

# THE QUALITY OF SCHOOL LIFE

A RESEARCH ON THE INFLUENCE OF THE PHYSICAL SCHOOL ENVIRONMENT ON THE QUALITY OF SCHOOL LIFE OF SECONDARY SCHOOL STUDENTS IN THE NETHERLANDS.

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# Summary

This research has focused on the extent to which the physical school environment influences the quality of school life of secondary school students in the Netherlands. Secondary school students in the Netherlands spend a third of their day in school and undergo rapid bodily and emotional changes during their secondary school career. However, little research has been done on their school experience regarding the quality of their school life.

Literature on quality of life, sense of place and the human-environment relationship was used to identify three additional characteristics of quality of school life, beside the physical school environment. These are: human biology, individual school behaviour and the social school environment. This results in four characteristics that theory indicates influence the quality of school life. A conceptual model was made to indicate how this influence takes place.

This research was conducted as a case study. The selected school is the Willem Lodewijk Gymnasium in Groningen, the Netherlands. To examine if and how these characteristics of the conceptual model influence the quality of school life, a mixed method approach was used. The methods used are a questionnaire and walk-along interviews. The questionnaire consisted of questions on student characteristics, statements on quality of school life and photo-based questions. The walk-along interviews were semi-structured interviews in and around the school building. Results were analysed using statistical analysis and coding.

The questionnaire was filled out by 316 respondents. Three respondents participated in the walk-along interviews. The results show that the physical school environment significantly influences the quality of school life of students of the Willem Lodewijk Gymnasium. Other factors that significantly influence the quality of school life are students' individual school behaviour, their grades and schoolyear. Together with the physical school environment, these explain about a third of the overall grade students give their quality of life. The influence of the physical school environment takes place in two manners, namely by (1) creating a comfortable school environment (aesthetics and sensory aspects of the school) and (2) by providing a context for social interactions (accessibility and ownership).

Several suggestions for further research are made, among which duplication of the research in different schools, more qualitative data collection and more attention for age difference between participants.

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# 1. INTRODUCTION

# 1. Introduction

## 1.1 Introduction

There is a long history of research into school design and school environment. The first schools were built with little to no quality assessment, which resulted in unsuitable school environments. Barnard (1842, in Baker, 2012) summed this up by stating that school buildings in that time were “almost universally, badly located, exposed to the noise, dust and danger of the highway, unattractive, if not positively repulsive in their external and internal experience”. Luckily, we have come a long way since then. Dedicating a large body of research to school design to create the best learning environment possible. Over the decades, school design has changed in accordance with new learning paradigms, political and social changes and technological progress (Baker, 2012). During all these periods, the goal, creating the best learning environment, remained the same.

The understanding of what the best learning environment is has however changed, but also shows cyclical trends (Baker, 2012). Natural lighting for example was very important in the early days of school design, because electricity was not yet discovered. After artificial lighting became omnipresent, this became less important, but during the last decades, natural lighting made a comeback. Contemporary design of the physical school space focusses on the classroom climate, of which natural lit spaces are an important feature. New schools are built, and existing school buildings are renovated according to these contemporary views of the learning environment.

Missing from this discussion of the best school environment however is the user of the school building: the student. In the 1990’s researchers remarked that “traditional programs [...] have addressed the physical / technical need of buildings without fully addressing the concerns of their human occupant” (Baker, 2012). This remark is still valid. There is little research into the wellbeing of secondary school students. Feeling happy at school at the same time is important for the school experience of the students and for their learning outcomes. So how do students feel about their school? And what is the influence of the physical school environment on students’ feeling of wellbeing?

### 1.1.1 Social relevance

In this research I hope to gain insight in the wellbeing of students at school by exploring the quality of school life of secondary school students in the Dutch school context. Since Dutch secondary school students spend a vast majority of their adolescence at school (Rijksoverheid, 2018; McLellan et al., 1998), it is interesting to explore the extent to which they are satisfied with their physical school environment. The school also plays an important role in the formation of the young people attending. They undergo rapid bodily changes during their time at secondary school (puberty), but also form part of their personality during this period. In order to uncover the influence of the physical school environment on the wellbeing of students and how to improve this environment, I use the theory on the quality of school life, which is used in other studies as well.

### 1.1.2 Scientific relevance

Parker et al. (2004) remark that there is often little evaluation of a building design after being build and used, agreeing that there is little attention for the occupants of school buildings (Baker, 2012). Although Parker et al. (2004) observe this for nursing homes, we can assume that this also applies for school buildings. The consequence of this lack of evaluation is “a lack of feedback to professionals on how design features work in practice” (Parker et al., 2004. Together with the observations of Samdel et al., 1998 and Jamieson et al. (2000) that there is little research on the relationship between the school environment and students’ quality of life in general, this shows the scientific relevance of this research

subject. This research can contribute to a yet underdeveloped research field by evaluating how the school environment, with a focus on the influence of the physical school environment of secondary school buildings in the Netherlands on the quality of life of its' students.

## **1.2 Research questions**

### 1.2.1 Aim

For this research I want to explore how the physical school environment contributes to the quality of school life of secondary school students. Therefore I have to research all factors that play a role in influencing the quality of life in the school context. I have formulated the following research question, which has been divided into three sub questions.

### 1.2.2 Research question

To what extend and in which way does the physical environment of the school contribute to the quality of school life of secondary school students of the Willem Lodewijk Gymnasium, The Netherlands?

#### *Sub question 1*

Which areas of the physical school environment do secondary school students consider their school environment?

#### *Sub question 2*

Which factors, beside the physical school environment, influence the quality of school life and what is their influence?

#### *Sub question 3*

How does the physical school environment influence the quality of school life of secondary school students?

## **1.3 Reading Guide**

The following chapter is the theoretical framework in which the most important theories that underlie this research will be discussed. This chapter will conclude with a conceptual model that is useful for exploring the quality of school life in the secondary school in the Dutch context, based on the discussed theories. Chapter three will set out the different methodologies that will be use in the operationalisation of this research, and the case of the Willem Lodewijk Gymnasium will be introduced. This chapter will also deal with the ethical issues of doing research with minors. Hereafter the results will be presented and discussed. A conclusion and answer on the research question will be provided in chapter five, along with limitations of the research and suggestions for future research.



## 2. THEORETICAL FRAMEWORK

# 2. Theoretical framework

## 2.1 Quality of life

### 2.1.1 Concept of Quality of Life

Research by the World Health Organisation shows that the physical environment in which we live plays a role in the quality of life that we experience (WHOQOL Group, 1995; Parker et al., 2004). The term ‘quality of life’ is first mentioned in the 1960’s, when social scientists wanted to “*define and measure not only health-related quality of life ... but also conditions of quality of life from political, economic and social point of view, as well as individual life satisfaction.*” (Pukeline and Starkauskiene, 2011, p. 147). Veenhoven (2010) speaks about determining what defines ‘the good life’. Two decades earlier, Baker and Intagliata (1982) stated that there is an equal amount of definitions of quality of life as there are scientists researching it. Up to this day, this is still true: Dejonckheere (2012), Pukeline and Starkauskiene (2011), Veenhoven (2000) and Pinto et al. (2017) still conclude that there is no single definition of quality of life that researchers agree upon. Making the term even more confusing, is that there are several terms used as a synonym of quality of life, of which wellbeing and comfort are two of the most important. Others are ‘happiness’, ‘liveability’ and ‘health’. Pinto et al. (2017) compared the terms ‘wellbeing’, ‘comfort’ and ‘quality of life’. They conclude that comfort and wellbeing are concepts related to broader term ‘quality of life’ rather than them being synonyms.

For this research I have chosen to use a very basic and broad definition of quality of life that most researchers agree upon according to the literature review of Pinto et al. (2017) on quality of life. They state that “*the majority of authors define the concept [quality of life] as the individual’s perception of their personal situation in their own life in the physical, social, mental and spiritual dimensions*” (Pinto et al., 2017, p. 7). I think this definition is most useful for this research as it is applicable for various groups and takes all aspects of one’s surroundings into account.

Quality of life is still a very broad term though and needs to be specified for this research to be a useful concept. Quality of life is usually divided into the objectively measured quality of life and the subjectively measured quality of life (Pukeline and Starkauskiene, 2011; Veenhoven, 2000). The objectively measured quality of life is determined by a range of factors that can be objectively measured, for example someone’s income or if someone’s employed. The subjectively measured quality of life is based on the perception that one has of their life and their wellbeing. A term that is related to, although not equal to, the subjectively measured quality of life is ‘subjective wellbeing’ (Dejonckheere, 2012; Veenhoven, 2000; Pukeline and Starkauskiene, 2011), see upper right corner in Table 1. Subjective wellbeing or subjective quality of life is a very similar term for what Pinto et al. (2017) call ‘well-being’ in their literature review. The concept of well-being (or wellbeing) is closely related to the concept quality of life. Although not the same (wellbeing has closer ties to health for example), I choose to use the term subjective quality of life as indicator of satisfaction with life, instead of wellbeing.

### Levels of Quality of Life

	OBJECTIVE	SUBJECTIVE
INDIVIDUAL level	<b>Objective living conditions</b> (e.g. income)	<b>Subjective well-being</b> (e.g. satisfaction with income)
SOCIETAL level	<b>Quality/liveability of society</b> (e.g. income disparities)	<b>Liveability of society</b> (perceived importance of disparities)

*Table 1: Levels of Quality of Life (Pukeliene and Starkauskiene, 2011)*

Quality of life can also be measured on a societal and individual level. For this research, I will research the individual quality of life of secondary school student. Therefore I will not elaborate on the societal quality of life.

Another distinction made in the quality of life research comes from Veenhoven (2000). He distinguishes that there are life chances to a good quality of life, which he calls ‘the good life’, and that there are life results, e.g. having the good life itself. The second distinction he makes is that there are inner qualities of life and outer qualities of life. We can see this as qualities that are internal to the individual, e.g. the individual is aware of these qualities or determines them themselves, and qualities that are external to the individual. These external qualities are not determined by the individual but are a given or given to them by others. Table 2 shows a diagram of the distinctions Veenhoven (2010) makes. In this research, I am interested in the personal experience of secondary school students, which means I am interested in the inner qualities of the individual, focusing on the life results that they experience. This means I am interested in the ‘appreciation of life’. Comparing the meaning of ‘subjective well-being’ of Pukeliene and Starkauskiene (2011) and ‘appreciation of life’ of Veenhoven (2000), I find that they both mean the same thing. Veenhoven (2000) concludes the same and describes the meaning of this type of quality of life poetically as “the quality [of life] in the eye of the beholder” (Veenhoven, 2010, p. 7).

Summarising, quality of life is a very broad concept of which several definitions are used. I will use the sub-concept of subjective wellbeing as a starting point to research the quality of life of secondary school students. This type of quality of life focusses on the perception of the quality of life that individual students experience.

## THE FOUR QUALITIES OF LIFE

	<i>Outer qualities</i>	<i>Inner qualities</i>
<i>Life chances</i>	<p><b>Livability of environment</b></p> <ul style="list-style-type: none"> <li>• Ecological e.g. moderate climate, clean air, spacious housing,</li> <li>• Social e.g. freedom, equality and brotherhood</li> <li>• Economical e.g. wealthy nation, generous social security, smooth economic development</li> <li>• Cultural e.g. flourishing of arts and sciences, mass education</li> <li>• Etc...</li> </ul>	<p><b>Life-ability of the person</b></p> <ul style="list-style-type: none"> <li>• Physical health negative: free of disease positive: energetic, resilient</li> <li>• Mental health negative: free of mental defects positive: autonomous, creative</li> <li>• Knowledge e.g. literacy, schooling</li> <li>• Skills e.g. intelligence, manners</li> <li>• Art of living e.g. varied lifestyle, differentiated taste</li> <li>• Etc...</li> </ul>
<i>Life results</i>	<p><b>Objective utility of life</b></p> <ul style="list-style-type: none"> <li>• External utility e.g. For intimates: rearing children, care for friends e.g. For society: being a good citizen e.g. for mankind: leaving an invention</li> <li>• Moral perfection e.g. authenticity, compassion, originality</li> <li>• Etc...</li> </ul>	<p><b>Subjective appreciation of life</b></p> <ul style="list-style-type: none"> <li>• appraisal of life-aspects e.g. Satisfaction with job e.g. satisfaction with variety</li> <li>• Prevailing moods e.g. Depression, ennui e.g. zest</li> <li>• Overall appraisals Affective: general mood-level Cognitive: contentment with life</li> </ul>

*Table 2: The four qualities of life (Veenhoven, 2010)*

### 2.1.2 Quality of life and the school context

Quality of life, and more specific the subjective wellbeing, can be measured for various research populations. In 1976 Epstein and McPartland already research how the quality of life of school going children in the United States could be examined. For their research, they used the term ‘quality of school life’. More recent studies on the quality of school life define the term as “*well-being resulting from children’s integration into the life and environment of their schools and represents the degree of satisfaction or dissatisfaction perceived by children with their school life*” (Ghotra et al., 2016, p. 2).

Since students in the Netherlands spend a vast amount of their time at school, the secondary school is very important to the daily lives of schoolchildren and that the quality of life of students is for a large part determined by the quality of life that they experience in their school. For the school context, Gothra et al. (2010) summarize this by stating that the “*quality of school life is an important part of the overall quality of life experienced by a child.*” (Ghotra et al., 2016, p. 2).

To research the quality of school life, we can use a multidimensional structure, consisting of four aspects (Weintraub and Bar-Haim Erez, 2009 in Gothra et al., 2016). This method of measuring the quality of school life is proven a valid method in Israel and, with slight adjustments to fit the specific context, in Canada. See Table 3 (on p. 18) for an overview of used indicators.

#### 1. Psychosocial aspects

2. Attitude towards school
3. Teacher-student relationship
4. School environment

Especially interesting for this research is the school environment. Although Ghotra et al. (2016) use this aspect in their research, they limit their indicators mainly to sensory indicators. This can be expanded by also using a qualitative method to explore other aspects of the school environment that can be of influence on the quality of school life. This research will add this element to the solely quantitative method used by Ghotra et al. (2016).

Summarising, given the fact that secondary school students spend a significant part of their day at school, we can conclude that the school environment has influence on the quality of life of the attending students, which we will call the quality of school life (Ghotra et al., 2016; Epstein and McPartland, 1976; Cuyvers et al., (2011), although the latter uses the term ‘well-being’ to conclude the same). This means that it is of great interest to explore what the quality of school life is for secondary school students in the Netherlands. The focus on what the specific influence of the physical school environment is, is a relatively new angle within this field of research and thus worth researching.

## 2.2 The experience of place

The subject of the quality of life is ‘life’, specifically that of the individual (Veenhoven, 2000). This means that the subject of the quality of school life is ‘school life’, in other words: the life that a student has in the context of the school environment. The interactions that take place within an individual’s school environment has a positive or negative influence on their overall quality of school life. It is thus important to explore what relationship there is between secondary school students and their school environment.

### 2.2.1 Sense of place and place attachment

All people give meaning to places and have emotional, cognitive and behavioural bonds with specific place that they spend time in. This overall bond is, in literature, called ‘sense of place’. The most commonly used definition of sense of place is that it is “*the meaning attached to a spatial setting by a person or group*” (Jorgenson & Stedman, 2001). Sense of place is a broad term that is often divided into three aspect that together make up the overarching concept of sense of place. The model in Figure 1 is called the higher order model of sense of place, as describe by Jorgenson & Stedman (2001).

In the higher order model, Sense of place is divided into:

- Place attachment, which focusses on an emotional dimension.
- Place identity, which focusses on a cognitive dimension.
- Place dependence, which focusses on a behavioural dimension.

Place attachment is defined as “*an affective bond or link between people and specific places*” (Hidalgo and Hernandez, 2001). A place is defined as meaningful location (Lewinski, 2011). This bond or link can be based on social and physical aspects of a place (Hashemnezhad et al., 2013). The social aspect of place attachment is based on the close ties with a place which origins in social factors such as interaction with other people. The physical factor of place attachment is based on the natural of build environment and the possible activities that a place offers, such as doing sports, retreat or learning.

Place identity is the situation in which a place is part of the concept a person has of the self (Krupat, 1983). The concept of place identity is not equal, but still very similar to place attachment. A main difference that Lewicka (2011) noticed is that it takes more time to develop place identity, in comparison with place attachment. The cause of this difference is that it takes time to develop self-

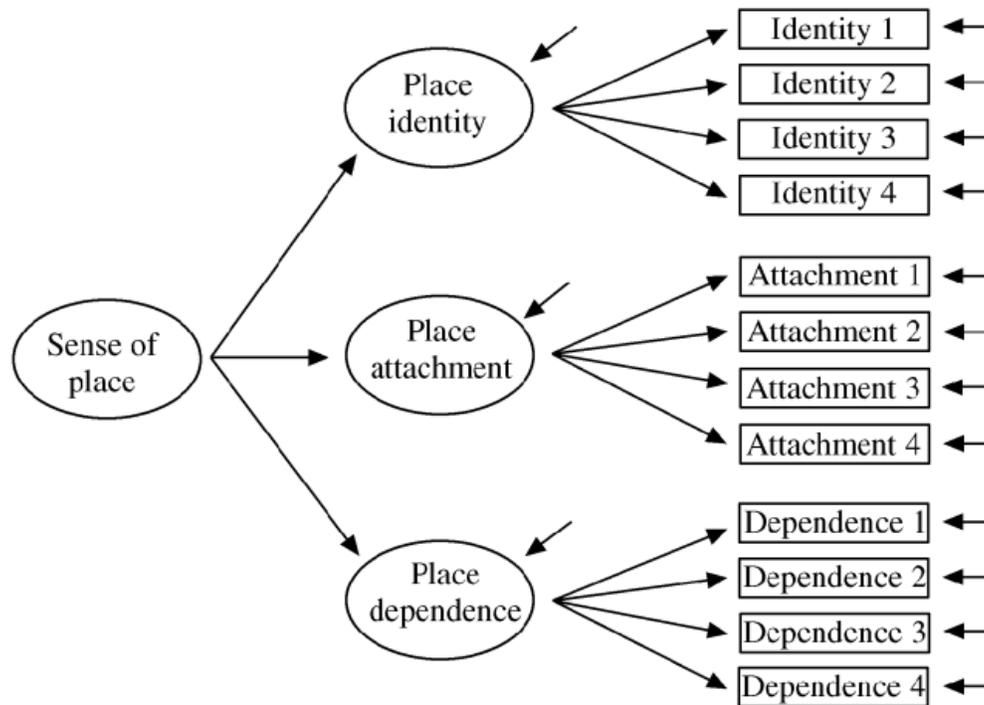


Figure 1: The higher order model of sense of place (Jorgensen & Stedman, 2001)

identification with a place. Place attachment on the other hand exists as soon as there is an emotional bond, even if that bond is not (yet) strong. An example is the special bond many people have with their home. Home owners often strongly identify with their home. This explains why many people have difficulties moving houses.

Place dependence is based on the degree to which the environment facilitates behaviour in a place (White et al., 2008). This means that a person feels a strong place dependency when the place has qualities (both place specific and relative to other places) that offer the opportunity to do things that would not be possible in other places (White et al., 2008). It is therefore also possible to have a strong place dependency toward places a person has never been, in contrast to place identity and place attachment. A mountain climber for example can have a feeling of place dependency toward the Mount Everest, even if he or she has never climbed there before, because of the unique climbing opportunities of the place.

While the social aspects of place tend to get more attention in research (Lewinski, 2011), the physical environment is also of importance to the overall place attachment (Hidalgo and Hernandez, 2001). Lewicka (2011) describes in her literature review that the physical environment can not only be of influence because of its natural or architectural beauty, but also by stimulating or counteracting social interaction. This social interaction in return influences the social aspect of place attachment. The conclusion is that both the social and physical aspects of place attachment are considered. In this research I have incorporated both forms of place attachment.

A model that makes a more elaborately dissects the concept of place attachment is the tripartite model, see Figure 2 (Scannell and Grifford, 2010). This often-used model divides place attachment in three dimensions that make up place attachment: the person, the place and the process. The person-dimension can be an individual or a group, which is a similar distinction to the one Veenhoven (2000) makes between the individual and society in the concept quality of life. In this research I will focus, as said, on the individual. The place dimension is divided in a social- and physical aspects, which Hidalgo and Hernandez (2001) stress to be both equally important. The process dimension includes the affect,

cognition and behaviour that an individual develops in a place. I will specifically ask about the affect of place on students in this research.

