-Mother R (34) of one son (4), Jongenseiland*

## 4.4 Findings

### 4.1.1 features

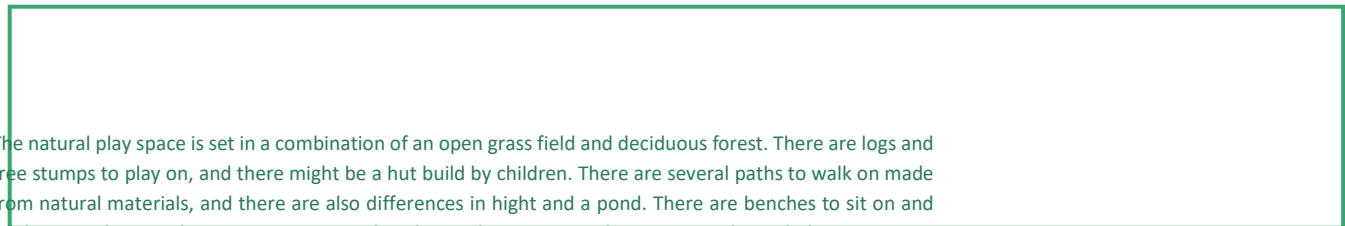
*Q1: What are the features of natural play spaces in Midden-Groningen?*

While the 10 natural play spaces are all unique and created by different initiators, there are still several similarities between them. Some of these similarities were observed for all the locations, while others occurred at the majority of the locations. Logs (parcours) were the most counted type of natural play equipment and also observed at all locations. Huts, (play) sand, and waterplay (pump), were not observed at locations, but if they were observed for a location, interviewees often made positive remarks about these attributes. The use of natural material fits in with the natural environment and concept of natural play spaces, as also mentioned by Shackell et al (2008). Traditional play space equipment was only observed at a few natural play spaces. The presence of traditional play equipment does not necessarily have to be a bad thing since it offers different play experiences for different ages, which is seen as a positive aspect by Shackell et al.(2008). Sport facilities however were observed around most of the natural play spaces, especially football.

Other type of attributes, not for play, were also observed and can help to make the play space also a good public space. The most common ones were benches, seen at all locations. Seating can make a public place more comfortable, and encourage people to stay longer, making it also a better social place (Shackell et al.,2008). This also fits in with the ideas of Jan Gehl (2011), who states that the presence of people (activity) fosters more activity. Name-signs were also observed at all locations except one; and could help the (location of) natural play space being more recognizable as mentioned by Martina Hoogerhuis (Jongenseiland) during the interview. A small detail about these name signs is that they were all made from wood, probably to fit in with the natural environment/theme. Trashcans were also observed at the majority of locations, but not all of them. What however is remarkable is that not a considerable amount of trash was seen at these locations, while a notable amount of littering was observed at Jongenseiland and Vos en Bos; two locations that both had a trashcan. This also matches with what interviewees from Jongenseiland and Vos en Bos said when asked about negative aspects about their local natural play space, namely the issue of littering.

The environment/landscape of all natural play spaces consisted mainly of an open grass field and deciduous forest. The greenery was made up from grasses, bushes, and small trees at all locations, and also medium and large sized trees at most locations. The natural environment was also appreciated by the children and parents. Differences in height were also present in all locations. A body of water was also present at most of the locations. Only the Dorpsrandsparken were fenced. The other natural play spaces had some sort of natural boundaries such as water. These findings connect to the critical view of Shackell et al. (2008) on fencing since it can discourage children from using the play space or give them the feeling that they can only play there. They instead propose more natural boundaries (Ibid), that are thus seen at the other natural play spaces. The fences around the Dorpsrandsparken were deliberately positioned there to keep the animals, who supply green maintenance, inside.

Based on the most commonly observed attributes and characteristic the 'average' natural play space in Midden-Groningen could look like as followed:



The natural play space is set in a combination of an open grass field and deciduous forest. There are logs and tree stumps to play on, and there might be a hut build by children. There are several paths to walk on made from natural materials, and there are also differences in height and a pond. There are benches to sit on and trashcans to keep it clean. A name sign is placed near the entrance. There is no traditional play equipment  
 ex Figure 14: Textbox the average natural play space in Midden-Groningen (author,2021)

#### 4.4.2 motives

*Q2: What are the motives for natural play space initiators to create natural play spaces in Midden-Groningen?*

Because the natural play spaces have different initiators, their origin is also different. Since the municipality of Midden-Groningen does not create play spaces, Vos en Bos, Jongenseiland, Speelbos Meeden and Noordbroeksterkroon, were all initiated by citizens.

The motives for creating a play space in Midden-Groningen seem to differ from what Verstrate & Karsten (2016) mention, namely unsatisfied parents with high social-capital. In the cases used for this research there was not so much an existing dissatisfaction, but rather an almost 'random' window of opportunity that set the development of a natural play space into action. A common origin between the Dorpsrandparken, Jongenseiland, Vos en Bos, and Speelbos Meeden is that they all were developed from something that already existed.

Reasons for specifically creating a natural play space were rather similar between the initiators, the most common being that a natural play space would fit in with the natural environment it would be located. This motive partly fits in with the rise of natural play spaces related to the increasing focus on ecology, sustainability, and 'going green' as mentioned by Verstrate & Karsten (2016). Besides that, some initiators also stated that natural play spaces would be more adventurous and challenging for the children compared to traditional play spaces. The importance of challenging play spaces for children is also highlighted by Shackell et al. (2008). While natural play space want to offer free and adventurous play in a natural setting, they do this in a pre-planned and very regulated environment according to Verstrate & Karsten (2016). So, there is some friction between offering a natural and challenging play space, but it still being regulated by adults.

#### 4.4.3 natural play space perception

##### Initiators

*Q3: How do natural play space initiators from Midden-Groningen perceive the attractiveness of their natural play space?*

Natural play space initiators held a positive perception about their own natural play space. The successfulness of a natural play space was mainly determined by how much it was used. The strongest aspects of the natural play

spaces, according to initiators are children from different ages using them, especially since older children do not like traditional playground as much. Most of the natural play spaces have also become places for people of all ages and stimulate social interaction. Another positive aspect is their creation by/with citizens. It shows the involvement from inhabitant and brings them together. The negative aspects of natural play spaces mentioned by initiators can be divided into issues relate to the natural play space itself; that are related to safety and the usage of wearing natural materials, and issues that are not directly related to the natural play space itself. This includes anti-social behavior- often related to teenagers- such as littering, vandalism and drug usage. The intensity of these anti-social behavior issues differs between the natural play spaces.

