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The role of the built workplace in well-being

Learning from experiences of teachers on the autism spectrum

Hannah Denys

Thesis submitted to
obtain the degree of Master
in Engineering:
Architecture
option building construction design

Supervisors:
Prof. dr. ir. -arch. A. Heylighen
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Academic year 2023-2024

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Foreword

The choice for this thesis topic surprised many who know my interests in this field, given that my focus has been primarily on building construction. While I have a keen interest in areas like structural engineering and sustainability, I also find the impact of architecture on human emotions and social interactions compelling. Through this thesis, I gained valuable insights into topics like well-being, autism, disabilities, and school environments. I could not have completed this master's thesis alone, so I would like to express my gratitude to a few people.

I want to thank my supervisors Ann and Andrea for their guidance and support throughout the year. Receiving your professional advice and experiencing your kindness was a true honour. What stands out to me, and might seem obvious but is incredibly meaningful, is your genuine interest in each individual's unique goals within our thesis group. You encouraged me to follow my own path while offering gentle nudges in the right direction when necessary.

I would like to extend my thanks to the entire research group. The collaborative meetings were engaging and contributed to the quality of this thesis. I truly appreciate the time and effort you all invested to be consistently present and supportive. I want to thank Jasmien Kinnaer for her advice on conducting and analysing the interviews. Additionally, I would like to express my gratitude to the assessors of this master’s thesis, Vanessa Hughes and Piet Tutenel.

Further, I want to mention the support I received from my friends and family, during this, and the previous years of my study. Even though often they did not even know what I was doing, every little support was meaningful. Thank you to the friends with whom I spent countless hours in the library, and to my roommates who stood by me through both the good and the tough times. A special thank you goes to Robin and Irena, who were a true support during this, as well as the previous study years. Another heartfelt thank you to Knevel; I do not think you realise half of what you have done and what you mean to me.

Last but not least, I want to sincerely thank the participants for being a crucial part of this journey and making this research possible. Your contributions not only helped me complete my thesis, but also transformed me into a more open-minded person and a better architect. Additionally, you helped further designers with your input and helped bringing more attention to this topic.

Hannah Denys

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Abstract

Most studies about school design, and school design and autism in particular, tend to prioritize the well-being of students. Schools are often viewed as environments where students can learn and develop, but they are rarely considered from the perspective of teachers and other employees. Furthermore, information about autistic teachers is very limited. With this study I aim to fill that gap by investigating how the design of the built workplace can influence the well-being of autistic teachers, either positively or negatively.

I gained a deeper understanding of well-being in the workplace, autism in general, and autism both at work and in education through a literature study. The Job Demands-Resources theory (JD-R) provides a conceptual framework to analyse the workplace as a composite of demands and resources. These demands and resources can be related to spatial qualities (e.g., light, noise, layout), but also to social and organisational aspects. High demands alongside limited resources can lead to burnout, a significant issue in the teaching profession.

In addition, I collected qualitative data through semi-structured interviews, with a photo-exercise and/or a walk-along, with four autistic teachers. The study encompassed various workplace settings, including school spaces such as classrooms, teachers' rooms and cafeterias as well as home workplaces, as teachers often do part of their work at home. Later, I presented the preliminary findings obtained through the interviews, to another autistic teacher, who validated their experiences and provided further insights.

The participants developed various strategies to navigate workplace challenges, with the decision to disclose their autism in the workplace playing a significant role. Some preferred their workplace at home due to the ability to control stimuli and incorporate personal elements. Others found school-based workplaces, such as quiet spaces where they can work alongside colleagues, to be comfortable and supportive as well. The challenges faced by the participants are strongly dependent on how the school building is used. Often, the school's spaces and organisational systems were not aligned with the participants' preferred teaching styles, making it difficult for them to fully utilize their strengths.

With this research I do not intend on the improvement of (educational) workplaces solely for autistic individuals, but on inclusive workplaces for everyone. Additionally, the findings from this study stem from insights based on the participants' work experiences. Given the broad and diverse nature of the autism spectrum, it is important to note that the findings may not be universally applicable to all autistic individuals.

Above all, I hope this thesis serves to inform people about autism to provide appropriate (spatial) accommodations and to stem away from the stigma while recognizing the valuable contributions autistic individuals make in the workplace.

List of figures and tables

In case that no reference is mentioned, the picture is taken by the participants in or by the author of this thesis. If the picture is taken by a participant, it is indicated on the picture by the copyright symbol.

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Chapter 1: Introduction

1.1 Formulation of the problem and relevance

The impetus for this master's thesis stems from the recognition that teachers in Flanders encounter considerable challenges in the workplace, contributing to a high burnout rate within this vocation (SRV, 2022). There is a consensus in the literature that the teaching profession is particularly challenging and demanding. Teachers' social responsibility is at a high level and they are expected to perform at their best, with dedication, availability and commitment (Kebritchi et al., 2017; la Velle, 2020). While acknowledging the multi-faceted nature of this issue, this study **focuses on the spatial aspects**.

In most previous research, schools are predominantly viewed as spaces where students mature, learn, and evolve. There is a tendency to **overlook the fact that it also serves as a workplace** for teachers, after-school care providers, principals, custodial staff, cafeteria personnel, etc. (Rogerson, 2023). This research focuses on the experiences of teachers. It is crucial to clarify that this study does not intend to sideline the well-being of students; rather, it perceives the well-being of both groups as equally significant and interdependent. Prior research even underscores clear correlations between the well-being of students and teachers (Harding et al., 2019).

Moreover, this master's thesis focuses on a largely unexplored demographic: teachers on the autism spectrum. The focus of discussions about autism in education has traditionally been on autistic students, with most research exploring teaching methods that neurotypical[1] teachers can use to support them. StEvens (2022) provides an overview of existing literature regarding teachers on the autism spectrum. In line with the Social Model of disability (Shakespeare, 2010), which views disabilities as a result from a mismatch between a person and the environment, this review identifies that the main barriers to the success of autistic teachers arise from the interaction with the world around them, rather than solely from their own deficits. Most autistic teachers discussed autistic characteristics as beneficial to teaching, giving them greater empathy, authenticity,

[1] Neurotypical people: people who have 'a style of neurocognitive functioning that falls within the dominant societal standards of 'normal'' (Walker, 2023).

creative problem solving, and bringing keen insights and skills to inclusive education (Lawrence, 2019; Lawrence et al., 2021).

Many teachers decide to hide their autism due to negative stereotypes and discriminatory behaviour, making it more difficult to receive adequate support or adaptations in the workplace. In some cases autistic teachers struggle to cope with the challenges they face, which can lead to burnout (Bergefurt et al., 2022). Nevertheless, the **number of studies on autistic teachers** in StEvens' review is **limited**, highlighting the need for more comprehensive research in this area; with a highlighted focus on the spatial aspects.

1.1.1 Vocabulary to talk about autism

There are various approaches to talk about autism. One commonly used language is the person-first language, exemplified by phrases like 'a teacher/person/individual with autism'. This approach aims to underscore the inherent worth and value of individuals. This language focuses on what a person has rather than defining them by their condition. However, **person-first language is not widely embraced** by many individuals on the autism spectrum, at least in English-speaking countries (Hens, 2021). This form of language suggests a separation between the individual and their autism, which does not accurately reflect reality, because autism is an integral part of their identity. Hence, many autistic individuals (and other disabled people) **prefer identity-first language**, such as 'autistic teacher/person/individual'. This approach acknowledges and validates the individual's identity as an autistic person, rather than viewing autism as a separate entity that can be cured (Tackx, 2020; Monk et al., 2022).

Autism professionals often describe autism as heterogeneous, existing along a spectrum known as Autism Spectrum Disorder (ASD). However, this terminology places emphasis on the term 'disorder'. Alternatively, the term Autism Spectrum Condition (ASC) can be used, suggesting a neurological variation rather than a disorder (Tackx, 2020). In a study conducted by Kenny et al. (2015) autistic individuals and those closely associated with them were surveyed regarding their preferred language usage. The results indicated that a variety of terms were used and that both 'autism' and 'on the autism spectrum' were most highly endorsed by all groups. In this master's thesis, a blend of terms is utilized to reflect the diversity in discussing autism.

1.2 Research question and objectives

This research addresses the following question:

How does the built workplace play a role in the well-being of autistic teachers?

The study aims to understand how the built workplace **hinders or supports** the well-being of autistic teachers. It will examine the impact of various spatial qualities (e.g., light, layout, location). These spatial aspects will, together with social and organisational aspects, be

considered within the framework of the Job Demands-resource theory. I will use this theory as a conceptual framework for the analysis of the teachers' work experiences.

This research will compare workplaces at school and at home in terms of spatial aspects, with attention to large-scale characteristics (e.g., size of the school) and small-scale aspects (e.g., type of furniture in the classrooms). Through this analysis, I will identify **similarities and differences among participants' experiences**.

Additionally, I will try to understand how the decision of disclosure effects the participants' work experiences. I will assess how their disclosure receives adequate support or creates additional challenges.

My goal is to raise **awareness** about the importance of these aspects in the workplace and contribute to a deeper understanding of the spatial challenges faced by autistic teachers. By sharing these insights, I aim to inspire future designers and stakeholders to consider these aspects when designing educational environments. The findings from this study could play a significant role in guiding the development of school settings that are more inclusive and supportive for both teachers and students.

1.3 Research approach

This work is structured into three sections: a literature study, qualitative research with autistic teachers, and a discussion that connects the research findings with the insights from the literature review.

In the first section, the literature review, I delve into the concepts central to this research, exploring how they interrelate. This section is divided into two parts. The first part about well-being in the workplace explores some history and different ways to look at the complex phenomenon of well-being. It explores theories to examine the workplace and discusses the relation between workplace characteristics and well-being. The second part of the literature review focuses on autism. I discuss the history and personality traits of autism, as well as its implications for work and education. This section aims to provide a comprehensive overview of how autism is understood and how it affects individuals in professional settings. Additionally, I also discuss disabilities in this part, since some individuals identity as disabled in certain functional areas, such as at work.

In the second section, qualitative research is carried out with four participants. A qualitative research allows them to share their experiences in their own words and highlights what matters most to them. Qualitative research is valuable because it can capture emotional and personal characteristics, as well as lived experiences (Francis et al., 2009; Gaudion et al., 2015). Using semi-structured interviews with photo-exercises and/or walk-along sessions, I gained a deeper understanding of the experiences in the workplace of autistic teachers. In addition to these four interviews I presented these preliminary

findings to another autistic teacher, who validated their experiences and gave additional insights. The literature study and the fieldwork happened parallel in this study.

In the end, I tried to answer my research question by analysing insights gained through the interviews and relating these to the literature.

Chapter 2: Conceptual framework

2.1 Well-being in the workplace

2.1.1 Introduction

In this section, I delve into existing theories and studies about well-being in the workplace. The research on well-being has grown significantly in recent decades, yet it remains a **complex, multi-dimensional concept** (Forgeard et al., 2011, p. 81). To provide a focused analysis for this research, I concentrate on specific aspects of workplace well-being rather than exploring the extensive history of well-being research.

To sketch the physical context of this research, I introduce some issues and changes in school buildings in Flanders over the past few decades. Beyond structural concerns, the shortage of educators and high burnout rates in the teaching profession are critical elements to consider in this research.

To start discussing occupational well-being, I illustrate the shift in health research perspectives from a pathogenic approach, which focuses on disease, to a salutogenic approach, which emphasizes aspects that support human health and well-being. I examine the well-known Job Demands-Resources (JD-R) theory (Demerouti et al., 2001; Bakker and Demerouti, 2017), which provides a conceptual framework to understand and analyse occupational well-being. This theory helps to understand the dynamics between job demands and resources, particularly in relation to burnout. I connect a general definition of well-being to this JD-R framework and review research on workplace characteristics and their impact on well-being.

2.1.2 School buildings in Flanders

Education plays a crucial role in life, with schools serving as places where young people learn values, norms, and general knowledge for the future. A good school significantly impacts an individual's development, making it essential to maximize all its aspects. However, beyond being a learning environment, the school also serves as a workplace for teachers, after-school care providers, principals, custodial staff, cafeteria personnel, and others, making it a **complex (work)place to study and understand**.

The teachers involved in this research work in Flanders, Belgium. Therefore, this section provides an introduction to the school buildings in Flanders. Today, there are more than 6300 school sites in Flanders, including primary, secondary, and special schools, lifelong learning centres, pupil guidance centres, and boarding schools (Leemans and Ahlefeld, 2013).

In general, the Flemish Government has been **investing too little in educational buildings** over the years (Leemans and Ahlefeld, 2013). The quality of the Flemish school infrastructure stands in stark contrast to the quality of the education itself. Many school buildings in Flanders are in poor condition, not adapted to current pedagogical needs, or too small for the number of students. On July 7, 2006, the Flemish parliament therefore approved the decree on the catch-up movement for school infrastructure. Within a short period, the DBFM-company *'Scholen van Morgen'* has delivered around two hundred new construction and renovation projects (Vlaams Bouwmeester, 2012; Vlaams Bouwmeester, 2019).

The pedagogical vision of education has evolved from traditional, collective learning to a more individualized process. Students now learn from both teachers and peers, often gaining more through hands-on activities. Differentiated education includes independent work, group work, and individualized instruction. Therefore, **school buildings must support this versatility**, requiring diverse spaces for meeting, experimenting, and alternative uses (Vlaams Bouwmeester, 2012).

Together with this shift in education, the role of the school has shifted. On the one hand, the school building is a world of its own with its unique character. The school is not as closed as home, but not as free and open as the world outside the school gates. Although, a school can no longer isolate itself, either pedagogically or socially, from the rest of the world (Vlaams Bouwmeester, 2012). More than ever, a school is a place of meeting. Leemans and Ahlefeld (2013) conceptualize school buildings as 'nodes of relationships'. The school must fulfil both roles: it is a protective environment for students and a part of the world.

The design can help to fulfil this role. While the monastery model has long been the prevailing ideal, a new school architecture is needed that is both inwardly and outwardly. Through design – less enclosed, with more outdoor views – and through the way you establish collaborative partnerships around the school, a school can bind and inspire. The school architecture must be sustainable and should outlast the pedagogical concept of the moment (Vlaams Bouwmeester, 2012).

Such effective school architecture starts with a well-founded and thoughtful project formulation. A key challenge in school projects is that the client is often not the end user, complicating the process. It is beneficial for the client to seek **input** from, for instance, **teachers to shape the vision for the school**. For example, in the project for the primary school *De Driehoek* in Bocholt, the input from teachers and parents ensured that the idea

of the new school was a shared vision. However, considering the significant workload already faced by school principals and teachers, it is unrealistic to expect them to manage the entire development of such a project formulation (Vlaams Bouwmeester, 2012).

2.1.3 Pathogenic and salutogenic approach to health research

Health research, such as well-being research, can be approached from either a pathogenic or salutogenic perspective. In the Western world, the pathogenic approach is predominantly used, focusing on diagnosing mental illnesses and treating those who suffer from them (Bergefurt et al., 2022). In contrast, salutogenesis, introduced by Antonovsky (1996), highlights that conventional health approaches concentrate on treating disease (pathogenic) while overlooking the factors that foster health (salutogenic), as illustrated in Figure 1.

Until recently, most workplace-context research also had a pathogenic instead of a salutogenic orientation. For instance, studies indicate that indoor building conditions are associated with mental health effects (Houtman et al., 2008), illnesses that take longer to manifest (e.g., lung cancer) (Lewtas, 2007; Babisch, 2008), a variety of asthma-related health outcomes (Mendell, 2007), and productivity loss (Bluyssen, 2009). The emergence of the salutogenic approach demands a more **holistic approach in research** with both **positive and negative mental health indicators related to the workplace** (Bergefurt et al., 2022).

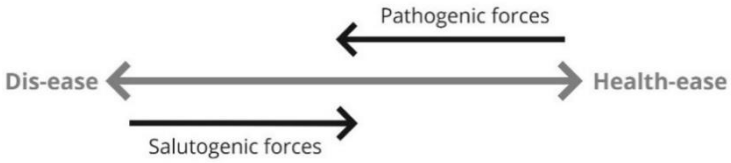

Figure 1. Pathogenic and salutogenic forces in health research (Forooraghi et al., 2022)

2.1.4 The Job Demands-Resources theory

Individuals' work experiences can be defined by several theories, in this research I use the Job Demands-Resources (JD-R) theory – a **conceptual framework for understanding occupational well-being** (Demerouti et al., 2001; Bakker and Demerouti, 2017). According to this theory, occupational well-being is a result from the combination of **job demands** (i.e. pathogenic) and **job resources** (i.e. salutogenic) (Bergefurt et al., 2022). Where demands are factors that hinder occupational well-being and resources are factors that promote it (Bakker and Demerouti, 2017). These demands and resources can have their basis in the work environment or can be individual characteristics.

Demerouti et al. (2001) define job resources as 'those physical, psychological, social or organisational aspects of the job that may do any of the following: (a) be functional in achieving work goals; (b) reduce job demands and the associated physiological and psychological costs; (c) stimulate personal growth and development'. Whereas job demands refer to 'those physical, social, or organisational aspects of the job that require

sustained physical or mental effort and are therefore associated with certain physiological and psychological costs (e.g., exhaustion)'.

These job demands and resources initiate two relatively independent processes: a **health impairment process** and a **motivational process** (Figure 2). Job demands are typically the primary predictors of outcomes such as exhaustion, psychosomatic health complaints, and repetitive strain injuries (Demerouti and Schaufeli, 2003; Hakanen et al., 2006). Job resources are generally the main predictors of work enjoyment, motivation, and work engagement (Demerouti, 2007; Bal, 2010).

Apart from these two relatively independent processes, job demands and resources **interact in contributing to occupational well-being** (Figure 2)(Bakker et al., 2014). There are two possible ways in which demands and resources may combine to affect well-being and indirectly influence performance. First, job resources can buffer the impact of job demands on strain, enabling employees with good resources to better cope with daily job demands (Demerouti and Euwema, 2005). Second, job demands can amplify the impact of job resources on motivation and engagement. Research indicates that job resources become most salient and have the strongest positive effect on work engagement when job demands are high. Particularly when employees face challenging job demands, job resources become valuable and enhance dedication to their tasks (Hakanen and Demerouti, 2006; Hakanen et al., 2007).

The JD-R framework also sees **employees themselves as active agents** (Tomczak and Kulikowski, 2023). While certain demands and resources are intrinsic to the job itself, employees can also use **job crafting strategies** to maximize resources and minimize demands (Figure 2). Job crafting involves proactive steps taken by employees to modify the nature of their work (task crafting), their relationships with colleagues and clients (relationship crafting), and their perceptions of their work (cognitive crafting) (Wrzesniewski and Dutton, 2001).

An extension of the JD-R model is the inclusion of **personal resources** (Figure 2). Xanthopoulou et al. (2007) examined the role of three personal resources – self-efficacy, organisational-based self-esteem, and optimism – in predicting work engagement and exhaustion. Their findings revealed that personal resources partially mediate the relationship between job resources and work engagement, indicating that job resources contribute to the development of personal resources. Later, Xanthopoulou et al., (2009) further suggested that personal resources and job resources, as well as work engagement, have a reciprocal relationship over time.

This framework can be applied to all workplaces and can be customized for a specific occupation (Bakker et al., 2014). Employers can apply this framework to gain more insight in the factors contributing to the health impairment process and the motivational process. This master's thesis focuses physical demands and resources, aiming to explore their impact on occupational well-being to enhance the motivational process. However,

physical, social, and organisational aspects are interconnected, so various aspects and their relations are analysed.

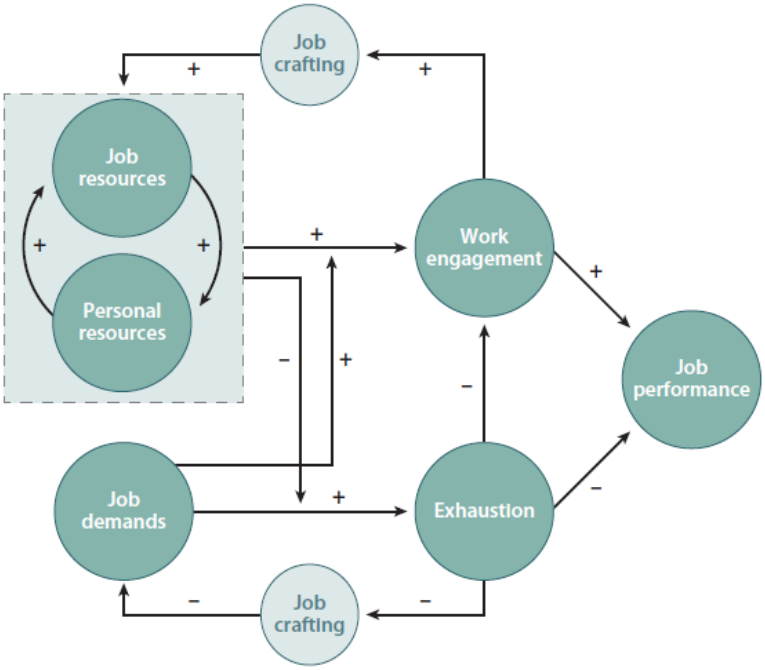

Figure 2. The Job Demands-Resources model of occupational well-being (Bakker et al., 2014)

2.1.4.1 Burnout and engagement

According to the JD-R model, burnout results from high job demands combined with low job and personal resources. Job resources activate the pathway to work engagement. Conversely, persistent job demands and a lack of job resources initiate the process leading to exhaustion (Figure 2). Burnout is thus characterized by the **combination of exhaustion and disengagement** and is linked to various physical and mental health issues (Demerouti et al., 2001; Bakker and Demerouti, 2017). This explanation of burnout is in line with Freudenberger's (1974) early definition of burnout as ‘a state of mental and physical exhaustion caused by one’s professional life’.