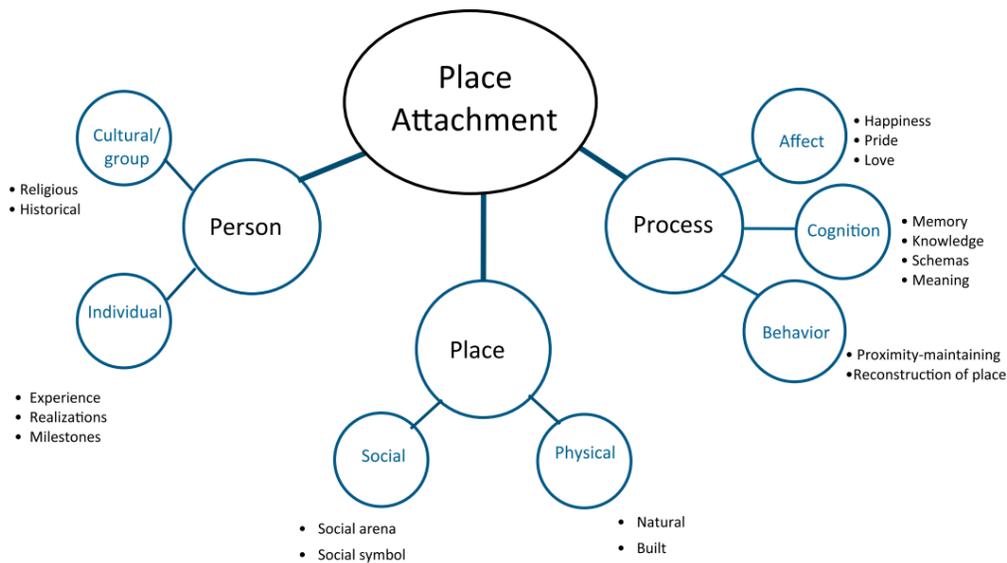


Figure 2: The tripartite model of place attachment (Scannell and Grifford, 2010)

Earlier research by, among others, Hashemnezhad et al. (2013), Jorgensen & Stedman (2001), Marcheschi et al. (2015) and Knez & Eliasson (2017) shows that a closer bond to a place, in other words a stronger sense of place, leads to an increase in satisfaction with that place. Place identity is for example positively associated with wellbeing, a concept closely related to quality of life. An increase in place attachment also leads to an increased quality of life. Extended to the school context, this means that an increase in place attachment would also lead to a higher quality of school life. Based on this research I take this positive relationship between sense of place (consisting of place identity, place dependence and place attachment) and quality of life as a given for the current research. I therefore state that to have a high quality of (school) life, a person must have a positive sense of that specific place as well. The stronger the sense of place is, the higher the quality of life will be.

### 2.2.2 Human-environment relationship

Another way of understanding of the relationship people have with place, or more generally with their environment, is by examining the factors that are of influence by the human-environment relationship theory. This relationship is characterized by the individual differences between people (Law et al., 1994). Every individual experiences the same environment in a unique way. Although there is no consensus on how the experience of the environment takes place, researchers agree that there is a very complex and entwined relationship between an individual and his environment (Law et al., 1994).

In researching the relation between the individual and the environment, multiple disciplines have joined hands, among which human geography, architecture and environmental psychology (Law et al., 1994). The research field that deals with the individual-environmental relation is known as *environmental-behaviour studies* (EBS) (Law et al., 1994). There is a general agreement that this relation is a mutual relation, in which individual influences the environment and vice versa.

To understand the individual-environment relation, we must define what we mean by ‘individual’ and ‘environment’. The individual is a human being, who experiences his surroundings

through his senses as perceived by his body (e.g. sight, hearing, smell, taste and touch). Beside these biological ‘tools’ to experience the surroundings, individuals also base their experience on personal traits. Among these personal traits we can find a person’s values, their beliefs, perceptions and attitudes (Law et al., 1994). These are based on their personality and the culture they are brought up in. An individuals’ biology and personality together define the unique experience an individual has of his surroundings.

The surroundings that an individual experiences, in the broadest sense, is called the environment. We can make a distinction between the social and physical environment. The social environment is, for this thesis, defined the often-intangible context in which (social) interaction takes place. The physical environment can be understood in several ways, although it is always a tangible element in the world. First, it can be understood as the natural world around us, for example the soil, trees or air. More relevant for this research however is understanding the physical environment as the human-built environment. We then look at factors such as air quality, lighting, temperature, noise, temperature. Besides these sensory factors, I also include design factors such as building shape, (building and room) size and experienced aesthetic qualities.

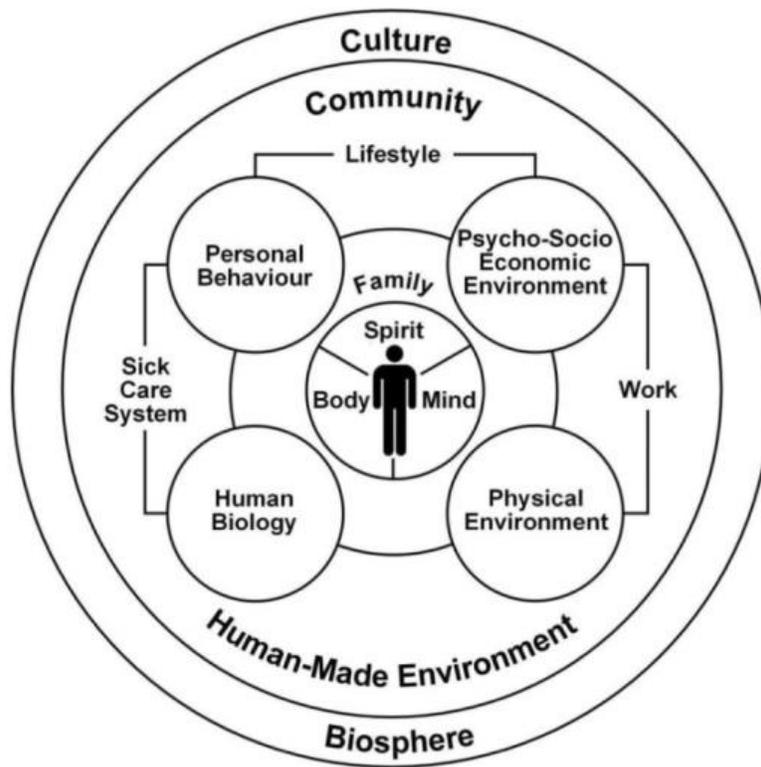


Figure 3: The mandala of health (Hancock, 1985)

To conceptualize the human-environment relation, I use the mandala of health, see Figure 3 (Hancock, 1985). The mandala of health was developed to see human health as a “complex, holistic, interactive, hierarchic systems [sic]” (Hancock, 1985, p. 1). The model relates to the concept of quality of life, because it is concerned with the interaction between the individual and the environment that together shape the individuals’ quality of life.

The mandala shows the factors that influence the relationship between the individual and the environment. The individual in this model is made up of his body, spirit and mind, and is the focus of

the mandala. The individual is however not isolated or static, but constantly influenced by his environment and vice versa. When in balance, the individual is healthy; in disbalance, the individual is unhealthy (either mentally or physically).

There are four factors that influence the health of the individual (Hancock, 1985):

1. *Human biology*: the individuals genetic make-up and natural capacities.
2. *Personal behaviour*: the individuals' habits and general behaviours
3. *Psycho-social environment*: the individuals social support system, interactions with peers, status etc.
4. *Physical environment*: the state of the individuals workplace and close surroundings and the quality of buildings and housing.

Hancock (1985) states that work, or in this case school, is an important factor in one's health. He states that the physical work environment and social context of work are important in determining the quality of work life. For secondary school students, their 'work' environment is the school. We can thus assume that the mandala can be applied to students as well. Another aspect of the mandala are the circles enveloping the individual. These stand for the greater community and culture in which the individual finds himself. For this research, I will use only the four factors that can be used as influencers of the quality of school life, since exploring all the relations with the greater community and culture is too complex in the given time.

### 2.2.3 The human-environment relation in school

During their school careers the students undergo a rapid social, bodily and mental developments that determine many of their behaviours in their adult lives (McLellan et al., 1999). Samdal et al. (1998) corroborate this statement, saying that not only children's present and future behaviours are influenced by school, but also their self-perception and self-esteem. These aspects can be positively and negatively influenced by the students experience of the school. Negative influence caused by a negative experience of the school is found for various health behaviours (Nutbeam et al., 1993; Samdel et al., 1998; McLellan et al., 1999). It is not unreasonable to assume that this is also true for a broader range of behaviours, including school performance and well-being (Samdel et al., 1998). King et al. (1996) also state that a "supporting and accepting school atmosphere can contribute to the health and happiness of young people". Since terms like well-being and happiness are often used as synonym to or related to quality of life, we can deduct that the school experience has influence on the quality of life of secondary school children. Earlier we named this the quality of school life.

Little research has been conducted on the factors that influence the relationship between the school environment and students' satisfaction with school (Samdel et al., 1998; Jamieson et al., 2000). Mostly this relationship is viewed in terms of the social school environment or focused on relationship between the build school environment and learning outcomes, instead of the broader experience of the building (Jamieson et al., 2000). Outcomes of studies on student satisfaction with school also include a range of psychosocial factors, which can be summarized in three main pointers that promote a high appreciation of the school in terms of satisfaction by students (Samdel et al., 1998):

1. Students have high autonomy and control, e.g. they have responsibility and choices they can make within the greater framework / structure of the school (that is created by regulations).
2. Students are asked to demonstrate a reasonable level of demands in terms of academic achievement.
3. Students are given good social support. This can be interpreted as a positive student-teacher relationship, feelings of value and self-worth and -esteem and positive peer-to-peer relations.

Although these are psychosocial factors, the physical school environment can support or counteract the factors described above, especially number 1 and 3. It can therefore be expected that spaces that support these psychosocial factors will be more appreciated by students compared to those that do not. An example of a space that supports autonomy and control is a room that has clear sight-

lines and that is flexible in use (for example a classroom where students can change the layout of the room by rearranging the furniture). An example of a space that supports good social support are spaces that invite social exchanges, for example where students can sit, eat and drink together. In this research the school experience will be primarily explored by examining the relationship between the student and the (physical school) environment. An exception to the earlier remark that there is little research on student satisfaction and the (physical) school environment comes from Ghotra et al. (2016). They focus on the quality of school life and consider the physical environment. This article therefore will be used as a basis for this research.

Quality of life is research in another context as well. Parker et al. (2004) for example have researched the quality of life and building design for elderly in nursing homes. The nursing home is comparable to the (secondary) school environment because both are building that the resident / students spend a large amount of time and which are subject to a broad range of rules and criteria that the build environment must comply to. Parker et al., among other researchers, (2004) include features such as size of rooms, accessibility, safety and sensory features (lighting, colour, sound etc.) (Calkins, 2011; Daviet et al., 2013). A research about the physical learning environment states that the classroom as such is still popular as learning environment, although flexibility in the use of space is important (Kuuskorpi & Gonzàles, 2011). The school building as a whole and the environment around the building, such as the schoolyard, however, are not considered in this research.

Hanan (2013) researched the influence of open spaces in campuses in Indonesia on the quality of life students. He concludes that open and public spaces that students can use outside the regulated class-room time is important not only for a positive experience of the campus, but also for the learning outcomes. Applying this to the context of the secondary school, we could see the schoolyard and canteen as (semi) public open spaces, where students have time outside of their classes. Accessible and user-friendly open places should contribute to a good quality of school life, according to the outcomes of Hannan (2013).

Jamieson et al. (2000) look at the physical environment in more general terms and concluded that the physical environment prohibits and allows certain activities and therefore the experience of the space. Similar to Kuuskorpi and Gonzàles (2011), they too notice the importance of flexibility in use in current school design, together with an 'open' feel (transparency) and spaciousness. There should be a greater focus on the aesthetic appeal of the build environment and on improving student access to and ownership of the environment (Jamieson et al., 2000). It is unknown if this also leads to a more positive experience of the school environment by students, but the research by Kuuskorpi and Gonzàles (2011) and Hannan (2013) suggests so.

To relate all discussed concepts, I have made an overview on the relations between the different subjects. The concepts will be used to create a conceptual model of the quality of school life, as used in this research.

<b>Aspects QoSIL</b>	<b>Indicators QoSIL</b>	<b>Place attachment</b>	<b>Human-environment relationship</b>
Ghotra et al. (2016)	Weintraub and Bar-Heim Erez in Ghotra et al. (2016)	Scannel and Gifford (2010)	Hancock (1993), also in Law et al. (1994)
<b><i>Psychosocial</i></b>	<ul style="list-style-type: none"> <li>Feelings of loneliness</li> <li>Teasing by other students</li> <li>Having friends at school</li> <li>Trouble sleeping at night</li> <li>Unpopularity in class</li> <li>Respect from other students</li> <li>Feelings of frustration</li> <li>Jealousy of other students' things</li> <li>Perceived safety at school</li> <li>Desire to change schools</li> <li>Popularity in class</li> <li>Pain or discomfort during school</li> </ul>	<ul style="list-style-type: none"> <li>Person – individual</li> <li>Place – social</li> <li>Process – affect</li> </ul>	Psycho-social-economic environment
<b><i>Attitude towards school</i></b>	<ul style="list-style-type: none"> <li>Interest in school subjects</li> <li>Enjoyment of school</li> <li>Overall satisfaction with life at school</li> <li>Happiness in school</li> <li>Importance of attending school</li> <li>Satisfaction with grades</li> <li>Academic success</li> </ul>	<ul style="list-style-type: none"> <li>Person – individual</li> <li>Place – social</li> <li>Process – affect</li> </ul>	<ul style="list-style-type: none"> <li>Personal behaviour</li> <li>Human biology</li> </ul>
<b><i>Teacher-student relationship</i></b>	<ul style="list-style-type: none"> <li>Teacher support for student well-being</li> <li>Fondness of teacher</li> <li>Understanding from teachers</li> <li>Approachability of teachers</li> <li>Teacher support for academic success</li> <li>Satisfaction with teachers</li> </ul>	<ul style="list-style-type: none"> <li>Person – individual</li> <li>Place – social</li> <li>Process – affect</li> </ul>	Psycho-social-economic environment
<b><i>School environment</i></b>	<ul style="list-style-type: none"> <li>Quietness of classroom</li> <li>Positive appearance of school</li> <li>Positive appearance of classroom</li> <li>Cleanliness of school</li> <li>Comfort of chairs and desks in classroom</li> <li>Fun place to play at school</li> <li>Comfort of temperature in classroom</li> <li>Visibility of whiteboard in classroom</li> </ul>	<ul style="list-style-type: none"> <li>Person – individual</li> <li>Place – physical</li> <li>Process – affect</li> </ul>	Physical environment

Table 3: comparison between quality of school life aspects in different theories.

## 2.3 Conceptual model

Based on the theory discussed above, I have created a conceptual model fit especially for this research, see Figure 4. The model is based on the Mandela of health as described by Hancock (1985), although differently depicted. The model describes how the quality of school life of the student is determined by four different characteristics. The input exists of the students biology and behaviour, depicted by the DNA-string and the person icon, the social environment, symbolised by the three persons icon and the physical environment, symbolised by the building icon. The different characteristics that are named in the model come from the theoretical framework and research discussed therein.

The Mandela of health has four characteristics, which are adjusted for this model to fit the school context:

1. *Psycho-socio economic environment*. This characteristic is adjusted to fit the context of the research. For students of this age, the economic aspects are usually not important, because they do not make (a lot of) money yet. Therefore, I have chosen to rename this the social school environment aspect. This focusses on the social arena of the school and how students deal with this.
2. *The physical environment*. The physical environment in this context is the physical school environment. This includes the school building, but also the other areas that student consider part of the 'school', for example the courtyard or bicycle shed.
3. *Individual behaviour*. This characteristic is kept the same in the conceptual model. Students' school behaviour is considered only. Their behaviour outside of the school is left out of consideration for this research. Although it is possible to imagine that the home-situation of students is of influence on their quality of (school) life, it is too complex to take this into account for a research of this size.
4. *Human biology*. This characteristic is kept the same in the conceptual model. This includes health aspects of the student, but also gender, ethnicity etcetera.

The result of the input are the characteristics that are of influence for the quality of school life. These are more specifically named in the conceptual model and are based on the literature of the theoretical framework. The result is the quality of school life of the student. This is the output of the model.

The four characteristics are hereabove described as separate but, as can be seen by the depicted interactions in the conceptual model, all factors influence each other. A students personality (human biology factor) can influence his or her social school environment through the students ability to create positive friendships and teacher-students relations. This in its turn can have an influence on how the student feels about certain areas in the school (the physical environment), because these spaces are for example 'owned' by other students or teachers. This in turn has an influence of the students behaviour in the school (individual school behaviour). As demonstrated by this hypothetical example, all factors are (inter)connected and have interaction. Within this research I will try to find out which role the physical environment plays in the interaction with other characteristics and in which way it influences the students quality of school life.

I present this model as a closed model that does not have other external factors than the one students encounter at school. Of course this is not the case. The quality of school life is influenced by the overall quality of life a student experiences. The overall quality of life of students is made up of all experiences and has a lot of determining factors. Examples of important factors are the domestic situation of the student and social life outside of the school environment. Although these are all important factors and there is a connection to the quality of school life, I have chosen not to include them in my research. I follow research by Gothra et al. (2016) in deciding to treat the quality of school life as a closed system in the context of the school.

**Input**



Interactions

**Output**

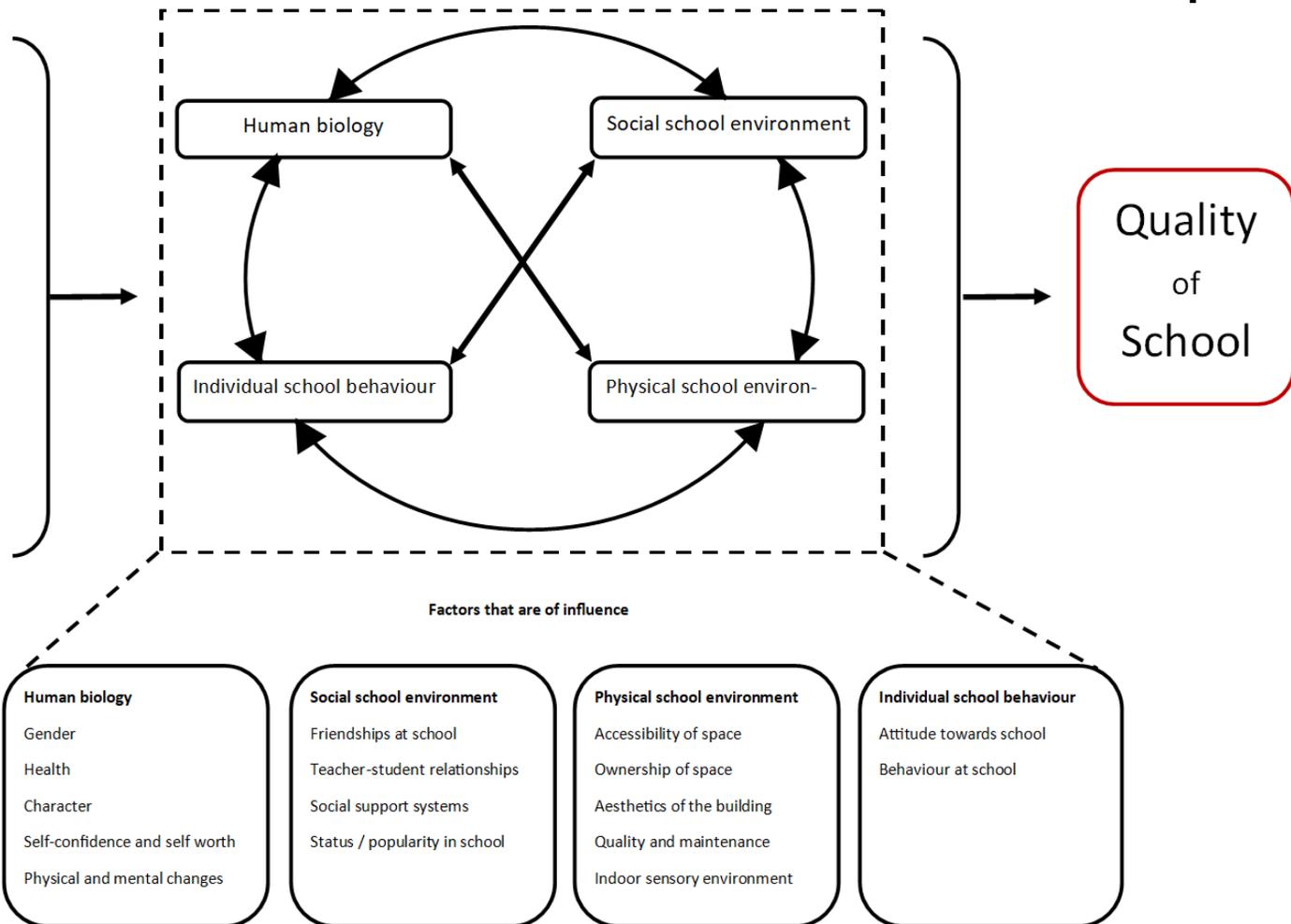


Figure 4: Conceptual model of Quality of School Life



### 3. METHOD

# 3. Method

## 3.1 Type of research

This research focusses on a topic that is not yet researched in this manner before. Although there is a vast body of research on the quality of life, also in specific context such as the school environment, the link between the physical school environment and the quality of life is not well documented. This makes it hard to formulate expectations about the outcomes of the research. Thus, the research can be classified as an exploratory research.