### *Playspace preference*

Interviewed children and parents both had a preferences for a more natural type of play space. This corresponds to earlier research where it was also found that children (Fjørtoft & Sageie, 2000; Wang et al., 2018; Jantje Beton, 2018) and parents (Wang et al., 2018) prefer more natural play. Reasons for preferring more natural play spaces by both groups were the natural play equipment, play possibilities, look/aesthetic, and the natural elements. Children's preference for playing with loose natural materials was also found by the research of Fjørtoft & Sageie (2000). The traditional play space was ranked third by all interviewees except one father. Parents had a more noticeable preference for the play forest, while slightly more children preferred the natural play space.

Table 3 shows an overview of the play space ranking.

*Table 3: Natural play space preference children and parents (Author,2020)*

Ranking	Children	Parents	Total
1 play forest	5	4	9
1 natural playground	6	2	8
1 traditional playground	0	0	0
2 play forest	8	2	10
2 natural playground	3	4	7
2 traditional playground	0	0	0
3 play forest	0	0	0
3 natural playground	0	0	0
3 traditional play ground	12	9	21
<b>Draw</b>	<b>1</b>	<b>4</b>	<b>5</b>
Play forest and natural playground	1	3	3
All	0	1	1

### *Perception children*

*Q4: How do children perceive the attractiveness of natural play spaces in Midden-Groningen?*

Children have in general a positive perception about their local natural play space in general. They like the play attributes, play possibilities and natural elements. Building huts, climbing in trees, and logs (parcour) were mentioned quite a lot. Elements that are disliked are anti-social behaviour (often related to teenagers); vandalism and littering, emptiness, and thorny bushes. The accessibility of the natural play space was mainly dependent on the age of the child. In general the children perceived the route to the natural play space safe, but it could be improved by traffic slowing measures and zebra crossings.

## Perception parents

### Q5: How do parents/caretakers perceive the attractiveness natural play spaces in Midden-Groningen?

The perception parents had about their local natural play space was in general positive with some parents having a mix or negative perception. Aspects that were liked by parents of the natural play space were the play equipment and possibilities and it being challenging, wild, and natural. Aspects that were disliked related to the natural play space itself were not mentioned a lot but included issues with moisture. Disliked aspects unrelated to the natural play space itself were mentioned more often, these include anti-social behaviour; often related to teenagers, lack of surveillance, and poor maintenance. Depending on the age, the accessibility of the local natural play space was generally regarded as safe. Some issues regarding safety were speeding cars and crossing the road. To resolve these issues parents proposed traffic slowing measures, a bike path, and a zebra crossing.

### Similarities and differences in perception

An overview is given in Table 4 of the similarities (blue) and differences (grey) between the perception and mentioned themes/aspects by children, parents and initiators. The table in appendix J shows an overview of how many times a certain topic was mentioned. In this table citizen and municipal initiators are merged as one group<sup>3</sup>.

Table 4: Similarities and differences between children, parents, and initiators (Author, 2020)

	Similarities	Differences
Natural play space perception	In general all the groups are rather positive about their local natural play space.	In the group of parents some negative perceptions of the local natural play space were noted, while children and initiators had positive or mixed perceptions.
Natural play space positives	Children, parents, and initiators all mentioned natural play space attributes, natural elements, and play possibilities as positive aspects of their local natural play space. While present at the natural play space other types of attributes and sport facilities were barely mentioned by the groups as positive aspects.	While all the groups do like the natural play space attributes, natural elements, and play possibilities, there are some differences between the groups in which particular aspect they liked. Children mentioned the parcours and paths more often as liked attributes compared to the other groups. Besides that the group of children also mentioned natural elements more than the parents and initiators. While play possibilities were mentioned as a positive aspect by all groups, children named them more often. They were also the only group to mention hide and seek as a play possibility. The (large) size of a natural play space as a positive aspect was only mentioned by children and parents, but not by initiators. The pristine (wild) feel of the natural play space was only mentioned by parent. Parents and initiators found it positive that the natural play space was suitable from children from different age groups, as well as it being educational (used by schools) and created by/with the community. Children did not mention these topics. Besides that, only the initiators mentioned the natural play space being used by people from all different ages as a positive point.

<sup>3</sup> In the cell about 'threads' however, a distinction between these two types of initiators is made since there are some important differences.

<p>Natural play space negatives</p>	<p>All groups mentioned negative aspects that were related and unrelated to the natural play space itself. Negative aspects that were not directly related to the natural play space itself were however mentioned more often by all the groups.</p> <p>A negative point that was related to the natural play space itself mentioned by all groups were issues with moisture (slippery, soggy). Types of anti-social behaviour were most often mentioned as negative aspects about the natural play space. Littering, vandalism, and conflicts were mentioned by all groups as problems. Furthermore, anti-social behaviour was also often related to teenagers by interviewees from all groups.</p> <p>Poor maintenance was also mentioned a few times by all groups.</p>	<p>While there are several similarities between the groups about the negative aspects of their local natural play space, there are still some (small) differences to be noted. Children mentioned slightly more often negative aspects that were related to the natural play space itself.</p> <p>Drugs use/dealing as an anti-social behaviour problem, and a lack of surveillance was mentioned by parents and initiators but not by children.</p>
<p>Natural play space threads</p>	<p>While the question about threads for natural play spaces was only for initiators, some parents also mentioned some issues that could be seen as threads, namely issues with volunteers and the closing of the primary school.</p> <p>Citizen initiators as well as municipal initiators both also perceived issues with volunteering (in the future) as a thread for natural play spaces. This can be a lack of volunteers (due to being busy already) or the drop out of a key person.</p>	<p>In the other cells no difference is made between citizen initiators and municipal initiators, in this cell this difference however is made since they are dealing with different threads.</p> <p>For natural play spaces initiated by citizens bureaucracy; getting things done and organized (with authorities) was perceived as difficult and sometimes time consuming. Besides that issues with (the lack of) money now or for the future were also seen as threatening. Some issues with money can also be related to bureaucracy since initiatives need to fulfill certain requirements to gain subsidies.</p> <p>For the natural play spaces initiated by the municipality the closing of a primary school was seen as an issue, since it could attract less parents with children to the village and thus natural play space</p>
<p>Natural play space improvements /developments</p>	<p>Improving/developing the local natural play space was for many children, parents, and initiators about adding things. Parents and children proposed to add more play equipment as an improvement. This is also in line with the desire some natural play spaces have for future development.</p>	<p>Compared to parents and initiators, children named more different improvements for their local natural play space. They were the only group that mentioned adding more trees, and increasing the size of a natural play space. Children were also the only group that proposed improvements by removing disliked elements of the natural play space. There were some children and parents suggesting to improve the surveillance and maintenance, but this was not mentioned by initiators.</p>

Children, parents and initiators are in broad lines in accordance with each other about their perceptions, liked and disliked aspects, and ideas about improvement. However, there are also still some differences between them. These differences mainly lie in the specific attributes, elements, and topics. Some specifics are more often mentioned by certain groups, while in other cases they are not mentioned at all.