Following this, Maslach and Leiter (2008) positioned individuals' psychological relationship to their job on a continuum between the negative experience of burnout and the positive experience of engagement. A poor workplace might push people towards the negative side of the **burnout-engagement continuum**, characterized by emotional exhaustion, depersonalisation and lack of personal accomplishment (Appel-Meulenbroek et al., 2020a). On the opposite side of the continuum, work engagement is characterised by energy, involvement and efficacy, the direct opposites of the three burnout dimensions (Maslach and Leiter, 1997).

These contrasting characteristics of burnout and engagement create **three sub-dimensions** within the burnout-engagement continuum (Figure 3): the individual strain (exhaustion – energy), the interpersonal strain (depersonalisation – involvement) and the self-evaluation strain (inefficacy – efficacy) (Appel-Meulenbroek et al., 2020a). This implies that in case of burnout, energy turns into exhaustion, involvement into depersonalisation, and efficacy into ineffectiveness (Bakker et al., 2014).

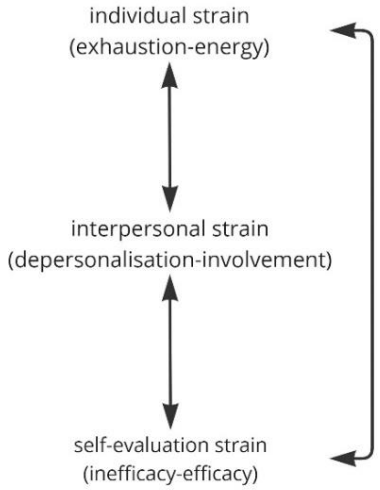

Figure 3. Burnout-engagement continuum (Appel-Meulenbroek et al., 2020a)

2.1.4.2 Occupational shortage and burnout rate in Flanders

One reason to study teachers' work experiences, was the occupational challenges that Flemish teachers currently face. While the teaching profession in Flanders once had an abundance of candidates, now – in 2024 – there is a significant occupational shortage (VRT CANVAS, 2024). Furthermore, the challenges faced by Flemish teachers have led to a high burnout rate within this vocation (SRV, 2022). Table 1 illustrates the increasing percentage (%) of employees exhibiting burnout symptoms over recent years.

year	2004	2007	2010	2013	2016	2019
%	10,7	10,4	9,9	10,5	12,4	18

Table 1. Burnout symptoms in teaching profession (SRV, 2022, p.56)

2.1.4.3 Well-being as the balance point between resources and challenges

The described occupational well-being according to the Job Demands-Resources theory corresponds with the general definition of well-being proposed by Dodge et al. (2012). These researchers did a multi-disciplinary review of past attempts to define well-being. They discovered that any definition of well-being centred on **a state of equilibrium or balance that can be affected by life events or challenges**. I choose to take a look at this definition because it conveys the multi-faced nature of well-being. The definition also has a certain simplicity, making it clear and effective to describe well-being.

In this definition, well-being is conceptualized as the **balance point between the individual's resource pool and the challenges faced**, similarly to the JD-R theory (Figure 4). This balance is represented by a see-saw, symbolizing the individual's drive to return to a set-point for wellbeing (Brickman and Campbell, 1971; Headey and Wearing, 1989, 1991, 1992) as well as the individual's need for equilibrium (Herzlich, 1973; Cummins, 2010). The resources and challenges are the elements that can affect the individual's equilibrium, causing the see-saw to tip from side to side (Hendry and Kloep, 2002). Kloep et al. (2009) described this dynamic process as follows:

> 'Each time an individual meets a challenge, the system of challenges and resources comes into a state of imbalance, as the individual is forced to adapt his/her/their resources to meet this particular challenge' (p. 337).

In essence, stable well-being occurs when individuals have the psychological, social, and physical resources necessary to meet particular psychological, social, and physical challenges. When challenges outweigh resources, the see-saw dips, causing a decline in well-being (Dodge et al., 2012). Interesting to note is that a lack of challenges can lead to **'stagnation'** (Hendry and Kloep, 2002), which also disrupts the balance of the see-saw, negatively impacting well-being.

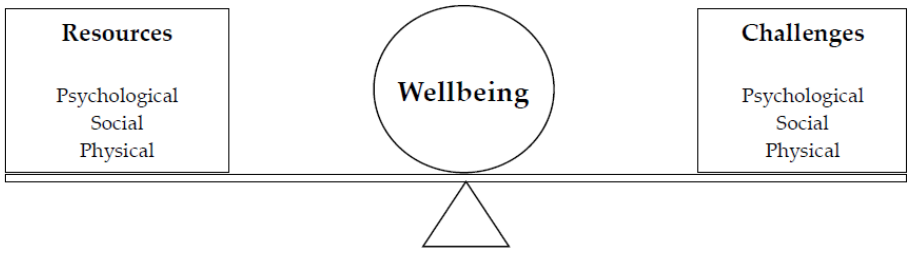

Figure 4. Definition well-being by Dodge et al. (2012)

This model empowers individuals by suggesting that they can pursue well-being by actively managing their resources and challenges to maintain a sense of equilibrium. This reflects the current emphasis on **positive psychology**, which views individuals 'as decision makers, with choices, preferences, and the possibility of becoming masterful and efficacious' (Seligman, 2002, p. 3). This perspective of well-being is called the **eudaimonic perspective** and links well-being to the human ability to pursue complex goals which are meaningful to the individual and society (Delle Fave et al., 2011). On the contrary, the **hedonic perspective** associates well-being with pleasure, comfort, and enjoyment (Delle Fave et al., 2011). Seligman (2011), the leader of the positive psychology movement, also sees well-being as a dynamic concept that has both hedonic and eudaimonic components, which is reflected in the following definition by Marks and Shah (2004):

> 'Well-being is more than just happiness. As well as feeling satisfied and happy, well-being means developing as a person, being fulfilled and making a contribution to the community' (2004, p. 2).

2.1.5 Mental health indicators

Since studies on workplace characteristics in schools are rare, the studies discussed in this part regard office environments. However, I think these findings can give an idea about workplace characteristics and well-being within the school environment as well. Different studies performed a systematic scoping review of the existing literature regarding workplace characteristics and well-being (Colenberg et al., 2021; Bergefurt et al., 2022). To clarify, the studies make a distinction between psychological well-being and physical well-being. Physical well-being can, for example, be enhanced by features that encourage physical activity, such as sit-stand desks and ergonomic chairs (Amick et al., 2011; van Niekerk et al., 2012; Robertson et al., 2013). Also other characteristics, such as the increase of daylight show positive results for physical well-being (Colenberg et al., 2021). In the rest of this section, I take a closer look at **psychological well-being**.

Bergefurt et al. (2022) introduced ten indicators of mental health, namely well-being, stress, depression, engagement, burnout, concentration, fatigue, mood, sleep quality and productivity. These indicators include both mental illness indicators (e.g., depression, burnout, fatigue) and salutogenic mental well-being indicators (e.g., mood, productivity, engagement, concentration). For the physical workplace characteristics they used office layout and design, light and daylight, noise, acoustics and privacy, indoor air quality and ventilation, thermal comfort and temperature, biophilia, views, greenery and plants, and look, feel and colours. They analysed several studies and combined the terms referring to the physical office environment with each of the ten mental health indicators. Colenberg et al. (2021) did a similar analysis and they identified the characteristics of interior office space in relation to employee health based on six features: layout, furniture, light, greenery, controls and noise.

The results indicated a frequent correlation between certain mental health indicators, such as concentration and stress, and aspects of indoor environmental quality, such as light, noise, indoor air quality and temperature. For instance, increased exposure to daylight has been found to enhance employees' productivity, sleep quality, and mood, while also reducing fatigue (Bjørnstad et al., 2016; Bergefurt et al., 2022; Mohamed et al., 2024). Increased background noise and reduced acoustic privacy were associated with decreased productivity, concentration, well-being, and increased stress and fatigue (Banbury and Berry, 2005; Chadburn et al., 2017; Bergefurt et al., 2022).

Research about other workplace characteristics, such as biophilia and views is growing interest (Colenberg et al., 2021). The presence of plants can enhance employees' productivity, concentration, and well-being, while also reducing stress and depression. Additionally, having natural outdoor views can boost productivity and alleviate fatigue and stress (Bergefurt et al., 2022). Additionally, work environments featuring natural materials received higher well-being (Douglas et al., 2022).

Other mental health indicators, such as burnout, engagement and depression, have received less attention in relation to the physical workplace. Appel-Meulenbroek et al.

(2020) indicated that workplace characteristics are indirectly related to burnout and engagement. Other studies have also shown that engagement and burnout depend on social workplace characteristics, management style, organisational culture or on personal characteristics (Maslach and Leiter, 1997). It is interesting to note that no direct correlations were found between workplace characteristics and burnout. In the final chapters, I explore whether this is also the case in my research.

An interesting finding, though somewhat outside the context of school and home workplaces, is the comparison between open-plan offices and activity-based working (ABW). Open-plan offices have been shown to reduce productivity and concentration while increasing stress (Crowley et al., 2015; Haapakangas et al., 2018; Di Blasio et al., 2019). Activity-based working, which allows employees to switch between workspaces designed for specific tasks, can enhance productivity and well-being while reducing stress. ABW strategies encourage employees to perform their tasks in **environments tailored to their personal preferences** regarding aspects such as light, noise, and temperature (Candido et al., 2019). This approach can also provide a sense of control if the workplace conditions are adaptable (Bluyssen et al., 2011; Boerstra et al., 2015). Another sense of control, namely **personalizing workstations**, has been positively associated with psychological well-being (Wells, 2000; Colenberg et al., 2021). These characteristics of ABW can also be valuable in a school environment and therefore I keep them in mind.

2.1.6 Concluding thoughts

This section has highlighted the lack of investment in Flemish school buildings in the past decades. Additionally, occupational shortages and burnout symptoms among teachers are significant issues. In the chapters *Findings* and *Discussion and conclusion*, I delve into whether participants' experiences may be correlated with these outdated buildings.

To gain a comprehensive understanding of the participants' work experiences entirely, I will use the illustrated Job Demands-Resources theory, a widely used conceptual framework to understand workplace dynamics. Alongside this theory, I will use the explained definition of well-being as a see-saw. I will assess whether these theories fully capture the teachers' experiences, for instance burnout, or if there are missing dimensions or concepts. Furthermore, in the section addressing autism, I explore the applicability of the JD-R theory to individuals on the autism spectrum, identifying any potential differences.

2.2 Autism and disability

2.2.1 Introduction

For a solid background on concepts of autism and disability, I gathered information from literature to gain a deeper understanding. Several previous theses within the Research[x]Design research group at KU Leuven have already provided an extensive overview of the history and concepts of autism and disabilities (Van Doren, 2010; Kinnaer, 2012; Tackx, 2020; Bamps, 2023). Therefore, this work addresses several relevant concepts in short.

This chapter contains an overview of the history of autism, starting from the very first writings with the use of the term 'autism' to more overall understanding of the different characteristics within the spectrum and more awareness and support in the society. The latter gave rise to the neurodiversity paradigm, which views neurological differences as natural and valuable aspects of human diversity. I continue the chapter by discussing how someone – in the western world – is diagnosed with autism and how the common personality characteristics align with Diagnostic and Statistical Manual of Mental Disorders (DSM-5) used to diagnose someone. I look at how these personality characteristics align with the demands or resources at work for autistic individuals. Furthermore the relation between autism and the built space is discussed.

While many autistic individuals endorse the neurodiversity paradigm, some autistic individuals feel that certain characteristics described in the DSM-5 do disable them in specific situations. Some autistic people identify as disabled in some situations and may feel particularly disadvantaged in functioning areas such as the workplace. Therefore I also include various perspectives on disability.

Another reason to consider disability in this research is based on the fact that disability is linked to poorer well-being (Tomczak and Kulikowski, 2023), especially in the discussions of disability and bioethics. The notion that being born without physical or cognitive disability is inherently preferable, and that having such disability diminishes individuals' well-being, appears to be commonly accepted. Yet, these assumptions might be flawed since many bioethicists use the conceptual framework of medicine to think about disabilities: they see disabilities as impairments in individuals that require correction. Bioethicists would benefit from incorporating insights from disability studies into their deliberations (Hens, 2021). In this study, I aim to steer away from automatically equating disability with lesser well-being, supported by the research about 'The Disability Paradox' (Albrecht and Devlieger, 1999).

2.2.2 An overview of the history of autism

Over time, the understanding of autism has evolved significantly. Although the concept of autism dates back to the early 20th century, it has gained broader recognition and deeper comprehension in the last few decades. The term 'autism' was first introduced in 1910 by

the Swiss psychiatrist Eugen Bleuler to describe a specific symptom of schizophrenia, characterized by a withdrawal from reality (Crespi, 2010).

In 1943, American child psychiatrist Leo Kanner used the term autism in his text 'Autistic Disturbances of Affective Contact' (Kanner, 1968). Additionally, Hans Asperger (1944) described autism in the article 'Die 'Autistischen Psychopaten im Kindesalter' as a condition with specific characteristics, a syndrome that later came to bear his name. These writings are considered foundational in autism research and understanding (Hens, 2021).

Kanner's work brought the concept of autism in the clinic, research, and the broader public. In his text he described eleven children with similar characteristics such as **challenges in social interaction, communication problems and repetitive behaviour**. Kanner wanted to distinguish the phenomenon of infantile autism from childhood schizophrenia. He suggested that autistic children, unlike children with childhood schizophrenia, do not withdraw from the world but are born with the condition. He described, from a developmental perspective, how these children gradually acquired more social skills. He viewed autism as a developmental disorder that could be addressed by child psychiatrists (Hens, 2021).

Asperger also described children who had difficulties with social interaction and stereotypical behaviours. However, he considered autism in the first place as something innate and permanent, which is part of one's personality and identity and is probably lifelong.

These first insights were crucial in shaping the diagnostic criteria for autism over the following decades. Whereas before autism was classified under childhood schizophrenia, Rutter clarified the distinction between autism and schizophrenia in the 1970s (Verhoeff, 2013; Harris, 2018). In 1980, autism was officially included in the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) by the American Psychiatric Association as a developmental disorder. Later the focus was not only on 'early infantile autism', but upon a wide age range (DSM-III-R) (Harris, 2018). In 1994, the developmental disorder was divided into four subgroups: autistic disorder, Rett disorder, childhood disintegrative disorder, and Asperger Syndrome (DSM-IV) (Verhoeff, 2013; Harris, 2018). Only since 2013 the subgroups were eliminated and the autism spectrum disorder (ASD) as a neurodevelopmental disorder was introduced (DSM-V) (Verhoeff, 2013; Spek, 2014; Harris, 2018; Tackx, 2020).

Since the late 20th century, the awareness around autism has increased, leading to more research into its causes and treatments (O'Reilly et al., 2020). Autism is recognized as a **spectrum with a wide range of symptoms and varying levels of severity**. This also contributes to fostering a more autism-friendly society, with, for example, more inclusive education (Petersson-Bloom and Holmqvist, 2022) and workplaces that satisfy the needs of autistic people (De Vries, 2021). The history of autism demonstrates progress in both

knowledge and societal acceptance, although much work remains to be done to fully understand and support autistic people.

Moreover, since the 1990s, autistic people have promoted the idea of **autism as a neurological difference** (Owren and Stenhammer, 2013). The neurodiversity paradigm regards autism, along with other neurological differences such as ADHD and dyslexia, as natural and valuable forms of human diversity. This paradigm extends the concept of diversity to include neurodiversity alongside existing categories such as ethnicity, age, gender, and sexual orientation, thereby broadening the understanding of diversity in society (Mcgee, 2012). The paradigm emphasizes acceptance, understanding, and accommodation of these differences, advocating for supportive environments that empower neurodivergent individuals to thrive.

2.2.3 The diagnosis

Despite the increasing recognition of autism as a form of neurodiversity, an accurate diagnostic method for autistic behaviour may be important to ensure that autistic individuals can **receive the appropriate support** (Tackx, 2020). People often find it challenging to believe individuals when they discuss their psychic suffering unless there is an official diagnosis validating their condition. Moreover, society often exhibits greater acceptance of certain behaviours from individuals with a diagnosed condition of autism compared to those without such identification. In Belgium, obtaining a diagnosis remains a crucial initial phase in the quest for searching for answers, solutions and support related to autism (Hens, 2021).

People on the autism spectrum are diagnosed by professionals on the basis of behavioural characteristics through the DSM-5 (Spek, 2014). These professionals conduct detailed assessments, including observations, standardized tests, and interviews with the individual and their family members. Psychiatric diagnoses consist of **clusters of behaviours** – presented in five domains – that frequently appear together, but for which no single biological cause is found (Hens, 2021).

The five domains according to DSM-5 (Spek, 2014; Tackx, 2020)*:*

- *Domain A: Deficits in social communication and social interaction across multiple contexts:*
    - *Deficits in social-emotional reciprocity*
    - *Deficits in nonverbal communication used for social relation*
    - *Deficits in developing; maintaining and understanding social relations*
- *Domain B: Restricted, repetitive patterns of behaviour, interests, or activities:*
    - *Stereotypes or repetitive motor movements, use of objects, or speech*
    - *Insistence on sameness, inflexible adherence to routines, or ritualized patterns or verbal nonverbal behaviour*
    - *Highly restricted, fixated interests that are abnormal in intensity or focus*
    - *Hyper- or hyposensitivity*
- *Domain C: Symptoms must be present in the early development period*

- *Domain D: Symptoms cause clinically significant impairment in social, occupational or other important areas of current functioning*
- *Domain E: These disturbances are not better explained by intellectual disability or global development delay.*

A diagnosis can only be established if the individual satisfies the criteria of domain A, along with meeting two out of four conditions specified in domain B. Other factors considered include the presence of symptoms in early life (domain C), difficulties experienced in daily functioning (domain D), and the clear difference from intellectual impairment or global developmental disorders (domain E) (Spek, 2014; Tackx, 2020). Moreover, in medical terms, autism exhibits a comorbidity rate ranging between seventy and eighty percent (Buck et al., 2014). This rate means a high likelihood of concurrent diagnoses such as language impairment, ADHD[2], or mental health problems like depression and anxiety (Spek, 2014; Lowinger and Pearlman-avnion, 2019).

The ongoing discussion surrounding **self-diagnosis** of autism refers to individuals identifying themselves as autistic based on their own understanding of the condition, without formal assessment or confirmation by healthcare professionals. This phenomenon has become more prevalent due to increased awareness of autism and the wealth of information available online (forums, online communities, etc.). Some advocate for self-diagnosis for several reasons. Firstly, in many parts of the world, people have limited access to healthcare services and/or have negative experiences with professionals. Secondly, some view autism more as a neurological identity than a medical diagnosis – one that individuals can discover and define for themselves, without professional validation (Hens, 2021). However, self-diagnosis carries risks, including misinterpretation of symptoms and potential scepticism or dismissal from others. Conversely, for some, self-diagnosis marks the initial step toward seeking support and accommodations.

Nevertheless, a diagnosis can serve multiple purposes beyond just accessing assistance and support. Understanding why one feels and experiences things differently can be incredibly validating and empowering. It provides clarity and a **sense of explanation for emotions, experiences, and challenges** that may have previously felt confusing or isolating. For individuals who receive a diagnosis later in life, it can indeed bring a profound sense of relief. Finally having an explanation for long-standing experiences can alleviate the burden of uncertainty and self-doubt. It can also open doors to tailored strategies for coping and thriving, fostering a path toward greater self-awareness and well-being.

[2] Attention-deficit/hyperactivity disorder (ADHD) is marked by an ongoing pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development (National instutute of Mental Health, 2023)

2.2.4 Autism at work

2.2.4.1 Personality traits (according to DSM-5) in the workplace

In this section common personality characteristics among autistic people are discussed. The characteristics associated with autism are mainly based on the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). These personality characteristics are linked to the demands and resources of the Job Demands-Resources framework (Demerouti et al., 2001; Bakker and Demerouti, 2017). These demands and resources are related to occupational burnout among employees with autism (Figure 5)**Fout! Verwijzingsbron niet gevonden.**(Tomczak and Kulikowski, 2023). Tomczak and Kulikowski (2023) have identified key demands that can deplete the energy of neurodivergent employees, as well as resources that can support them in reaching their work-related goals. To overcome challenges in the workplace, autistic individuals use several techniques, such as 'masking', copying, social skills training and emotional regulation strategies (Lawrence, 2019)

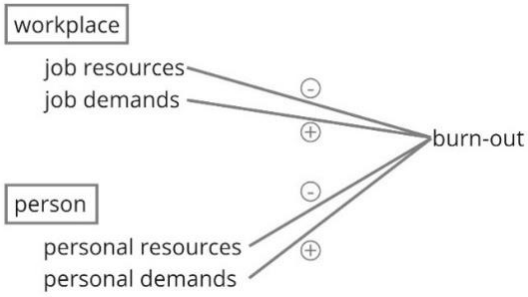

Figure 5. Demands and resources contributing in burnout
(Bakker and Demerouti, 2017)

As mentioned in the previous chapter *Well-being in the workplace,* resources can be job-related or a personal characteristic. Following this, **demands can also have their basis in the environment or can be personal**. These personal demands are not mentioned in the original JD-R model (Figure 2), but are crucial factors to consider. They interrelate with the job demands, similarly as the personal resources and job resources interrelate, indicated in Figure 6.

It is crucial to **avoid generalizing**; not every employee on the autism spectrum experiences the same demands or benefits from the same resources. This is because not all personality characteristics are necessarily present among each autistic individual and they refer to a very broad spectrum and their occurrence and severity varies greatly from person to person and over time (Tomczak and Kulikowski, 2023). Thus, a tailored approach, one that considers each individual's unique demands and resources, is essential when supporting neurodivergent employees (Tomczak and Kulikowski, 2023).