## 3.2 Case study: Willem Lodewijk Gymnasium, Groningen, The Netherlands

### 3.2.1 Secondary school in the Netherlands

Schools are socializing institutions which children in the Netherlands are obliged to attend from the age of 4 until they are 18 years old (Rijksoverheid, 2018; McLellan et al., 1999). Most children start their school careers at the age of 4 at the elementary school. Before this age they might attend kindergarten, at which the socializing aspect of school already starts. On average children leave elementary school at the age of 12 to go to the secondary school. There are three main levels of education in the Netherlands: VMBO, HAVO and VWO. In accordance with their level of education, Dutch children spend between 3700 (VMBO) up to 5700 (VWO) hours at secondary school for five days a week during four to six years (Rijksoverheid, 2018). This high number of hours spent in school during a very formative phase in the lives of children speaks to the importance of this research. Children grow into young adults during their time in secondary school. It's important to understand how they experience school to provide them with a school experience that influences their rapid development during this time in a positive way.

### 3.2.2 Willem Lodewijk Gymnasium, Groningen

The Willem Lodewijk Gymnasium in Groningen is a categorical gymnasium, meaning that the only level of education taught at the school is gymnasium (WLG, 2018). A gymnasium in the Netherlands is equal to the level of VWO, but students follow extra courses such as Latin and ancient Greek. This means students go to secondary school for six years, for five days a week. The Willem Lodewijk Gymnasium is a school with a Christian background and was founded in 1909 (WLG, 2018). The school has been located in three different buildings since the founding 109 years ago. Growing from 100 students in the 1920's to about 700 nowadays, the school



*The entrance of the Willem Lodewijk Gymnasium*

buildings became increasingly bigger. The current building was completed in 1969 and has been in use since this year. In the schoolyear 2006-2007, the north wing was expanded with an annex

due to the increasing number of students (WLG, 2018). This added not only 8 classrooms to the school, but also created a new cafeteria area near the schools entrance, called the ‘forum’.

### 3.2.3 Selection of the school

The selection of a case study is something that has to be done carefully. Similar to participant selection, one can choose a case based on representativeness for the population (in this case secondary schools in the Netherlands), out of convenience or completely random. I have chosen to choose my case as representative for a specific population, while also having attention as to which school lends itself for this research. I have selected the Willem Lodewijk Gymnasium as the case for my research of three main reasons.

First of all, the school is a categorical school, where only one level of education is taught. This eliminated certain differences between students compared to other schools, where up to 3 different levels of education can be taught (with further subdivisions within the VMBO school level). This makes the results of the research less multi-interpretable and the conclusions for this research stronger for this type of school.

Secondly, the school building is very suitable for this research, since it's an older school building, with a recently added annex. This allows for different experiences within the school. It would have been interesting to conduct this research at multiple secondary schools, which unfortunately is not possible because of the scale of the research. By choosing a school that has an old and new part, I could still compare the experiences of students between these two parts. It is also interesting that the school is planning a new renovation within the coming years. The research can therefore give them pointers on the areas that they should focus on in the renovation. This can lead to new insights into how students experience the school environment and how the school can play into this to improve this experience for them.

Thirdly, I have the advantage of being a former student of the Willem Lodewijk Gymnasium myself. Therefore I could get in contact with the school through my contact person Emiel Mulder. He is a geography teacher at the Willem Lodewijk Gymnasium. Besides his work at the Willem Lodewijk Gymnasium also works at the University of Groningen as a ‘vakdidacticus’. He responded very open to my research proposal and was willing to participate in the research and support me in the execution. This makes that this case study selection also has characteristics of a convenience sample. Although the main reasons for selecting the Willem Lodewijk Gymnasium is because of representativity, I am aware that my link to the school also causes some concerns in terms of my positionality as a researcher. In the ethics section (section 3.6 of this chapter) I will discuss these concerns.

### 3.2.4 Reasons to participate for the school

One of the main reasons to participate to this research for the Willem Lodewijk Gymnasium is the planned renovation that will start in the schoolyear 2019/2020. This renovation makes it very interesting for the school to know which spaces within and around the school demand extra attention.

## 3.3 Mixed method research

Within research, there is generally a distinction made between two types of research: quantitative and qualitative. These two types of research are sometimes seen as binary opposites of each other, see Figure 5, although they should not be seen as completely separate. Rather, quantitative and qualitative research complement each other. Also, quantitative and qualitative methods are useful for different types of research questions, for collecting different types of data and will ultimately give

the researcher different answers to the research question (Clifford et al., 2010; Johnson and Christensen, 2008).

### 3.3.1 Mixed method: questionnaire and walk-along interview

For answering the research question that is central in this research I needed to gain insight in the perceptions on the quality of school life of a student population of around 700 students. Since I did not have a comprehensive knowledge on the quality of life of the population, I wanted to first gain the basic knowledge of the characteristics and attitude of my research population. This led me to make the choice for a quantitative method of data collection. This was suitable for my research because it helped me “explain, predict and model human spatial behaviour and decision making” (Johnston, 2003 in Clifford et al., 2010). An advantage of quantitative research methods is that the results are generalizable for a greater research population and that it is a relatively objective method. Since I used a questionnaire as my quantitative method, I could gain insight in the characteristics, behaviours and attitudes of my research population (McLafferty, 2010). Another advantage of choosing a questionnaire is that in relatively little time, a lot of data can be collected. I will further explain the choice for a questionnaire in section 3.3.2.

Quantitative research methods however also have disadvantages. In this research I wanted to gain a deeper understanding of the reasons students have certain experiences in their school environment. This requires more detailed data than a questionnaire could provide. The opinion of respondents in quantitative methods often reduced to mere numeric answers. This allows for little personal insight and empowerment of respondents, cause their answer possibilities are limited and they cannot ‘speak’ freely. To properly answer the research question, I therefore needed to add a qualitative research method. This leads my research to be a mixed method approach. The mixed method approach combines one or more quantitative- and one or more qualitative research methods. Johnson and Christensen (2008) and Clifford et al., (2010) stress the advantages of combining the two. By using two different ways of measuring the research subject, the weaknesses of both methods can be overcome (see Figure 5).

More in depth, qualitative research is described as “an approach that allows you to examine people’s experiences in detail, by using a specific set of research methods such as in-depth interviews, focus group discussions, observation, content analysis, visual methods, and life histories or biographies” (Hennink et al., 2011). Weber (1968) called this, often cited, ‘*verstehen*’. This can be understood as really understanding the subject, as if one is getting ‘under their skin’. I for example wanted to know why students feel happy or anxious in certain spaces in the school. This helped me to understand (*verstehen*) the behaviour of individual students, which helped me to interpret the results of the questionnaire data analysis. The type of method I have chosen, the walk-along, is very suitable for gaining a broad understanding in the context of the school by physically walking through the school. More on the walk-along interview in section 3.3.3.

Even though qualitative research has many advantages, because of its holistic and empowering approach, there are also disadvantages. Since this type of research is not suitable for large research populations, I will use a small number of participants and use the collected data to deepen my understanding of the questionnaire results. Using a small number of participants, I had to take into account that the collected data would be more prone to subjectivity and less generalizable. I believe that by being aware of this, the walk-along interview will add valuable data to my research.



environment). The third part consisted of eight picture questions with which students were asked to state their emotional state seeing the depicted spaces. The fourth and last part consisted of questions that determined the characteristics of student (gender, schoolyear, average grades and living environment).

### 3.3.5 The walk-along interview

For this research I found it important to give the participants room to convey their experience, thoughts, opinions etcetera. At the same time, I wanted to gain certain information, even if they do not provide this information themselves. Therefore I choose to use a semi-structured interview. This allowed the participant to contribute and lead the conversation, while it also gave me the opportunity to ask about specific subjects. Because of the specific focus on the physical school environment, I choose to do a walk-along interview instead of a the traditional seated interview.

I choose to first conduct the questionnaire followed by the walk-along interviews for my research. The reason I choose this order is that this is an explorative research, and I first wanted an overview of important spaces and relations before asking in depth questions about these spaces and relations. The other order is also an option for an explorative research, since I would know beforehand better which topics I would have to question in the questionnaire. Given earlier research and my wish to connect to this research I have chosen this order.

The walk-along interview is a qualitative method that combines the seated interview and the field observation methods. It has a flexible design that combines the strengths of both methods (Carpiano, 2009; Evans and Jones, 2011). In a walk-along interview the interviewer and the interviewee take a walk through the spatial context of the research project. This makes that the walk-along interview has great potential to explore and understand participants experiences of their local and day-to-day places. The strength of the walk-along interview is that is can give a broad insight into the experience of the participant while being spatially in the location that they would normally be in. This can trigger them to remember or share more information than they would in a seated interview (Carpiano, 2009).

This suited my aim to give participants room to share their experiences with me in a natural setting. It also ensured that the data that I collected was not solely my own interpretation, but information that was shared and disclosed by the subjects of my research (Carpiano, 2009). Research by Evans and Jones (2011) also showed that participants share more about their physical surroundings when the interview is set in these surroundings than they would in a seated interview. By actually showing me the places that are important to them instead of describing them, I gained a better understanding of their experiences and opinion on their quality of school life.

Within the walking interview method, there is a range of different types of interviews that can be chosen for research. Ranging from researcher-led, closed interviews to completely participant-led walk-alongs, I choose a semi-structured interview. This means that the route as well as the topics we discuss during the interview are semi-structured. The tone of the interview is informal and there is flexibility to respond to any 'trigger' might be encountered when walking through the school (Longhurst, 2010). The route I used was partially researcher-led, using the locations that were questioned in the questionnaire as a starting point for the route. The participant could lead us to other meaningful places during the interview. Carpiano (2009) calls this approach 'asking questions along the way'. Evans and Jones (2011) have a typology of walking interviews, my method fell within the participatory walking interviews category (see Figure 6).

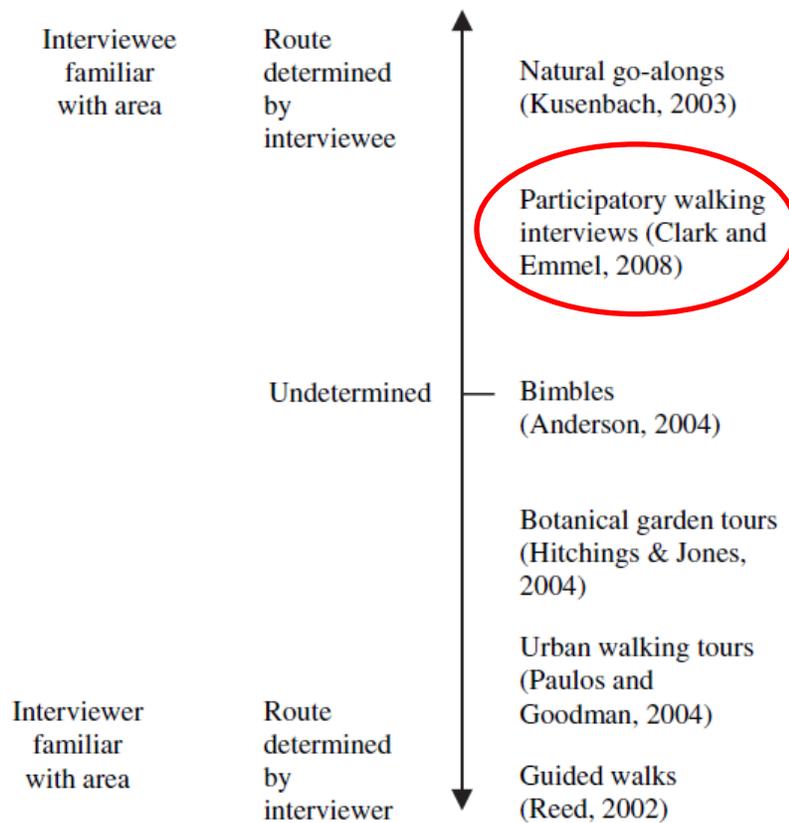


Figure 6: Typology of walking interviews

### 3.4 Participant selection

#### 3.4.1 Selection of questionnaire participants

When selecting participants for a research, you take a sample of the research population. There are several ways to select participants (Hennink et al., 2011), of which I have chosen to do a representative sample. An email was sent to the complete research population (all students attending the Willem Lodewijk Gymnasium) asking them to participate in the research. To prevent low representativeness I kept track of the different subgroups of students (based on for example age, gender and average grade), and will take action if not enough students are responding in order to ensure representativeness. No action was needed during data collection to get a representative sample.

My contact person at the Willem Lodewijk Gymnasium suggested and organised that all students got an email on their school email with a link to the online questionnaire. This email was also addressed in all the geography classes (given to all students in classes 1 to 3 and for part of students that chose the course in classes 4 to 6), because that is the course my contact person teaches and in the mentor classes that all students have once a week. A high number of students filled out the questionnaire (see results) ensuring representativeness. Another reason that this sample was

representative is that all students going to the school have a valuable opinion about their school environment and quality of school life.

The questionnaire was filled out online. If a student did not have a device to fill out the questionnaire, they were offered to use a school computer. It has been pointed out to all students that they can participate on a voluntary basis. If they have objections, or if their parents have expressed objections, to their participation in the research, they did not participate.

### 3.4.2 Selection of walk-along interview participants

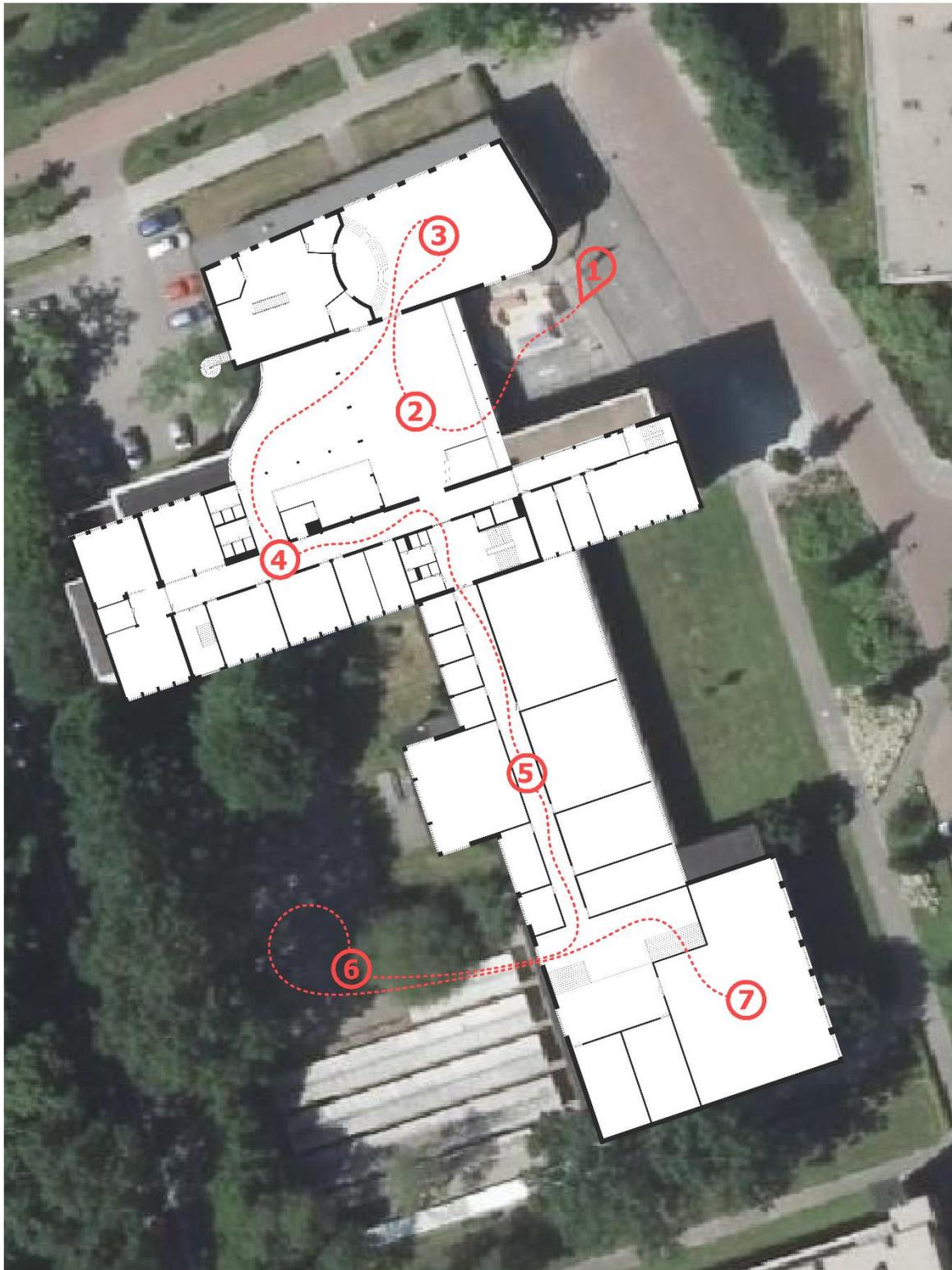
The participant selection for the walk-along interviews was done by recruiting questionnaire respondents with a question at the end of the questionnaire. Respondents were asked if they would like to participate in a walk-along interview. If they were willing to participate, they filled out their student number. Through this number, the school gave me an email address with which I contacted the student and made arrangements for the interview.

There were three students willing and able to participate in the walk-along interview. There were ten participants selected from the population based on age and average grade, school year and gender. This means that the participant selection for the walk-along interview was a stratified selection, in which you identify different subgroups (for example based on gender or ethnicity) within your research population and select participants proportionally from these subgroups. This ensures representativeness, although complete representativeness was difficult to achieve with this limited number of participants. A disadvantage is that is time consuming and it can be hard to identify the subgroups before the research, but this was not a problem for my research, since I identified the subgroups in my analysis already. In Table 4 an overview is given of the participants of the walk-along interviews. Names have been changed to secure students privacy.

The participants were questioned on the topics that came forward as being important from the results of the questionnaire. Topics that we touched on were: ownership, aesthetics, sensory aspects of a place, accessibility, student-teacher relationships and peer-to-peer relationships. The connection to the different spaces in and around the school building was made by walking a route that passed all spaces questioned in the questionnaire. This route can be seen in map 1 on page 29.

<b>Name</b>	<b>Gender</b>	<b>Year</b>	<b>Average grade</b>	<b>Quality of school life</b>
<b>Lisa</b>	V	1	Above average	8
<b>Chantal</b>	V	2	Above average	7
<b>Esther</b>	V	6	Average	8

*Table 4: Participants of the walk-along interviews*



### Walk-along route Willem Lodewijk Gymnasium

- ① Entrance ② Forum ③ Canteen (aula) ④ Classroom ⑤ Teachers room ⑥ Schoolyard ⑦ Basement

Map 1: The Willem Lodewijk Gymnasium floor plan and walk-along route through the school.

## 3.5 Data collection and analysis

### 3.5.1 Data collection

Data collection for the questionnaire took place by using the site [www.survio.nl](http://www.survio.nl), an online questionnaire tool. This is a free online program in which the questionnaire was filled out. Students were sent the link to the online questionnaire. After submitting their answers, the survio program allowed me to download the data in various formats. I downloaded the results in excel and prepared them to be entered in the SPSS program that I used for further analysis.