In general, children, parents and initiators are positive about their local natural play space. The natural play equipment, natural elements, and play possibilities are liked by all the groups. Disliked elements of natural play spaces were also generally shared by the groups, especially types of anti-social behaviour were mentioned, often related to teenagers.



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#### 4.4.4 Natural play space improvements and future

*Q6: How can the attractiveness of natural play spaces in Midden-Groningen be improved?*

The most common suggested improvement for the natural play spaces is adding attributes, from which new play equipment was mentioned most often (see Table 4). Despite of the general preference for a more natural kind of play space, some children and parents proposed adding traditional play equipment as an improvement of the natural play space. Adding more play equipment is also a plan that several initiators have for future development of the natural play space. Children also proposed removing disliked elements; thorny bushes and teenagers, to improve the natural play space. Thorny bushes could indeed be removed (if there are volunteers available). The avoidance of thorny plants is also proposed by Shackell et al. (2008). On the other hand, it would make the natural play space less natural. This is also a critique from Verstrate & Karsten (2016) about natural play spaces; that it becomes a child-proofed interpretation of 'nature', designed to minimize risks. Removing teenagers, who were often related to anti-social behaviour, would be difficult, since they can also make use of a public space, which was also mentioned by Klaas Kiewiet. Some parents and children proposed more surveillance, which could reduce acts of anti-social behaviour. Vandalism could be counteracted by carefully considering the location of a natural play space, since hidden spaces are more prone to vandalism (Shackell et al., 2008). Some parents noted that they found their local natural play space a bit remote and concealed, and instances of vandalism were also mentioned and observed here. In the cases of the most natural play spaces in Midden-Groningen, there was initially not a specific plan to create a natural and then find a suitable location, but rather a window of opportunity sparked the idea to re-develop an existing location to a natural play space.

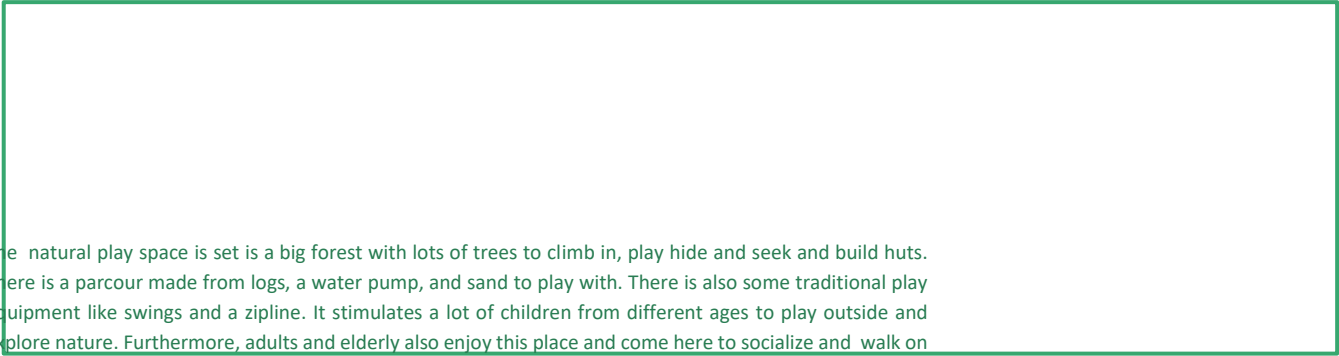
If the natural play spaces can keep on existing would depend on several factors, one of them being able to recruit enough volunteer to keep up the maintenance and possibly expand. Without proper maintenance the municipality could close a natural play space. Some parents mentioned the poor maintenance of their local natural play space as a negative aspect. Among these parents some were also aware that the maintenance was a task of the community. Proper maintenance is also important according to Shackell et al. (2008).

Bureaucracy, and related to that getting funding, can also be an obstacle for natural play spaces initiated by citizens. Funding is needed to maintain and expand natural play spaces, but if it becomes difficult to obtain, natural play spaces cannot further develop. This would be a pity since children and parents suggested adding more equipment to further improve their natural play space. Besides that, citizen initiated play spaces, are often created by (white) middle-class urban professionals, who possess the needed knowledge and skills, also in dealing with bureaucracy (Verstrate & Karsten., 2016). In marginalized neighbourhoods there are less people with these skills, making it more difficult to start and initiative, and thus excluding children from these areas (Ibid).

To further improve the natural play spaces in Midden-Groningen, inspiration can be drawn from "Design for Play: A guide to creating successful play spaces" by Shackell et al. (2008). As mentioned earlier they propose ten point to create a successful play space (see Figure 2). While no specific observations were made for the accessibility of disabled people, some improvements could be made with regard to it. Especially since accessibility for disabled people is one on the point from Shackell et al. (2008).

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Based on the liked aspects and mentioned improvements from initiators, children, and parents, the following image of the ideal natural play space was created.



The natural play space is set in a big forest with lots of trees to climb in, play hide and seek and build huts. There is a parcours made from logs, a water pump, and sand to play with. There is also some traditional play equipment like swings and a zipline. It stimulates a lot of children from different ages to play outside and explore nature. Furthermore, adults and elderly also enjoy this place and come here to socialize and walk on

*Figure 15: Ideal natural play space (Author, 2021)*

the construction and maintenance. This way the natural play space can keep on existing and developing for current and future generations of all ages.

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## 5. Conclusion and discussion

### 5.1 Conclusion

In this research about perceived attractiveness of natural play space in Midden-Groningen the following explorative main research question was explored: *How do children, parents, and natural play space initiators perceive the attractiveness of natural play in Midden-Groningen?*

Desk research and observations were conducted to create an image of the characteristics and features of natural play spaces in Midden-Groningen. Interviews with initiators, children, and parents were conducted to gain more insight in their perception of natural play spaces, and how they could be improved. Based on the findings from the secondary research questions the following conclusions are drawn.

First the features and characteristics of the natural play spaces in Midden-Groningen will be discussed on the basis of the first secondary research question; *What are the features of natural play spaces in Midden-Groningen?* To answer this explorative question the features and characteristics of the natural play spaces were counted/noted during observations, and the most common ones are used to formulate an answer (Figure 14). This seemed the best approach since the natural play spaces in Midden-Groningen are initiated by different organisations and are exceptional in their own way. Logs (parcour) were the most observed natural play space attribute and were also noted for all locations. Traditional play equipment was only observed in a few locations. Sport facilities were also observed near the majority of the natural play spaces, especially football fields. Benches were the most common other type of attribute. Name signs and trashcans were also observed at the majority of the locations. The environment in which the natural play spaces were set consisted of open grass fields and deciduous forest, and were covered with grasses, bushes, small and medium trees. Most natural play spaces also featured water, usually in the form of a pond or ditch. Only the Dorpsrandparken were fenced to keep the green maintaining animals inside. The other locations spaces had a more natural boarder like water.