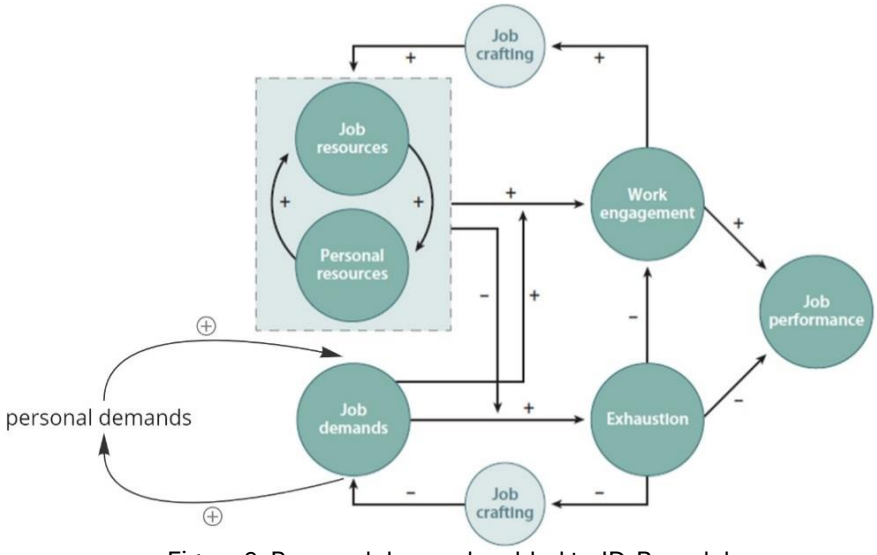

Figure 6. Personal demands added to JD-R model

Research by Hayward et al. (2020) has shown that employees with autism often describe various aspects of **social relationships as occupational demands**, in contrast to neurotypical individuals. For instance, some communication skills, like small talk with colleagues, can be difficult for autistic people (Pearse, 2020), and interacting with colleagues can cause anxiety (Cooper et al., 2017). This aligns with the first characteristic of autism identified in the DSM-5 specifies that autistic people face 'persistent deficits in social communication and social interaction across multiple contexts' (Kamphaus et al., 2013). The DSM-5 distinguishes one side of the spectrum as 'high-functioning' autistic individuals, who have cognitive skills within the same range as neurotypicals, enabling them to function in society almost like them. However they have difficulties with social communication, social norms and living up to society's expectations (Tackx, 2020). These social deficits can affect various aspects of social interaction, including social reciprocity, non-verbal communication, and the ability to establish, understand, and maintain relationships (Hopf et al., 2017).

Another characteristic often associated with autism is difficulty in receptive and expressive language skills. Receptive language refers to understanding and comprehending language, like following instructions or processing verbal cues. Expressive language, on the other hand, involves communicating desires, needs, and thoughts to others. Some autistic individuals express their thoughts verbally, while others may be nonverbal and require communication aids. Even among verbal individuals, receptive language challenges are common. They might struggle with delayed vocabulary development, have difficulty grasping abstract concepts, or find it challenging to interpret social language cues, like sarcasm, idiomatic expressions, or jokes (Hopf et al., 2017). These problems in receptive and expressive language skills, for instance during a meeting with a large team, may pose challenges at work.

While autistic people might share similar activities with their typically developing peers, the **intensity and focus of their interests** can be different. Autistic individuals often exhibit

highly restricted or fixated interests that are considered ‘abnormal’ due to their intensity or focus. This tendency can stem from a limited repertoire of alternative behaviours or a preference for familiar and repetitive activities. These behaviours can include stereotyped or repetitive motor movements, specific uses of objects, and repetitive speech patterns (Hopf et al., 2017).

Autistic people can be highly **sensitive to changes in routine**, which may cause challenges in the workplace (Tomczak and Kulikowski, 2023). They might become distressed by alterations to a schedule, insisting on strict adherence to rules, or exhibit inflexible thinking patterns. It would therefore be valuable to have are a clear division of tasks, meaningful feedback, goal and role clarity (Lee et al., 2020).

Additionally, **sensory processing differences** are significant aspects of autism. Individuals with these sensory differences might be hypersensitive or hyposensitive to various sensory inputs, including sound, light, touch, taste, or smell. For example, they might find certain textures intolerable or be unusually affected by loud noises, or conversely, they might seek out intense sensory experiences as a means of self-regulation (Hopf et al., 2017). At work, it may be difficult to regulate sensory inputs. For instance, noise from traffic or people talking, brights lights, or different smells of dishes during lunch can be distrubing. In the school environment sensory challenges are indicated as a common barrier (Wood and Happe, 2021).

Autistic individuals often have strong **analytical skills, an eye for detail, and a high capacity for focus**; characteristics that are very meaningful at work. Additionally, they are often capable of **innovative thinking and creativity**, stemming from their ability to approach problems from a different (non-typical) perspective (Armstrong, 2010). Research on autistic teachers indicated autistic characteristics as beneficial to teaching, contributing to greater empathy, authenticity, creative problem solving, and bringing keen insights and skills to inclusive education (Lawrence, 2019).

A last common phenomenon is difficulty with certain aspects of learning. While many autistic individuals possess impressive rote memory skills, allowing them to recall large amounts of specific information or facts, they may struggle with working memory or processing multiple pieces of information simultaneously. For these reasons, autistic individuals often benefit from visual aids when learning. Using pictures, diagrams, or other visual tools can make information more accessible. They might also find it helpful to model their behaviour after others, engage in hands-on activities, or work with concrete examples. Understanding these learning characteristics can lead to more effective teaching strategies, contributing to improved educational outcomes and a greater sense of inclusion (Hopf et al., 2017).

Employers can promote inclusivity by implementing supportive measures such as **clear communication, structured tasks, and a predictable environment**. In addition, the adoption of remote work, which became increasingly common during the COVID-19

pandemic, can be a beneficial option for many neurodivergent individuals (Mpofu et al., 2019; Szulc, 2022). This approach often appeals to neurodivergent employees because it provides greater **autonomy** (Gajendran et al., 2015) and the **possibility of reducing external distractors and stressors** (J. Szulc et al., 2021; Tomczak, 2022). In a good work environment, neurotypical and neurodivergent employees complement each other, turning workplace neurodiversity into an opportunity for improvement rather than a cost to the organisation (Tomczak and Kulikowski, 2023).

2.2.4.2 Disclosure in the workplace

Challenges faced by autistic individuals in the workplace can stem not only from autism itself, as discussed in the previous section, but also from how others perceive it. Autism is sometimes referred to as an **'invisible disability'** (Santuzzi et al., 2014) because it is not readily apparent to the employer and co-workers. Autistic people face the choice of whether or not to disclose their condition at work. Research indicates that disclosure decisions are influenced by perceived needs for support and accommodations, and anticipated positive or negative outcomes (e.g., stigma, not being hired) (Schwartz et al., 2022). Some autistic individuals are 'camouflaging' their autistic exceptionalities by employing different strategies to cope with their everyday life (Cook et al., 2021). Others prefer not to actively disclose their autism but are willing to share this information if asked directly (Nimante et al., 2023).

Research indicates that many autistic individuals opt not to disclose their autism to their work environment. Firstly, many autistic individuals **do not want to be treated differently**; they wish to be viewed as 'normal' (Nimante et al., 2023). Romualdez et al. (2021) also note that autistic individuals fear that revealing their condition could negatively influence how colleagues and supervisors perceive and interact with them.

People on the spectrum do not want to be judged based on their diagnosis. Many autistic individuals, such as teachers, decide to hide their autism due to **negative stereotypes and discriminatory behaviour** (StEvens, 2022). Autistic teachers often experience mistreatment and discrimination after revealing their diagnosis (Wood and Happe, 2021). This often stems from a lack of understanding about autism or from outdated views on the subject.

Many autistic individuals do not feel there could be any benefits by disclosing their autism to their employer. However, some people had positive experiences after disclosing their autism, suggesting that sharing their diagnosis did not always lead to negative outcomes (Wood and Happe, 2021). It appears that the **working culture and attitudes from co-workers** are important. Also, if the employer has knowledge and understanding about autism, people would feel more at ease disclosing their diagnosis (Nimante et al., 2023).

Finally, many autistic individuals believe that it is more beneficial to explain their specific limitations and the support they need to their employer, rather than just disclosing that they are on the autism spectrum. Since autism varies widely among individuals, merely

disclosing a diagnosis may not provide useful information to employers. It is more valuable for these people to learn how to **effectively communicate their individual challenges** and the accommodations that can help them succeed in the workplace (Nimante et al., 2023).

2.2.5 Autism and the built space

2.2.5.1 The relation between the body and the built space

The built environment has both physical and emotional impacts on people (Franck and Lepori, 2007). Our bodies help us navigate these environments at different scales, using them as a reference point to understand and relate to the world around us (Franck and Lepori, 2007). This process involves interacting with various objects and other people, through which we discover the capabilities and limits of our own bodies (Tackx, 2020). The relation between people and their environment determines the meaning of an environment (Baumers and Heylighen, 2014). A fundamental concept in this approach is affordance, introduced by psychologist Gibson (1979). Affordance refers to what an object offers to a person, both positively and negatively. (Gibson, 1979; Baumers and Heylighen, 2015). It indicates the relationship between people and their environment, considering both functional and emotional aspects (Baumers & Heylighen, 2015; Gaudion et al., 2015). Affordance is about 'what actions the user perceives to be possible' (Norman, 1999; Baumers and Heylighen, 2014). For instance, a door handle affords pulling or pushing, while a staircase affords ascending or descending.

The built environment can enhance human abilities by offering spaces that support and protect our activities, shielding us from external elements (Franck and Lepori, 2007). However, it can also hinder these abilities when it creates barriers or restrictive conditions (Heylighen et al., 2013). Whether an environment is enabling or disabling depends on how people interact with it, reflecting the **dynamic relationship between individuals and their surroundings** (Baumers and Heylighen, 2010; Heylighen et al., 2013).

The environment is experienced through the senses (Franck and Lepori, 2007; Pallasmaa, 2007). The body receives and generates sensory information, allowing us to interpret our surroundings. Traditionally, in line with the Greek perspective, sight was considered the most important of the human senses (Pallasmaa, 2007). However, the contemporary view recognizes that our experience of the built environment involves a rich **combination of senses** (Franck and Lepori, 2007; Pallasmaa, 2007; Ahrentzen and Steele, 2016). The interaction among these senses shapes how we perceive and engage with the spaces we inhabit (Tackx, 2020).

Neurodivergent individuals often **experience the world differently due to variations in sensory processing, perceptual modalities, and more detailed perception** (Robertson and Baron-Cohen, 2017). The way they interpret sensory inputs provides a unique perspective on their environment, which can sometimes be disorienting or even frightening (MCallister and Maguire, 2012). Navigating the complexities of the world can be challenging for them, especially when faced with environments or social expectations designed

primarily for neurotypical individuals. This can lead to misunderstandings, stress, and heightened anxiety (Atsmon et al., 2019). When entering spaces shared with neurotypicals, autistic individuals may feel compelled to adjust their behaviour to fit in (Baumers and Heylighen, 2010; Sinclair, 2010).

The body is not merely a physical entity; it is infused with memories, dreams, and experiences from the past and aspirations for the future (Pallasmaa, 2007). When we interact with places, we are not just engaging with their sensory elements; we are also connecting with our personal history and the emotions linked to them. A place can hold deep meaning because of the memories we associate with it. Consider a home, where the memories of family gatherings, shared meals, and time spent with friends form an emotional tapestry give the place its unique character. These associations affect our **emotional response** to the environment – whether it is comfort, nostalgia, or even unease.

2.2.5.2 Autism-friendly architecture

When designing spaces, architects consider people's needs, their sensory experiences, and everyday activities. Architects draw from their memories and experiences, as well as those of others, to shape their concepts (Franck and Lepori, 2007). They pose questions, observe, and listen to feedback to guide their designs. Although architects design with a specific vision in mind, the **ultimate experience of a space is subjective** and can vary depending on individual perspectives and contexts (Crilly et al., 2008). This means that the way an architect envisions a space may not align perfectly with how users perceive it. To bridge this gap, it is important that architects engage with all stakeholders and consider a wide range of factors during the design process. By doing so, they can create spaces that are meaningful and resonate with a diverse array of users (Franck and Lepori, 2007).

The **inclusive design approach** uses the experience of disabled persons to better understand the varied ways people interact with the built environment (Baumers and Heylighen, 2010). This approach recognizes neurological differences among individuals. The goal of this approach is to create spaces that accommodate the **widest possible range of users**, recognizing the broad spectrum of human differences in terms of physical and mental abilities (Kinnaer et al., 2014; Bianchin and Heylighen, 2018). Initially, inclusive design research focused on physical accessibility and less on sensory difficulties, making it difficult to take autistic people into account (Kinnaer et al., 2016). However, inclusive design has since expanded to address these gaps, aiming to create environments that are truly accessible to all.

In general, the built environment should be designed to be predictable, **consistent, compatible and controllable**, particularly for autistic individuals (Kinnaer et al., 2016). Some autistic people have less developed orientation and navigating skills (Kinnaer et al., 2016). They need elements to orientate themselves within a city or building. The built environment offers them things they can hold on to. This sense of 'grip' is vital, particularly for those who may struggle with body awareness or proprioception. For these individuals, having anchors in the physical world allows them to navigate spaces more confidently and

with less stress (Tackx, 2020; Baumers and Heylighen, 2010). Clear signage in the workplace can help navigate (autistic) individuals.

To address the varied needs of (autistic) individuals Mostafa (2015) proposed the first set of **evidence-based design guidelines** to design autism-friendly architecture. The guidelines are based upon research findings and empirical evidence gathered from studies focusing on the experiences and needs of autistic individuals in the built space. These guidelines could be used to design interiors, buildings, and clusters of buildings (Mostafa, 2021). It is crucial to remember that these are suggestions and might not be necessary or desirable for every autistic person.

The guidelines have seven main principles (Mostafa, 2015):

1. *Acoustics*. Focus on minimizing background noise, echoes, and reverberation to reduce auditory overstimulation. This can be achieved through sound-absorbing materials and thoughtful layout design.
2. *Spatial sequencing*. Design spaces with a logical order that reflects their intended use. This helps create a sense of predictability and reduces confusion, contributing to a more navigable environment.
3. *Escape space*. Incorporate designated areas with neutral sensory input that users can change to their needs. These escape spaces offer a safe retreat for individuals when they feel overwhelmed or overstimulated (Hope, 2022a).
4. *Compartmentalization*. Create a clear and structured environment where each space has a distinct and defined function. This reduces ambiguity and aids in sensory processing by providing clear cues about the purpose of each area.
5. *Transitions*. Design transitional areas that allow individuals to prepare for spaces that might be more stimulating.
6. *Sensory zoning*. Organize spaces based on their sensory characteristics, allowing users to select environments that match their comfort levels.
7. *Safety*. Safety precautions that need to be taken into account depend on the age and life skills of the autistic person. Consider factors like secure exits, safe materials, and other precautions to ensure a safe environment.

If possible in the design process, it is important to listen to the needs and wishes of the individual person for whom the design is meant (Ahrentzen and Steele, 2016). In situations where this is not possible, as many personalisation options as possible should be offered (Tackx, 2020). **Flexibility and personalization** remain key to achieving an inclusive and supportive environment.

Despite the limited research on the role of built workplace in the well-being of autistic individuals, some studies propose **several design features** to address or mitigate the challenges they face. These studies are conducted in office settings. As noted by Mostafa (2015) in the first guideline, disruptive sounds are a common challenge. Therefore, the use of soft or carpeted flooring instead of stone or laminated flooring is advised (National Autistic Society, 2024). Sound-absorbing materials are also effective in reducing noise

levels. Another way to reduce noise is to place photocopiers, printers, and coffee machines in a separate area, away from quiet working spaces. For employees with hyper-visual sensitivity, painting office walls in low-arousal colours, such as cream and pastel shades, is preferable (Gaines et al., 2016). Regarding lighting, maximizing natural light, minimizing fluorescent lighting, and providing adjustable lighting options to control brightness are recommended (Grandin, 2009). Overall, having control over stimuli is considered important in the workplace (Weber et al., 2022). It is important to note that certain physical qualities (e.g., sound, light) receive more attention in studies of the built workplace and well-being, as mentioned in the previous chapter.

Additionally, Mostafa's (2015) third guideline suggests the importance of an escape space. Some studies indicate that it is beneficial for organizations to have a room where individuals with overstimulated senses can retreat to calm down (Simpson, 2016). Alternatively, or in addition, a garden can serve as a place of retreat (Gaines et al., 2016).

2.2.6 Models of disability

The recognition of autism as a neurological difference was a significant step forward for the autism community. However, some autistic people themselves express that their condition contributes to their suffering (Hens, 2021). People on the spectrum can experience sensory sensitivity and processing issues. Neurotypical people sometimes find things noisy, smelly or visually off-putting. However, such experiences do not have a major impact on neurotypical people’s lives. While they may be unpleasant, they generally do not impair their overall well-being or ability to function to the extent that they cause harm (Feinberg, 1988). However for neurodivergent people, these challenges can significantly hinder their daily functioning, such as in the workplace, and can in this way, disable them. Consequently, **some autistic people identify as disabled** due to these difficulties. Therefore I take a look at different ways of looking at disability. However, it is important to note that autism is not inherently equivalent to a disability, as many still believe.

Table 2 shows different models of disability, i.e. **different ways in which society views disability**. While the Religious Model is not so widespread, the Medical Model is prominent in the Western World, the Social Model reacts to the Medical Model and the more recent Cultural Model unites the Medical and Social Model.

It is noteworthy to understand that the models are simplified representations of reality. People's understanding of disability often shows aspects of multiple models. In each model the word disability seems to be understood differently. Each model serves a unique purpose and seeks to answer specific questions. In modern society, it is not uncommon to witness the coexistence of all four models or parts of their theory concepts (Van Doren, 2010).

Model dimensions	**Religious Model**	**Medical Model**	**Social Model**	**Cultural Model**
Roots	God(s)	Natural World	Social Structure	Human Thought
Localization	Evil force(s)	Individual	Society	Representations
Problem level	Punishment or gift	Measurable defect	Interaction pattern	Identity
Explanation	Cosmology	Natural Sciences	Social Sciences	Humanities
Quality of Life	Marginal, Exceptional	Diminished	Being-in-the-world	Transformational
Approach	Existential ('Why?')	Technical ('How?')	Justice	Critique

Table 2. Models of disability (Devlieger et al. 2007, p. 15)

2.2.6.1 The Moral and/or Religious Model: disability as an act of God

The foundation of the Moral and/or Religious Model rests on its attempt to address existential questions as 'why did this happen to me?' (Van Doren, 2010). Within this framework disability is interpreted as a **punishment from God or a higher power** in response to specific sins committed by the person with the disability. Moreover, not only the individual's sin is regarded as the cause of their disability, but also those committed by their parents and/or ancestors (Retief and Letšosa, 2018). Consequently, disability can become entangled with stigma, shame, and blame, particularly when it is perceived as a symbol of moral wrongdoing (Olkin, 2022).

Alternatively, disability can also be viewed as a symbol of honour, faith or strength. For instance, people may believe they (or their family member) were selected to have a disability due to God's faith in them (Olkin, 2022). Furthermore, when one sense is impaired, individuals often focus more on their other senses, which can give them, 'special abilities to perceive, reflect, transcend, be spiritual' (Olkin, 1999).

While the Moral and/or Religious Model of disability is no longer as prevalent in the Western world as it was in the premodern times, its fundamental philosophy continues to influence how people perceive illness or disability (Henderson and Bryan, 2011). Furthermore, in certain cultures, particularly those where traditional beliefs hold strong, this model remains the prevailing perspective on disability (Retief and Letšosa, 2018).

2.2.6.2 The Medical Model: disability as a disease

Since the mid-1800s, the Medical Model has emerged as the prominent paradigm in the Western World in consequence of advances in the field of medical science (Retief and Letšosa, 2018). Within this framework disability is seen as a **medical problem that resides in the individual** (Olkin, 1999). Furthermore, responsibility for the disability tends to be attributed solely to the individual rather than society (Figure 7). The Medical Model tends to regard the person with disability as the one who needs change or correction, rather than

considering the environmental factors that may contribute to the disability (Kasser and Lytle, 2005:11).

This traditional perception of disability is dominated by a medical narrative (Heylighen, 2012). Any malfunction or impairment of a bodily system as such is considered inherently abnormal and pathological (Olkin, 1999, p.29), necessitating treatment or cure to restore 'normalcy' (Landman et al., 2005). 'Professionals' with specialized training are deemed the authorities on disability and individuals with disabilities are expected to adhere to the guidance of these 'professionals' (Olkin, 2022).

This model fundamentally characterizes disability in a **negative light** (Thomas and Woods, 2003), emphasizing what a person is unable to do (Van Doren, 2010). Such an approach reinforces the perception that people with disabilities are incomparable to their able-bodied counterparts (Retief and Letšosa, 2018). The model often overlooks broader social, cultural, or environmental factors that significantly impact the lives of people with disabilities. Consequently, many individuals with disabilities do not endorse this model. They perceive the Medical Model as the source of strained relationships with their families, communities, and society at large (Van Doren, 2010).

2.2.6.3 The Social Model: disability as a socially constructed phenomenon

The Social Model emerged as a response to the limitation of the Medical Model of disability inspired by the activism of the British and American disability movement in the 1960s and the 1970s (Voitkāne, 2017). This paradigm states that physical or cognitive impairments themselves are neutral, they become a disability because of **society's lack of support**, resulting in a mismatch between the disabled person and the environment (both physical and social)(Figure 7). In an ideal world, impairments would not lead to disabilities (Hens, 2021). The problem shifts from individual deficits to the **societal and environmental barriers** that create exclusion. The way to approach disability is to change the environment and society, rather than curing or treating people with disabilities as advocated by the medical model (Olkin, 2022).