Data collection for the interview took place in person at the school of the participants, the Willem Lodewijk Gymnasium. The spoken data was recorded in order for it to be transcribed for data analysis.

### 3.5.2 Data analysis

The collected data existed of nominal, ordinal and interval data for the questionnaire. An overview of the questionnaire questions and the types of data is given in appendix 1. The collected data exists of quantitative data. This allowed for data analysis based on statistics. The program that was used for the analysis is SPSS. This is software program that allows a variety of statistical analysis of which a number were used for this research.

To allow good data analysis, the raw data will be labelled. The following changes have been made:

- The ordinal outcomes of the statements on a 5-point Liker scale have been relabelled from strongly agree, agree, neutral, disagree, strongly disagree to 5, 4, 3, 2, 1.
- An average score for all positively asked statements and for all negatively asked statements is calculated and added to the SPSS file per respondent.
- The outcomes of the control questions (year, average grade, living environment and gender) have been relabelled to numbers.
- The outcomes of the control questions on year and average grade have been relabelled to bigger categories to allow for better analysis based on a bigger N. Year 1 to 6 was relabelled to junior classes (year 1, 2 and 3) and senior classes (year 4, 5 and 6). Below average has been relabelled to average (often or always not passing and often or always passing) and above average (often or always easily passing). The living environment was relabelled to city and village/countryside. Lastly, gender was relabelled to male and female given the low response in the 'other' category.

Based on these adaptations, the subgroups within the population were determined and averages for the scores for all positive and negative statements and the overall quality of school life of respondents were calculated.

For the analysis two types of t-test and a regression were used. To determine which statements score relatively high or low compared to other a one sample t-test was used, where the average per statement was compared with the average of all statements. This gave insight in which statements scored significantly high or low. An independent sample t-test was used after this to determine differences between subgroups in the population. The independent sample t-test investigates if the differences between the results of two independent groups are significantly different of each other. The average scores for all statements and the overall quality of school life of respondents were compared to each other based on different subgroups that were defined by the control questions (year, average grade, living environment and gender). A regression was done to find out which aspects of the quality of life contribute the most to the overall quality of life respondents reportedly experienced.

The walk-along interviews were recorded with permission of the participant. This allowed the researcher to transcribe the data after the interview. The online available transcribing software of [www.amberscript.nl](http://www.amberscript.nl) was used to transcribe the data of the interviews. All interviews were transcribed as soon as possible after the interview was conducted. After transcription, the transcripts were uploaded in the analysis software of Atlas.ti. This is a software package that allows for coding and analysis data. A preliminary coding book was made with inductive codes based on the theory described in the theoretical framework and the summary of that which is presented in the conceptual model (see page 20). During coding of the data this code book was updated with deduced codes and in vivo codes. These were codes that emerged from the data and that were not described in literature, but that were relevant to the research outcomes. After coding the codes were regrouped into code groups (also called code families). The definitive codebook can be found in appendix 5.

Using the codes and code groups, the data of the walk-along interviews was analysed by comparing and finding links between codes and quotes. These results are reported in the results section of this thesis and are partially reported in the Atlas.ti program. A number of visualisations were made with the Atlas.ti tool 'network'. These were included in the thesis when they were of added value or for clarification of the interaction between codes and themes.

## 3.6 Ethics

In research in general it is important to keep in mind the ethical focus points one could encounter during the research (Hay, 2010). When doing research, we try to contribute to a body of knowledge that we can use to better understand and improve the world we live in. In the social sciences, the subject of our research is often the individual, the community he or she lives in and their greater environment. As researchers we must ensure that the rights of these subjects are protected and that are not harmed in any way, be it physical or emotional. Very important in this is communication. Communication about the research before, during and after participation. This way we can manage the expectations of the participants and maximize the beneficence (the advantages of participating in the research) for the participants. I think the ethics involved can be summarised into one word: respect. If the researcher respects the participant, he will always have their interest at heart.

### 3.6.1 Consent

The first step to an ethical research is having consent from all the respondents that participate in the research. This was especially important in this research because the participants are all minors. Therefore, their parents had to give (passive) consent to the participation of their son or daughter. This consent was obtained through the Willem Lodewijk Gymnasium. The school sent an email to the parents of all the students that would be involved in the research. The email explained the purpose of the research and the way in which the students were involved. All parents were asked to respond to the email if they objected to their child participating. There were no objections from parents. This meant no students had to be excluded from participation in the research.

The students that participated in the walk-along interviews were asked for consent after the researcher carefully explained the objective of the interview and handling of the obtained data. This explanation was done through an information letter, sent to the interviewees before the interview through their school email. Further questions were answered before the interview itself. After all questions were answered, and the student still wanted to participate, the participant signed an informed consent form, including giving permission for recording the interview. All participants were informed that signing this document did not mean that they were obliged in any way to participate. If they were

unsure about participating, sharing certain details and/or wanted to stop the interview, they could indicate this at any moment during the interview.

By using these two methods, consent to the participation in the research was secured for all students. Also, the parents of the underage students were given the opportunity to object to the participation of their children, ensuring that no minors were taken advantage of in the process of the research.

### 3.6.2 Confidentiality and anonymity

The small geographical scale of this research made it hard to ensure complete anonymity for all participants. The questionnaire results were handled completely anonymous. No answers from students can be led back to them, except for the students that were willing to participate in the walk-along interview. They filled out their student number, which can be traced back to them. I have chosen to use the student number, because in that way, only my contact person at the Willem Lodewijk Gymnasium has access to this data. After selection of the participants, I asked my contact person to access the school records to obtain the email addresses of these students only. This way, the anonymity of the student population was secured to the greatest extent possible.

However, the students that participate in the walk-along interview could not remain completely anonymous. Given the size of the school, other students have seen me and the participants walking through the school. By planning the interviews at the end of the day and in the vacation period, I have reduced this to a minimum. Not being ‘watched’ also gave students the opportunity to be more open about their opinions, given that there were as little as possible people that could be ‘listening in’ on our conversation. Everything students said in the interviews was not shared in any unnecessary way by the researcher. Also, the statements made by the students in the interviews were not to be traced back to an individual by the change of the names of the students. This way, all data obtained from the walk-along interviews was anonymized after processing.

The data was stored anonymously and on the computer of the researcher only. This ensured that all data remained confidential and was not to be traced back to an individual. The data was shared exclusively, and only if necessary, with the students’ supervisor of the Rijksuniversiteit Groningen (RUG), faculty of FRW, dr. ir. S.G. Weitkamp. Only the student numbers of the students participating were shared with the contact person at the Willem Lodewijk Gymnasium, Emiel Mulder. There were no other parties that had access to the raw data of this research.

### 3.6.3 Positionality of the researcher

In every research it is important to reflect on your own position as a researcher in relation to your research population. Your character, culture, gender, status etcetera all influence how you are seen by the participants of your research (Smith, 2010; Hennink et al., 2011). Especially in qualitative studies, it is important to be aware of this influence, since it can determine how much participants are willing to share during an interview. The power-relation between the researcher and the participant is determined by the positionality of the researcher (Smith, 2010; Hennink et al., 2011). Smith (2010) cites Skelton (2001) about positionality: “*We are not neutral, scientific observers, untouched by the emotional and political contexts of place where we do our research.*” (p. 166). I think this citation summarizes why positionality is important. Although we, as researchers, try to be as objective as possible, we are still people with our own biases and opinions as well. This is something we cannot turn off completely when doing research.

Given the above, there are several things I have to consider regarding my own positionality. First of all, I’m a couple of years older than the students I will be interviewing. The age difference between me and the students is between 5 and 11 years. The advantage of a small age difference is that students will see you as non-intimidating and an equal more quickly. This can make them more open about their views. For the younger students, the age difference can however be quite big. I have to more actively

engage with them to balance the power relations in these interviews, in order to make them feel at ease and able to be forthcoming during the interview.

Secondly, it can be intimidating for the students that I am a master student at the university. From earlier studies, I have concluded that people can connect this to a certain status that can negatively influence the power relations between researcher and participant. I think that in this research, this was not be a very big issue, since the participants were all well-educated. Most of them expected to attend university as well. Because of this, I did not expect me being a master student at the RUG will have a negative influence.

The third aspect that comes from research as an important factor is gender. In some cultures, males and females are regarded differently. I did not expect this to be an issue for this research though, given that men and women are equal in the Dutch culture. Since there were no participants who grew up in a different culture, there was no reason to revisit this conclusion during the research.

Lastly, I have to consider the fact that I also attended the Willem Lodewijk Gymnasium between 2006 en 2012. As a former student, I know the school well. This was an advantage, because I knew a lot of inside information about the school, the school building and the school environment. In the interviews, this made it easier to communicate with the students and to place myself within their experiences. I think it was also an advantage that all students that attend the Willem Lodewijk Gymnasium now, including the participant, all started school after I graduated. This way I did not know any of the students beforehand, which could have led to a conflict of interest or an imbalance in power relations. A disadvantage of knowing the school I was researching was that I had my own opinions about the social and physical environment of the school as well. I needed to be careful that I did not influence the students participating in the interview with my own views. As a researcher I needed to be as objective as possible. Another disadvantage is that I had been visiting the school quite often in the last years, for example for helping during exam periods. Students that participated in the research might have recognised me from that and see me as a teacher instead of objective researcher. This could influence the information they were willing to share. If I had encountered a student that I knew, my intention was to discuss this with the student and make a shared decision about the usefulness of participation of that specific student. This has not been necessary.



## 4. RESULTS AND DISCUSSION

# 4. Results and discussion

In this chapter I will set out and discuss the results of the questionnaire as well as the walk-along interviews. The first section will discuss the general results of the analysis of the questionnaire data. The second section will discuss the way students see their school building. The third part focusses on how the quality of school life of students is constructed and the role of the characteristics of the conceptual model. The last and fourth section examines the role of the physical school environment on the quality of school life more closely.

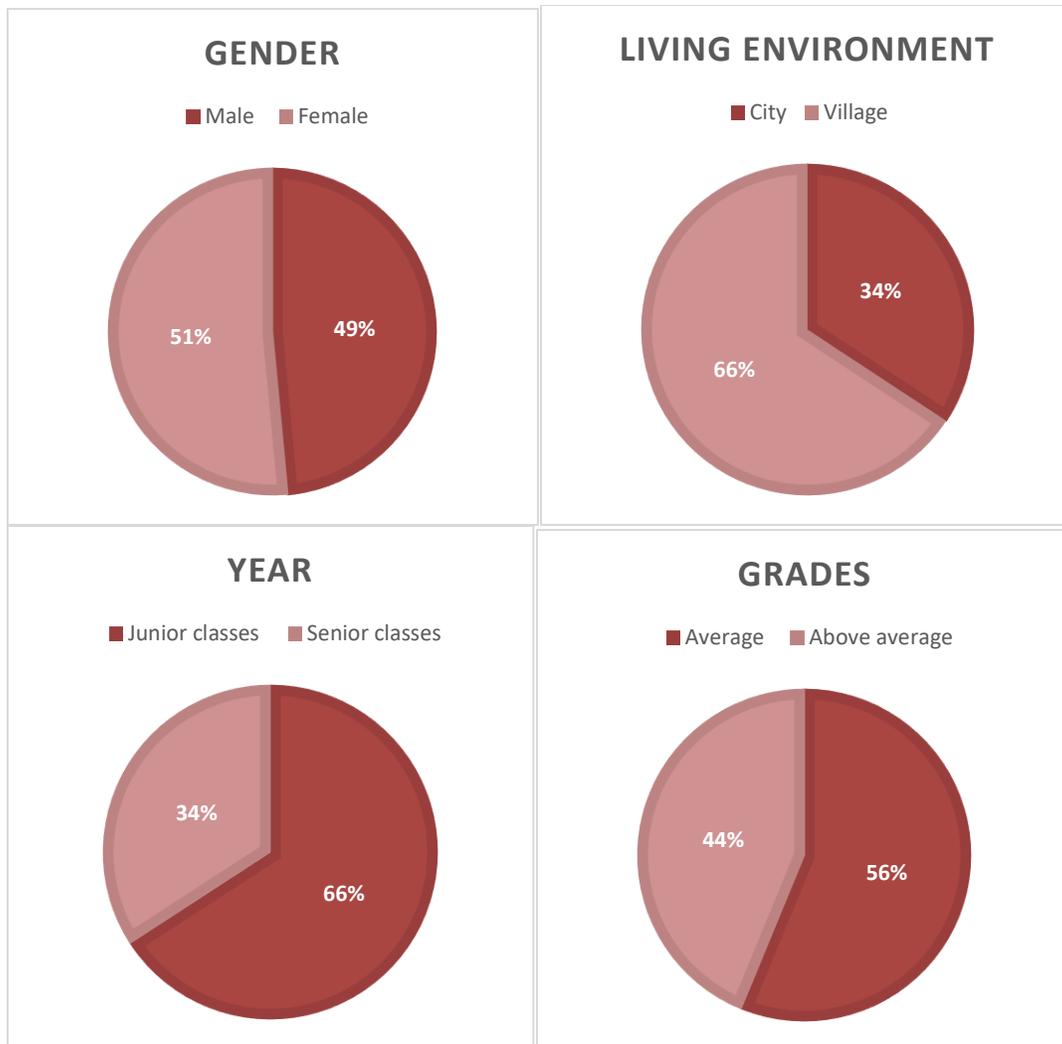
## 4.1 General outcomes of the questionnaire

### 4.1.1 Response

In total, 316 students filled out the questionnaire. The total student population is 742 students (Scholen op de kaart, 2019). This means the questionnaire had a response percentage of 43%.

### 4.1.2 Subgroups

Questionnaire question 19 to 23 (see appendix 1) were asked to identify 4 subgroups within the student population. The questions focused on the year students were in, the type of grade they usually get in school, the living environment students come from and the gender of the students. I used these subgroups to investigate if there were any differences in quality of school life between the groups. In order to run statistical test on the data, I have chosen to combine answering categories of questions 19 and 20 (respectively: class 1, 2 and 3 were combined to junior classes, class 4, 5 and 6 to senior classes; often and always on average en average were combined resulting in the categories average en above average; stad en dorp/tussenomgeving were combined resulting in categories stad and dorp / platteland; category 'anders' was not analysed because of a very low number of responses). In the following Figure (7) the division of students per subgroup can be found.



*Figure 7: Distribution of respondents based on year, grade, living environment and gender*

The distribution between subgroups regarding gender and grades is quite equal. For the living environment, we see that there are more students living in a village or on the countryside than in the city. This is remarkable for a school that is in a relatively large city as Groningen. The explanation for this is most likely that the Willem Lodewijk Gymnasium offers a very specific type of education (a gymnasium), which is not taught at schools on the countryside. Also for the distribution between junior and senior classes (first three years and second three years of school) we see a difference: two thirds of the students are in the junior classes. This difference is harder to explain. The most likely explanation is that students have ‘mentorlessen’, where they were encouraged to fill out the questionnaire. Students in senior classes do not have these anymore and were only recruited via their school email. In each subgroup are enough respondents to do statistical analysis.

#### 4.1.3 Statements on quality of school life

The quality of school life of respondents was tested with help of two types of questions. Firstly, students were asked how they value their overall life at school in question 3. The results show an average grade of 7,6 for the entire population (for distribution, see Figure 8). In Table 8 on page X the results are shown per subgroup. I will discuss the differences per subgroup there.

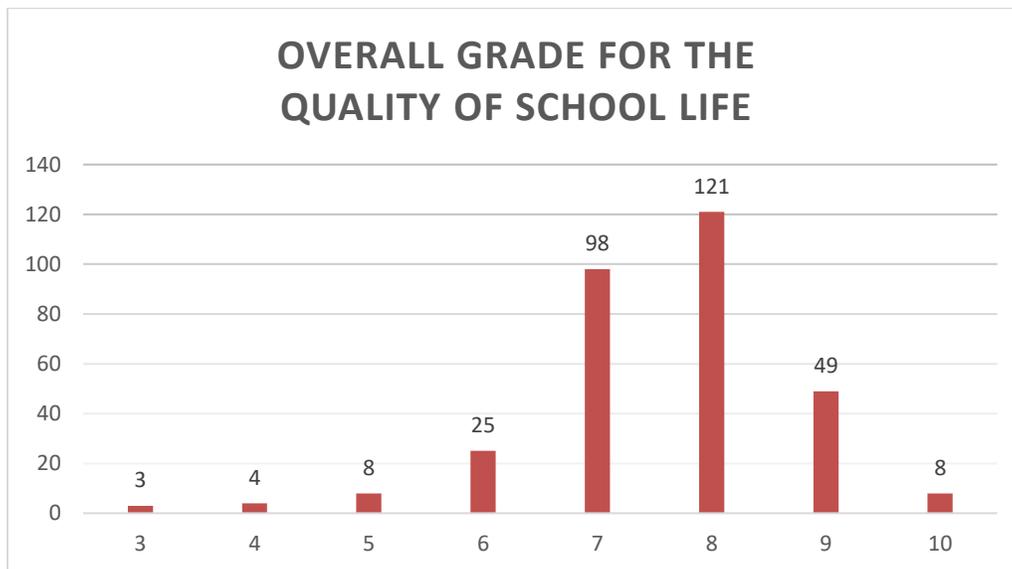


Figure 8: overall grade given by respondents for their quality of school life

## 4.2 The school building

Students were first asked in the questionnaire which places in and around the school they consider part of ‘the school’. This question was asked in order to understand which places must be considered in the research and which spaces in and around the school have meaning for the students. This connects to the concept of sense of place of the school that students experience, which is understood to be underlying the quality of school life. Results show that practically all students consider the school building part the school. Following with around two thirds of students, the schoolyard, bicycle shed and entrance to the building were named as part of the school. A third of students also added the grass and green around the school. The full results can be found in Figure 9 and an overview of the school and its surrounding are visible in map 1 (see page X).

In the walk-along interview I have tested the outcomes, by asking the participants if there were any places in or around the school missing in the questionnaire. The participants all said there weren’t any places missing for them. They also confirmed that the sport fields and their way to and from school are not really part of the school for them. As a last confirmation I checked the places students named in the category ‘other’. There were 12 students who used this option. They commented mostly (4) that they see the whole school building and terrain around it as their school. Other answers mentioned the interior of the school and schoolboard. 1 student mentioned a specific place outside of the school, the Coop supermarket (a 5-minute walk from the school), as part of his school (experience).

Given the answers of the students in the questionnaire and walk-along interviews, I will consider the school building (interior and exterior) and its entrance, schoolyard, bicycle shed and the grass, green and parking area around the school as part of the school. When mentioning ‘the school’ in this research, these spaces are meant.

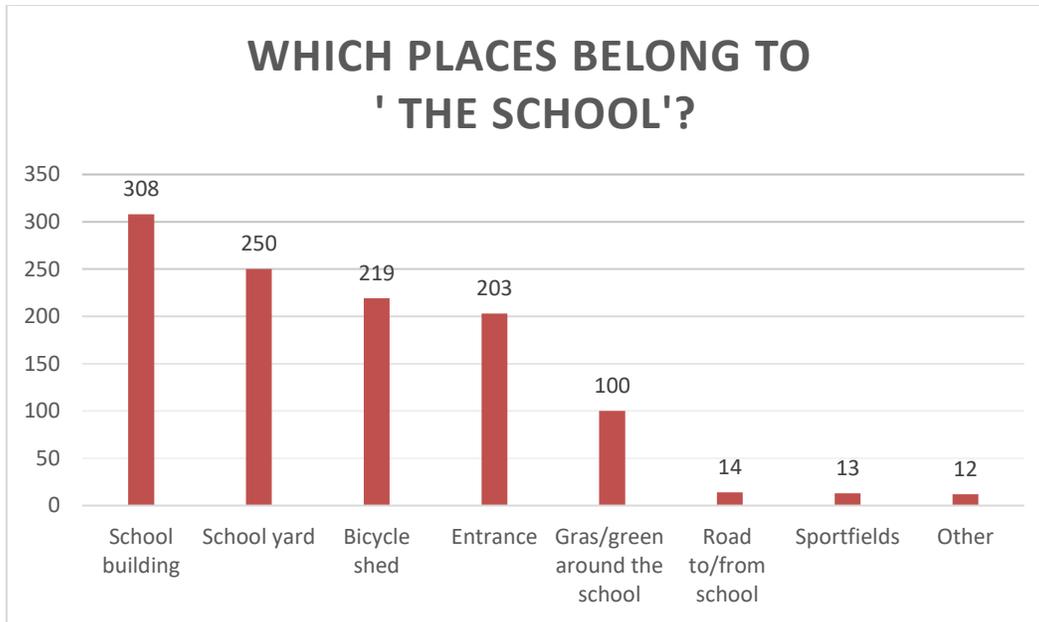


Figure 9: Which places belong to 'the school'?