For this research it was of interest to understand the initiators' motives for initiating natural play spaces, this was explored through the following secondary question: *What are the motives for natural play space initiators to create natural play spaces in Midden-Groningen?*

Most natural play spaces in Midden-Groningen were developed from existing locations either by the former municipality of Slochteren or citizens (organised and unorganized). A window of opportunity brought people into action to create a natural play space . The most common reason for specifically creating a natural play space is because it fits in with the natural environment and it being more challenging for the children.

Because the main focus of this research was on the perception of the different groups, the following question was asked about the perception of initiators; *How do natural play space initiators from Midden-Groningen perceive the attractiveness of their natural play space?*

All initiators held a positive perception about their natural play space. The successfulness was mainly determined by the play space being used a lot, and by children from different ages. The usage by adults as well was also seen as a positive aspect. The involvement of the community was also perceived a strong aspect. Despite the negative aspects, generally related to anti-social behaviour, initiators were still enthusiastic about their natural play space.

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Since children are the primary users of (natural) play spaces, their perception is important to include in this research. This was done by posing this secondary question; *How do children perceive the attractiveness of natural play spaces in Midden-Groningen?*

Children in general held a positive perception about their local natural play space. They specifically liked the natural play equipment, play possibilities, natural elements, and size. General aspects about the natural play space that were disliked were thorny bushes and anti-social behaviour that was often related to teenagers. The accessibility of the natural play space was mainly dependent on the age of the child. When a child was old enough they were allowed to go by themselves.

The perception of parents about natural play spaces was further explored through the following research question: *How do parents/caretakers perceive the attractiveness of natural play spaces in Midden-Groningen?*

Parents were generally positive about their local natural play space, but there were also some parents with a rather negative perception. The strong aspects according to the parents were the natural play equipment, play possibilities, natural elements, and it being suitable for children from different ages/challenging. The involvement of the community was also mentioned a few times. Negative aspects were mainly about anti-social behaviour, that was often related to teenagers and also a lack of surveillance. Poor maintenance was mentioned by some parents as well. The accessibility of the natural play space was for the parents mainly dependent on the age of their child, where older children were allowed to go alone.

Now that the features of natural play spaces and the perceptions about them, of the different groups, are explored, the final secondary question looks at improving them. This is done through the following question; *How can the attractiveness of natural play spaces in Midden-Groningen be improved?*

Children and parents proposed adding more play equipment; natural and traditional, to improve their local natural play space. Children also mentioned adding more trees and making the play space bigger. They were also the only group that proposed removing disliked aspects to improve their natural play space. Adding more play equipment is also an idea that some initiators have for the future of their natural play space (Figure 15). If these future plans can be realised, would depend on the natural play spaces' abilities to overcome posing threats of bureaucracy, issues with money, and issues with (a lack of) volunteering. Bureaucracy can make it difficult to get things done and organized, while a lack of money and volunteers can lead to poor maintenance and eventually to the closing of the natural play space. Therefore, the involvement of citizens is very important for the future of the natural play spaces.

Based on the results from the secondary research questions, the earlier mentioned main research question will be answered. The results show that natural play space initiators, children, and parents all generally showed similarities in their perceptions of their local natural play space. Most of interviewees had a positive perception of their local natural play space. Parents were the only group where some negative perception of the local natural play space were noted. When asked about strong and weak aspects of the local natural play space, initiators, children, and parents again show similarities in the broad topics. The natural elements, natural play equipment, play possibilities were mentioned as strong aspects by all groups. The accessibility of the natural play space was good according to most children and parents, but was dependent on the child's age. Some traffic safety issues were speeding cars and crossing the (busy) road, which could be resolved by adding traffic slowing measures and zebra crossings. Types of anti-social behaviour, including vandalism and littering, were the most often mentioned weak aspects by all groups. Despite these broad similarities between the groups, differences were also noted. These differences mainly lie in more specific aspects and sub-categories. Some specifics are mentioned more often or less often by one of the groups. There were even some specific elements that were exclusively mentioned

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by one group. Children names notably more, and more often play opportunities and natural elements, while parents and initiators also highlighted the involvement of the community as a strong aspect.

To conclude, this research found that initiators, children, and parents in general have a positive perception of natural play spaces in Midden-Groningen due to their features and characteristics including; natural play attributes and play opportunities, natural elements, and challengingness. The accessibility of a natural play space was mainly dependent on the age of a child, but generally regarded as safe. Besides great play spaces, natural play spaces can also be great public spaces for people of all ages.

## 5.2 Discussion

The results of this research in general seem to correspond with the findings from the literature. It was indeed found that children and parents have a preference for natural play and playing with natural elements (Fjørtoft & Sageie, 2000; Wang et al., 2018; Jantje Beton, 2018). Where Verstrate & Karsten (2016) are critical about the authenticity of natural play spaces; they are still created and regulated by adults, interviewed children and parents were in general rather positive about them, and did not seem to mind this critique.

Most of the 10 principles for great play spaces from Shackell et al. (2008) (see Figure 2) were also observed and mentioned by the interviewees. If their principles are followed, there are still some aspects that can be improved about the natural play spaces in Midden-Groningen. Some of these aspects are difficult to change due to the origin of the natural play spaces. Natural play spaces can improve on the accessibility for people with disabilities. Besides that, the maintenance of some natural play spaces could be improved according some interviewees. However, this is a struggle for some natural play spaces since it is difficult to find enough volunteers. This thread for citizen initiatives is also recognized by Flink et al. (2014), Klaver et al. (2014), and Meerstra-de Haan et al. (2020). These authors also mention bureaucracy and issues/lack of money as threads for citizen initiatives, that were also noted by citizen initiators from Midden-Groningen.

A finding that differed from the existing literature was the initiation of a natural play space. The existing literature from Verstrate & Karsten (2016) states that increasingly more natural play spaces are initiated by a group of unsatisfied parents. The natural play spaces in Midden-Groningen were not perse initiated due to dissatisfaction, but rather to an event/development that created a window of opportunity. The reasons for specifically creating a natural play space do partly fit in by those mentioned by (Verstrate & Karsten.,2016), namely the rise in ecological awareness and sustainable living. Fitting in and enhancing the environment is also a guiding point from Shackell et al. (2008).

The results from this research can be used to better understand the perception of natural play spaces by children and parents. Natural play spaces were generally received a positive perception from both groups. They can help improve the daily living space of children and adults, since children enjoyed playing there and adults can make use of them as well. Because natural play space make playing outside more attractive, thus also stimulating the developmental benefits of playing outside, there should be looked at the possibilities of creating more of these play spaces. Natural play spaces do not always have to be in big forest, but can also be created on a smaller scale by involving natural elements in play spaces. A mix of traditional and natural play can also be created.