Figure 7. Medical vs Social Model of disability (Love disabled life, 2017)

The Fundamental Principles of Disability, authored by the Union of the Physically Impaired against Segregation's (UPIAS) in 1975, is one of the most important documents in the development of the Social Model of disability. Within this manifesto, the UPIAS articulates essential concepts through a series of dichotomies that underpin their understanding of disability and its societal implications.

Firstly, the Social Model distinguishes between disability, characterized by social exclusion, and impairment, denoting physical limitation. The former is structural and public, the latter is individual and private. The manifesto underscores the imperative of acknowledging impairment while striving to eliminate disability, prioritizing societal changes over individual adaptations (Shakespeare, 2010).

A clear distinction is drawn between disabled individuals and non-disabled people. Disability is a socially constructed disadvantage, systematically imposed on individuals with disabilities, consulting *'a particular form of social oppression'* (UPIAS, 1975). Therefore disabled people are an **oppressed group** within society. Furthermore, the Social Model acknowledges that non-disabled individuals and organisations, including professionals and charities, often play a role as either direct causes or contributors to this oppression (Shakespeare, 2010).

While the Medical Model often draws criticism from individuals with disabilities, the Social Model is truly appreciated and is considered as an immense advancement in disability studies. Politically, it has played a pivotal role in fostering the disabled people's social movement because it is easily explained and understood. Secondly, by identifying and advocating the removal of social barriers, the social model has been effective instrumentally in the liberation of disabled individuals. The moral responsibility lies in society to remove the burdens which have been imposed, thereby enabling disabled people to actively participate. Moreover, psychologically, the social model enhanced the feeling of self-worth of disabled people and fostered a positive sense of collective identity (Davis, 2013).

While many in the disability community regard the insights of the Social Model liberating, the model also faced some criticism. Firstly, it has been accused of ignoring the often challenging realities of impairment and neglecting the significance of impairment of many disabled people's lives. The Social Model's strong rejection of individual and medical perspectives risks implying that impairments are not problematic (Davis, 2013). Whereas 'disabled people are also people with impairments and to pretend otherwise, is to **ignore a major part of their biographies** (Giddens, 2006).

Another criticism revolves around the concept of **barrier-free utopia** envisions an enabling environment where all socially imposed barriers are removed. While advocating for the removal of social barriers is crucial, the Social Model sometimes sets unrealistic expectations for societal change. Additionally, accommodations may prove incompatible

because people with different impairments require varied solutions, and even those with similar impairments may require different solutions (Shakespeare, 2010).

General examples of the Social Model are mostly focused on physical and sensory impairments due to their relatively straightforward accommodations. But now the question arises: what would a barrier-free utopia mean for autistic individuals? Maybe one autistic individual may find social contact difficult to cope with: a barrier-free utopia might entail a space where they are not required to engage in, communicate with, or interpret others. However, it is important to recognize that addressing the needs of autistic individuals extends beyond physical accommodations; it requires understanding and accommodating their unique social and sensory needs (Shakespeare, 2010).

In light of these complexities, the concept of **addressing special needs** may appear more coherent than the ideal of a barrier-free utopia. By focusing on individualized support and accommodations tailored to specific disabilities, including autism, society can work towards greater inclusivity and accessibility for all individuals, acknowledging and respecting their diverse needs and experiences (Shakespeare, 2010).

2.2.6.4 The Cultural Model: disability as culture

While not universally acknowledged and still not as renowned as the Medical and Social Models, the theory of the Cultural Model is gaining increasing acceptance within the disability community (Van Doren, 2010). The Cultural Model was defined by McDermott and Varenne (1995) and Devlieger et al., (2007). The Medical Model and the Social Model each focus on only one factor in their approach to disability (Retief and Letšosa, 2018), with the former focusing on individual deficits and the latter on societal and environmental barriers. The Cultural Model consequently **integrates the essence of the two previous models** without disregarding their distinct approaches. It expands on them by examining **disabilities through the lens of various cultural factors** (Retief and Letšosa, 2018). The shift towards this new paradigm does not entail forsaking the preceding ones (Twardowski, 2022). This model does not ignore the potentially challenging circumstances that can arise from having a disability. For instance, in the context of autism, the Cultural Model acknowledges that autistic people may perceive and think differently and examines this within the broader cultural framework. Accordingly, the cultural approach does not rigidly define disability but rather explores how different interpretations of disability and non-disability function within specific cultural contexts (Retief and Letšosa, 2018).

People perceive reality through the lens of their culture and the experience shaped by it (Berger and Luckmann, 2018). What one believes to exist or not is determined by the beliefs they have acquired in their relationship with members of their culture. It became even clearer to me that culture is deeply ingrained in everyone when I listened to a podcast about a 21-year-old boy who lost his memory but could still speak and function normally (van der Erve, 2024). However, there were certain behaviours he had not learned because he had forgotten the past years of his life. For instance, he often invaded others' *personal space* because he had not unconsciously absorbed this social norm. He also spontaneously

approached people with odd questions, and his friends had to teach him that this could be inappropriate at times. These are situations that are self-evident to most of us, requiring no conscious thought. This example illustrates how culture permeates every small action and thought, often without our awareness.

Consequently, the perception of the world is inherently subjective, and social reality is continually shaped through interpretation (Twardowski, 2022). This interferes with what Devlieger (2005) states: 'disability is defined and reflected by culture'. McDermott and Varenne (1995) further claim that disabilities are culturally constructed concepts, which can possibly develop into a critique on the same culture. Furthermore, disability may not only be understood differently in different cultures but also differently by members of the same culture (Twardowski, 2022).

Undoubtedly, analysing and addressing disability-related issues, taking into account the cultural perspective, requires the participation of experts from **multiple disciplines** within the social sciences and humanities (Twardowski, 2022). Additionally, architectural studies play a crucial role in this endeavour. The recognition that disabled people can point out qualities and obstacles of a building is recently growing (Heylighen et al., 2009). The Cultural Model emphasizes the unrevealed potential of disabled people to 'question usual practices and frames of reference of society' (Heylighen et al., 2010). In line with this model, this thesis aims to explore the experiences of autistic teachers within the context of the school environment and seeks to gain insights from their perspectives. They can inform us about the school culture, highlighting both obstacles and qualities – environmental, social, and organisational – that are often overlooked.

2.2.7 The disability paradox

In this part I take a closer look at the relation between disability and well-being. The relationship of disability to well-being depends on how disability and well-being are understood (Bickenbach et al., 2015). In many Western societies, there is a prevailing assumption that disability is obviously negative with respect to well-being. This perspective often stems from viewing disability through the lens of the Medical Model, which perceives it as an individual deficit necessitating treatment. Consequently, disabled individuals' quality of life is frequently compared to that of life of able-bodied individuals. However, many theorists and disability rights advocated have argued that this assumption is indefensible – asserting that disability is, in fact, neutral regarding well-being (Shepherd, 2018). Elizabeth Barnes (2016) argues that much of the negativity associated with disability 'arises from society's treatment of disabled individuals, rather than the disability itself' (p.69-70).

Albrecht and Devlieger (1999) explore in their research the concept of 'The Disability Paradox' through semi-structured interviews with disabled people. This paradox arises from the phenomenon where **many individuals with severe and enduring disabilities**

report experiencing a good or high quality of life, despite external perceptions suggesting otherwise.

The disability paradox highlights 'the importance of personal experience with disability in defining the self, one's view of the world, social context and social relationships' (Albrecht and Devlieger, 1999). Albrecht and Devlieger (1999) argue that quality of life should not only be about basic daily tasks or medical labels. Instead, they believe it should include social, emotional, and spiritual aspects too. A transition is needed from the conventional notion of what constitutes a fulfilling life, **moving away from the 'neurotypical' standard** (Hens, 2021). Additionally, participants noted that acts of altruism and giving to others positively contributed to their own sense of well-being.

The idea of 'The Disability Paradox' can be extended to the workplace. Neurotypical individuals may find certain aspects of their job important and fulfilling, but this does not necessarily hold true for autistic individuals. Autistic people may have different perspectives on goals and work methods. For example, in the teaching profession, it is commonly expected that teachers value their connections with students the most. However, autistic teachers might prioritize other aspects of their job. This difference does not imply that they are disabled in their profession; rather, they **value different aspects** of the job and can therefore also experience a high quality of life.

2.2.8 Concluding thoughts

This chapter provided an overview of autism, highlighting the most common challenges, strengths, and personality traits associated with autistic individuals. Over the past century, the perception of autism has evolved from being seen as a disorder, consistent with the Medical Model of disability, to being recognized as a natural form of human diversity. In the chapters *Findings* and *Discussion and conclusion*, I examine how the participants' experiences align with, contradict, or complement the existing literature on autism in relation to the built environment, workplace, and educational settings.

The interpretation of disabilities can vary widely, with some models reducing individuals to medical conditions or others to results of societal oppression. To truly understand what disability is, we should not limit ourselves to one model. Instead we should 'think of these models together to grasp the complexity of the phenomenon' (Hens, 2021).

The Social Model represents a significant advancement in disability studies by shifting the focus from the individual to the societal and environmental barriers. In this research, I adopt this approach by identifying these barriers and seeking improvements. However, envisioning a perfect world without any disabilities might inadvertently diminish the uniqueness of individual identities. In such a world, autistic individuals would not need to disclose their diagnosis, and no one would know they have autism. While some may find this ideal, many autistic individuals view autism as integral to their identity and do not wish to ignore it. This aligns with the Cultural Model, which **embraces differences** within a broader cultural context. This research also builds upon the Cultural Model, emphasizing

that individual differences can help to identify both obstacles and positive elements in the (school) environment.

The Disability Paradox explained that quality of life must be viewed through the lens of the individuals themselves. Quality of life depends on an individual's own perceived goals and ideas of fulfilment. Therefore, it is important to acknowledge **first-person perspectives** and rejecting the notion that disability inherently equates to diminished well-being. We must challenge the conventional association between being 'typical' or 'normal' and well-being, recognizing that fostering a culture of acceptance for atypical experiences can lead to substantial progress (Hens, 2021). Ultimately, it is imperative to recognize that **differences are not better or worse**.

Chapter 3: Methodology

3.1 Introduction

To address the research question, I conducted qualitative research with autistic teachers. I used qualitative data to gain a deeper understanding of the participants' insights and experiences regarding how the built workplace relates to their well-being. This approach allows the participants to share their experiences in their own words and highlights what matters most to them. Qualitative research is valuable because it can capture emotional and personal characteristics, as well as lived experiences (Francis et al., 2009; Gaudion et al., 2015). It is noteworthy to mention that the **literature study and the fieldwork happened in parallel** in this study.

The aforementioned concepts and theories served as the framework for the following parts of the research. They provided a structured approach for comprehending the workplaces, meaning the school and home spaces of the participants in relation to their well-being. In addition to the knowledge gained by these theories and concepts, I also **listened to participants' views about their well-being**. A similar approach was taken by Fattore et al. (2009), who investigated the well-being of children by asking the children themselves what well-being meant to them. The children's perspectives validated and confirmed existing measures of well-being while also extending and challenging these understandings by giving new meaning to existing issues and drawing attention to previously overlooked areas.

3.2 Semi-structured interviews

I gained a deeper understanding of the experiences of autistic teachers through interviews. These interviews were semi-structured, meaning that I crafted a list of questions as a guide, but the interaction did not strictly follow a question-and-answer format. I prioritized the natural flow of conversation over rigid preparation, adopting a creative approach to communication and interaction. The *Handboek kwalitatieve onderzoeksmethoden* helped me gain an understanding of different types of interviews, their content, and various interview techniques (Mortelmans, 2015).

People often struggle to articulate how the built environment impacts their daily experiences due to various factors, such as limited conversational skills, a lack of vocabulary regarding spatial concepts and the inherent complexity of the experience (Annemans et al., 2012). To address these challenges, I incorporated **two additional exercises during the interviews**: a photo-exercise and a walk-along. These techniques help people document their experiences. They serve the dual purpose of allowing participants to document their experiences effectively and uncovering overlooked topics. Integrating the photo exercise and walk-along alongside the interview process allows collecting comprehensive and reliable data on participants' experiences (Tackx, 2020).

The complete list of questions (in Dutch) can be found in the appendix under *Semi structured interview guide*. Prior to the interview, I provided the participants with a selection of questions, so that they knew what to expect. The interview on the basis of a photo-exercise consisted of the following types of questions:

1) Opening questions about professional background and experience as a teacher, job description, daily routine, openness about the diagnosis of autism, etc.
2) Introductory questions to move to the subject of the photograph.
3) Transition questions along with key questions to get a deeper understanding of their (spatial) experiences in the workplace related to their well-being.
4) Concluding questions to summarize important aspects of the interview and the opportunity for the respondent to share additional information that may be relevant to the study.

The interviews took place in the participants' workplaces; at school, at home or online. All communication with the participants occurred in Dutch, which is both their native language and mine. This ensured that the participants' and mine proficiency in English did not affect the data. I conducted the interviews over a period starting from March 13, 2024, until April 17, 2024. The interviews averaged 1,5 to 2 hours and were audio recorded using my personal device with the participants' consent. Additionally, I took notes during the interviews.

At the outset of each interview, I repeated the purpose of the research. I informed the participants that the focus of the study was the built workplace, but that they were encouraged to freely discuss any related topics, such as social and organisational aspects. I assured the participants that they could decline to answer any questions at any point during the interview.

3.2.1 Disclosure

A crucial aspect of using a certain method during the semi-structured interviews involves whether participants have disclosed their autism diagnosis within their school environment. Many teachers opt to conceal their autism due to prevailing negative stereotypes (StEvens, 2022). In case of non-disclosure, I adapted the research approach to

the preference of the participants to protect their privacy. Throughout the research, I **prioritized the preferences of the participant**. For instance, one participant preferred an online interview due to sound overstimulation and non-disclosure to the school environment.

It is essential to underscore that the absence of disclosure does not diminish the value of research involving such participants. On the contrary, it provides valuable insights into understanding why participants feel or act in certain ways. Individuals who choose not to disclose their diagnosis still make a significant and valuable contribution to understanding their workplace experiences. By exploring questions such as why they opt not to disclose and how this decision influences their experiences in the workplace, I gained deeper insights into the complexities of their professional lives.

3.2.2 Photo-exercise

I asked the participants to take up to five photographs of their workplace, highlighting significant aspects that could encompass both positive and negative elements. I gave them the liberty to define their workplace, whether it be a desk in the classroom or their dining table at home. Indicating an average number of pictures while leaving the choice of the content of the photographs to the participants provides a **good balance between freedom and guidance**. The photo-exercise serves to bring particular topics and the participants' own voice to the interview (Jellema et al., 2018). It enables the researcher to explore which spaces are considered significant by the participants. Additionally, utilizing photographs during the interviews provides insight into what is visible and invisible within the images, how this is made (in)visible, and why (Radley, 2010; Annemans et al., 2012).

During the interview session, the participants and I engaged in discussions centred around these photographs, which served as the foundational elements for our conversations. The combination of both photograph and narrative illustrates the multi-layered nature of photographic explanations (Warren, 2002; Annemans et al., 2012). The combination of photographs and accompanying narratives has the potential to prevent an overemphasis on the visual aspect alone. Instead, it enables the visualization of sensory stimuli such as sound and smell, as well as the events and feelings within a specific setting (Tackx, 2020). This approach allows for a more comprehensive understanding of the participant's experiences, beyond what is immediately visible in the photographs.

3.2.3 Walk-along

In addition to the semi-structured interviews and photo-exercise, I conducted a walk-along with some participants. When a participant had not disclosed their autism in the workplace, I excluded the walk-along. This involved a walking tour through their workplace, during which participants, who were the 'tour guides', shared insights into their preferences and dislikes (Babapour Chafi and Cobaleda-Cordero, 2022). I asked additional questions during the walk-along, either from the prepared set of questions or something that came

into my mind. A walk-along gives the opportunity to observe 'how the physical, social, and mental dimensions of place and space interact within and across time for individuals' (Carpiano, 2009).

A walk-along has the advantage of **intuitiveness**, as guiding people around and discussing surroundings naturally prompts conversation. Most individuals are adept at talking, pointing, and expressing opinions about their immediate environment without much guidance (Tackx, 2020). This approach enables researchers to inquire about participants' personal experiences while also exploring their perceptions of how others might experience the same environment (Jellema et al., 2020).

During the tour, the information shared is directly linked to specific locations. It was essential to take notes and reference spatial locations while recording to ensure that the relevant information was accurately attributed to the corresponding places (Carpiano, 2009).

3.3 Participants and workplaces

3.3.1 Introduction of the participants

The participants in this research are autistic individuals who have either worked or currently work as teachers in Flanders, spanning across primary schools, secondary schools, and university colleges. A total of four participants were engaged in this part of the research and I examined the differences and similarities across participants. To safeguard their privacy, pseudonyms are used for some participants.

This research encompasses all the school spaces mentioned by the participants including the teachers' room, corridors, (the desk in) a classroom, the cafeteria, etc., and their interconnections. Additionally, the research considers spaces at the participants' homes as potential workplaces, as they prepare and complete a portion of their work there. This can range from the kitchen table to secluded rooms in the house.

3.3.1.1 Bart: teaching in two high schools

Bart (pseudonym) works at two secondary schools in Flanders and has been in the teaching profession for fourteen years. During the first twenty years of his career, he worked in informatics, a role he felt was 'well-suited' to his autism. Encouraged by his wife, he transitioned to education.

The interview was conducted on a Wednesday, as on other days Bart is more exhausted due to overstimulation. The interview took place online via *Microsoft Teams,* as Bart preferred it this way. His school is unaware of his autism diagnosis and he absolutely wants to keep it that way. Additionally, he mentioned the challenge of finding an available empty room for more than an hour at both schools where he teaches. Another reason for the online format is his **extreme sensitivity to sound**. More precisely he cannot filter background

noise that others may barely notice, which made my suggestion for a quiet coffee bar also irrelevant. An online interview from his desk at home, where he lives together with his wife, put Bart at ease.

He sent me the photographs for the photo-exercise during the interview.

3.3.1.2 Sophie: after-school tutoring at her home

Sophie (pseudonym) has worked two and a half years in primary and secondary schools in Flanders before transitioning to a job at the airport. She found that the airport job suited her better, but after ten to fifteen years, the physical and mental demands led to burnout. During this period, she felt a calling to help autistic pupils and came with the idea of offering post-tutoring sessions at her home. With this vision in mind, she purchased her current house where she lives alone. Driven by her desire to work with autistic individuals, she **recognizes her skills for that and considers it her strength**. Parents choose her services for this reason, acknowledging her ability to care for the needs of autistic individuals. The pupils range from toddlers to students who are making their thesis.

The interview took place at Sophie's home. She did not send me photographs in advance; instead, she guided me around her house and private practice during the interview. We decided together what aspects were worth photographing and collaborated on how to capture the photographs.

3.3.1.3 Sabine: teaching in a high school

Sabine is a secondary school teacher of French and economics. She started in 1991 in the education practice where she has held various roles within the school over the years. Her home is situated close to the school where she has spent the majority of her career. Sabine's house has undergone two renovations, carefully considering both her own and her children's spatial preferences, as they also have autism.

Sabine is currently at home **dealing with a burnout**, partly due to overstimulation at work. She received an additional diagnosis of ADHD in October 2023

I received the photographs she took a few days prior to our meeting. Although I looked at them quickly, I decided not to think about specific questions about these pictures, aiming to maintain consistency with my approach in the other interviews. During the interview, we did not look at the photographs, as I received rich information from the walk-along through her home and school.

3.3.1.4 Emma: teaching in adult education

Emma does not have an official diagnosis of autism, but both she and her psychologist recognize traits consistent with autism. A psychiatrist conducted a limited testing, which suggested she has – in her own words – 'a mild form of autism'.

Emma holds a master's degree in psychology, but transitioned to teaching in adult education two years ago. Teaching in adult education instead of primary or secondary

schools was a conscious choice, because she thinks primary and secondary education would be too overwhelming for her. She works four out of six days so that she has time to follow a teacher training course. Apart from the teaching profession, she also works one day a week in a coffee bar in Leuven. She prefers this combination of jobs, because the teaching job can also be tiring for her.

The interview with photo-exercise was conducted at her home. She did not send me the photographs in advance.

3.3.2 Finding and informing the participants

I distributed an invitation email to potential participants through the network of my supervisors, Ann Heylighen and Andrea Jelić. Both my supervisors and I were delighted to receive several interests from participants in a relatively short period, underscoring the **undeniable relevance of this research**.

The email contained following topics:

- Why this research needs their participation: the lack of experiences of adults in school design research, especially autistic teachers.
- A brief summary of what the research is about: the role of the built workplace in well-being by learning from the experiences of autistic teachers.
- What is expected from them: a photo-exercise, an interview and optionally a walk-along.

Participants later received the informed consent form via email which provided additional details about the research' content and methodology, highlighted the significance of their participation, outlined the confidentiality measures for their information, and indicated where they could ask questions. The form was written in Dutch, since all the participants were Dutch-speaking.

3.4 Qualitative data analysis

The qualitative data analysis primarily relied on the *Qualitative Analysis Guide of Leuven* (QUAGOL). QUAGOL serves as a framework to facilitate the qualitative data analysis process, encouraging the researcher's intuition and creativity as optimal as possible. The process of analysis immediately starts after the first interview has been conducted and continues until the point of data saturation has been reached (Dierckx de Casterle et al., 2012).

The process of analysis consists of two phases (Dierckx de Casterle et al., 2012):

(1) A comprehensive preparation for the coding process, involving solely manual methods with paper and pencil. This part is crucial to prepare the framework for the actual coding.