### 4.3 The construction of the Quality of School Life

#### 4.3.1 Quality of School Life statements

To examine how the quality of school life is constructed, respondents were presented with 46 statements about their school life and the school building. These statements can be categorised into 7 categories. These categories correspond with the four characteristics that follow from the conceptual model (see Table 5). The respondents answered the statements on a 5-point Likert scale. The answers per statement can be found in Figure 10. For readability, the categories 'strongly agree' and 'agree' are visualised as one category, the same goes for the categories 'disagree' and 'strongly disagree'.

Conceptual model	Category in questionnaire
Human biology	Health
Individual school behaviour	Feelings at school
	Attitude towards school
Social environment	Teacher-student relationships
	Peer-to-peer relations
Physical environment	School building – outdoors
	School building -indoors

Table 5: Questionnaire and conceptual model categories.

# QUALITY OF SCHOOL LIFE STATEMENTS

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

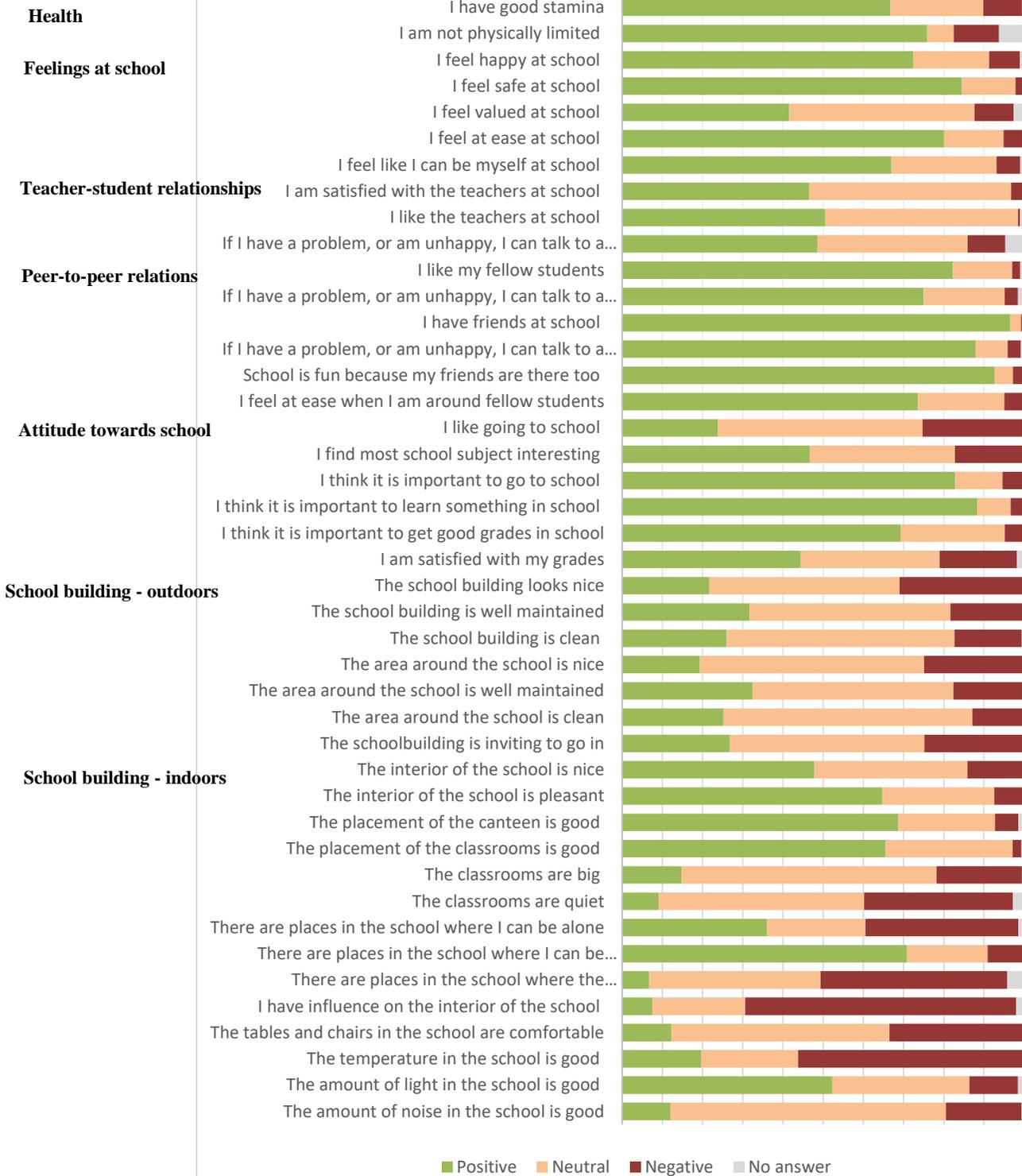


Figure 10: scores given by respondents per statement on simplified 5-point Liker scale.

The statements are in general scored high with an average of 3,7 measured over all statements together. When looking at all statements, respondents agree (strongly) with the statements about their school, since the statements are positively stated. There are however differences in the answers, as can be seen from Figure 10. The first observation is that questions about the social aspects of school life show fewer neutral responses, compared to statements about the physical appearance of the school building and surroundings. Based on the average of 3,7, the result of a t-test between the overall average and the individual statements (see appendix 2 for complete results) show that a large number of statements score significantly higher or lower than the average. I have therefore chosen to discuss 10 statements that differ more than 0,5 point from the average. Of these 10 statements, four are statements that scored relatively high and six scored relatively low, see Table 6. It stands out that the statements that score high are mostly about social aspects of school life, while the statements that score low are about ownership of the school and basic conditions of the school, like comfort and temperature. These themes were also discussed in the walk-along interviews.

These results show that having influence on and ownership of spaces in the school, which are important for a good quality of school life according to Samdel et al. (1998). They state that students who experience a high level of autonomy and control of their surroundings feel happier in these places. The statements that are concerned with this are the two lowest scoring statements. The results of previous studies therefore suggest that the relatively negative response to these statements cause a lower overall quality of school life. The statements on peer-to-peer and student-teacher relationships, that show positive support of students, scored above average, which indicates students are happy with this. This is in concordance with Samdel et al. (1998) and King et al. (1996).

Another interesting result is the statement ‘there are places to be alone in the school’ is low. Hannan (2013) states that places outside of the classroom are important for a positive experience of school campuses. For this research, the school campus includes the school building and entrance, schoolyard, bicycle shed and grass, green and parking space around the school. The statement outcomes indicate that there are places for students to hang out with friends, but that they do not think there are (many) places to be alone in the school. In the walk-along interviews, the students said that they do not have a place where they can be completely alone. Instead they gave examples of detaching themselves from their environment, for example by listening to music. They are then however surrounded by other students. Linda said for example: “Yes, there are some small places or something ... there [points across the forum to the piano] for example at the piano, you know, if you are sitting between the pillars and the glass cabinet or something.”. Having places to be truly alone available and accessible for all students can improve their quality of school life, given the results of Hannan (2013). This can be improved in the Willem Lodewijk Gymnasium.

Lastly, respondents scored the temperature in the school and the comfort of the furniture low. This connects to the sensory features within the school. Parker et al. (2004) stated that these basic conditions are of importance for a positive experience of place.

Statement	Mean difference	Sig.
I have friends at school	0,774	0,000
If I have a problem, or am unhappy, I can talk to a friend	0,613	0,000
School is fun because my friends are there too	0,755	0,000
I think it is important to get good grades in school	0,588	0,000
The school building is well maintained	-0,514	0,000
There are places in the school where I can be alone	-0,765	0,000
There are places in the school where the students have a say	-0,835	0,000
I have influence on the interior of the school	-1,365	0,000
The tables and chairs in the school are comfortable	-0,571	0,000
The temperature in the school is good	-0,859	0,000

Table 6: Best and worst scoring statements, with differences from average higher than 0,5 point.

#### 4.3.2 The social school environment

As mentioned above, the social environment statements score higher than the other categories. This can also be seen in Table 7. To understand why the social school environment is more positively valued by students I have asked about this in the walk-along interviews. The following conclusions and remarks can be made when the outcomes of the questionnaire and interviews are combined.

Statement type	N	Mean
Human biology	316	3,8
Individual school behaviour	316	3,9
Social school environment	316	4,1
Physical school environment	316	3,4

Table 7: average score per statement type based on the conceptual model.

The social arena of the school consists of two types of relationships: peer-to-peer relationships and teacher-student relationships. Both have been discussed to extent during the interviews. Besides these relationships, students can also be alone in the school. Being alone can be both positively and negatively experienced by students, depending on for example the time or their mood. Being along is characterised by a lack of social contact. This topic has also been discussed.

The peer-to-peer relationships, or relationships between students, are in general very positive relationships. This is not only the case between students of the same age group, such interactions between participants and their friends. I expected these interactions to be mostly positive. Also between students of different age groups, the participants mentioned solely positive interactions. Chantal for example mentions that boys of her second-grade class sometimes play football with sixth graders. “*Yes I have also heard from the boys that they played football against the sixth grade and won [...] or that they lost and that they then had to buy ice-cream or something*”. This example speaks of a positive and playful interaction between students with quite a large age gap. Lisa states more generally that “*The students at our school are really super nice*”. She also shared that she feels like she can trust other students. She does not feel like she has to ‘hide’ expensive clothing or money in her locker but feels safe to leave stuff in her jacket and hang it in the shared space of the basement. This also speaks of a positive relation to other students, which is especially important as a first-year student. Also affirming the positive nature of the interactions between students is the lack of bullying, which Lisa did tell about experiencing in her elementary school.

Peer-to-peer relationships are formed in different places. The relationships with students of the same year are often made in the classroom and during the breaks. Most students have their close friend group from the same class. Relationships with students from different years are usually formed over

an activity. Linda reports for example boys from her class playing football with boys from higher years. Chantal and Esther say that they met people of different years through the school play (preparations). The places that play an important role in these relationships are the outdoor spaces: the schoolyard and the entrance of the school. Here students can undertake different activities together. Also the canteen is important for these kinds of activities, for example the school play is done there. Other similar activities are the school band, the LGBT-support community and the student council.

The teacher-student relationships are also experienced as good relationships. Both participants tell about the teachers in an enthusiastic way and call them 'normal' people. Lisa for example mentions that she has small interactions with teachers outside of school as well when she meets them in for example the supermarket. She also says that "[...] *you also have immediately a sort of, yes a sort of connection with your teachers*". Chantal simply says, "*the teachers at school are very nice people*". This shows that the students feel at ease with the teachers and that this relationship has a positive influence on their well-being at school. Esther lastly says that she also experienced a positive development in her contact with teachers. She feels more taken seriously when she has gotten older, saying "*You do notice that the contact in the sixth grade is umh ... more easy, the contact is more personal.*".

There are however also interactions with teachers that cause negative emotions, such as anxiousness and nervousness. It stands out from the interviews and is in concurrence with the outcomes of the questionnaire, that these interactions are always linked to the teachers room. This is a space that is clearly the teachers domain, with Chantal saying, when asked if the teachers room is forbidden territory, "*yes, it is.*" and Lisa saying the room is "[...] *not her favourite room ...*". They both explain feeling nervous at this room, because it is unpredictable for them how teachers will respond to their presence at the door of the room and because not all teachers like them to 'interrupt' their break. Lisa also mentions that she thinks these feeling might change with time. She illustrates this by saying: "*I had to get teabags [from the teachers room] [laughs] ... then it was like always wondering who is knocking and that's maybe also more like when you're in sixth grade than you probably experience that differently than when you're in the first grade.*". From the results of the questionnaire this cannot be supported however. I did ask Esther, being a sixth grader, this question. She said that she has never had these feelings around the teachers room. She found it therefore difficult to answer this question. The influence of lack of accessibility and the role of power relations will be further discussed in paragraph 4.4.4.

From the questionnaire and the interviews I conclude that the interactions between students and students and teachers are overall positive and have a positive influence on the character of the social relationships at the school. The physical setting in which these relationships take place do have an influence, as shown by the outcomes for the teachers room. This will be discussed further in paragraph 4.4.4. These outcomes in its turn makes for a positive outcome of the social aspects of the quality of school life.

#### 4.3.3 Differences between subgroups

In order to compare groups, I have combined the outcomes for the statements based on the elements of the conceptual model (see Figure 4). These combined scores per student have been determined for all subgroups and are compared in Table 8. The results show that differences in the averages between groups, mainly for the subcategories based on grades.

To test if there are significant differences between the subgroups, independent sample t-tests were used. This was tested for all clustered statements (human biology statements, individual school behaviour statements, social- and physical school environment statements) and for the overall reported Quality of School Life. The 0-hypothesis is that there are no significant differences between the two groups. A significant outcome means we can reject the 0-hypothesis. The results of the independent

sample t-test show five significant differences between groups. These differences will be discussed below. The full results and p-values can be found in appendix 2.

For the overall quality of school life, the junior classes students give their school life a significantly higher grade compared to the senior classes students (resp. p-values = 0,000 and 0,000). Looking at the subgroups based on grades, students that belong to the group above average give a significantly higher grade to their school life, behavioural, and social and physical school environment statements than students that get an average (resp. p-values = 0,000).

From the results it seems that younger student tend to have a higher quality of school life than older students. In existing literature, there is no mentioning of differences between age groups for this topic. During the walk-along interviews, I have tried to find out why this difference exists. I specifically asked Esther during the interview if she has noticed a change in attitude towards her school experience over the years. She responded that she does not feel like she has a more negative experience of school. She does however mention during the interview that she feels she has more influence on what happens in the school and that teachers listen more to what she (and fellow students) has to say about how the school is organised when they get older. She also says that *“Yes, I think you do get more critical. We are taken more serious by teachers [...] sometimes we just need a ‘whining moment’, for example about the eh ... exams week or something.”* This answer indicates that she does feel a change in her attitude and how her opinions are perceived. Another interesting thing about this interview, compared to the younger students, was that Esther mentioned exams a lot as a point to complain about. Senior classes students in general are also significantly less satisfied with their grades compared to junior classes students. I wonder if the exams are the reason behind a lower quality of school life. The higher the year, the more important the exams become for future education. This could cause more stress regarding the performance at school and can therefore influence the attitude towards school. This is identified as one of the elements contributing to quality of school life in the conceptual model.

The other differences can be observed between the subgroups based on average grades. The higher a student's average grade, the higher their quality of school life. They also score significantly higher on the statements regarding their individual school behaviour and the social and physical environment of the school. This is an expected outcome. Students that perform well at school are logically more secure in this place, socially and physically, compared to students that perform relatively poor. The differences between students with average and above average grades is the biggest for the individual school behaviour and attitude towards school. Students who perform less well in school tend to find school and learning less important and also do not enjoy going to school as much as students that perform better. In total, the better performing students score between 0,4 and 0,6 point better per statement for this category compared to the less well performing students.

Lastly the subgroup 'other' based on gender experiences a relatively low quality of school life. It is difficult to address this difference in quality of school life based solely on the school life itself. Students that identify as 'other' are more prone to have psychological difficulties in society within and outside of the school (COC, 2018). This group is in the further analysis not been taken into account for this reason.

	<b>Average</b>				
	Overall QoSL	Human biology	Individual behaviour	Social environment	Physical environment
<b>Year</b>					
Junior classes	7,7*	3,8	3,9	4,1	3,4
Senior classes	7,2*	3,8	3,8	4,0	3,4
<b>Grades</b>					
Average	7,2*	3,8	3,7*	4,0*	3,4*
Above average	8,0*	3,9	4,0*	4,1*	3,5*
<b>Living environment</b>					
Village / countryside	7,6	3,8	3,8	4,0	3,5
City	7,4	3,8	3,9	4,1	3,4
<b>Gender</b>					
Male	7,5	3,9	3,8	4,1	3,4
Female	7,7	3,8	3,9	4,1	3,5

Table 8: overview of scores per subgroups. Bold averages show significant differences to other subgroups.

#### 4.3.4 Feelings in school spaces

To get a sense of the differences in the experience of school spaces, respondents were asked to choose a feeling that best described the feeling they have in the place depicted on the photograph<sup>1</sup> that went along with the question. The feelings students could choose from were: calm, happy, nervous, sad, anxious and mad. An issue that was raised by respondents was they were not able to describe their feeling themselves, which left them with too little answering options. This makes the results of these questions less useful and reliable. When asking the participants of the walk-along interviews about their feelings at places, they mentioned that they did not have specific feelings towards some places. For example the classrooms in general did not evoke specific feelings for them. This made the questions in the questionnaire hard to answer. They missed an ‘I don’t have specific feeling’ option. They mentioned no emotions beside the ones available in the questionnaire. This however does not mean that other respondents have not missed other answering option.

Figure 11 gives the results of the photo questions. The discussed spaces of the school were: the schoolyard, the basement, two types of classrooms (old and new style; new classrooms are lighter and more spacious than old ones), the teachers room, the canteen, the forum and the entrance to the school. Appendix 3 contains the photos that were used.

<sup>1</sup> Unfortunately, not all photographs were uploaded at the moment the survey went online. The two missing photos, of the classrooms, were added later. This did not prevent a number of respondents not seeing a photo with two out of eight questions. These respondents in general gave the answer ‘calm’.

## FEELINGS EXPERIENCED IN SPACES IN AND AROUND THE SCHOOL

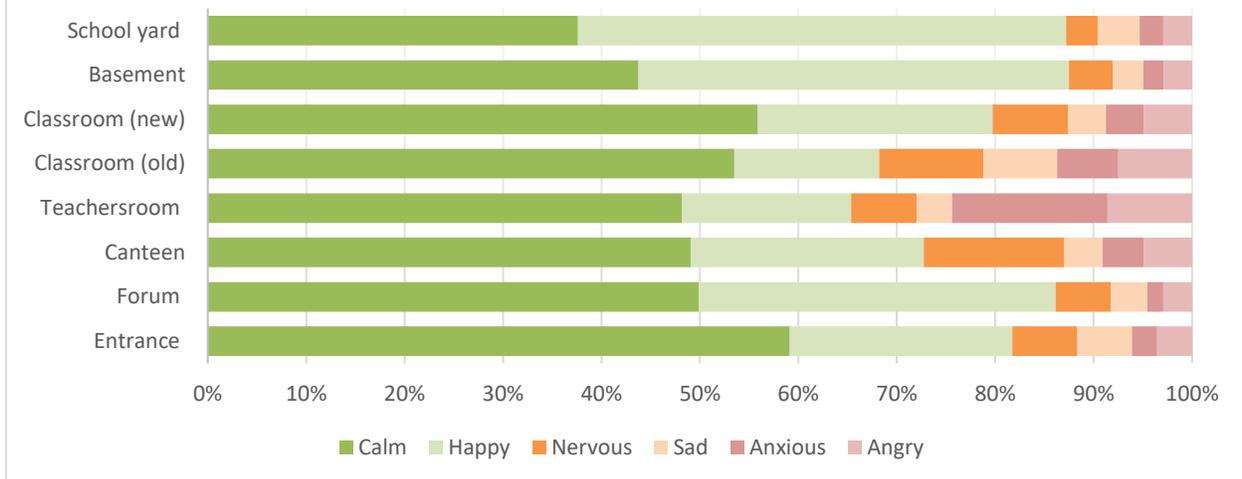


Figure 11: overview of experience emotions on the photo questions.