Another interesting finding for the field of planning is the initiation by citizens. Tasks and responsibilities are increasingly delegated to citizens, which also asks for a different role of the planner. This also includes the creation of (natural) play spaces that were created by a top down process that is changing to a bottom up process. Citizen initiatives could still benefit from the assistance of a planner, because bureaucracy was perceived as an obstacle

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by the citizen initiators. While citizen initiatives are generally seen as a positive development, governments should keep asking themselves which tasks and responsibilities can be done by citizens and which not. Because if it is expected that (natural) play spaces are only created by citizens, in some marginalized neighbourhoods nothing will happen, and children are deprived from great play opportunities. On the other hand, (natural) play spaces initiated by citizens can provide a specific demand that is present in the neighbourhood. Especially since the inhabitants who live there would know what is going on in their neighbourhood.

Due to difficulties finding enough respondents -also related to Covid19- , not all natural play spaces were covered by interviews, which made it not possible to get insight in the perceived attractiveness of all natural play spaces in Midden-Groningen. Children and parents who were interviewed about Vos en Bos are overrepresented in the sample. Besides that, considerably more mothers were interviewed than fathers. This all influenced the representativeness of the research. It was also not possible to interview the initiators of the Noordbroeksterkroon, which would have added more insight in citizen initiated natural play spaces.

### 5.3 Reflection

One of the strong points of this research is the use of a mixed method approach. Due to this mixed method approach the research was not dependent on one aspect. Besides that, the involvement of children, parents, and initiators showed different perspectives. Furthermore, the involvement of especially children in this research was a strong point as well. Often people talk about children, but not with them. By involving children as well, their voice is also heard, especially since play spaces are a topic fit for them and they are the primary users. Despite some difficulties, I was still able to conduct some interviews in person and on location. Conducting these interviews on location gave them some more depth and instructiveness.

A more personal strong point of this research is, that I enjoyed doing it. I grew fond of the topic and enjoyed doing the interviews, especially with the children since they made some unexpected and funny remarks.

Things that, in hindsight, could have been done differently mainly relate to requesting people for the interviews. I could have repeated messages in the Facebook groups more often. This might have resulted in more interviews, and the coverage of all (more) natural play spaces. Besides that, the focus was on parents and children who had visited their local natural play space. It would have been interesting to also interview people who do not visit their local natural play space. Maybe there are certain reasons why they would not make a visit. It might have been interesting as well to interview someone from the Belevingscollectief, since they were involved in the creation/design of several natural play spaces in Midden-Groningen.

### 5.4 Future research

For future research, to gain more insight in natural play spaces, it can be interesting to research other natural play spaces. These can be from different municipalities in the Netherlands or even other countries. By researching different natural play spaces, a comparative analysis can be made. Furthermore, other involved parties can be interviewed such as volunteers or natural play space designers, and people who do not visit a natural play space. Another approach that could be used to research natural play spaces is through quantitative methods such as surveys.

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## Appendix A: Observation schedule

### Observation points

- **Observation characteristics**
  - Observation date
  - Observation time
  - Weather
    - Temperature
    - Weather condition (sun, cloudy rain)
- **Type of natural play space attributes (Nominal)**
  - Logs
  - Three stumps
  - water pump
  - huts
  - structured paths (wood, rocks, sand, pebbles)
  - sand
  - rocks and boulders
  - other
- **Number of natural play attributes**
- **Traditional play equipment**
  - Swing
  - Slide
  - Teeter totter (wipwap)
  - Wipkip
  - Monkey bars (hangen)
  - Jungle gym (klimtoestel)
  - Toggle bar (duikelstang)
  - Rope bridge
  - Sport
    - Football
    - Basketball
    - Volleyball
    - Bike cross
    - Other
  - Other
- **Number of traditional play attributes (Ratio)**
- **Type of other attributes (nominal)**
  - Benches
  - Trashcans
  - Information signs
  - Walking routes (coloured poles)
  - Other namely...

- 
- **Number of other attributes (Ratio)**
  - **Landscape characteristics (Nominal)**
    - type of landscape
      - Open field
      - Coniferous forest
      - Deciduous forest
      - Mixed forest
    - Vegetation
      - Tall trees
      - Medium trees
      - Small trees
      - Bushes and shrubs
      - Grass
    - Hight differences (Hills)
    - Water
      - Lake/pond
      - Ven
      - stream
  - **Roads and traffic**
    - Type of roads to natural play space (nominal)
      - Car road
      - Bike lane
      - Sidewalk
    - Traffic speed (ratio)
      - 30 km/ph
      - 50 km/ph
    - Traffic slowing measures (nominal or binary)
      - Traffic bumps
      - (Traffic) signs
      - Speed indicators
      - Other
    - Parking space (nominal and binairy)
      - Car parking space
      - Bike recks
  - **Other remarks (nominal)**
    - Fenced
    - Animals (for green maintenance)
      - Number of visitors
        - Children
        - adults
    - other ...

---

## Appendix B: Interview guide children

Ik heb het interview 'getest' met mijn nichtje van 11, ze zit nu in groep 8. We zijn vanaf haar huis naar de Natuurspeelplaats Vos en Bos gefietst aangezien dit de dichtstbijzijnde natuurspeelplaats is en ze deze zelf ook kent. Ze vond het leuk om mij te helpen. Het was niet mogelijk om mijn buur meisje (4) te 'interviewen' aangezien de burens niet thuis waren.

### Algemeen

- **Hoe oud ben je?**
- In welke groep zit je?
- **Heb je ook broers/zussen?**
  - o Leeftijd broer/zus

### Buitenspelen algemeen

- Speel je liever buiten of binnen?
  - o En waarom?
- Hoeveel (uur) speel je ongeveer buiten op een dag?
- Als je buiten speelt, waar ga je dan graag heen?
- Met wie speel je graag buiten?
- Hoe kan buitenspelen leuker worden voor jou?

### Natuurspeelplaats

- (afbeelding traditionele speeltuin, natuur speelplaats, en speelbos)
- Kan je de speelplaatsen nummeren met 1,2, en 3 welke je het leukst vindt?  
(1 is het leukst)
  - o En waarom?
- **Wat vind je van deze (natuur speelplaats waar we zijn) speelplaats?**
- **Kan je 2/3 dingen aanwijzen/laten zien die je leuk vindt aan deze speelplaats?**
- **Kan je 2/3 dingen aanwijzen/laten zien die je niet/minder leuk vindt aan deze speelplaats ?**
- Wat zou jij willen veranderen aan deze speelplaats?**
- Mag je zelf(standig) naar deze speeltuin?** (van je ouders/verzorgers)
  - o Hoe ga je hier heen (lopen, fiets, etc)
- **Vind je dat de weg van jouw huis/school naar de speeltuin veilig?**
  - o Waarom wel/niet?
  - o Hoe kan het veiliger worden?
- (dit waren al mijn vragen) wil je zelf nog wat toevoegen/vertellen?