(2) The actual coding process using a qualitative software program.

Both phases consist of five stages (Figure 8). I followed all the stages of the first phase, but deviated from stage seven and did not use a qualitative software program. The method is characterized by iterative processes, delving deeper and continuously moving between the various stages (Froggatt, 2001). By employing both within-case and across-case analysis techniques, the study produces contextually grounded findings (Dierckx de Casterle et al., 2012).

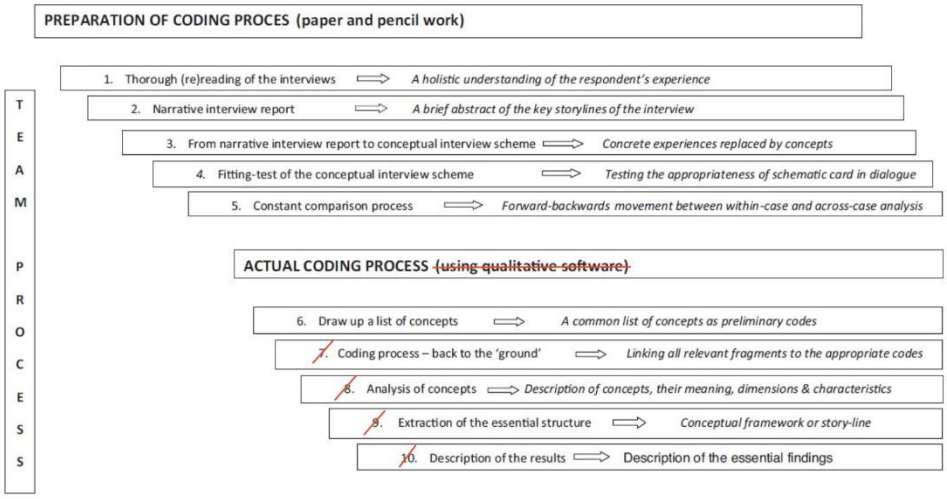

Figure 8. Stages of the Qualitative Analysis Guide of Leuven (QUAGOL)(Dierckx de Casterle et al., 2012)

According to the QUAGOL guide, coding is ideally a collaborative effort among a team of researchers. In this study, the assistance and expertise of my two supervisors were very helpful. After each interview, I transcribed the data verbatim and initiated the initial phase of analysis. The analysis process proceeded concurrently with the fieldwork.

The first stage involves thorough (re)reading of the transcribed interviews in order to establish familiarity with the data and getting a sense of the interview as a whole. I read the interview several times; highlighted key phrases and wrote down thoughts in the margins of the printed interviews. At the end of this stage, I attained a holistic understanding of the participant's experience.

In the second stage, I drafted a content report. After rereading the interview and highlighting key words, I put the interview aside. I tried to capture the essence of the interviewee's story in response to the research question in approximately one to two pages. This stage results in a brief abstract outlining the key storylines and providing a summary impression of the characteristics of the interview.

After three interviews, I selected one interview that appeared to provide the most 'rich' information. Both my supervisor and I simultaneously conducted stages one and two of this interview to have a reference how it is usually done and to see if the aspects she considered important were aligning with mine, and in this way, aiming to improve the quality of the data.

The third stage involves developing a conceptual interview scheme which provides concepts that appear relevant to gain insight into the research topic. I elevated the information conveyed during the interviews, as well as the insights described in the interview narratives, to a more abstract and conceptual level. I replaced specific experiences by concepts and for each individual interview I placed these concepts in a topic list.

The fourth stage is a fitting test of the conceptual interview schemes; involving a **forward-backward movement**. I verified the appropriateness of these schemes through iterative dialogue with the interview data. I revisited the interviews with the conceptual interview schemes in mind, allowing for adjustments to the topic lists to better align with the interview data.

The fifth stage involves a constant comparison process, characterized by a forward-backward movement between within-case and across-case analysis. This approach facilitates the identification of common themes, concepts and hypotheses (Swanson-Kauffman and Schonwald, 1988). I further tested and refined the concepts of the conceptual interview schemes through comparison both with the schemes and data from other interviews. I compared the topic lists of newly analysed interviews with the previous ones and added new concepts. By comparing the topic lists of newly analysed interviews with those from previous analyses, I identified and incorporated new concepts.

The sixth stage involves drawing up a list of concepts without imposing a hierarchical order. These concepts are not yet associated with specific interview data.

3.4.1 Structuring and presenting the insights

Until the sixth stage, I followed the way QUAGOL suggests it. I then attempted to organize all the concepts from this list into a sort of diagram to see which elements belonged together and which elements showed clear connections with each other (Figure 9).

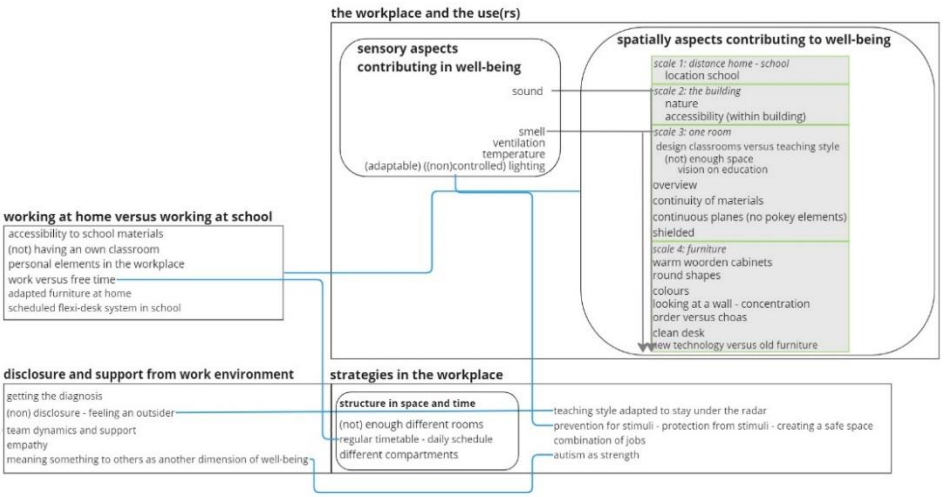

Figure 9. Diagram of the list of concepts

After making this diagram, I thought about how to structure these concepts. I structured them into **two main themes**, where the **strategies** in the workplace and **disclosure** to the work environment play an important role.

1. For all the participants I compared the workplaces at home and at school.
2. In the second theme I looked at the building in itself compared to the use of the building by people and the school system rules.

For each participant I wrote their challenges and anchors in the workplace with these themes as a structure, this can be found in the chapter *Findings*. I always kept the concept list of each interview in mind to assure I covered all the topics.

Furthermore, to **help me structure and present the insights** gained from the interviews, I used the subdivision of facets of user experience by Van der Linden et al. (2019). These facets of user experience, centred around three key questions (Figure 10), helped to organize the demands and resources of the participants.

After gaining an understanding of the work experiences of each participant, I searched for similarities and differences across the participants. I examined how the main research question could be answered in terms of these findings with the theories and concept of the literature study in mind. This can be found in the chapter *Discussion and conclusion*.

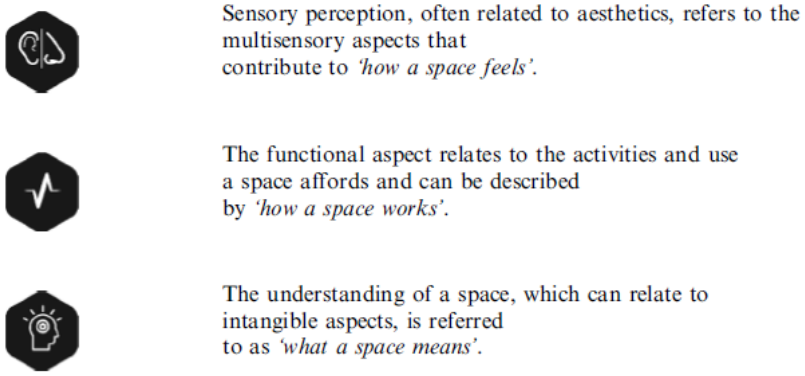

Figure 10. The facets of user experience (Van der Linden et al., 2019)

3.4.2 Member checking with the participants

I shared the chapters containing the participants' work experiences with them as a member check to **assure accuracy and resonance with their experiences** (Birt et al., 2016). This increased the credibility of the findings. I informed them that I would send them these parts on a specific date, ten days before the deadline of this master's thesis. They would then have five days to communicate any concerns or request adjustments.

Since three out of the four participants preferred to remain anonymous in this research, I additionally sought their final consent regarding photo-use and personal information in the chapters containing their personal experiences.

3.4.3 Reflection presentation with another autistic teacher

I presented the insights gained through the semi-structured interviews with the four participants to another autistic teacher, Eleonora, who was also willing to participate in this research. She has worked for ten years in primary education and three years as a supporter. Currently, she is a lecturer at the university of applied sciences. Due to organisational reasons, conducting an interview proved too difficult for both her and me. Instead, I proposed an alternative approach: delivering an online presentation of the findings from the other participants, allowing Eleonora to comment or add things based on her work experiences. I consider this as a **valuable reflection** on the conducted research – it serves as a verification of the insights gained and **adds additional elements**. I presented her these preliminary findings on May 22, 2024. Eleonora also received the possibility to comment on the parts I wrote about her.

Chapter 4: Findings

4.1 Introduction

This chapter presents narrative descriptions of each participant, supported by pictures and personal quotes. As mentioned in the previous chapter, these findings are structured around two themes: the school versus home workplaces and the building versus its use and users. In addition to these themes, I included **other remarkable insights** and concepts to capture the entirety of their work experiences. These narratives serve as the basis for the discussion in the next chapter.

4.2 Bart: teaching in two secondary schools

4.2.1 Workplaces at school versus at home

When comparing Bart's workplaces at school and his workplace at home, he clearly prefers his desk at home. A key reason for this is his **hypersensitivity to sound**. At his desk at home, he can work in absolute silence, as he keeps his window shut to block out even the softest sounds, like birds chirping or leaves rustling. Although Bart owns a pair of earplugs to protect him from sounds, he rarely uses them because they block out sound too well, and he is concerned about becoming too reliant on them.

Additionally, Bart enjoys the view on the trees and the canal of the quiet area around the house. Furthermore, he and his wife do not get in each other's way when they are both working at home, because their house is well arranged.

Bart has personalised his home office with warm wooden cabinets, books, and various items that bring him joy (Figure 11). He pointed out a globe in the background, an item he saved up for when he was younger, and a small bear on his desk, a gift from his wife on the day of his PhD defence. These elements create an inviting environment where he can work comfortably and stay focused.

'It is only a silly bear in itself, but it means a lot to me. Those little things that make your environment.' – Bart

Figure 11. Bart's desk at home with warm wooden cabinets, books, and personal elements holding memories

Bart teaches three different subjects across two secondary schools. His primary subject is religion, but this year he also teaches history to a few classes and a course on the philosophy of science. Students generally do not have many difficulties with these subjects. As a result, parents have never requested a parent-teacher meeting or even sent an email with questions. Bart sees it as an advantage that he does not have to engage in such communication with parents.

Teaching these courses, Bart has to **switch classrooms** every hour. He does not really appreciate the classrooms where he teaches. One of the major concerns is the **lack of soundproofing** in the school building, such as missing curtains in classrooms and corridors. The walls between classrooms are made of thin materials like gypsum board, allowing noise to travel easily and disrupting his teaching. Additionally, the cheap linoleum flooring of the classrooms has an unpleasant smell that bothers him. The classes are often too small, causing students to feel cramped, leading to restlessness and distractions. The old and small tables in the classrooms also hinder Bart from allowing his students to use laptops during his classes (Figure 12).

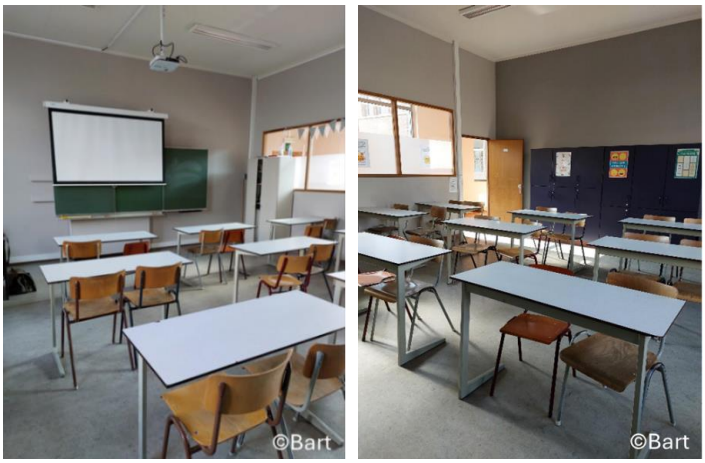

Figure 12. Different classrooms Bart

The absence of an own classroom significantly impacts Bart's work experience. Bart sometimes has free hours between classes, during which he could theoretically do some school work such as correcting tasks and tests or preparing other classes. However because it is not his desk and/or classroom, he does not consider these classrooms as a place for such work. Consequently, the free hours between courses are literally empty hours. This way he loses a lot of time he could gain at home. Bart believes that having his own classroom would make a big difference. If students came to his own classroom instead of him moving around, he could create a more comfortable and personal environment, similar to his home desk. He could set up his workspace with books, warm wooden cabinets, and personal touches. This would not only improve his teaching environment but also allow him to **use his free periods more efficiently**, gaining valuable time at home to rest and unwind.

'I don't consider that [workplace] my class, nor my desk. [...] I really make the association that this is not a place to work, so I don't do that either.' – Bart

4.2.2 Strategies to stay under the radar

Bart has identified some advantages in his current teaching profession compared to his previous job in informatics. He appreciates the structured timetable, which provides **clear boundaries for his workday**. He finds it comforting to know exactly when a class starts and ends, and when his workday begins and ends. Moreover, he teaches three to five hours a day, which makes it manageable for him even though he is sometimes overstimulated. He also appreciates having sufficient holidays and moments to rest.

Another aspect he values is that **people do not typically expect individuals with autism to work in education**, allowing him to stay under the radar. He prefers to keep his autism diagnosis private because of the negative stereotypes associated with it. Although he has considered disclosing it to the school management for some flexibility – like not having to attend excursions – he fears this could lead to unintended consequences, such as discrimination or exclusion. As long as he can manage without revealing his autism, he plans to keep it to himself.

Bart has developed certain strategies in the workplace to remain under the radar and to keep it manageable for him. One key approach is his teaching style: he employs a **traditional method** where he lectures for the entire hour, while students listen. He is very good in explaining things and inventing new ways to present difficult course materials. Students can ask questions, but a true interactive aspect is missing in his lesson. Although this method may be seen as outdated by many teachers, it helps Bart conceal his 'deficiencies'. This teaching style also helps him in **maintaining focus when he is distracted by a sound**. Because of the well-prepared lessons, he has a clear framework to follow, which helps him regain his concentration when disrupted by external sounds or other distractions.

Bart's second strategy is to stay aloof as much as possible and **mimic the behaviour of his colleagues**. A key aspect of this is spending some time in the teachers' room, a very noisy space during lunchtime. Before, Bart had a list of empty rooms where he could sit during lunchtime. During the COVID-19 years, he was able to use hygienic aspects as a reason to avoid the teacher's room. Now, he visits the teacher's room occasionally during his free periods or even during lunchtime – though only twice a week – to avoid drawing attention to himself by being absent. He always sits in the **same spot**, ensuring there is no one behind him and keeping both sides clear, allowing him a full view of the room (Figure 13). During free hours he also sits in this room, because it is more quiet then. Bart acknowledges that maintaining this facade can be tiring and may reinforce the perception that he is an outsider. He knows it is a delicate balance between staying under the radar and being seen as a team player, but he is determined to manage it as best he can without revealing his diagnosis. Moreover, he sometimes feels that people know he is autistic, because he gets a supervision task of a room where students can work in silence instead of supervision of the cafeteria during lunchtime.

'No matter how much I try to stay out of the way, I can't completely stay under the radar. And to a lot of people, I am still that odd bird who's around somewhere.' – Bart

Figure 13. Bart's usual spot with overview over the teachers' room

4.2.3 The building in itself versus the use(rs)

The school's cafeteria (Figure 14) is a large, open space without any soundproofing, and even for just an hour it is overwhelming for Bart. The constant noise from students and the harsh scraping sound of metal chair legs on the stone floor are unbearable for him. However, during the COVID-19 pandemic, when the cafeteria was divided into separate compartments to create classrooms with at least one and a half meters of distance between students, Bart found it much more tolerable. He also noticed that previously noisy groups became significantly quieter when spaced apart, suggesting that **classroom design and layout play a critical role in student behaviour**.

As mentioned earlier, Bart does not have his own classroom, which means he constantly has to move from one side of the school to the other, navigating a campus with a somewhat confusing layout. At one of the two schools where he works, teachers are required to collect students from the playground before each class. Bart has made an arrangement with his students to meet him in the classroom, saving him the walk around the campus and reducing the stress of navigating the space.

Figure 14. Large cafeteria Bart

4.2.4 Another kind of teacher

Despite some challenges, Bart finds **great satisfaction in creating his course material** – perhaps even more than teaching in the classroom. For instance, in his course on the philosophy of science, he has considerable freedom in determining the content and he thoroughly enjoys this aspect of his job, especially because he can do this work at his home desk.

Bart has the feeling that many educational practices and school buildings stem from the 19th century, despite significant societal changes and advancements in technology. He believes that these practices persist simply out of familiarity, without critical reflection on their effectiveness or relevance in modern times. In addition to advocating for investments in soundproofing, larger classrooms, and a logical layout of the school spaces, Bart calls for a **new vision on education**.

Following this thought, Bart has proposed to the school administration the concept of an Open Learning Centre. Students could work more independently or collaboratively in groups, with teachers acting more as **supervisors or coaches rather than traditional teachers**. While this proposal may initially seem unconventional, given Bart's traditional teaching approach, he nonetheless enjoys answering questions and explaining his course material. While active teaching methods may be overwhelming for him, providing occasional explanations and answering questions aligns well with his preferences and strengths. However, this suggestion is somewhat at odds with the current educational philosophy and teaching practices at the school. Nonetheless, Bart remains hopeful that such a change could improve his work experience and overall job satisfaction.

'If I really had to choose, it would be ideal that I would have a job where I don't have to deal with people, I have nothing against people, I am not antisocial. But that is so difficult to explain... that I can work purely on my own, making or writing things is most manageable for me, I feel most comfortable there.[...] I really care about people [...] but dealing with people costs energy.' – Bart

4.3 Sophie: after-school tutoring at her home

4.3.1 Meaning of receiving the diagnosis

Before receiving her diagnosis, she was trying to understand why she experienced certain things and felt very confused. At the age of thirteen, she broke her back, and after the operation, she fell into a kind of depression. Despite undergoing therapy and making progress in her physical and mental recovery, she still felt that 'something wasn't right'. Later, Sophie learned about autism during her evening teacher training program for primary education. It suddenly became clear to her that she had autism. Confirming her suspicion with a diagnostic test, she made the decision to end her early teaching career due to the strain it placed on her. However, the diagnosis brought **a sense of relief** by providing clarity to her experiences and why she perceived things in a certain way.

4.3.2 Changing stimuli

During the interview, Sophie shared an experience from her time teaching at a secondary school. She taught in a small, somewhat isolated part of the building, which she found quite comfortable. This area was surrounded by nature, creating a pleasant environment for her and the students. However, the students were often distracted by squirrels in the trees, which in turn disrupted her teaching. This illustrates how the natural surroundings could be both a source of comfort and a distraction. Examined in terms of the JD-R theory (Demerouti et al., 2001; Bakker and Demerouti, 2017) this example illustrates that **resources can become demands and vice versa (**Figure 15**).**

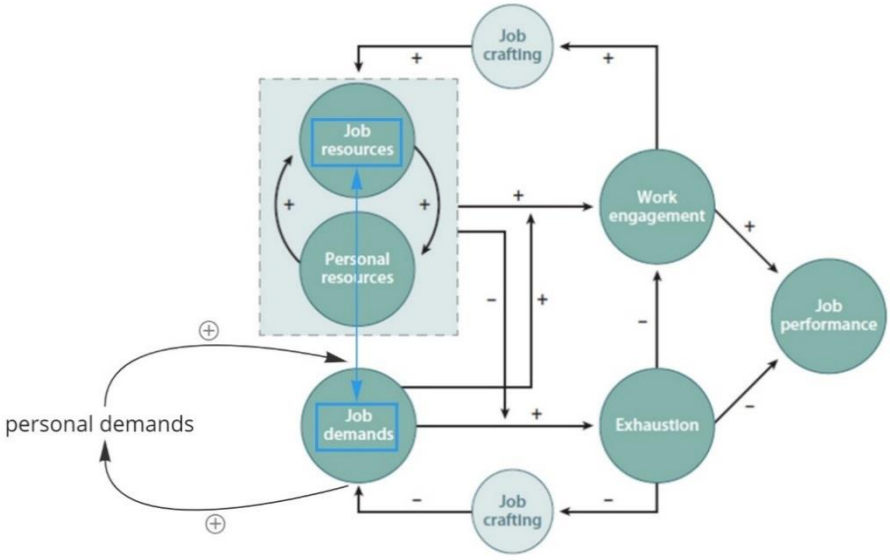

Figure 15. Changing stimuli; resources become demands and vice versa

4.3.3 An extra dimension to well-being

During our interview we discussed well-being as the balance point between challenges and resources while I showed her the drawing of Figure 4. She confirmed that in her job at the airport she faced too many physical challenges and experienced few compensatory elements. The movement and vibrations throughout the building, generated by the forklifts in the warehouse, worsened her back pain. The walls of the offices were so thin that she could hear everyone and everything. In addition, she indicated that there need to be challenges in the job itself, the airport job was not psychologically challenging enough. Sophie also mentioned that **meaning something to others** is important for her well-being (Figure 16); something she missed at the airport. Albrecht and Devlieger (1999) also mentioned this dimension of well-being in their study about the disability paradox.