## SUMMARY OF FEELINGS EXPERIENCED IN AND AROUND THE SCHOOL

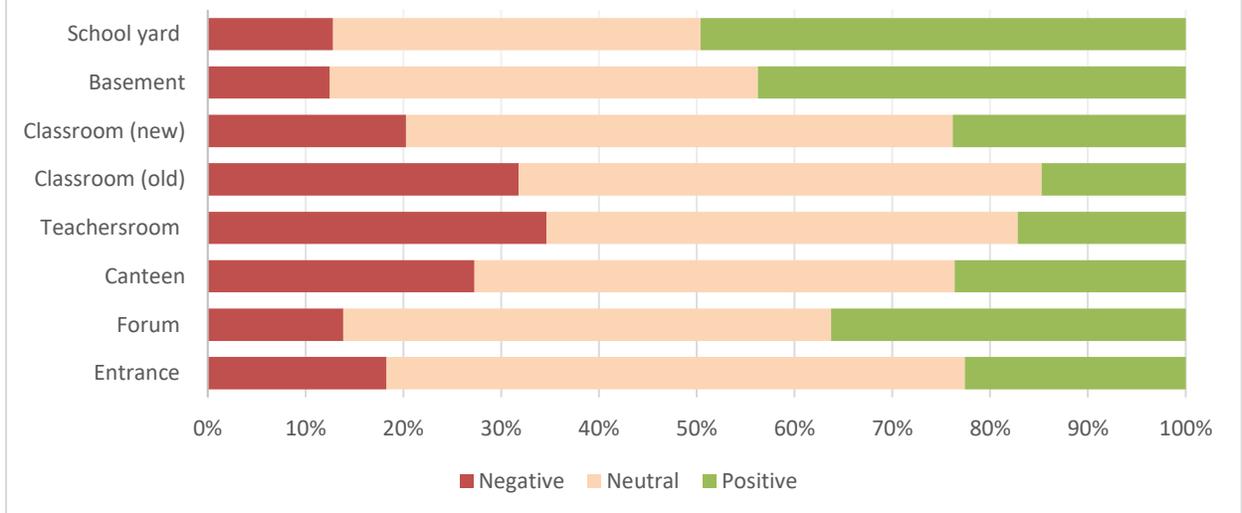


Figure 12: Simplified overview of positive and negative experienced emotions on photo questions.

The results show that the majority of respondents feel calm at the almost all spaces in school. This could mean that students have little attachment to these places and they don't evoke any specific feeling. It could also mean that (a part of) the respondents didn't find a fitting emotion in the options and therefore answered the most neutral option: calm. Part of the students can also have answered calm in a more positive sense: feeling pleasant or at home in a place can also make one feel calm. It is difficult to separate the two. Because of the lack of open answering options, I have decided to treat

calm as a neutral emotion. A number of students have also mentioned choosing calm in this manner in their open answering option at the end of the questionnaire.

Three of the depicted spaces were valued positively, with 35% to 50% positive responses. These are the schoolyard, the basement and the forum. These spaces are all spaces students can be outside of their 'school time', for example in their breaks or during free periods. This is in concurrence with Hannan (2013) and Samdel et al. (1998), because these spaces are public and give students a sense of autonomy because they have a high level of control over their actions in these spaces compared to other areas in the school. In the walk-along interviews this was also discussed. The participants valued the outdoors space of the schoolyard and the indoor forum. They described these rooms with positive adjectives such as 'pleasant, enjoyable and perfect for summer time'. In addition they also said this about the grass space before the entrance of the school. In summertime students spend their break time here. This is partially because of a lack of sitting space on the schoolyard and partially because of football that is played on the schoolyard. The basement however was not recognised as a place in school that is specifically pleasant by the participants. This space did not evoke positive remarks, rather the opposite. Chantal for example says *"It is a place where you just eh quickly eh walk in and eh quickly get your books and eh hang your coat. [... ...] It is not a place to enjoy your break, yes, it is a bit dirty and ... yeah, you also don't really have anywhere to sit ... yes, it's like more a room that you quickly eh walk through."* Esther and Linda confirm this view of the basement, adding that there is also little light, and the artificial lights are often broken. They however also do not see it as a negative space.

The spaces that are valued more negative (between 20% and 35% negative responses), are spaces where students have less autonomy and control, these are the classrooms and the teachers rooms. The teachers room shows a high number of students who feel nervous or anxious around this space. In the interviews I have asked more specifically why students experience these feelings. This will be discussed further in paragraph 4.4.4. The exception is the canteen. More than a quarter of respondents show negative feelings when seeing this space. This is however a place where students can enjoy their free time and has a similar function as the forum, which was valued more positive. Students mostly report being nervous in the canteen when we zoom in on the negative feelings they experience. To understand the differences between these two similar spaces, I asked students in the walk-along interview how they feel about these spaces and if and how they see differences between them. All three reported that they find the canteen less attractive compared to the forum. An important difference is the furniture. The furniture is more formal in the canteen, with tables and chairs, while the forum has 'blocks to sit on' and a bench around the glass wall. Also, Chantal says that there are different students in the canteen usually, which makes her feel more uncomfortable. Chantal said: *"So yeah, because the forum is then cosy and the canteen are people a bit like eh they are a bit [... ] yes ... a bit ... more eh ... confident or something and eh [... ] yes. [... ... ] yes there are also people of my year, but also mostly senior classes students."* Esther did not notice this difference, and preferred both the canteen and the forum equally.



*The forum of the Willem Lodewijk Gymnasium*

## 4.4 The role of the physical school environment

As can be seen in Figure 7, the physical school environment is scored lowest in the questionnaire. To see how the different characteristics of quality of school life contribute to the overall quality, a regression was done. After the regression, I will discuss the topics that were raised regarding the physical school environment.

### 4.4.1 Regression: the influence of the physical school environment

To see if and how the different characteristics of the students influence their quality of school life I have done a regression. The dependent variable is the reported overall quality of school life that students filled out in the questionnaire. This is an interval variable between 1 and 10 and will be treated as a ratio variable since SPSS considers interval and ratio both a ratio variable. The independent variables are: gender, living environment, year, grades and the average scores on the statements for human biology, individual school behaviour, social school environment and physical school environment per student.

The 0-hypothesis for the regression is that there is no predictive relationship between the dependent and independent variable(s). A significant outcome therefore means that this independent variable does predict the dependent variable. The results of the regression are summarised in Table 7. The full results can be seen in appendix 2.

After interpreting the results of the regression, I have performed a collinearity diagnostic, which indicated that there were no problems with the correlation between the various variables that I put in the regression model. This means that the results of the model can be used.

Model	R	R Square
1	0,586	0,343

Model	Sum of Squares	Df	Mean Square	F	Significance
1 Regression	134,762	8	16,845	19,106	0,000

Model	Unstandardized coefficients		Standardised coefficients	T	Sig.
	B	Std. Error	Beta		
Constant	2,958	0,689		4,292	0,000*
Gender	0,025	0,109	0,011	0,230	0,819
Living environment	-,0211	0,113	-0,089	-1,860	0,064
Year	-0,369	0,116	-0,148	-3,116	0,002*
Grades	0,453	0,115	0,198	3,938	0,000*
Human biology	-,026	0,074	-0,017	-0,349	0,727
Individual school behaviour	0,863	0,147	0,351	5,866	0,000*
Social school environment	-0,067	0,160	-0,023	-0,417	0,677
Physical school environment	0,505	0,148	0,188	3,412	0,001*

Table 7: Outcomes of the regression (dependent: quality of school life; independents: gender, living environment, year, grades, average scores on the statements for human biology, individual school behaviour, social school environment and physical school environment)

The outcomes of the regression show that the regression model explains 34,3% of the dependent variable, the experienced quality of school life. The characteristics year, grade, individual school behaviour and physical school environment are significant. These characteristics contribute to the explanation of the quality of school life. The year students are in has a negative influence on the experienced quality of school life, which can be seen from the B coefficient. This means that if the student is in the senior classes, he or she has a lower quality of school life. The characteristics grades, individual school behaviour and the physical school environment have a positive contribution to the quality of school life. This means that if they scored higher on these characteristics, they will experience a higher quality of school life. The other characteristics are not significant. For these characteristics we assume the 0-hypothesis is right: they do not contribute to the dependent variable (quality of school life).

Following the outcomes of the regression and the statements, three topics were discussed in the walk-along interview that touch upon the role of the physical school environment. The other characteristics have already been discussed in the sections above. These are the aesthetics of the school, the sensory aspects of the school and the accessibility and ownership of the school. These topics will be discussed in paragraphs 4.4.2 to 4.4.4.

#### 4.4.2 Aesthetics

In general the participants were positive about the appearance of the school building. This was the case for the outside and inside of the building. Although the results of the questionnaire did not show this, when talking about the outside of the school building, the respondents mentioned that they thought the school looked pretty. Most importantly though, the two younger participants connected this to the school being 'their school'. As supposed based on literature, this indicates a positive place attachment with the school, which forms the basis for a positive quality of school life. The two spaces that were talked about were the entrance to the school and the schoolyard at the back of the school. Especially the colourful entrance and mosaic benches were associated with positive emotions and remarks like happiness.

Regarding the inside of the school building, the participants both mentioned the colourful wall-paintings as being a positive addition to the interior of the school. Chantal explained that these painting have been made by sixth graders as part of their arts class. Participants explained that these decorations, along with others, make the school more interesting and add character. This can explain the positive outcomes for her questionnaire statements regarding the interior of the school. Upon asked, Chantal also confirmed that the fact that the paintings were made by students was of influence in how she sees the paintings. Chantal said: "[...] if it would have been made by the teachers, it would be a little more *eh ... stimulating learning*". Because the paintings have been made by students, she feels like she can enjoy the paintings without the feeling that it is part of the school's curriculum to educate students. This also touches upon the topic of ownership of the school. Paragraph 4.4.4 will focus on this topic.

In terms of maintenance and cleanliness of the school and school terrain, one of the participants mentioned that the schoolyard could be maintained better, by saying "*Yes, I actually think, those benches are a little old and the football cage too ... Yes, I think it could be a bit better maintained [...] because yes, it makes yes a ... old impression*". Adding colour and modernizing the outdoor furniture could be solutions to improve the yard. The questionnaire statement focussing on the school terrains cleanliness and appearance also show that this is something to be improved.

All in all, we can state that the participants are positive about the aesthetics of the school, both inside and outside. By improving the cleanliness and maintenance that is regarded more negatively by

respondents of the questionnaire and the participants of the interviews, the quality of school life can be improved for students.

#### 4.2.3 Sensory aspects

The sensory aspects discussed during the interviews and in the questionnaire were the lighting, temperature and smell in certain spaces in the school.

The lighting of the school in general, and in the classroom is considered to be good by the participants, as was also concluded from the questionnaire results. Lisa however, mentioned that the lighting at her locker in the basement of the school was not very good. Because the basement is halfway sunken in the ground, the space relies on artificial lighting. Lisa shares that “*[the lighting] is fine, but on the row [of lockers] where I’m at, the light is often broken or dimmed.*”. Chantal shared that she does not have trouble with the lighting in the basement, but that she does think there is not enough daylight in the older classrooms that are used for the beta courses like chemistry and physics. Though the lack of lighting is not a huge problem for both girls, they do think it is less comfortable to spend time in these spaces.

Regarding the temperature in the school, the participants share the same opinion: the older classrooms on the left of the building are very warm, as well as the entire third floor of the building. Especially this last one is experienced as being uncomfortably warm, as illustrated by Lisa saying: “*[...] Yes, I think some classrooms are more pleasant than others, for example, it is really warm on the third floor in the summer and just very smothery and eh ... [...]*”. Chantal and Esther also share that they try to cool the room down by opening the windows, but that this does not help enough to make the temperature in these classrooms pleasant. This can also explain why the older classrooms showed more negative emotions associated in the questionnaire when compared to the newer classrooms. The temperature question in the statements was also scored lower, probably because of the same spaces that the participants mentioned.

Lastly, the smell of certain classrooms was mentioned by the participants. This was positive as well as negatively associated with the spaces. Chantal for example wanted to show the arts classroom and specifically mentioned the smell of paint that was present in the room. She connected this to wanting to be creative and the space being one of her favourite rooms in the building. Lisa shared a similar feeling about her favourite classroom, the biology classroom, where she enjoyed the smell and decorations of the room. Esther however said that the smell in the history classroom, one of the older rooms on the third floor, was unpleasant. This was enforced by the heavy curtains and decorations in front of the inner windows (to the hallway), making it a dark and smelly room in her experience. She said: “*It ... yeah, it often stinks there ... that when you come in as a new class, then ... umh, you smell, you think ‘ugh’, ‘window open’ ... yeah.*”. In general the smell of a classroom is pleasant, but in the older classrooms, specifically on the higher floors, the smell and temperature of the room can make it unpleasant.

In general I think that lighting and smell of certain spaces of the school building are of positive influence, although the lighting in some spaces can be improved. The temperature however is of negative influence on the happiness of students in the school. This is especially the case in the older classrooms and the third floor. By improving this physical and basic condition of the school climate, the quality of school life of students can be improved.

#### 4.4.4 Accessibility and ownership

The literature research showed that accessibility and ownership are important determinators of the quality of school life, next to the social arena of the school. These topics were scored relatively low in the questionnaire: students report not having a lot of influence on their school environment. In the interviews this was discussed and it appeared that these themes are very closely linked to the social

power people in the school have over certain spaces. In the interviews, three types of lack of accessibility were identified (see Figure 13 and 14 for code and quotations network):

1. **Physical accessibility:** this is the case when a space is not accessibility because of a physical obstruction. Lisa gave an example of the canteen being closed (locked) because of preparations for performances. This is usually time constrained: the whole school closes for example after 17:00 and during holidays. Parts of the school can be closed off because of activities (see also below).
2. **Accessibility based on time:** this is when a space is only accessible at certain times. Lisa mentioned that students are not allowed to spend their breaks on the first, second or third floor. This is a rule set by the teachers and therefor has a social component, where the teachers use their higher status over students to decide when they can and when they cannot spend time on the upper floors of the school. The upper floors are accessibility to students in between classes and after school hours. There is also not physical barrier that prevents students from entering the upper floor if they want to 'sneak in'. Lisa did share that not all teachers are as strict with these rules, especially with the short 15-minute break in the afternoon. She said: "*Sneaky, sneaky, if you have class on the third floor and then you have another class and you have 15 minutes of break well yes, usually it is just 10 minutes because of [unrecognisable], then you can be on the third floor for a little bit and then you can just say, like yes I will have mentorclass later and then they usually don't really find that a problem*".
3. **Social accessibility:** this is when a person higher in rank or status in the school denies access to certain spaces in the school. This person is usually a teacher. A teacher can for example deny access to a classroom or the upper floors of the school in the breaks. Most mentioned is however the denial of access to the teachers room. This inaccessibility is associated with feeling of nervousness and anxiousness. This came forward from both the questionnaire as well as the interviews (also see paragraph 4.2.3). The physical lay-out of the teachers room also does not help students feel at ease: they cannot see into the room and have to knock on the door to be helped by a teacher. This increases the feeling of nervousness because they can never know who opens the door and if this teacher is one of the teachers that does not like to be disturbed during their break. A part of the interview with Chantal illustrates this:

Chantal: "*Yes, it's usually a bit ... yes shy or something ... yes*" [laughs nervously]

Charlotte: "*And umh [...] and you usually go in the break I think? Are there any rules per se about when you can go to the teachers room?*"

Chantal: "*Emh yes, that is a bit unclear ... and because of that, some teachers find it just no problem, in the break you can like you can come to me [the teacher]. And other find it a problem that you knock on the door.*"

Charlotte: "*Oke, so you always have to wait which teacher it is.*"

Chantal: "*Yes ... yes*"

This illustrates how the teacher and the setting makes that Chantal feels shy and later adds she also feels nervous going to the teachers room. In other parts of the interview however she describes her relations with teachers as very positive. This leads to the conclusion it is not the relationship that makes her feel nervous, but the context of the teachers room and the lack of accessibility and ownership she has in that space. Lisa shared similar experiences and feelings. Esther on the other hand does not report these nervous feelings but does understand that some students have these feelings based on the fact that you are directly disturbing the teachers. I have asked her if this was different for her when she was younger. She answered: "*I don't remember having those feelings, but I can imagine that with eh certain teachers I did have something like ... 'Oh ... now I have to ask this person something*". She now has that a lot less, also because she states that senior class students are more often at the teachers room than

junior class students. They can therefore be more familiar with the room, which can make them have more positive feelings about it. There are however no statistically significant differences between senior- and junior class students regarding the negative feelings towards the teachers room. This means that based on the questionnaire senior- and junior classes students are equally as likely to experience feelings of nervousness or anxiety.

The same social inaccessibility can be seen between student groups. By being physically present with a group of students, spaces can be claimed by these groups. This is not per se a negative concept. Lisa for example describes the podium in the canteen being 'draped' with first years: *"Yes, there are often kids sitting on the podium as well [...] Yes that is mostly the first year, then the whole podium is full, draped with first years"*. By being present in this space the first year claim the podium as their place and exclude other students for sitting in this place. Although Lisa does not mention any negative emotions when talking about students claiming places, Chantal does share that this is not always a pleasant process. She for example does not spend much time in the canteen, because she doesn't feel at ease. She says: *"So yes because the forum is 'gezelliger' and the canteen are a little eh people are a little [...] yes ... a little ... more eh ... confident and such [...] like I had to send them away for a project and went all like 'yeah, hey we're sitting here as well...' . Yeah in the end they went away but it was still a bit [tjsa]"*. She also mentions that there are more students from higher grades there. All in all this makes her feel more negative about this space. The presence of other students that are older (and thus higher in status) make her feel uneasy in this space. The physical form of the space is not identified as a factor by any of the participants. When asked, they do comment that the canteen for example is differently shaped than the forum, but do not see this as the factor that makes it different spaces. The furniture and arrangement of the furniture in the space are however often mentioned and identified as a differentiating factor. The more classical set up of the canteen, with tables and chairs and a podium is valued less compared to the more freely lay-out forum, with coloured blocks, and benches. Also the people that are in the space have an influence, as Chantal mentioned above. Spending time on the arrangement of objects in the space therefore seems more important than the shape of the space itself (if the space matched the basic needs in terms of sensory aspects).

In terms of ownership there are two main types of ownership of space that are to be distilled from the interviews (see Figure 13 for network with all types ownership that are identified with codes). The first is the process of claiming space, which has been discussed already above. The second is creating ownership by being able to change (aspects of) a space. The participants indicate that the forum is a very pleasant space for them. Although this is partially because of aesthetic aspects and the social aspect of spending time with friend, they both mention the possibility to change the furniture in the room multiple times. The forum contains four blocks on which students can sit and hang out with friends. Both respondents are very positive, with Lisa saying: *"[...] I especially like the forum and that there are these blocks, that you can move yourself and that you can have a bit of influence on how the school looks this way"*. She goes on to tell that she likes that you can create a circle with which you can hang out with a large group of students or take one block and just spend time with close friends. This gives the participants a sense of ownership and influence that they do not experience in other spaces in the school. Chantal also suggest that adding elements like these blocks in for example the canteen can improve the more negative image of this space that shows from the questionnaire results.

When asked if the participants feel like they have influence on the appearance of the school they react in concurrence with the questionnaire results, they think they don't have a lot of influence. Since theory shows that having a feeling on ownership and autonomy is important, it is logical that students don't feel that they have a lot of influence. Chantal indicates that she would like more influence and explains how she would like to have that. She says: *"Umh ... Yes by asking eh ... students in class and eh just for example during mentor class umh just getting behind the 'design table' [...]"*. On the other hand, Lisa says that there is a student's council that is being taking into account when it comes to these matters and she feels this is enough influence. If students want more influence they can

apply for this council. It is therefore inconclusive from the interviews if more influence is wanted but given theory and outcomes of the questionnaire it is a topic that should be given attention since it has the potential to improve the quality of school life of students.

All in all we can conclude that lack of accessibility and ownership of spaces in the school is the biggest negative influence on the quality of school life. Most of the negative emotions expressed during the interviews are connected to this theme. It is therefore worth to further investigate how this can be improved and how the student population in general can be given more ownership of the school. Especially around the teachers room, an improvement can be made to enforce the positive relationship students normally have with the teachers instead of decreasing these positive interactions.

Figures 13 and 14 show the networks that have been identified using the coding program Atlas.ti. A network visualises themes within a code family and shows the relationships between those themes. The following networks show the code families of ‘ownership of place’ and ‘accessibility of school’. The themes / codes that have been identified are shown in blue. Subcodes are linked to these main codes.