---

## Appendix C: Interview guide parents/caretakers

### algemeen

- Wat is uw leeftijd?
- Hoeveel kinderen heeft u?
  - o Hoe oud zijn ze
  - o Zijn het jongens of meisjes?

### Buitenspelen

- Wat is volgens u het belang van buitenspelen voor uw kind?
- Hoeveel speelt uw kind(eren) buiten?
  - o Zou u willen dat uw kind meer buiten speelt?
  - o Hoe kan dit worden bevorderd volgens u?
- Waar spelt uw kind buiten?
- Gaat u mee als uw kind buiten speelt?

### Natuurspeelplaatsen

- (laat 3 afbeeldingen zien van traditionele speelplaats, natuurspeelplaats en speelbos)
- Zou u deze 3 speelplaatsen kunnen rangschikken van 1 tot 3?
  - o Waarom geeft u deze volgorde?
- Wat vindt u van deze speelplaats (waar we nu zijn)?
  - o Zou u 2/3 Sterke punten van deze speelplaats kunnen noemen?
  - o Zou u 2/3 Zwakkere punten van deze speelplaats kunnen noemen?
- Zijn er dingen die u aan deze speelplaats zou willen veranderen?
- Vindt u dat uw kind zelfstandig (veilig) deze natuurspeelplaatsen kan komen?
  - o Waarom wel/niet?
  - o Wat zou er volgens u verbeterd moeten worden om de bereikbaarheid van [naam natuurspeelplaats] (nog) veiliger te maken?
- (einde van mijn vragen) wil u zelf nog wat toevoegen?



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## Appendix D: Images play spaces for interviews



Traditionele speeltuin (Van der Bol, 2016)



Natural playground (naturalplaygrounds.com, 2020)



Play forest (Gezin op reis, 2020)

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## Appendix E: Interview guide natural play space initiators

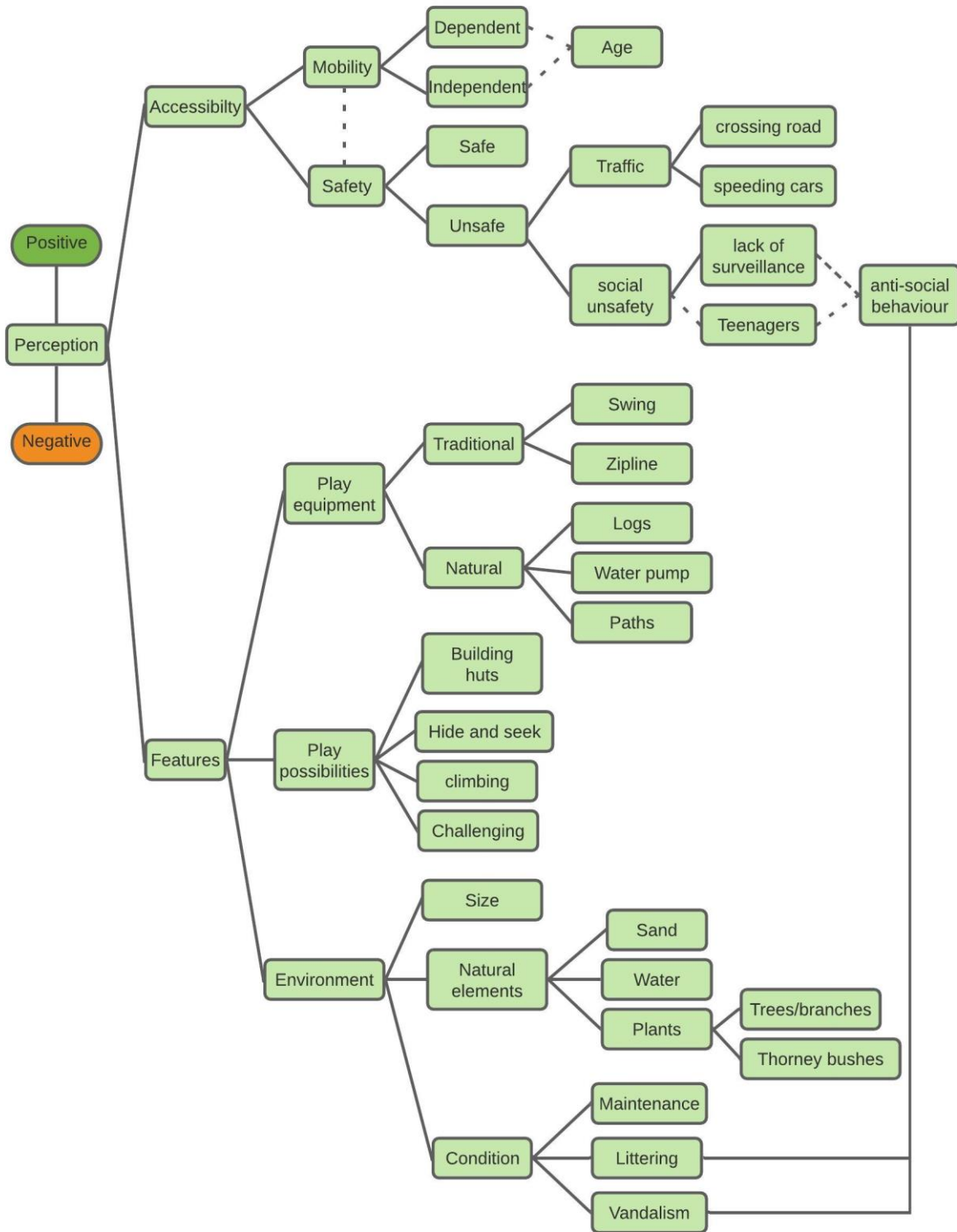
- Voor welke organisatie bent u werkzaam/vrijwilliger?
  - o Waar houdt deze organisatie zich mee bezig?
  - o En met betrekking tot speelplaatsen/buitenspelen
  - o Wat doet u binnen deze organisatie?
- Hoe kwam het idee om [naam natuur speelplaats] te creëren tot stand?
  - o Waarom op deze locatie?
- Wie (welke organisaties) waren er bij de creatie betrokken?
  - o Zijn ouders en/of kinderen ook betrokken bij de ontwikkeling van [Natuurspeelplaats]
  - o (is het proces zodanig dat de speelplaats succesvol is)
  - o (frictie tussen initiatiefnemer en ouders)
- Waren er specifieke redenen om juist een natuurspeelplaats te creëren?
- Hoe succesvol vindt u [naam natuurspeelplaats]?
  - o Wordt veel gebruik van gemaakt?
  - o Wat zijn de sterke punten van [naam speelplaats]?
  - o Wat zijn de negatieve punten van [naam speelplaats]?
- Zijn er dingen die achteraf anders aangepakt hadden moeten worden?
  - o Negatieve punten van de natuurspeelplaats?
- Hoe ziet u de toekomst van [ naam natuurspeelplaats] voor zich?
  - o En wat is er hiervoor nodig volgens u? (geld, materiaal, werkzaamheden)
- (ik ben door mijn vragen heen) wilt u zelf nog wat toevoegen?