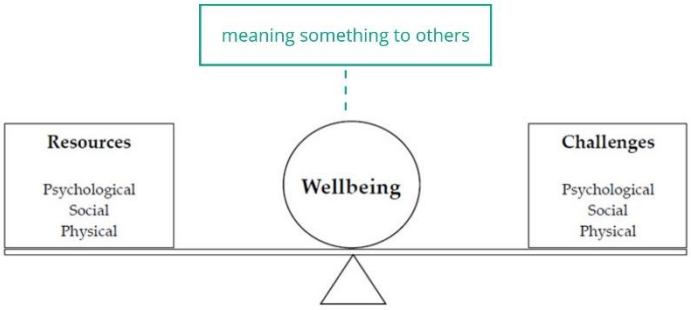

Figure 16. Additional dimension of well-being Sophie

4.3.4 Private practice versus workplace in living room

With plans to offer after-school tutoring, Sophie purchased her current house with the ground floor functioning as her workplace and the upper two floors as her living spaces.

She has a desk in her living room for preparatory work related to tutoring, as well as tasks for her previous job at the airport. Important for Sophie is that her desk **faces a wall**, allowing her to focus without distractions. Even more important is the **adapted furniture**, as she suffered a back injury at the age of thirteen and continues to experience pain. She has an ergonomic chair and a sit-stand desk, allowing her to alternate positions and avoid sitting for long periods in a single posture (Figure 17).

When Sophie works at her desk, she occasionally leaves the window open to let in fresh air. The street noise – mainly from cars – does not really bother her, as it is relatively **predictable**. However, at the time of our interview, there was a construction site near her house. These sounds are less predictable, and in this case, she uses earplugs or plays music that she knows, which she finds more manageable due to its consistent patterns.

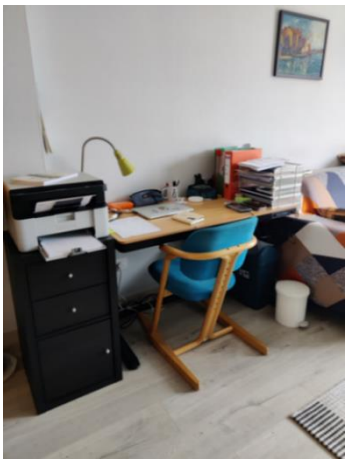

Figure 17. Sophie's desk in living room with ergonomic chair and sit-stand desk

In her living room, Sophie has many personal elements, such as cards and pictures of her family and friends displayed in a large bookshelf (Figure 18). She also has a collection of stuffed animals and figurines, particularly of donkeys, her favourite animal, and a magnetic board with 'silly magnets' (Figure 18). These personal touches bring warmth to her space and reflect her personality. Similar personal elements, such magnets, cards, and family photos, were also features of her office at the airport.

'People often think that autistic individuals want order, but I also need chaos. I want to see things that remind me of things.' – Sophie

Sophie sometimes works with (non-autistic) students at her round table in the living room. She does not really like it when students touch her personal stuff or move them, disrupting her structure. With autistic students, she usually works downstairs because the personal items in her living room, which hold meaning and memories for Sophie, can be too chaotic for them. For instance, while Sophie enjoys organizing her books by colour, some autistic students might prefer them sorted by theme.

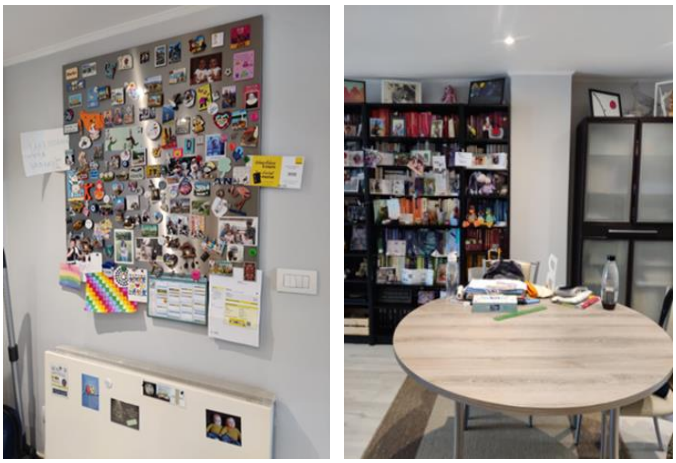

Figure 18. Personalised living space Sophie: 'silly magnets' (left), shelf with cards and pictures (right)

On the ground floor, Sophie's private practice consists of different areas (Figure 19): the painting area on the street side, the tutoring area on the garden side, and in the middle, the therapy room, a toilet, and a storage room. While the well-structured painting area, shielded from the streetside, is a place where students can express their creativity, the extra-insulated therapy room and tutoring area, where she sits sit-by-side with the students, are meant for focused talking and school work. Each of these spaces is equipped with **adjustable lighting**. Initially, Sophie wanted to compartmentalize more in the tutoring area, however she also appreciates the multi-functionality and openness in the current setting.

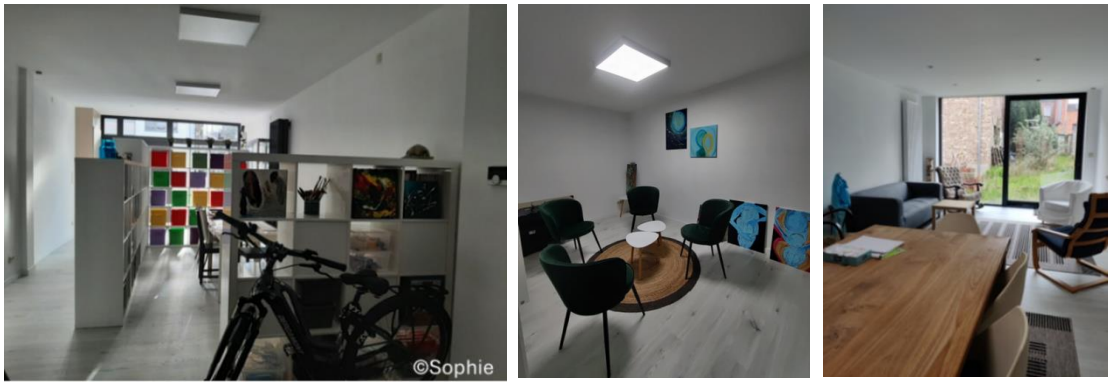

Figure 19. Private practice Sophie: painting area (left), therapy room (middle), tutoring area (right)

Although personal touches are present, they are more understated to create a **low-stimulus environment**. These include her own paintings, furniture inherited from her family, and a small picture of a donkey (Figure 20). For instance, the stickers on a chair she received from her sister really bother her and she wants it to be removed (Figure 21). While she tries to keep this environment low-stimulus, she does not find these areas cozy. Apart from her tutoring hours, she does not come here; only to paint in the painting area.

Figure 20. Small personal elements Sophie

Figure 21. Bothering stickers Sophie

4.4 Sabine: teaching in a secondary school

4.4.1 Strategies and support in the workplace

Over the years, Sabine has developed a strategy of using a **regular daily schedule**, regardless of the teaching hours that day. She arrives at school early, around 7:40 a.m., to set up her classroom before the students arrive. This allows her to prepare and organize without interruption. Since she lives close to the school, she can go home for lunch and take a nap, which helps her recharge. After lunch, she returns to school and stays until 6:00 p.m., even though classes end at 4:20 p.m.

Sabine disclosed her autism to her colleagues but **received little support**. She requested not to be part of meetings during lunchtime so she could rest and maintain her energy, but this was met with scepticism. Some colleagues perceived her request as taking advantage of the situation, which has made it challenging for Sabine to find the accommodations she needs to thrive in her role as teacher.

However, in the school where Sabine taught, another colleague requested additional support because she was suffering from MS[3]. This colleague struggled significantly with the heat in the classrooms, and the school promptly addressed the issue by providing mobile air conditioning. In contrast, Sabine's requests were primarily for organisational adjustments. While some of these adjustments were eventually implemented, they were accompanied by many negative experiences. Sabine felt that the **environment lacked the understanding and support necessary for her needs**, aligning with literature that emphasizes the importance of awareness and knowledge of autism to provide appropriate accommodations (Nimante et al., 2023).

4.4.2 Workplaces at school versus at home

A space where teachers can work outside their teaching hours is the ‘quiet’ room (Figure 22), but this space poses several challenges for Sabine. The room often becomes a meeting space – because there is no other room for teachers for such meetings – creating a **constant murmur of conversations** that distracts her. The scraping sound of metal chair legs on the stone floor and the noise from the sparkling water machine add to the disturbance. Other hindering elements in this room are the bright lighting, the **general clutter**, and the mix of colours from various chairs and furnishings. Sabine tends to use this room only later in the day, when it is nearly empty. She wears headphones to drown out any remaining noise and she turns off the overhead lights to reduce the harshness. By doing

[3] ‘Multiple sclerosis (MS) is a condition that can affect the brain and spinal cord, causing a wide range of potential symptoms, including problems with vision, arm or leg movement, sensation or balance’ (NHS, 2022).

this, she creates a more manageable environment where she can focus on her work without overwhelming sensory stimuli.

Figure 22. 'Quiet' room Sabine

Sabine always has her sunglasses with her, also during the interview, to protect herself from bright lighting (Figure 23). This is a key adaptation for her, as she is **sensitive to intense light sources**. In the school corridors, the lights turn on automatically (Figure 23), a feature that bothers Sabine. She finds it intrusive, not only because it creates sudden, unnecessary brightness but also because it prevents her from choosing a quieter, dimmer path when she needs it. Moreover, she feels there is often enough ambient light in the corridors without the automatic lights, making their activation seem excessive. This **lack of control** over lighting contributes to her discomfort and sensory overload.

Figure 23. Corridor Sabine: bright light at the end of corridor (left), automatic lights (right)

Another place where teachers as well as students can work in silence is the culture library (Figure 24). This is Sabine's favourite place in the school and she has also noticed that many autistic students come here during lunch breaks. However, this is a place to study or read, but not for creative activities, non-school related things or simply resting without doing anything.

The spatial aspects of the culture library appeal to Sabine. She appreciates the simplicity and smooth flow of the space, the lighting which is built into the ceiling and the seamless wooden floor. Round shapes also help to create a calming environment, from the columns to the circular table which she always places by the window (Figure 24). The colours also appeal to Sabine; she likes white together with natural materials. The bookshelves are neatly arranged and there is no clutter because students have to leave their stuff in a separate room before entering the culture library.

Figure 24. Culture library Sabine

The **spatial aspects of the culture library align with those in Sabine's home**. Her house has been renovated twice, with each renovation considering the preferences of both Sabine and her autistic children. The whole house has indirect lighting and a continuous wooden floor, against architects' advice not to lay it the kitchen and the corridor. She likes everything to be in one plane, so the whole house has built-in cupboards. Even small elements like a doormat laying on top of the floor instead of in the floor can hinder Sabine. Sabine's preference for round shapes is reflected in her furniture, with round tables and lamps, and even in smaller details like key holders and cabinet handles. At her home she made herself a safe space in the garden, offering her a way to escape overstimulation and relax amidst nature.

Sabine's desk is located in the living room and is removable, thanks to a custom system designed by her father-in-law (Figure 25). To maintain a seamless look, the desk's height matches that of the half-wall behind it, creating a **single uninterrupted plane**. When she works, she prefers to face a blank, preferably white, wall, which helps her to focus. Sabine only uses headphones when she is not alone, otherwise she works in silence.

Even though Sabine has a regular timetable to avoid working outside of designated times, she often finds herself working on Saturdays too. Sabine's additional diagnosis of ADHD means she can become deeply absorbed in certain topics, sometimes forgetting to eat or even to take bathroom breaks. To counter this, she has developed a system where she places essential items like post-its or markers she needs while working in baskets around the house. This system forces her to get up, move around, and helps her remember to eat. This system also helps her maintain a clean desk, which is another priority for her.

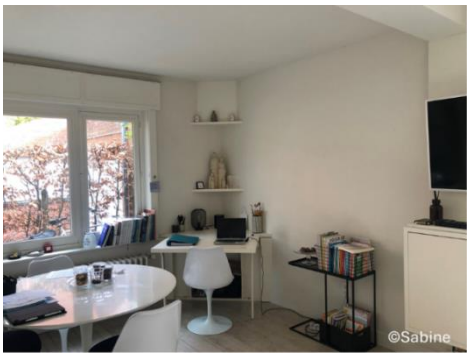

Figure 25. Sabine's desk at home

4.4.3 The building versus the use(rs)

Sabine has been teaching in a large school for about thirty years, and she has noticed some changes that have negatively impacted her work environment. One of the shifts is the noise level in the building. In the past, students were required to enter classrooms in total silence, but this rule is no longer followed, leading to increased noise and disruption throughout the school. Another source of stress for Sabine is the introduction of new technology systems for tracking student attendance. She had to track their attendance not only at the beginning of the day, but every teaching hour. These systems have caused issues, often freezing or crashing at the beginning of class, adding unnecessary stress and complicating her teaching routine.

The locker system implemented over the last ten years has also been a significant disruption for Sabine. Students had to store their materials in metal lockers at the back of the classroom (

Figure 26), retrieving them at the start of each session. This process created a lot of commotion and **disturbed the start of her lessons**. In contrast, the culture library maintains order by requiring students to leave their belongings outside before entering.

The classrooms of Sabine's school hinder her teaching style because they do not allow for differentiation between students (e.g., working in groups), which she finds very important. The classrooms are too small to do that without creating chaos. She even sent students to the corridor to do exercises. Fortunately, there is one classroom with glass-enclosed

spaces where students can work in groups, but it is in high demand and requires booking in advance.

Figure 26. Lockers in classroom Sabine

The teacher's room is generally a pleasant space for Sabine, with its **indirect lighting and different compartments**, providing a cozy atmosphere (Figure 27). When she spends time here, she tends to choose a darker corner, where she can have a good overview of the room. However, the behaviour of others in the space can be a source of frustration for her, especially during lunch time when the whole team of 160 teachers is present here. In the teacher's kitchen (Figure 27) used coffee cups left on tables, the smell of various dishes that make her feel nauseous, and the noise from the sparkling water machine and refrigerator all contribute to her discomfort. This sense of disorder extends to the corridors as well. Non-emptied waste bins and cardboard on the window sills create a feeling of chaos and unrest for Sabine.

Figure 27. Teacher's room Sabine: sitting area (left), kitchen (right)

4.4.4 Empathy towards students

Sabine has an outspoken attention for diverse needs of students, in her teaching approach, by making different levels of exercises, but also in relation to their **need for different spaces** (e.g., a space where they can read a book or knit). She brings earplugs for students who are easily overstimulated and places them towards a white wall. She is well aware of the necessity to create quiet moments and quiet places for both the students and teachers (autistic or not). When I asked at the end of the interview what future school designers could do better, she again focuses on the well-being of the students even though the whole interview was about her well-being. She highlights that students do not have enough spaces to both play and rest, including insufficient green areas in the school.

4.5 Emma: teaching in adult education

4.5.1 Commuting distance versus supportive team

Emma's workday consists of six hours, with three hours of teaching in the morning and three additional hours for other tasks, which employees can use at their convenience. Every workday is the same for her, except for Wednesday. She leaves at 8:00 am from home to take the train at 8:15 am and after that walks to her school to arrive a quarter to nine. This allows her to arrive before the adult students, helping to prevent potential – although very rare – issues such as aggression.

Emma lives in Leuven, but commutes to her campus in Tienen four days a week. Although the commute can be tiring for her, she finds it worthwhile because she enjoys the campus environment, the building, and appreciates the supportive small work team. In the future, she could work on the campus in Leuven, but even though this would spare her a lot of energy concerning the commuting, she prefers the campus in Tienen due to its small building and supportive team.

4.5.2 Meaning of receiving the diagnosis

Emma only received her diagnosis a few years ago. She has often thought about why she finds things challenging that others do not. Getting the diagnosis was kind of a **relief** for her, in both her private and work life. She had 'a reason' why she felt a certain way and why she was easily overstimulated. It also helped Emma to talk about what she finds challenging in the workplace.

4.5.3 Workplaces at school versus at home

Emma typically stays on campus in Tienen to fill in the three other hours during the afternoons. One reason is the significant distance between her home and the campus, which makes it impractical to go back and forth. Another reason is the access to school materials, such as printers. She does not have a lot of resources at home since she has only been teaching for three years, an important drawback of working from home, also noted in

Figure 28. Emma's bedroom

Figure 29. Teacher's room with flexi desks Emma

literature (Chung et al., 2020). Additionally, Emma lives in a co-housing arrangement, where working in the living room is challenging because housemates often come and go, leading to frequent distractions. Her bedroom (Figure 28) is quite small and serves primarily as a sleeping space, making it unsuitable for extended periods of work. As a result, she prefers to complete her additional work on campus, where she is more focused and less interrupted.

A common workplace for Emma is the teacher's room (Figure 29), which is a comfortable room with enough natural lighting, good ventilation and a pleasant temperature. Due to a growing team, the campus has adopted a flexible desk system, where not every employee has a designated desk. To address this, the campus management developed a schedule where each employee can indicate their preferred hours and days for desk usage. This system gives Emma and her colleagues **peace of mind and clarity**, knowing that they have a designated spot and will not be forced out by another colleague. However, Emma makes no reservation, because it also depends for her **who is in the room** and how many stimuli she has already received that day. She often opts to work in an empty classroom. However, she finds comfort in knowing when she can use it.

In the teacher's room, each teacher has their own shelf for storing their material such as post-its, markers and laptops. Emma has noticed that a significant portion of her shelf is filled with **items intended to help her manage sensory stimuli**; including a sweater, various snacks, and earplugs. These items are crucial for maintaining her focus and preventing distractions while she works.

'I notice that almost half of that cupboard is taken up with items to manage sensory stimuli.' – Emma

4.5.4 The building in itself versus the use(rs)

Emma finds the classrooms (Figure 30) where she teaches quite enjoyable. They have enough natural light, a controllable temperature, and are properly ventilated. The classrooms all have a beamer, which Emma considers crucial during her lessons. The classrooms also offer plenty of space, allowing her to **arrange the tables in various ways**

Figure 30. Large classrooms with different arrangements tables Emma

to suit different teaching methods. She does not have a classroom of her own and does not mind moving between rooms. However, she would appreciate being able to leave some teaching materials in the classrooms, because there is enough room to accommodate them.

The only time Emma finds the setup challenging is during co-teaching sessions with another teacher. The noise from the other group distracts her and, she thinks, also the adult students. In those cases, she would prefer a classroom with more separation to allow a better focus or simply other available rooms.

The cafeteria (Figure 31) where Emma takes her lunch is a comfortable room with good ventilation and large windows. However, the teachers share this room during lunch with the adult students, which puts her at unease. Moreover, the amount of adult students is increasing every year, so there is a **need for more rooms**. She thinks that teachers should have a separate room where they can talk privately or take a break without disruption. The mess that the adult students often leave behind in the small kitchen also frustrates her. Because of these challenges, she often eats alone in front of her computer to rest during lunchtime. Fortunately, when spring and summer arrive, Emma, her colleagues, and the adult students can enjoy lunch outdoors, taking advantage of the campus's beautiful natural surroundings.

Figure 31. Cafeteria Emma

In the teacher's room (Figure 29) the flexi desk system generally works well for Emma and her colleagues. As mentioned earlier, she enjoys working in this space. She enjoys working in the presence of other people, an important preference mentioned in literature too (Chung et al., 2020). However, what bothers her is that people do not respect the designated silent hours, likely because there is not another room available for discussions or meetings. Additionally, the noise from the corridor and reception enters the room when the three doors are left open, disrupting her focus and workflow. To block out these distractions, Emma uses earplugs.

4.6 Reflection Eleonora

When Eleonora hears how hard Bart is trying to stay under the radar, she finds it really troubling. She thinks it is unfortunate that he spends so much energy on this and constantly adopt a stance of 'persevering' and 'pretending'. Eleonora believes that it is crucial in a work environment to be able to express your needs without explicitly disclosing autism. She also thinks that this should perhaps come from the school management itself, as Bart sometimes feels that they already sense he would rather not supervise in the cafeteria during lunch or attend excursions. An invitation to initiate a conversation from their end could serve as a positive initial step.

Nevertheless, Eleonora completely understands why Bart takes this approach. She experienced a situation where she expressed her need for more clarity while she was working in a kindergarten. In response, the school administration told her that she would need to find another place of employment where such clarity could be provided. After that, she spent years concealing her challenges and needs in another workplace, but the environment she works now is very supportive and understanding. Eleonora believes that staying under the radar is an attitude that is ingrained since childhood, **learning to express one's needs is an ongoing process**.

When discussing low-stimulus environments, such as Sophie's private practice, Eleonora makes two remarkable comments. Firstly, she mentions that for herself, and likely for others as well, the capacity to tolerate stimuli or certain spatial elements strongly depends on the **relationship you have with the people you are sharing the space with**. If, for example, you share the space with a family member, you will likely be able to tolerate more stimuli because your stress or disturbance level is lower compared to, for instance, sharing the space with a colleague you have only known for a month.

'The safer you feel with someone, the more spatial elements you can handle.' – Eleonora

Secondly, while Eleonora appreciates how Sophie has arranged the spaces to maintain low-stimulus, she notes that sometimes people tend to go too far in creating such environments. Eleonora emphasizes the importance of learning to manage stimuli, as the world is inherently full of them. However, she truly values when designers or employers take this into consideration. For her, it is more about finding a **balance** between coping with overstimulation and having the space and time to find rest again when necessary.