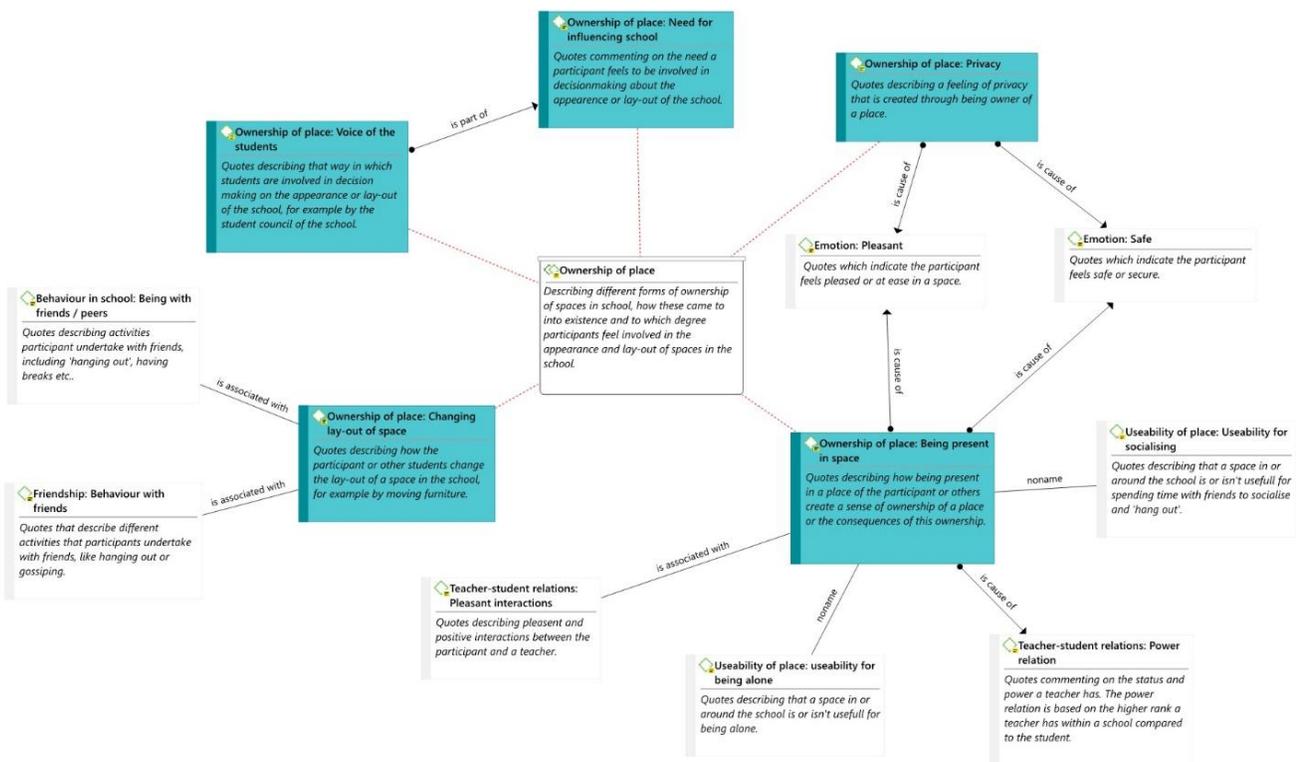


Figure 13: network displaying the code family of ownership of place

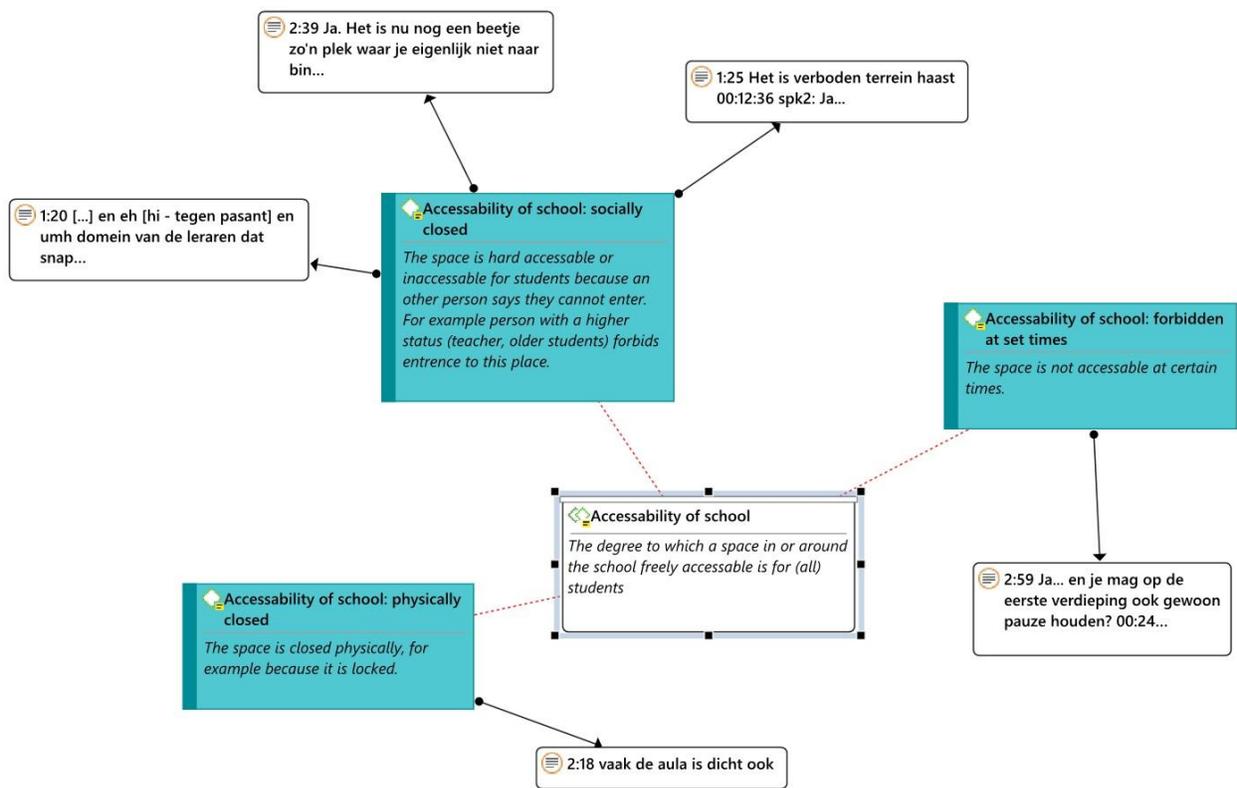


Figure 14: network displaying the code family of accessibility of school

#### 4.4.5 The role of the physical environment

The results show that the physical environment does have an influence on the quality of school life of the secondary school students. The conceptual model that derived from literature shows that the quality of school life is explained by various characteristics of the student himself (human biology and individual school behaviour) and the school environment (social and physical). The way in which these are related to the quality of school life, and the role of the physical environment was not yet known.

The results show that several of these characteristics do in fact influence a students' quality of school life. The interconnectedness of these characteristics, as depicted in the conceptual model, comes forward from the results. For example by the high scores for the student-teacher relationships, but the feeling of nervousness and anxiety around the teachers room. In that case the physical space or location in the school influences the social interaction students have with their teachers. The participants of the walk-along interviews confirmed this difference. This is in concurrence with research on the human-environment relationship where researchers also found different characteristics influencing each other (Hancock, 1985).

The role of the physical environment itself is difficult to determine with certainty because of the influences of other characteristics. What is clear though is that the physical school environment does have influence on the quality of school life, as is shown by the regression outcomes. This means that there are opportunities to improve the quality of school life by improving the physical school environment. The interviews and questionnaire results showed that there are three main subjects that play a role in the experience of the physical environment. These are the aesthetics, the sensory aspects and the accessibility and ownership of space in the school. Aesthetics are very subjective and partially come down to taste. However, respondents were also asked about maintenance and cleanliness of the spaces in and around the school. These show the possibility of improvement, which in turn can increase

the quality of school life. Sensory aspects were scored quite high in the questionnaire, but the walk-along participants expressed a concern about the temperature of mainly the third floor and older classrooms. Improving this could also cause a slightly higher quality of school life. Lastly, the accessibility and ownership of space in the school plays a role in the experience of the physical school environment. The questionnaire results show that students feel they have little influence in the school. They also report fewer positive emotions when asked about spaces where accessibility and ownership play a role, such as the teachers room and the canteen. Students can get feelings of being 'not welcome' or being 'not at ease' in these places when they are for example facing an older student or a teacher. Although all reports of peer-to-peer and student-teacher relationships are positive, the space in which they take place can evoke a negative experience.

All in all, I conclude that the physical school environment influences the quality of school life in two ways, namely by:

1. Creating a comfortable school environment
2. Providing a context for social interactions

The first way is about the aesthetics and sensory aspects. These basic needs of physical space create a comfortable school environment where a student can feel physically well. This improves the elements of the conceptual model of not only the physical school environment, but also the human biology aspects (e.g. no health hazards).

The second way is about the accessibility and ownership. These topics come down to the power-relations in the school. The physical space in which social interactions take place can have a negative influence on these social interactions. Spaces that promote (in)accessibility, for example by closing certain rooms / spaces off for (certain) students, can negatively influence the quality of school life.



# 5. CONCLUSION

# 5. Conclusion

In this chapter the conclusions of the research will be discussed. Paragraph 5.1 answers the main research question. In paragraph 5.2 the sub questions will be answered. In paragraph 5.3 I will reflect on my research and give suggestions for future research.

## 5.1 Research question

The main research question was:

*“To what extent and in which way does the physical environment of the school contribute to the quality of school life of secondary school students of the Willem Lodewijk Gymnasium, The Netherlands?”*

The school environment has a significant influence on the quality of school life of students of the Willem Lodewijk Gymnasium. A lower rating of the physical school environment leads to a lower rating of the quality of school life. This influence takes place in two manners, namely by (1) creating a comfortable school environment (aesthetics and sensory aspects of the school) and (2) by providing a context for social interactions (accessibility and ownership). The physical school environment is part of complex system of characteristics that influence the quality of school life. Other factors that significantly influence the quality of school life significantly are students individual school behaviour, their grades and schoolyear. Together with the physical school environment, these explain about a third of the overall grade students give their quality of life.

## 5.2 Sub questions

*Sub question 1:* Which areas of the physical school environment do secondary school students consider their school environment?

The results of the questionnaire indicate that the school building and its entrance, schoolyard, bicycle shed and the grass, green and parking space around the school are part of the school environment for students of the Willem Lodewijk Gymnasium. All of these spaces were chosen 100 times or more in the questionnaire. In the walk-along interviews this conclusion was corroborated by all participants.

*Sub question 2:* Which factors, beside the physical school environment, influence the quality of school life and what is their influence?

The quality of school life is influenced by two characteristics of the student (human biology and individual school behaviour) and two characteristics of the school environment (social and physical environment). These characteristics are interrelated, meaning that they not only influence the quality of school life, but also each other. This research showed that the individual school behaviour influences the quality of school life. The higher students rated this characteristic, the higher they rated their quality of school life. The physical school environment also plays a role (see sub question 3). Control variables regarding students' grades and schoolyear influence the quality of school life as well. Younger students have a more positive experience compared to older students. The reason for this is not certain, but a likely explanation is that older students get more critical and feel more pressure to do well in school. Students with higher grades are more positive as well, though it is hard to determine whether student who perform well are more positive or that they perform better because they are have

a more positive experience. Students' human biology and the social school environment were found to not be significant indicators of quality of school life.

*Sub question 3:* How does the physical school environment influence the quality of school life of secondary school students?

The physical school environment has a significant influence on the quality of school life. Three themes emerged from the questionnaire and walk-along interviews through which the physical school environment influences the quality of school life. These were:

- The aesthetics of the school (appearance, cleanliness and maintenance)
- The sensory aspects of the school (lighting, smell, temperature)
- Accessibility and ownership (of spaces within the school)

The influence of these themes can be in two separate manners, namely by:

1. Creating a comfortable school environment
2. Providing a context for social interactions

The first manner is about the aesthetics and sensory aspects. These basic needs of physical space create a comfortable school environment where a student can feel physically well. This improves the elements of the conceptual model of not only the physical school environment, but also the human biology aspects.

The second manner is about the accessibility and ownership. This theme comes down to the power-relations in the school. Social interactions take place within the school on a daily basis. The physical space in which these interactions take place can have a negative influence on these social interactions. Spaces that promote (in)accessibility can negatively influence the quality of school life.

### **5.3 recommendations and limitations**

During the research process I have identified several limitations of my research.

During data collection, I was made aware that the questionnaire allowed little opportunity for respondents to add a personal response. The picture questions for example, where respondents were asked to choose which feeling they associated with the depicted place, only allowed students to choose from a predetermined set of feelings. This limited the respondents in their answers. Several respondents made this remark in the open question at the end of the questionnaire. This means that there could be other feelings associated with places in the school that have not been discussed in this research.

Secondly, I had trouble finding sufficient participants for the walk-along interview. I wanted to interview five participant and wrote them an email asking them to participate in the interview. This method of participant selection was chosen to ensure the privacy of the students. I have only managed to interview three of these students. Another participant selection method might have been more suitable. For example a snowballing method, after the first participant selection could have led to finding more willing participants. Due to a lack of answering from the selected students and time constraints I have not been able to do more interviews. I believe that through this information saturation was not reached for all researched topics.

Thirdly, I noticed during the interviews that participants found it difficult at times to separate their thoughts about the social and physical environment of the school. By asking specific questions about the influence of the physical space I have been able to identify which themes are important. Younger students however kept finding it difficult to answer these questions. This might mean that there are ways in which their experienced is influenced that they found difficult or were not able to put into word.

Lastly, this research was conducted at one school. This school only teaches one education level. This means that the results of this research are not automatically generalizable to a the student populations of other schools.

Based on the outcomes and limitations of this research I would like to do a number of suggestions for further research within the field of quality of school life.

First, it would be interesting to see if the results of this research are duplicable in other schools and if the same conclusions can be drawn. A larger study with multiple schools would give more insight in how the physical school environment and other discussed factors influence the quality of school life. It can also show what differences there are between schools. To find those differences it might be of value to include schools with different teaching styles (for example: non-religious schools, different education levels or Montessori education).

Secondly, repeating a similar research should focus more on qualitative means of data collection, for example by conduction focus groups, in-depth interviews or more walk-along interviews. Given the conclusion that social interactions and power-relations are important to influence of the physical environment on the quality of school life, a more elaborate qualitative research will contribute to really understanding the relationship between quality of school life and the physical environment.

Lastly, I think it would be interesting to focus on the differences between the experiences of different age groups. The differences found in this research cannot be explained clearly by the collected data. It would be of value to find out what reasons senior class students have to score their quality of school life lower compared to junior class students.



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# APPENDICES

# Appendix

## Appendix 1: overview of questionnaire questions in Dutch (language in which the questionnaire was used)

Nr.	Question	Answers	Question type	Type of data
1	Als je het over 'de school' hebt, welk(e) gebouw(en)/gebied(en) bedoel je daar dan mee?	<ul style="list-style-type: none"> <li>- Het schoolgebouw</li> <li>- Het schoolplein</li> <li>- De entree voor de school</li> <li>- De sportvelden</li> <li>- Het gras / groen om de school heen (Let op: niet schoolplein)</li> <li>- Het fietsenhok</li> <li>- De weg van / naar school</li> <li>- Anders, namelijk:.....</li> </ul>	Multiple answer	Nominal
2	Wat is voor jou het belangrijkste aan school?	<ul style="list-style-type: none"> <li>- Het schoolgebouw</li> <li>- Het schoolplein</li> <li>- Het fietsenhok</li> <li>- De lessen</li> <li>- De leraren</li> <li>- Mijn vrienden</li> <li>- Het gebied om en voor de school</li> <li>- Dat ik iets leer op school</li> <li>- Anders, namelijk:</li> </ul>	Multiple answer	Nominal
3	Op een schaal van 1 tot 10, welk cijfer geef jij je leven op school?	Graded on a scale from 1 to 10, with 1 being the lowest grade and 10 the highest.	Single answer	Interval/ ratio
4	Stellingen over gezondheid: <ul style="list-style-type: none"> <li>- Ik heb een goede gezondheid</li> <li>- Ik heb een goede conditie</li> <li>- Ik ben niet lichamelijk beperkt in mijn doen en laten</li> <li>- Ik heb een geestelijke / mentale beperking</li> </ul>	Likert scale (5 points) strongly agree to strongly disagree	Single answer	Ordinal
5	Stellingen over gevoel op school: <ul style="list-style-type: none"> <li>- Ik voel mij gelukkig op school</li> <li>- Ik voel mij veilig op school</li> <li>- Ik voel mij gewaardeerd op school</li> <li>- Ik voel mij eenzaam op school</li> <li>- Ik voel me op mijn gemak op school</li> <li>- Ik heb het gevoel dat ik mezelf kan zijn op school</li> </ul>	Likert scale (5 points) strongly agree to strongly disagree	Single answer	Ordinal
6	Stellingen over leerling-leraar band: <ul style="list-style-type: none"> <li>- Ik ben tevreden met de leraren op school</li> <li>- Ik vind leraren op school aardig</li> <li>- Als ik een probleem heb of ongelukkig ben, kan ik bij een leraar terecht</li> </ul>	Likert scale (5 points) strongly agree to strongly disagree	Single answer	Ordinal
7	Stellingen mede-leerlingen en vrienden: <ul style="list-style-type: none"> <li>- Ik vind mijn mede-leerlingen aardig</li> </ul>			

	<ul style="list-style-type: none"> <li>- Als ik een probleem heb of ongelukkig ben, kan ik bij een mede-leerling terecht</li> <li>- Ik heb vrienden op school</li> <li>- Als ik een probleem heb of ongelukkig ben, kan ik bij een vriend van school terecht</li> <li>- School is leuk doordat mijn vrienden er ook zijn</li> <li>- Ik voel me op mijn gemak bij mijn mede-leerlingen</li> </ul>			
<b>8</b>	<p>Stellingen school in het algemeen:</p> <ul style="list-style-type: none"> <li>- Ik vind het leuk om naar school te gaan</li> <li>- Ik vind de meeste schoolvakken interessant</li> <li>- Ik vind het belangrijk om naar school te gaan</li> <li>- Ik vind het belangrijk om iets te leren op school</li> <li>- Ik vind het belangrijk om goede cijfers te halen op school</li> <li>- Ik ben tevreden met de cijfers die ik haal op school</li> </ul>	Likert scale (5 points) strongly agree to strongly disagree	Single answer	Ordinal
<b>9</b>	<p>Stellingen over het schoolgebouw:</p> <ul style="list-style-type: none"> <li>- Het schoolgebouw ziet er mooi uit</li> <li>- Het schoolgebouw is goed onderhouden</li> <li>- Het schoolgebouw is schoon</li> <li>- Het terrein om het schoolgebouw (bijvoorbeeld het plein of sportvelden) is mooi</li> <li>- Het terrein om het schoolgebouw (bijvoorbeeld het plein of sportvelden) is schoon</li> <li>- Het terrein om het schoolgebouw (bijvoorbeeld het plein of sportvelden) is goed onderhouden</li> <li>- Het schoolgebouw nodigt uit om naar binnen te gaan</li> </ul>	Likert scale (5 points) strongly agree to strongly disagree	Single answer	Ordinal
<b>10</b>	<p>Stellingen over het schoolgebouw en de inrichting:</p> <ul style="list-style-type: none"> <li>- De inrichting van de school is mooi</li> <li>- De inrichting van de school is prettig</li> <li>- De plek van de kantine in de school is goed</li> <li>- De plek van de lokalen in de school is goed</li> <li>- De lokalen zijn groot</li> <li>- De lokalen zijn stil</li> <li>- Er zijn plekken in de school waar ik alleen kan zijn</li> <li>- Er zijn plekken in de school waar ik met vrienden kan zitten / verblijven</li> <li>- Er zijn plekken in de school waar leerlingen het voor het zeggen hebben</li> </ul>		Single answer	Ordinal