## Appendix F: Table with type and number of observations

	Zwanevelds gat	Slochteren	Noorder wold	't Kooiland	Noordbroeksterkroon	Vos en Bos	Jongens eiland	Lutje borg	Speel Bos Meeden	total
<b>Natural play equipment</b>	<b>18</b>	<b>5</b>	<b>22</b>	<b>13</b>	<b>25</b>	<b>25</b>	<b>29</b>	<b>13</b>	<b>22</b>	<b>172</b>
Logs (parcour)	13	2	20	10	11	15	21	6	13	111
Tree stumps	2	0	0	0	3	7	2	0	3	17
Water play (pump)	0	0	0	0	0	1	0	0	1	2
Rocks (units)				X	X			X		3
Huts	0	0	1	0	0	1	3	0	3	8
Structured paths	X	X	X	X	X	X	X		X	8
Wood chips					X	X	X		X	4
Rocks					X					1
Sand	X	X	X	X			X		X	6
Shells	X	X								2
Other	Raft over water (1)	Adventure path (1)		Branch walls	Vertical logs (6) Tree tunnel Wooden bridge over water (usable for disabled people) (1)			Vertical logs over water (6)		17
<b>Traditional play equipment</b>	<b>1</b>	<b>2</b>	<b>11</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>7</b>	<b>1</b>	<b>11</b>	<b>37</b>
Swings	0	0	1**	0	0	0	0	0	3	4
Slides	0	0	1**	0	0	0	0	0	2	3
Teetertotter	0	0	3**	0	0	0	0	0	1	4
Jungle gym	0	0	3**	0	0	0	0	0	0	3
Toggle bar	0	0	0	0	0	0	0	0	0	0
Rope bridge	0	0	0	0	1	0	0	0	1	2
Other			Zipline (1) ** traditional play equipment is in the playground right across the street				Wooden play ship (1) Games on path; hopscotch (4)	Tube (1)	Tube (1) Carousel (1) Cabinet with games (1)	10
<b>Sport</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>11</b>
Football		X	X	X		X	X		X	6
Basketball										0
Bike cross		X	X				X			3
Other	Swim lake				volleyball					2

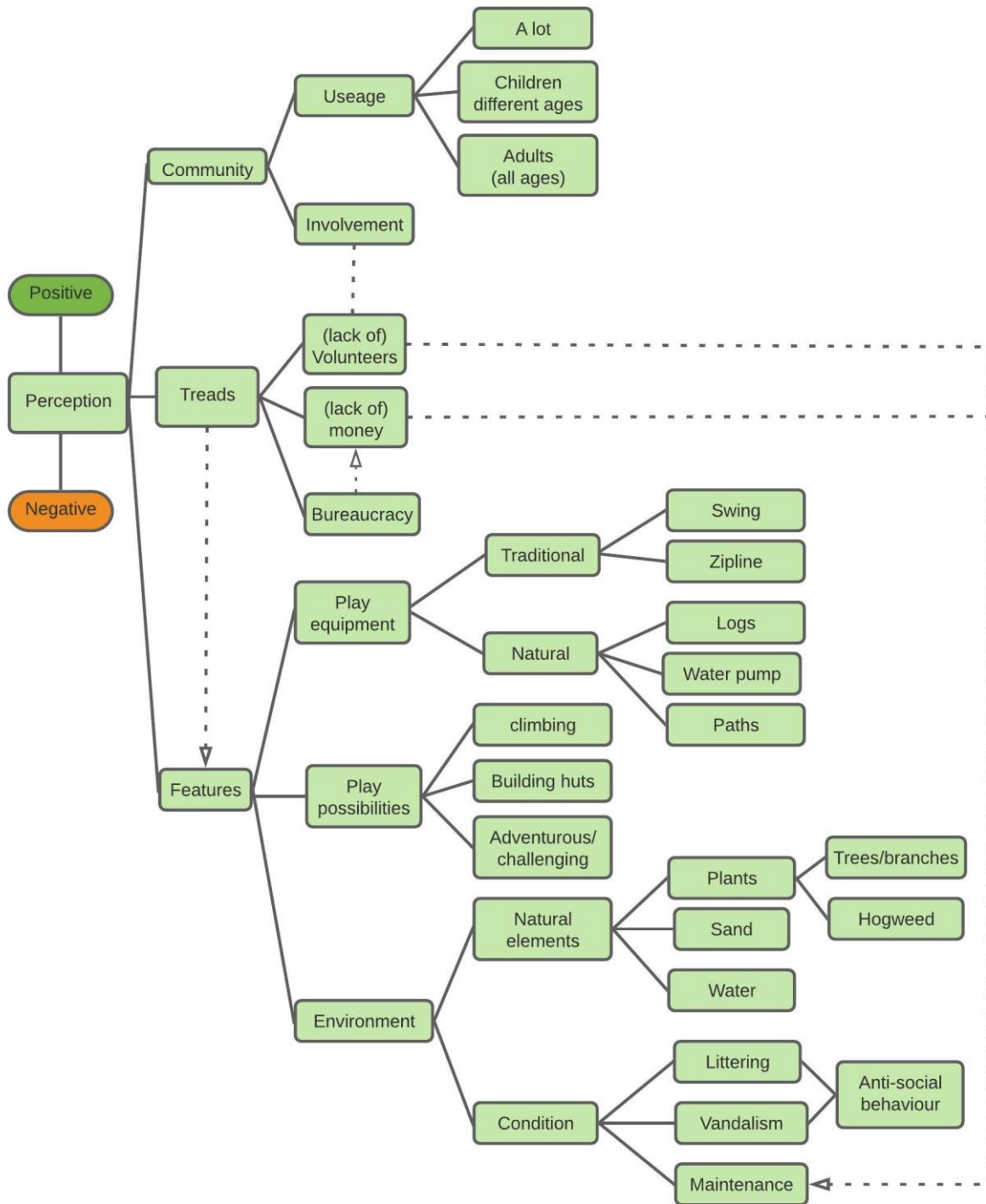
	Zwanevelds gat	Slochteren	Noorder wold	't Kooiland	Noordbroeksterkroon	Vos en Bos	Jongens eiland	Lutje borg	Speel Bos Meeden	total
<b>Other attributes</b>	14	11	13	13	16	11	4	4	8	94
Benches	5	6	4	6	10	3	2	2	6	44
Trashcans	0	0	0	3	2	1	1	1	1	9
Information signs	3	1	1	1	0	0	0	0	0	6
Name signs	0	1	1	1	1	1	1	1	1	8
Walking route	X		X	X						3
Other	Wooden sculpture (1) Insect hotel (1) Beehives (n?) Old railway track Community garden	Crib (1) Wooden watchtower (1) Community garden	Crib (1) Beehives (5)	Insect hotel (1)	Insect hotel (1) Fireplace (1) Community garden	Wooden sculptures (5) Fireplace (1)				24
<b>Landscape characteristics</b>										
Type of landscape										
Open field	X	X	X	X	X	X	X	X	X	9
Deciduous forest	X	X	X	X		X	X	X	X	8
Coniferous forest	X									1
Mixed forest										0
Vegetation										
Grass	X	X	X	X	X	X	X	X	X	9
Bushes	X	X	X	X	X	X	X	X	X	9
Small trees	X	X	X	X	X	X	X	X	X	9
Medium trees	X	X	X	X		X	X	X	X	8
Big trees	X	X	X	X			X	X	X	7
Water	X	X	X	X	X	X	X	X		8
Pond	X	X	X	X	X			X		6
Stream				X	X					2
Ditch						X	X			2
Hight difference	X	X	X	X	X	X	X	X	X	9
Fenced	X	X	X	X						4
Animal maintenance	Horses	Cows	Cows	Sheep	-	-	-	-	-	4
Other remarks	A lot of visitors (probably due to time of day and good weather)					A lot of trash	Quite some trash		Recently created	4