When Eleonora discusses her tolerance for stimuli, she mentions that it fluctuates based on her baseline level of stress, anxiety, or overstimulation. Sometimes, she actively searches stimuli when there have not been any for a long period. Conversely, when she has been exposed to excessive stimuli, as she has in recent years, she seeks environments with fewer stimuli, avoids social contact, and prefers her home to be a low-stimulus environment.

Eleonora understands why Sabine employs specific strategies at work, such as maintaining a regular schedule, and why she is always busy improving her home and workspace to her liking and keeping it clean and neat. When she was working in the kindergarten she also wanted to clean the mess the toddlers made – to create order in the chaos. However, Eleonora wonders if this constant busyness is too exhausting for Sabine. She has observed that people's mental health can sometimes suffer from being constantly occupied with such activities. For Eleonora, as mentioned earlier, it is about balancing learning to cope with stimuli and preventing overload.

She also understands that Sabine enjoys the culture library so much. At her work they also have a ‘quiet’ room, but it is not silent here due to its location next to a busy road and the presence of ventilation grids. She understands that it is necessary find rest again somewhere in the workplace.

Chapter 5: Discussion and conclusion

5.1 Introduction

In this chapter I look at the findings at a more conceptual level **by addressing the research question in the context of the literature study**. I examine similarities and differences across participants. The Job Demands-Resources theory serves as the conceptual framework for this discussion. I structured the discussion into four main concepts: disclosure and support, an escape space, leveraging your strengths in the (personalised) workplace, and changes in use of the space. I reflect on the used methods and what lessons can be learned for future research. In the end, I conclude the main insights from the research and reflect what this year meant on a personal level.

5.2 Discussion

5.2.1 The workplaces analysed through the lens of the JD-R theory

5.2.1.1 Disclosure and support in the workplace

Examining the disclosure of autism in the workplace among the participants allows identifying **different perspectives on disclosure**. For instance, Bart chooses not to disclose his autism at work due to concerns about stigma, stereotypical thinking, and discriminatory behaviour, which are common reasons for non-disclosure cited in the literature (StEvens, 2022). Although he has considered disclosing to the school management to gain some flexibility, he fears it could lead to unintended consequences.

Sabine's experience exemplifies these concerns. After more than twenty years of teaching and experiencing two burnouts, she decided, together with her doctor, to request some accommodations, such as being excused from meetings during lunch time. Her request was not well-received, and **colleagues perceived her as taking advantage**, a reaction consistent with literature on autistic teachers (Wood and Happe, 2021).

On the contrary, another colleague with MS received adequate support. Sabine's requests were primarily for organisational adjustments. Eleonora mentions during the reflection presentation that this is the recognizable difference between a visible and invisible disability. While some of the adjustments Sabine requested were eventually implemented, they were accompanied by many negative experiences. Sabine felt that the **environment lacked the understanding and support necessary for her needs**, aligning with literature that emphasizes the importance of awareness and knowledge of autism to provide appropriate accommodations (Nimante et al., 2023).

Bart considers it advantageous that people do not typically expect individuals with autism to work in education, allowing him to stay under the radar. As noted in the literature autistic employees develop **various strategies to maintain a low profile** (Cook et al., 2021), and so does Bart . One such strategy is staying aloof and **mimicking his colleagues' behaviour**, a common technique among autistic individuals in the workplace (Lawrence 2019). For instance, Bart spends time in the teachers' room even though he would prefer to be alone in an empty classroom.

Bart also uses his teaching style to conceal his autism. He understands that his usual teaching methods are not in line with currently preferred practices. When an inspection team visits the school, Bart adapts by teaching a model-course that aligns with inspectors' expectations, rather than his usual approach. Additionally, autistic individuals compensate for their differences **by excelling in other areas** (Lawrence, 2019). Bart excels by constantly updating his course materials, which serves as a key aspect of his **professional identity**.

Bart feels that, while his colleagues promote progression and diversity within the school environment, they seem blind to the need for diversity within the teaching team. He feels an expectation for teachers to be extravert and to enthusiastically participate in every excursion and school event. He even feels that if there was not a teachers' shortage, he might not have been hired. Sophie had similar experiences during her teaching career. She felt **pressured to conform to a particular way of functioning** within the school, which she could mimic but never truly felt as her own. Eventually, Sophie transitioned to after-school tutoring, where she embraces her autism as a strength and **no longer hides behind typical behaviours**.

In contrast to these rather unfavourable experiences, Emma's teaching environment fosters a positive atmosphere and cares for the **individual needs for each employee**. This way, she does not even remember whom she has told about her autism. Instead of explicitly informing her colleagues about her autism, she focuses on communicating how it affects her work experiences, challenges, and preferences. This way of communicating your needs and challenges is commonly known in supportive workplaces (Nimante et al., 2023). Emma notes that she is not the only one with special needs, which makes it easier for her to express hers, even though she sometimes struggles to articulate her feelings and needs.

Fortunately, her workplace organizes team meetings and workshops to discuss challenges in the workplace.

A possible difference between Emma's experiences and those of Sabine and Bart could be that Emma teaches in a smaller school with a **small team**. Emma also has the option in the future to transfer to the Leuven campus to reduce her commuting distance. However, she prefers to stay in Tienen because of the support and understanding she receives from her small team, which she recognizes as a significant factor in her well-being.

5.2.1.2 An escape space in the workplace

An important aspect of the built space for autistic individuals is having an escape space (Mostafa, 2015). Eleonora agreed on the importance of such a space during the reflection presentation. An escape space at work *means* a place where individuals are not disturbed while working and/or can find **rest when they feel overstimulated during work.** For Sabine the culture library serves as her escape space in the school, just like she has one at home in her garden. This space is crucial for her work experience. When she faces high job demands such as hindering sensory stimuli, noise from people, or the challenges of teaching in a classroom with lockers, this space becomes a **vital job resource for restoring her well-being** (Figure 36).

Compared to Sabine, both **Emma and Bart seek for an escape space** in their workplace. Bart, in particular, forces himself to be present in spaces where he does not actually want to be, such as the teacher's room. If there were another space specifically designated for silent work, like Sabine's culture library or simply his own classroom, he would likely prefer to go there. Bart would benefit from this for several reasons: he would experience some rest during lunch, he would not have to expend energy mimicking others' behaviour, and he could complete some work, saving him time at home.

Emma's work environment also lacks an escape space. While she actually likes the spatial elements of the teacher's room, she would prefer another room where she can meet with another teacher, drink a coffee, or can simply sit alone. In the cafeteria where the teachers eat lunch, they share the space with the adult students. There is no other room where she can come back to herself during lunch or other breaks. The absence of such a place sometimes forces Emma to eat alone in an empty classroom during lunchtime. There simply is not enough room on the campus for a space to have private conversations or to rest in a pleasant environment, except for the empty classrooms. These challenges highlight the **importance of providing designated areas within the school environment where teachers can find comfort and recharge**, ultimately enhancing their well-being and productivity.

To illustrate why Sabine appreciates the culture library so highly, I provide more details about the organisational and spatial characteristics. This space *functions* as a space where students and teachers can work in silence during lunch or other free hours. There are also

additional rooms adjacent to the library that people can reserve for instance for student tutoring or for making a group work.

For Sabine, the way the space *feels* is determined by the **spatial qualities and the required silence** in the library. In the library, people must remain quiet, which helps Sabine to avoid stress by others talking. Additionally, **sufficient daylight** is an important element for Sabine, since too bright light can trigger headaches and migraine. Studies also noted that exposure to daylight can enhance your mood and well-being (Bjørnstad et al., 2016; Bergefurt et al., 2022; Mohamed et al., 2024). The sun protection on the outside of the windows prevents the library from becoming too hot during the summer and mitigates too bright light, creating a comfortable environment for both students and teachers working inside.

Another element that provides Sabine with a sense of tranquillity is the **well-considered layout** of the library. For instance, there is a designated area before entering the library where people can leave their backpacks and jackets, keeping the library clean and neat. Additionally, some well-insulated rooms for group work or tutoring are located at the beginning of the library, ensuring that they do not disturb the quiet area. The library also consists of different levels with high ceilings, allowing Sabine to choose a spot on the uppermost level where **almost no one passes by** and she can look straight to a wall or a window with sun protection, further enhancing her comfort and focus. Sabine always takes the **same round table** when she comes here and switches between two places which are relatively close to each other. She likes round elements like this table and the round concrete columns; shapes she also implements in her home.

For Sabine also the **colours** in this room are to her preference. She has a clear preference for white with potentially a few accents of one other colour. The library reflects this preference, featuring white walls combined with wood and concrete materials. The colour scheme, along with the neatness, continuous planes, and round shapes, contribute to Sabine's sense of comfort. These spatial elements and preferences **align with the spatial characteristics of her home**.

5.2.1.3 Leveraging your strengths in the (personalised) workplace

As mentioned in the literature study, personalised workstations in activity based working environments have been positively associated with well-being (Wells, 2000; Colenberg et al., 2021). In this section, I explore whether participants can leverage their strengths and express their identities within their workplaces. Additionally, I demonstrate how personalised workspaces can support their preferred way of working. The participants work in various school settings, each employing unique teaching methods and job crafting techniques. Implementing your preferred methods in work is considered something important in literature on autistic teachers (Lawrence, 2019).

For instance, Bart and Sabine both seek a personalised classroom, to spare the energy from moving around the school and leverage their strengths. For Bart it would give him to

opportunity to work during free hours and this personalised classroom would also function as an escape space. Sabine likes to develop new teaching methods, such as working in small groups while integrating technology. However, the **current classroom design hinders her teaching style** and she feels unable to effectively implement her teaching methods. For instance, it is difficult for students to work in groups without disturbing each other. Sabine would like to have a classroom that supports this way of working and where she can leave school materials that support these methods. On the contrary, on Emma's campus, the practice of switching classrooms does not bother her, nor does the lack of a personal desk in the teacher's room.

Sophie works at home, so she has to opportunity to personalise her desk in the living room – for instance with an ergonomic chair – and to arrange her private practice to her preference. This has a significant influence on her work experiences, compared to her earlier experiences. I further illustrate these experiences broader using the concepts described in the literature study.

When looking at Sophie's work experiences, she underwent a significant process throughout her career. Early on, while working in schools and unaware of her autism, she mimicked the behaviours of others, but felt that this was not truly her. She transitioned to an office job at the airport, where **she excelled but found the work insufficiently challenging**. She needed more challenges, something out of which she could get more satisfaction, often resulting in **'stagnation'**, as stated in literature (Dodge et al., 2012). This 'stagnation' is shown by the blue dashed line in Figure 32. Besides seeking more challenge, Sophie also values that she can **mean something for others** and can help them. During our interview she notes this as an important dimension of well-being (Figure 32), which is lacking in the current definition of Dodge et al., (2012). At the airport, she sought this sense of purpose by trying to find meaning in delivering products to clients. However, when it appeared that some clients were corrupt, she felt lost in what she was doing and this resulted in depersonalisation from the job, which is noted as the burnout side of the interpersonal strain in the burnout-engagement continuum, proposed by in Appel-Meulenbroek et al. (2020a) (Figure 33).

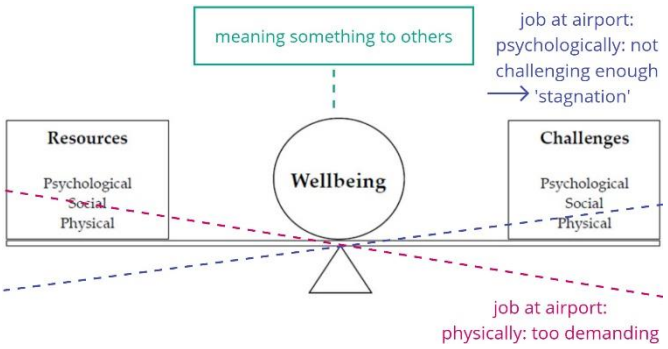

Figure 32. Sophie's well-being during her job at the airport

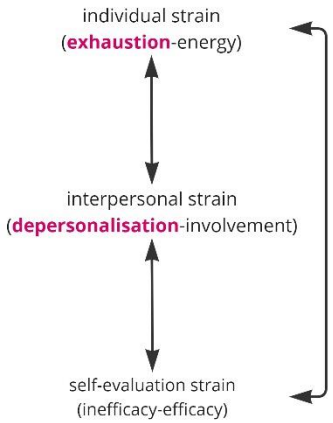

Figure 33. Burnout-engagement continuum Sophie

She came with the idea of after-school tutoring when she crashed from too much work at the airport and from demanding elements in the airport environment, shown by the red line in Figure 32. The office was in an old building above the warehouse, so when forklifts passed by, it could be felt throughout the entire building. The first months, she suffered from back pain from her accident, making it extra difficult for her. Additionally, the walls of the offices were very thin, hindering Sophie in her work because she could hear everything. These spatial demands resulted in exhaustion, the burnout side of the individual strain in the burnout-engagement continuum in Figure 33.

In her current profession, she **sees her autism as a strength** in guiding and caring for autistic students. She uses different strategies in the after-school tutoring, which is sometimes challenging, but **gives her a drive to work and a fulfilling feeling.** She actively thinks about the design of the spaces to make a suitable environment for her and the students. The presence of for example her magnet board, references of donkeys or her own paintings support Sophie in functioning at her best.

It is important to note that Figure 32 should not be interpreted as a superposition of the blue and red lines. The blue line represents insufficient physiological challenges, whereas the red line represents excessive physical demands. Both lines implement a phase of imbalance, together resulting in poor well-being.

Bart derives the greatest pleasure from creating his own course materials, something he can do from his desk at home. It is something he excels at. He actually prefers this over standing in front of the classroom. He has proposed to the school the idea of the Open Learning Centre (OLC). He feels that this teaching method suits him better compared to the traditional one, but the school refused this idea. However, I wonder if Bart finds enough psychological challenge in the way he currently teaches, as it does not align with his preferences. I wonder that maybe after a longer period of time, Bart also falls into ‘stagnation’ because the traditional teaching method is not his and not challenging enough (Figure 34).

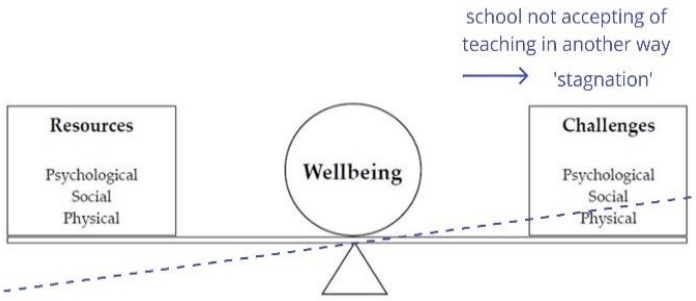

Figure 34. Bart not fully leveraging his strengths

In the theory of the Job Demands-Resources theory it is stated that personal resources and job resources interrelate (Xanthopoulou et al., 2007). Bart's personal resource is the making of the course material. He likes to constantly update this and he likes to answer questions about these materials, something that would perfectly fit with the idea of the OLC. Instead, because the school refused that idea, the process of constantly making new course materials for this OLC would be tempered, which is illustrated by the dashed lines with number 1 in Figure 35.

The Job Demands-Resources theory also states that these resources initiate a motivational process (number 2 in Figure 35), which fosters work engagement (Demerouti, 2007; Bal, 2010). This process then decreases because of the reduction of the process of interrelating job and personal resources. Additionally, the buffering impact of job resources on the health impairment process (Demerouti and Euwema, 2005) decreases because of the reduction of the process of interrelating job and personal resources and is illustrated by number 3 in Figure 35. These effects together, can, on the long term, lead to less work engagement.

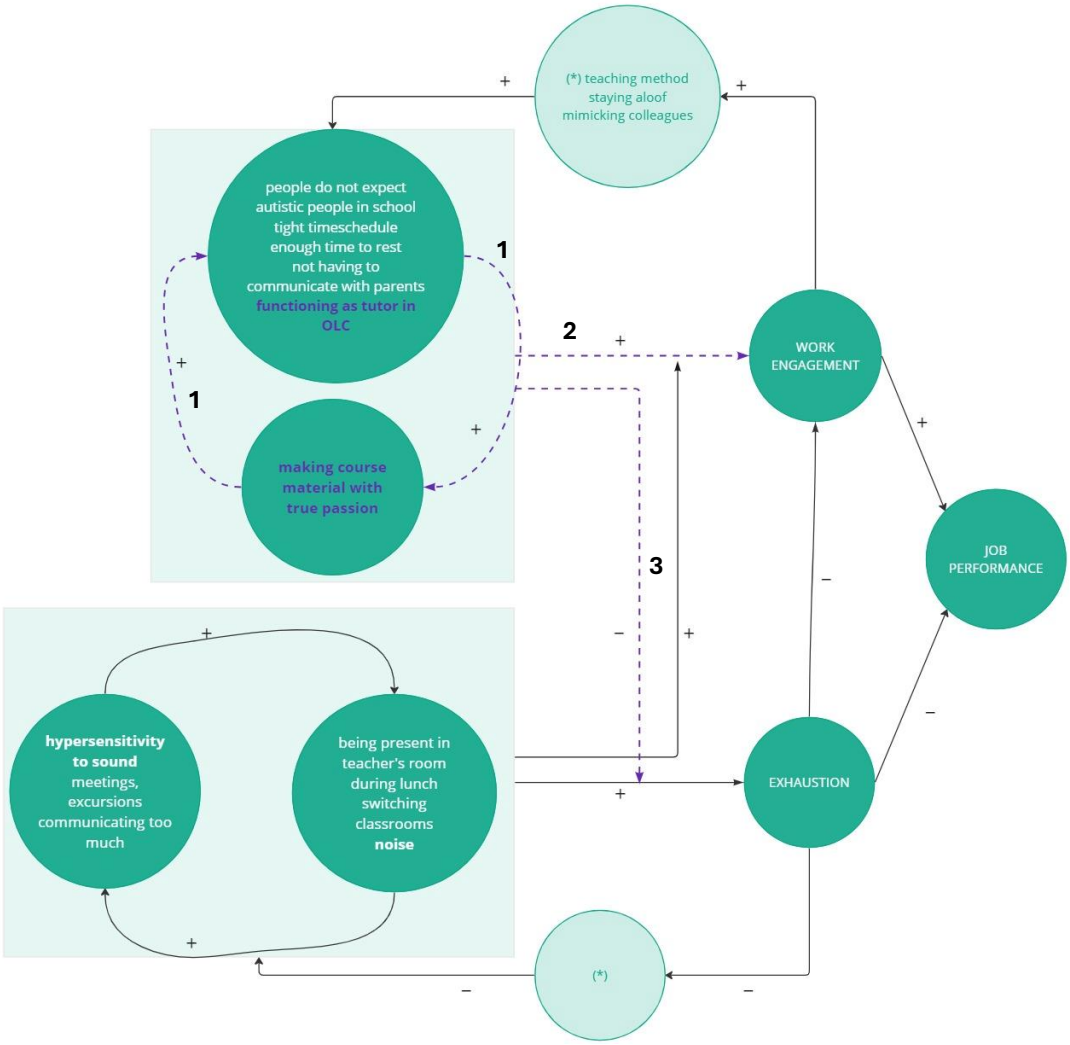

Figure 35. J D-R scheme Bart: reduced motivational process and reduced muting effect on health impairment process

5.2.1.4 Changes in use of the space

When examining the teachers' experiences, it became clear that much depends on how the building is used by its users and the school system/rules. This can be both in a negative sense – a space that is considered comfortable in itself becomes less so due to its use – or in the positive sense – a space becomes more comfortable by using it in another way. Positive changes in use are present in Bart's and Emma's work environment.

Bart's school cafeteria (Figure 14) is a large, open space without any soundproofing, which is very disruptive for Bart. However, during the COVID-19 pandemic, the cafeteria was divided into separate compartments to create classrooms with at least one and a half meters of distance between students. Bart found this arrangement much more tolerable, even more so than the usual classrooms where he teaches. This illustrates that a space is not always inherently 'bad' or 'malfunctioning'. **Making changes in usage can make a significant difference**.

Secondly, at Emma's campus, the growing number of teachers and adults students made it impossible to assign a personal desk to every employee. Initially, this caused stress and unpleasant situations for Emma and her colleagues, as they became worried about others claiming their spots. The introduction of a flexi-desk system solved this problem, preventing unnecessary stress and unpleasant situations by allowing colleagues to reserve desks in advance.

Because Sabine has experienced two burnouts during her teaching career, mainly because of changes **in how the building is used**, I illustrate her work experiences with the JD-R scheme in Figure 36. I also included Sabine's **job crafting techniques** in the scheme, such as her regular daily timetable, her use of sunglasses or headphones to protect herself from stimuli, and her basket system at home.

This scheme provides a better understanding of Sabine's occupational well-being. For instance, the **proximity of her workplace significantly impacts her well-being**. Since she lives close to her school, she can return home during lunchtime to rest, making the location of her school a valuable resource for her well-being. As she is currently recovering from burnout, Sabine is looking for another job in special needs education. Although she enjoys this type of work because it does not require switching classes, she is hesitant due to the 45-minute commute. On the contrary, Emma prefers a small, supportive team above a longer commuting distance.

A clear example of change in use of the spaces is the implementation of the **locker system in the classrooms** which completely **disrupts Sabine starting her class**, a crucial aspect of her job crafting. The locker system can be seen as a demand hindering her job crafting technique.

Not only the implementation of certain new features, but also the **use of the building by the people themselves**, hinder Sabine. For instance, students used to enter the classroom in silence, but now they enter loudly, causing complete unrest throughout the building, something that hinders Bart too in his schools. Smaller issues, such as leaving empty coffee cups on tables, not emptying the dustbins in the corridors on time, and talking in areas meant to be quiet, also make it difficult for Sabine. Emma is also disrupted by people not respecting the silent hours in the teacher's room.