	<ul style="list-style-type: none"> <li>- Ik heb invloed op de inrichting van de school</li> <li>- De tafels en stoelen in de school zijn comfortabel</li> <li>- De temperatuur in de school is goed</li> <li>- De hoeveelheid licht in de school is goed</li> <li>- De hoeveelheid geluid in de school is goed</li> </ul>			
<b>11 to 18</b>	<p>Welk gevoel beschrijft het beste jouw gevoel bij de ruimte op deze foto?</p> <ul style="list-style-type: none"> <li>- Entree van de school</li> <li>- Forum</li> <li>- Aula</li> <li>- Lerarenkamer</li> <li>- Lokaal (oudbouw)</li> <li>- Lokaal (nieuwbouw)</li> <li>- Kelder</li> <li>- Schoolplein</li> </ul>	<ul style="list-style-type: none"> <li>- Ik voel me blij</li> <li>- Ik voel me rustig</li> <li>- Ik voel me verdrietig</li> <li>- Ik voel me boos</li> <li>- Ik voel me nerveus</li> <li>- Ik voel me angstig</li> </ul>	Multiple answer	Nominal
<b>19</b>	In welke jaarlaag zit je?	<ul style="list-style-type: none"> <li>- Klas 1</li> <li>- Klas 2</li> <li>- Klas 3</li> <li>- Klas 4</li> <li>- Klas 5</li> <li>- Klas 6</li> </ul>	Single answer	Ordinal
<b>20</b>	Welk antwoord is het meest van toepassing op jouw cijfers?	<ul style="list-style-type: none"> <li>- Ik haal altijd een onaverage</li> <li>- Ik haal meestal een onaverage</li> <li>- Ik haal meestal een average</li> <li>- Ik haal altijd een average</li> <li>- Ik haal meestal een ruime average</li> <li>- Ik haal altijd een ruime average</li> </ul>	Single answer	Ordinal
<b>21</b>	Van welke woonomgeving kom je?	<ul style="list-style-type: none"> <li>- Platteland</li> <li>- Dorp / tussenomgeving</li> <li>- Stad</li> </ul>	Single answer	Nominal (binary)
<b>22</b>	Wat is je geslacht?	<ul style="list-style-type: none"> <li>- Man</li> <li>- Vrouw</li> <li>- Anders</li> </ul>	Single answer	Nominal
<b>23</b>	Voor mijn onderzoek wil ik ook graag een aantal leerlingen interviewen. Wil je mij hierbij helpen, vul dan hieronder 'ja' in en voer je leerlingnummer in.	<ul style="list-style-type: none"> <li>- Nee, ik wil niet meewerken aan een interview</li> <li>- Ja!, natuurlijk wil ik meewerken aan een interview. Mijn leerlingnummer is:</li> </ul>	Single answer	Nominal (binary)
<b>24</b>	Heb je nog vragen of opmerkingen over de enquête of het onderzoek? Laat het hieronder weten.		Open question	

## Appendix 2: overview of outcomes statistical test

One sample t-test

	N	Minimum	Maximum	Mean	Std. Deviation
Average statements	317	2,3	4,5	3,694	0,3499

Test value = 3,694		
	Sig. (2-tailed)	Mean difference
I am in good health	0,000	0,306
I have good stamina	0,000	-0,373
I am not physically limited	0,000	0,489
I feel happy at school	0,090	-0,082
I feel safe at school	0,000	0,452
I feel valued at school	0,294	-0,043
I feel at ease at school	0,000	0,198
I feel like I can be myself at school	0,100	0,075
I am satisfied with the teachers at school	0,000	0,192
I like the teachers at school	0,000	0,293
If I have a problem, or am unhappy, I can talk to a teacher	0,009	-0,149
I like my fellow students	0,000	0,332
If I have a problem, or am unhappy, I can talk to a fellow student	0,245	0,059
I have friends at school	0,000	0,744
If I have a problem, or am unhappy, I can talk to a friend	0,000	0,613
School is fun because my friends are there too	0,000	0,755
I feel at ease when I am around fellow students	0,000	0,488
I like going to school	0,000	-0,334
I find most school subject interesting	0,000	-0,335
I think it is important to go to school	0,000	0,445
I think it is important to learn something in school	0,000	0,455
I think it is important to get good grades in school	0,000	0,588
I am satisfied with my grades	0,000	0,316
The school building looks nice	0,730	-0,021
The school building is well maintained	0,000	-0,514
The school building is clean	0,006	-0,137
The area around the school is nice	0,010	-0,126
The area around the school is well maintained	0,000	-0,457
The area around the school is clean	0,002	-0,131
The schoolbuilding is inviting to go in	0,712	-0,017
The interior of the school is nice	0,000	-0,472
The interior of the school is pleasant	0,270	-0,055
The placement of the canteen is good	0,000	0,221
The placement of the classrooms is good	0,000	0,296
The classrooms are big	0,000	0,366
The classrooms are quiet	0,000	-0,309
There are places in the school where I can be alone	0,000	-0,765
There are places in the school where I can be with friends	0,000	0,455
There are places in the school where the students have a say	0,000	-0,835
I have influence on the interior of the school	0,000	-1,365

The tables and chairs in the school are comfortable	0,000	-0,571
The temperature in the school is good	0,000	-0,859
The amount of light in the school is good	0,210	0,050
The amount of noise in the school is good	0,000	-0,343

Independent sample t-test, overall quality of school life

Gender

		N	Mean
Mean human biology statements	Male	147	3,8594
	Female	156	3,7788
Mean individual behaviour statements	Male	147	3,8296
	Female	156	3,8879
Mean social environment statements	Male	147	4,0528
	Female	156	4,0615
Mean physical environment statements	Male	147	3,3841
	Female	156	3,4803
Overall grade Quality of School Life	Male	147	7,517
	Female	156	7,654

	Levene's test		T-test	
	F	Sig.	Sig. (2-tailed)	Mean difference
Mean human biology statements	1,988	0,160	0,362	0,08056
Mean individual behaviour statements	0,020	0,887	0,275	-0,05835
Mean social environment statements	0,002	0,964	0,848	-0,00871
Mean physical environment statements	4,329	0,038	0,054	-0,09619
Overall grade Quality of School Life	2,030	0,155	0,298	-0,1368

Living environment

		N	Mean
Mean human biology statements	Dorp/platteland	207	3,8245
	Stad	108	3,8102
Mean individual behaviour statements	Dorp/platteland	207	3,8329
	Stad	108	3,8858
Mean social environment statements	Dorp/platteland	207	4,0436
	Stad	108	4,0696
Mean physical environment statements	Dorp/platteland	207	3,4604
	Stad	108	3,3652
Overall grade Quality of School Life	Dorp/platteland	207	7,643
	Stad	108	7,407

	Levene's test		T-test	
	F	Sig.	Sig. (2-tailed)	Mean difference
Mean human biology statements	0,218	0,641	0,877	0,01429
Mean individual behaviour statements	0,023	0,878	0,346	-0,5287
Mean social environment statements	0,745	0,389	0,579	-0,02599
Mean physical environment statements	0,037	0,847	0,072	0,09522
Overall grade Quality of School Life	0,157	0,692	0,090	0,2351

Grades

		N	Mean
Mean human biology statements	Average	177	3,7825
	Above average	138	3,8744
Mean individual behaviour statements	Average	177	3,7118

	Above average	138	4,0316
<b>Mean social environment statements</b>	Average	177	4,0053
	Above average	138	4,1141
<b>Mean physical environment statements</b>	Average	177	3,3614
	Above average	138	3,5229
<b>Overall grade Quality of School Life</b>	Average	177	7,198
	Above average	138	8,036

	Levene's test		T-test	
	F	Sig.	Sig. (2-tailed)	Mean difference
<b>Mean human biology statements</b>	2,467	0,117	0,298	-0,09191
<b>Mean individual behaviour statements</b>	2,103	0,148	0,000*	-0,31982
<b>Mean social environment statements</b>	0,263	0,609	0,015*	-0,10881
<b>Mean physical environment statements</b>	1,497	0,222	0,001*	-0,161148

## Year

		N	Mean
<b>Mean human biology statements</b>	Junior classes	208	3,8421
	Senior classes	108	3,7809
<b>Mean individual behaviour statements</b>	Junior classes	208	3,8788
	Senior classes	108	3,7999
<b>Mean social environment statements</b>	Junior classes	208	4,0625
	Senior classes	108	4,0352
<b>Mean physical environment statements</b>	Junior classes	208	3,4430
	Senior classes	108	3,3985
<b>Overall grade Quality of School Life</b>	Junior classes	208	7,731
	Senior classes	108	7,241

	Levene's test		T-test	
	F	Sig.	Sig. (2-tailed)	Mean difference
<b>Mean human biology statements</b>	0,061	0,806	0,506	0,06128
<b>Mean individual behaviour statements</b>	1,204	0,273	0,158	0,07893
<b>Mean social environment statements</b>	0,048	0,827	0,560	0,02725
<b>Mean physical environment statements</b>	0,884	0,348	0,400	0,04451
<b>Overall grade Quality of School Life</b>	0,199	0,656	0,000*	0,4900

## Regression

Model	R	R Square	Adjusted R square	Std. Error of the estimate
1	0,586	0,343	0,325	0,9390

Model	Sum of Squares	Df	Mean Square	F	Significance
1 Regression	134,762	8	16,845	19,106	0,000
Residual	258,324	293	0,882		
Total	393,086	301			

Model	Unstandardized coefficients		Standardised coefficients	T	Sig.	Coll. Stat.	
	B	Std. Error	Beta			Tolerance	VIF
Constant	2,958	0,689		4,292	0,000*		
Gender	0,025	0,109	0,011	0,230	0,819	0,981	1,019
Living environment	-,0211	0,113	-0,089	-1,860	0,064	0,972	1,029
Year	-0,369	0,116	-0,148	-3,116	0,002*	0,993	1,007
Grades	0,453	0,115	0,198	3,938	0,000*	0,889	1,124
Human biology	-,026	0,074	-0,017	-0,349	0,727	0,911	1,098
Individual school behaviour	0,863	0,147	0,351	5,866	0,000*	0,625	1,601

Social school environment	-0,067	0,160	-0,023	-0,417	0,677	0,740	1,351
Physical school environment	0,505	0,148	0,188	3,412	0,001*	0,739	1,352

### Appendix 3: photo's used in questionnaire



School entrance



Forum



Aula / Canteen



Teachers room



Classroom old



Classroom new



Basement



Schoolyard

## Appendix 4: Interview guide walk-along interviews in Dutch (language in which the interviews were conducted)

# INTERVIEW GUIDE

*Masteronderzoek 'Quality of School Life'*

### Route

Start: Entree voor school > Forum > Aula > Lokalen gang (bio, Duits oud, Engels nieuw) > trappenhuis > lerarenkamer > plein > gymzaal > kelder.

### Startvragen

Hoe vindt je school in het algemeen?

Is school belangrijk voor jou?

- Waarom?
- Welk onderdeel van school is dan belangrijk

Wat spreekt je aan aan het WLK?

- Sociale aspecten
- Fysieke aspecten gebouw / omgeving

### Hoofdvragen

#### Entree

Breng je hier tijd door?

- Wanneer en met wie doe je dat?

Wat maakt dat de entree jou wel / niet uitnodigt?

- Kan dit verbeterd worden? Zo ja, hoe?

#### Forum

Leerlingen hebben over het algemeen positief gereageerd op deze ruimte. Wat maakt dit voor jou een prettige ruimte om in te zijn?

- Is het forum een 'leerlingplek'? Waarom wel / niet?

Maakt de vorm/lay-out/indeling van de ruimte hier ook verschil in?

#### Aula

Leerlingen zijn over het algemeen wat negatiever geweest over de aula in vergelijking met het forum, door vaker aan te geven nerveus of boos te zijn. Herken je je hierin?

- Kan je verklaren waarom leerlingen dit vaker antwoorden?

In hoeverre is de aula geschikt om pauze te houden / vrije tijd door te brengen?

- Is de aula een 'leerlingplek'? Waarom wel / niet?

### **Lokalen (oud en nieuw)**

Hoe ervaar jij de lokalen? Zijn ze groot / licht / stil / warm / koud?

- Zijn er verschillen tussen lokalen? Welke zijn prettiger / minder prettig? Waar komt dat door?
- Is er een verschil tussen de oude lokalen / nieuwbouw lokalen?
- Hoe ervaar jij specifiek de lokalen biologie en natuur- en scheikunde?

### **Lerarenkamer**

Leerlingen geven aan de docenten aardig en prettig te vinden, maar zijn vaker angstig en boos dan in / bij andere ruimten. Herken je je hierin?

- Kan je verklaren waarom leerlingen dit antwoorden?

Wanneer en waarvoor kom je bij de lerarenkamer?

Ga je ook naar binnen in de lerarenkamer? Waarom wel/niet?

- Heb je het gevoel dat je naar binnen mag in de lerarenkamer?

### **Schoolplein**

De meeste leerlingen geven aan dat zij blij zijn wanneer ze aan het schoolplein denken. Wat maakt het plein een prettige plek om te zijn voor leerlingen?

Zijn er average 'zitplekken' op het plein voor alle leerlingen?

Kan jij sporten / spelen op het plein als je dat wilt?

In hoeverre vind je het plein mooi / schoon?

### **Kelder**

Veel leerlingen vinden ook de kelder een prettig plek. Wat maakt dit een fijne plek om te zijn?

- Is de kelder een 'leerlingplek'?

Is dit een plek waar leraren geen / weinig zicht op hebben?

### **Afsluitende vragen**

In hoeverre heb jij als leerlingen invloed op de inrichting van de school?

- Waardoor krijg jij dat gevoel wel / niet?

Zou je meer invloed willen hebben? Zo ja, hoe zou je dat willen?

- Kan je een voorbeeld geven van wat jij anders zou doen in school?

Zijn er nog andere ruimtes in de school die een belangrijke betekenis hebben voor jou of waar we het nog over moeten hebben?

## Appendix 5: Codebook Walk-along interviews

Code Groups	Code	Comment
<b>Accessibility of school</b>	Accessibility of school: forbidden at set times	The space is not accessible at certain times.
	Accessibility of school: physically closed	The space is closed physically, for example because it is locked.
	Accessibility of school: socially closed	The space is hard accessible or inaccessible for students because another person says they cannot enter. For example person with a higher status (teacher, older students) forbids entrance to this place.
<b>Aesthetics</b>	Aesthetics: Beautiful	Space is described as pretty or beautiful.
	Aesthetics: Colourful	Space is described as colourful and / or a remark about the colours in and around the school is made.
	Aesthetics: Decorations	Space is described on basis of decoration in the space, for example paintings, objects in space etc.
	Aesthetics: Homey	Space is described as homey or 'gezellig'.
	Aesthetics: Maintenance	Space is described in terms of maintenance, for example well maintained or dirty.
<b>Attitude towards school</b>	Attitude toward school: Function of school	Describing the function of school for the participant.
<b>Behaviour in school</b>	Behaviour in school: Being with friends / peers	Quotes describing activities participant undertake with friends, including 'hanging out', having breaks etc..
	Behaviour in school: Doing sports	Quotes describing the shared activity of doing sport or seeing others doing sports.
	Behaviour in school: Playing	Quotes describing activities where play is important or where others are seen playing.
<b>Emotion</b>	Emotion: annoyance	Quotes which indicate the participant feels annoyed.
	Emotion: Happy	Quotes which indicate the participant feels happy.
	Emotion: Impressed	Quotes which indicate the participant feels impressed, for example by skills of other students.
	Emotion: Love	Quotes which indicate the participant feels loved or feels love for others.

	Emotion: Nervous	Quotes which indicate the participant feels nervous or anxious.
	Emotion: Pleasant	Quotes which indicate the participant feels pleased or at ease in a space.
	Emotion: Safe	Quotes which indicate the participant feels safe or secure.
	Emotion: Shy	Quotes which indicate the participant feels shy.
	Emotion: Unpleasant	Quotes which indicate the participant feels unpleasant or not at ease in a space.
<b>Friendship</b>	Friendship: Behaviour with friends	Quotes that describe different activities that participants undertake with friends, like hanging out or gossiping.
	Friendship: Creating friendships	Quotes describing how or when friendships were made in school.
<b>Ownership of place</b>	Ownership of place: Being present in space	Quotes describing how being present in a place of the participant or others create a sense of ownership of a place or the consequences of this ownership.
	Ownership of place: Changing lay-out of space	Quotes describing how the participant or other students change the lay-out of a space in the school, for example by moving furniture.
	Ownership of place: Need for influencing school	Quotes commenting on the need a participant feels to be involved in decision-making about the appearance or lay-out of the school.
	Ownership of place: Privacy	Quotes describing a feeling of privacy that is created through being owner of a place.
	Ownership of place: Voice of the students	Quotes describing that way in which students are involved in decision making on the appearance or lay-out of the school, for example by the student council of the school.
<b>Peer-to-peer relations</b>	Peer-to-peer relations: Admiration for others	Quotes expressing a feeling of admiration of skills of other students or the feeling of being impressed by others.
	Peer-to-peer relations: Relations between age groups	Quotes describing how different age groups deal with each other in and around the school, for example how junior classes and senior classes students interact with each other. Contains both positive as negative interactions.
	Peer-to-peer relations: Services	Quotes describing what participant or other students do for their fellow students.

	Peer-to-peer relations: Trust	Quotes describing a feeling of trust among students, for example by stating that the participant does not think students would steal from each other.
<b>Sensory aspects</b>	Sensory aspects: Lighting	Quotes commenting on the lighting in and around the school.
	Sensory aspects: Smell	Quotes commenting on the smell in and around the school.
	Sensory aspects: Temperature	Quotes commenting on the temperature in and around the school.
<b>Popularity / status</b>	Status / popularity: Bullying	Quotes describing bullying in or around the school by/of the participant and other students. Also past bullying.
	Status / popularity: Status of gymnasium	Quotes describing the value participants or other student attach to the school being a gymnasium.
<b>Teacher-student relations</b>	Teacher-student relations: Nervousness around teachers	Quotes describing the feeling of nervousness or uneasiness around teachers, this can be location specific or general.
	Teacher-student relations: Pleasant interactions	Quotes describing pleasant and positive interactions between the participant and a teacher.
	Teacher-student relations: Power relation	Quotes commenting on the status and power a teacher has. The power relation is based on the higher rank a teacher has within a school compared to the student.
<b>Usability of space</b>	Usability of place: use ability for being alone	Quotes describing that a space in or around the school is or isn't useful for being alone.
	Usability of place: use ability for learning	Quotes describing that a space in or around the school is or isn't useful for learning or achieving good learning outcomes.
	Usability of place: Usability for socialising	Quotes describing that a space in or around the school is or isn't useful for spending time with friends to socialise and 'hang out'.

# Appendix 6: Poster Graduate Research Day

# BACK TO SCHOOL

# HOW DO WE EXPERIENCE OUR SCHOOL LIFE?

## A RESEARCH ON THE INFLUENCE OF THE SOCIAL AND PHYSICAL SCHOOL ENVIRONMENT ON THE QUALITY OF SCHOOL-LIFE OF SECONDARY SCHOOL STUDENTS IN THE NETHERLANDS

### Introduction

School performance is often researched, but the quality of life of students at school is not.

Especially missing from literature is the influence of the physical school environment.

One third of time is spent at school when children go to secondary school

Children go through physical changes and form their personality during this time

### THEORY

Quality of school life conceptual model is constructed based on theory of quality of life, sense of place and human-environment relationship

### Methods

Questionnaire on Quality of School Life among all students of WIG

Walk-along interview with three students to gain further insight in results

Gathered data was collected and analysed with following programs:

- SPSS
- Atlas.ti

### RESULTS

316 students filled out het questionnaire  
43% response rate

A regression showed that the used statements predict 34,3% of the quality of school life.

The significant and thus predicting characteristics were:

- Schoolyard
- Individual school behaviour
- Social school environment
- Physical school environment

Overall grade for the Quality of School Life

3	4	8	25	49	8
3	4	5	6	7	8
9	10				

Students give their school life an overall grade of 7,6 on average.

The elements of the conceptual model were asked by statements on a Likert-scale from 1 (disagree strongly) to 5 (agree strongly). The results show the physical environment scores the lowest.

Statement type	N	Mean
Human biology	316	3,8
Individual school behaviour	316	3,9
Social school environment	316	4,1
Physical school environment	316	3,4

### FEELINGS EXPERIENCED IN AND AROUND THE SCHOOL

School type	Negatief	Neutraal	Positief
Schoolplein	0%	20%	80%
Kelder	10%	30%	60%
Lokaal nieuw	15%	25%	60%
Lokaal oud	20%	20%	60%
Lerarenkamer	25%	20%	55%
Aula	30%	20%	50%
Forum	35%	20%	45%
Entree school	40%	20%	40%

"...I especially like the forum and that there are these blacks that you can move yourself and that you can have a bit of influence on how the school looks this way".

Lisa, 1<sup>st</sup> year

Student agree that the least pleasant spaces are the older classrooms, the canteen and the teachersroom.

The inter views showed that this was often due to the accessibility of the space and ownership (power-relations in place). This is illustrated above.

### CONCLUSIONS

Quality of School life is formed by a interconnected set of characteristics of the student and the school environment.

The social school environment is generally more positively regarded compared to the physical school environment.

Predictors of quality of school life however are individual school behaviour, physical environment, age and grades. The physical environment influences by creating a (un)comfortable school environment and by providing a context for (im)pleasant social interaction in school.

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For full references, see thesis.

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