## Appendix G: Coding tree children and parents



Type of ———  
 Related to - - - - -

## Appendix H: Coding tree natural play space initiators



Type of ———  
 Related to - - - - -

## Appendix I: Table play behaviour and preferences

	Children	Parents
<b>Play locations</b>	<b>25</b>	<b>23</b>
Natural play space	6	6
Traditional play space	2	3
Yard	4	4
Schoolyard	7	5
Street/neighbourhood	4	3
Forest	2	0
Sportfield	0	2
<b>People</b>	<b>20</b>	<b>5</b>
Siblings	3	-
Friends	9	-
Schoolclass/children from school	6	-
Child next door	2	-
Parents (come along)	-	5
<b>Improve playing outside</b>	<b>15</b>	<b>11</b>
More/new play equipment	5	2
More play possibilities	2	5
Bigger play spaces	3	0
More play spaces	1	0
Organizing activities	0	3
Other	4	1
<b>Ranking</b>		
1 play forest	5	4
1 natural playground	6	2
1 traditional playground	0	0
2 play forest	8	2
2 natural playground	3	4
2 traditional playground	0	0
3 play forest	0	0
3 natural playground	0	0
3 traditional play ground	12	9
Draw	1	4
Play forest and natural playground	1	3
All	0	1
<b>Reasons for ranking</b>		
Liking	30	30
Natural play equipment	4	5
Play possibilities	7	7
Look/aestathic	4	5
More challenging/doing your own thing	2	3
Preference for nature/natural elements	9	5
Other	4	5
Disliking	17	17
Childisch	4	1
Boring/empty	5	5
Very common	4	5
Tradiotnal play equipment	3	4
Other	1	2
No specific dislike	2	2
<b>Accessibility</b>		
Indepenten mobility	10	11
Non-indepenten mobility	2	3
Safe	11	6
Unsafe	1	5
• Crossing road	1	2
• Speeding cars	2	2
<b>Improvements</b>	<b>5</b>	<b>8</b>
• Traffic slowing measures	3	3
• (zebra)crossing	2	2
• Sidewalk	0	1
• Bikepath	0	2



## Appendix J: Table with perceptions

	Children 12	Parents 10	Initiators 6	Citizen initiators 4	Municipal initiators 2
<b>Perceptions</b>					
Positive	9	6	5	4	1
Neagtive	0	3	0	0	0
Mixed	3	1	1	0	1
<b>Postitive aspects</b>	<b>42</b>	<b>33</b>	<b>25</b>	<b>23</b>	<b>2</b>
Natural play attributes	15	8	2	2	0
Waterplay (pump)	3	4	1	1	0
Parcour (loggs)	8	3	1	1	0
Paths	4	1	0	0	0
Natural elements	9	3	1	1	0
Water	0	0	0	0	0
Sand	5	0	1	1	0
Trees/branches	4	3	0	0	0
Play possibilities	11	4	1	1	0
Hide and seek	3	0	0	0	0
Building huts	4	2	0	0	0
Climbing (in trees)	4	1	1	1	0
Large size	2	3	0	0	0
Other type of attributes	3	1	1	1	0
Wild/prestine	0	4	0	0	0
Free/challenging	0	2	2	2	0
Different ages children	0	2	4	4	0
All ages	0	0	4	3	1
Used a lot	0	1	4	4	0
Educational	0	1	3	3	0
Made by/with community	0	2	2	1	1
Other	2	2	1	1	0
<b>Negatives</b>	<b>22</b>	<b>30</b>	<b>26</b>	<b>16</b>	<b>10</b>
Related to	6	4	4	1	3
Slippery/wet	1	3	2	1	1
Boring/empty	3	1	0	0	0
Thorny bushes	2	0	0	0	0
Other related	0	0	2	0	2
Unrelated	16	26	22	15	7
Poor maintenance	1	3	3	2	1
Lack of surveillance	0	4	1	0	1
Anti-social behaviour	7	11	12	10	2
• Littering	2	3	5	3	2
• Vandalism	3	4	3	3	0
• Conflict	2	3	3	3	0
• Drugs (use/dealing)	0	1	1	1	0
Teenagers	4	7	4	3	1
Other unrelated	4	1	2	0	2

<b>Threads</b>	-	(3)	13	10	3
Bureacracy	-	-	4	4	-
Issues with volunteering	-	(2)	5	3	2
Issues with money	-	-	3	3	-
Closing of primary school	-	(1)	1	0	1
<b>Improvements hindsight ideas future developments</b>	20	9	5	5	0
Add	14	7	4	4	0
More play equipment	7	2	4	4	0
More play possibilities	0	2	0	0	0
More surveillance	1	3	0	0	0
Increase size	4	0	0	0	0
More trees	2	0	0	0	0
Remove disliked aspects	3	0	0	0	0
Better maintenance	1	1	0	0	0
Other improvements	2	1	1	1	0
No improvements	1	3	0	0	0

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## Appendix K: Filled in observation forms

The filled in observations forms can be are attached in a separate document that can be accesses by emailing the researcher.

## Appendix L M N: Transcripts

The transcripts of the interviews with natural play space initiators, children, and parents are attached in a separate document that can be accesses by emailing the researcher.