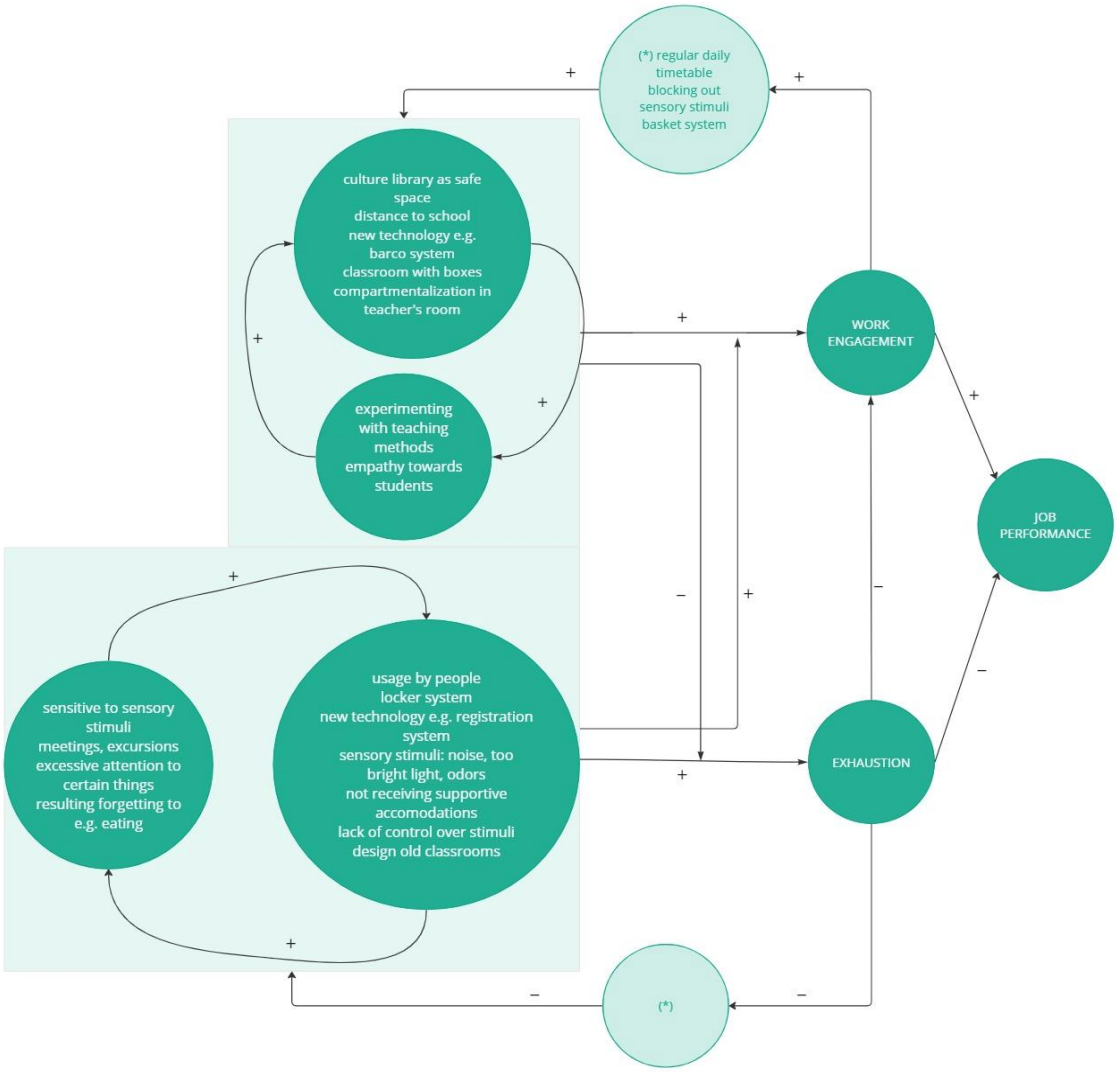

Figure 36. Sabine's occupational well-being through the lens of JD-R theory

In conclusion, while Sabine initially managed her workplace challenges with her own strategies, the work situation became overwhelming due to the behaviour of the building's users and the way the space was utilized. Addressing these issues requires not only alternative design of the spaces but also proper and considerate use of them.

5.3 Reflection research approach and future research

In the beginning of the year, I searched for a workplace that required further research. After shaping this topic, I delved into literature on well-being, workplace well-being, autism, and other related subjects. I gained insights into areas I previously knew little about. I began drafting chapters for my research, but, as every researcher knows, these drafts change constantly over time. Especially, they changed extensively right before and after conducting the interviews. I discovered that some aspects I initially deemed useful were not relevant or applicable as my research progressed, while others proved to be highly valuable. It was actually constantly – even until the end of the study – **switching between the literature study and the qualitative research with the participants**. This iterative process, which I did not expect in the beginning, highlighted the dynamic nature of qualitative research. Based on my experience, I recommend other qualitative researches not to become overly fixated on theoretical concepts. I do not recommend writing comprehensive chapters early on. Instead, focus on drafting sections about **essential concepts to establish a framework**. Conducting your qualitative research will clarify which elements are truly relevant and useful for your study.

This interplay between the literature study and the qualitative research part revealed that certain theories and concepts effectively describe the workplace, such as the Job Demands-Resources theory. This theory is straightforward to apply – especially with the scheme – as it compasses social, organisational, and physical characteristics. Therefore I highly **recommend employers and school directors to use this theory** when researching schools as workplaces. Other concepts, such as well-being as the balance point between resources and challenges illustrated as a see-saw, also proved quite accurate. Its simplicity makes it quite applicable. However, the findings suggest that the definition could be expanded to include additional dimensions, such as the importance of having a meaningful impact on others.

This qualitative research was conducted with four autistic teachers, which I consider a good number of participants. The participants represent a diverse range of ages, gender, types of teaching, and types of schools. However, they share a common cultural background, as all participants grew up in Flanders, Belgium. For future research, it would be important to **include participants from various cultural backgrounds** to enhance the study's breadth and applicability.

I consider the qualitative methods used – semi-structured interviews with a photo-exercise and potentially a walk-along – to be effective for this type of research. The photo exercise served as a useful instrument to revolve the conversation around and required minimal effort from the participants in advance. The walk-alongs were also comfortable for participants and yielded rich information. I consider it important to assure **flexibility in your methods** and in your interviewing approaches. For instance, one interview was conducted online at the participant's request, and I did not feel that this format resulted in less information. Another participant did not take photos in advance, yet the information

obtained was just as valuable. Ultimately, I think that the interview in the manner **most comfortable for participant**, will be most rich in information. This was my first experience with interviewing, but I felt that my questions and open-minded attitude maximized the depth of the conversations. Most interviews felt like genuine conversations, where participants did most of the talking and I primarily listened, occasionally steering the discussion with additional questions or topics.

The insights from this research are quite **reliable for two main reasons**. First, I invited the participants to review the sections of the study that pertained to their experiences, enabling them to validate or comment on these sections. In general, the participant confirmed that I had accurately captured their work experiences, with only small comments for correction. Second, a reflection presentation with another autistic teacher provided further verification and added another dimension to some of the insights.

The goal of this master's thesis is not to propose a one-size-fits-all solution. It is important to recognize that each (autistic) individual is unique, so **not all findings will be applicable for every autistic teacher/individual**. More research involving autistic teachers could help to confirm or challenge the insights gained from this study, but mainly serve to complement them. The insights lead to *possible* architectural and non-architectural features that could improve work experiences, as well as highlighting existing effective initiatives and systems. Furthermore, it would be interesting to learn more about different schools, since there is such a variety. It would also be interesting to study schools that have implemented alternative teaching methods, such as the Open Learning Centre. Additionally, it would be interesting to understand to what extent newly built schools in Flanders better support alternative teaching approaches and to what extent they provide comfortable workspaces for teachers.

5.4 Conclusion

The objective of this master's thesis was to understand the role of the built workplace in the well-being of autistic teachers. I gained insights into the work experiences of autistic teachers through semi-structured interviews, aiming to enhance their workplaces. Through this research, it became more clear how **organisational, social and physical aspects are inseparable**.

This past year, I learned about many concepts and dimensions autism. I learned about the outstanding empathy of autistic individuals. They offer unique perspectives that can lead to creating better spaces for everyone, perspectives we might initially overlook. It is crucial for the broader population to acknowledge their significant insights and strengths. Every autistic person is different and not all personality characteristics from the DSM-5 are present in the way most people expect. For example, it is a common misconception that all autistic individuals require strict order and minimal visual stimuli. While some may need a certain kind of structure, what appears orderly to one person might seem chaotic to

another. Employers who embrace different ways of working and allow employees to leverage their strengths, will tend to **enhance their organisations significantly through the diversity they foster**.

This research demonstrates that the decision to disclose or conceal autism significantly impacts employees' work experiences. Many employees hide their autism due to fears of stigma, discrimination, and being treated differently. People on the spectrum employ different strategies to conceal their autism and cope with workplace challenges. Individuals who do not disclose their condition often mimic others and adjust their behaviour to avoid being perceived as different. However, this research reveals that such efforts **can be exhausting and negatively impact well-being**. For instance, individuals who force themselves into spaces they rather do not want to be or acting in ways that are not authentic to them.

Therefore, I want to raise awareness about autism and inform people about the challenges autistic people face, as well as their valuable contributions. I think if society, and employers specifically, become more aware of these challenges, a supportive work environment can be created. Individuals who **feel the need to ask for accommodations would not wait until the point of burnout**. Better understanding of autism and neurodiversity enables employers themselves to start conversations about adequate accommodations for the employees. However, the choice to disclose a diagnosis remains with the individual. It is often a difficult psychological process to disclose an autism diagnosis, especially if it has been concealed for years.

Therefore, I want to emphasize the important role of the built space in creating inclusive workplaces. I provide an overview of the main findings so that future designers and stakeholders can incorporate these insights into school designs and other workplaces. For a comprehensive understanding, I recommend reading the entire *Findings* and *Discussion and conclusion* chapter.

Providing **escape spaces** in the workplace is an essential element for autistic individuals' well-being. This is a separate space from other workspaces. It is not just a part in another space where individuals can still be disturbed by stimuli from adjacent spaces or people. It is an indoor space, allowing use in all weather conditions. However, access to nature can also significantly enhance occupational well-being. People seek out this escape space to restore their calm or to work without disruptions. Instead of small, isolated rooms, this space consists of various areas shielded from each other. People on the spectrum are not anti-social, but social interactions can be more draining for them, especially over extended periods. They often **appreciate the presence of others**, only if the silence policies in this space are respected. An isolated room that singles out (autistic) individuals when they are overstimulated is not contributing to an inclusive workplace. In contrast, a space with varied areas allows individuals to choose their preferred spot. For example, one might prefer a place with an overview of the room where the lighting is soft, while another might prefer a spot facing a wall to better concentrate and receive fewer stimuli.

Apart from escape spaces in the workplace, a personalised workplace can enhance autistic teachers' occupational well-being. These elements could be very small, but their contribution in well-being is large. Even minor elements, such as books, cards, or pictures can have a significant impact. Implementing schemes or study materials in classrooms also supports bringing teachers' identities into the classrooms.

The way a space is used significantly affects people's experiences. For instance, implementing rules like maintaining silence in workplace areas helps create a comfortable environment for everyone. Furthermore, adapting traditional rules when they are ineffective or negatively perceived by teachers and students is beneficial. Flexibility in the use of spaces is especially important in a school environment. The COVID-19 pandemic underscored the importance of having enough space for social distancing and adapting to unforeseen circumstances. Consequently, designing spaces with ample room and versatility has become a priority. When designing schools, it is essential to not only think about the current educational methods but also additional functions these spaces might serve in the future.

Furthermore, I encourage designers and stakeholders involved in school projects to consider additional spatial elements highlighted in this study. Addressing sound insulation is essential for the comfort of all individuals. This can be achieved through various means, including carpeted flooring, sound-absorbing panels, curtains, and wall insulation – both between different classrooms and between classrooms and corridors. Additionally, careful choice of the position of noise-producing devices such as sparkling water machines, coffee machines, refrigerators, and ventilation grids is crucial. Implementing these simple adaptations can significantly improve the workplace for both autistic and non-autistic individuals.

Metal lockers and other noisy furniture can create chaos in classrooms or quiet areas, making it preferable to place such items in corridors. Metal chair legs on stone floors also contribute to noise. Maximizing natural daylight is often favoured during work. Providing participants with control over stimuli is important. For instance, automatic lights, particularly in unnecessary areas, are less desirable. Instead, spaces featuring indirect and adjustable-intensity lighting to accommodate varying needs and preferences are preferable.

5.5 Epilogue

Reflecting on the insights gained throughout the year, I realise how much I have learned, both about the subject matter and about myself. It became clear to me that I need quite a bit of structure and planning compared to my friends. I make a planning every week and day, even for the smallest things, sometimes multiple times in a day. Although this takes quite some time when all these minutes are added up, I find comfort in knowing exactly when I will tackle each task. When I study in my student room, I notice I cannot tolerate a lot of sounds and always work with the windows closed. Yet, when I am at home, I am more accepting of background noise, which aligns with Eleonora's insights about our relationship with the people and objects in our environment. Understanding my own sensitivity to sound has deepened my empathy for highly sensitive autistic individuals who face similar challenges. Additionally, I have discovered a newfound appreciation for order and cleanliness. I have found pleasure and peace in organizing even the smallest details of my surroundings, such as arranging items in closets and cabinets. This sense of order brings me peace, particularly amidst the chaos of daily life. I could go on with the smallest things I learned about myself this year. While I share some traits with the participants in this study, my intention in sharing these reflections is not to draw direct comparisons, but rather to express gratitude for the invaluable lessons learned about myself. I am thankful for the opportunity to conduct this research, made possible by the participants and the guidance of my supervisors.

Appendix

Consent form participants

INFORMATIEBRIEF PARTICIPANTEN

Titel van het onderzoek:

[Eng] The role of the built workplace in well-being: Learning from the experiences of autistic teachers

[NL] De rol van de gebouwde werkplek in het welzijn: Leren van de ervaringen van leerkrachten met autisme

Masterproef binnen de Research[x]Design groep, Departement Architectuur, KU Leuven

Hallo,

Via deze brief nodig ik je uit om deel te nemen aan mijn onderzoek. Ik studeer burgerlijk ingenieur-architect aan de KU Leuven en zit in mijn laatste jaar. Tijdens dit jaar maak ik mijn thesis over de rol van de gebouwde werkplek in het welzijn van leerkrachten met autisme. Hierbij wil ik je schriftelijk informeren over het onderzoek.

Waarover gaat het onderzoek?
Dit onderzoek richt zich op leerkrachten met autisme, meer bepaald hoe de gebouwde werkplek invloed heeft op hun welzijn. Vaak richt onderzoek in scholen zich eerder op het welzijn en de ontwikkeling van leerlingen. In dit onderzoek daarentegen staan de ervaringen van de volwassenen (namelijk leerkrachten) centraal. Gezien het beperkte aantal studies dat zich tot nu toe heeft gericht op ervaringen van autistische individuen in de werkomgeving, ligt de focus hier specifiek op volwassenen met autisme. Bovendien hoop ik dat dit onderzoek een meerwaarde kan zijn door de ondervindingen te implementeren in toekomstige projecten van ontwerpers.

Hoe pak ik dit aan?
Ik zal informatie van je verwerven aan de hand van semigestructureerde interviews. Deze interviews worden ondersteund door twee andere methodes.

Als eerste zal ik je vragen maximum vijf foto's van je werkplek te maken van belangrijke aspecten voor jou, dit kunnen zowel positieve als negatieve aspecten zijn. Deze werkplek kan verder gaan dan enkel je bureau; het kan zelfs je thuis betreffen, aangezien hier eventueel ook een deel van het werk gebeurt. Het kan dus de lerarenkamer betreffen, de gang, de speelplaats, de eettafel thuis... Je bent hier vrij in: van welke afstand, van welke delen, op welke/meerdere tijdstippen...

We komen dan samen en bespreken deze foto's. We bespreken de foto's aan de hand van enkele hoofdvragen, die ik je op voorhand zal bezorgen, zo weet je waar je je aan moet verwachten tijdens het interview. Het kan zijn dat ik nog kleine vragen stel voor een vlot gesprek en om alle informatie uit het interview te halen. Je mag altijd zeggen als je het moeilijk hebt met een vraag en/of deze liever niet beantwoordt.
De plaats en het tijdstip kan afgesproken worden zodat dit het best past voor jou. De plaats kan bijvoorbeeld de school zijn. Ik ben me ervan bewust dat sommige van de participanten hun diagnose van autisme misschien niet hebben bekendgemaakt aan hun (school)omgeving. Dat is geen probleem. In beide gevallen, bekendmaking of niet aan je omgeving, kan het interview bij je thuis gebeuren of een andere plek waar je je op je gemak voelt.

Het tweede aspect van het onderzoek is een wandeling/rondleiding doorheen de werkplek, dus de school en/of jouw thuis. Om dezelfde reden als hierboven, kan het zijn dat dit deel van het onderzoek niet toepasbaar is voor jou of dat je je daar niet op je gemak bij voelt. Dat is helemaal geen probleem, ook de andere verzamelde informatie is nuttig.

Indien je de foto-opdracht en/of wandeling niet ziet zitten, maar wel wil meewerken aan een interview met mij, is dat ook een optie.

Op elk moment kan je beslissen om niet verder deel te nemen aan het onderzoek. Je hoeft hiervoor geen reden te geven. Ook mag je aangeven als je een bepaald aspect niet meer wil doen of een bepaalde vraag niet wil beantwoorden.

Het onderzoek loopt van midden februari tot en met midden mei 2024.

Wat gebeurt er met deze informatie?

Alle informatie die je geeft, wordt in vertrouwen behandeld. De resultaten van dit onderzoek kunnen gebruikt worden voor wetenschappelijke doeleinden en worden mogelijk gepubliceerd. Je naam of verwijzingen naar wie je bent, worden niet bekend gemaakt, ik zal namelijk met een pseudoniem werken voor elke participant. Indien je je naam wel wil bekendmaken, kan dit door het juiste vakje aan te vinken in onderstaand formulier.

De verzamelde gegevens, waaronder interviews, geluidsopnames, notities, foto's, video's, tekeningen, dagboeken, gedichten, etc., dienen voor een grondige analyse. Als deelnemers zoals jij toestemming geven, kunnen deze gegevens ook worden gebruikt om de onderzoeksbevindingen in publicaties/presentaties te illustreren.

Bij beeldmateriaal waar mensen op staan zullen deze onherkenbaar gemaakt worden (door middel van 'blurren'). Bij verwijzing naar/het in beeld brengen van ruimtes kunnen wij als onderzoekers niet garanderen dat personen die vertrouwd zijn met deze ruimtes aspecten ervan zullen herkennen. Er zal bij de foto's jouw naam worden gezet (of dus je eventuele pseudoniem)

Ik vraag je ook om vertrouwelijk om te gaan met de gemaakte foto's en deze niet te verspreiden of te delen. Zelf bewaar ik de foto's op een aparte computer die enkel door mij gebruikt wordt. Na afloop van het onderzoek worden de foto's en gemaakte opnames bewaard in een beveiligde folder die enkel toegankelijk is voor de promotoren. Daar worden ze gedurende 10 jaar veilig bewaard zodat ze kunnen gebruikt worden voor eventueel vervolgonderzoek o.l.v. de

promotoren. Eventueel vervolgonderzoek zal steeds te maken hebben met diversiteit van ervaringen in relatie tot de gebouwde omgeving.

De geluidsopname die gemaakt werd van het interview zal gecodeerd worden uitgeschreven. Dit wil zeggen dat er naar jou verwezen wordt met een code waarvan de sleutel enkel gekend is door mij. Na 20 jaar zal deze opname vernietigd worden.

De resultaten van het onderzoek kan je bij mij opvragen. Dit kan door dit in onderstaand formulier aan te duiden en je e-mail in te vullen.

Waarom kan deelname voor je interessant zijn?
Als je meedoet aan dit onderzoek, zal je helpen beter te begrijpen hoe leerkrachten met autisme de werkplek ervaren. Hierbij help je dit topic meer aan de aandacht te brengen. Hiermee kunnen de problemen omtrent de leerkrachtensector vanuit een ander oogpunt onderzocht worden en kunnen mogelijke oplossingen gezocht worden. Voor je deelname ontvang je geen vergoeding.

Bij wie kan je terecht met vragen?
De begeleiders van dit onderzoek zijn Ann Heylighen en Andrea Jelić. Zij zijn professor aan het departement Architectuur aan KU Leuven. Je kan hen bereiken op volgende e-mailadressen: ann.heylighen@kuleuven.be en andrea.jelic@kuleuven.be.
Zelf ben ik bereikbaar via e-mail:
hannah.denys@student.kuleuven.be

Hoe kan je deelnemen?
Dit kan door toestemming te geven door het invullen en tekenen van dit formulier.

Ik wil je alvast danken voor dit engagement en de hulp.

Met vriendelijke groeten, Hannah Denys

Naam van de onderzoeker | Datum | Handtekening

Hannah Denys

Ik, _____ (naam participant in drukletters) verklaar:

- ☐ dat ik dit formulier gelezen heb.
- ☐ dat ik al mijn vragen hebben kunnen stellen en tevreden ben met het antwoord.
- ☐ dat mijn gegevens gebruikt mogen worden voor vervolgonderzoek.
  Ik kies dat mijn gegevens op deze manier gebruikt worden:
  - ☐ Identificeerbaar: Dat betekent dat mijn naam en andere informatie over mijn ervaringen en mijn identiteit openbaar worden gemaakt en op grote schaal worden gedeeld.
  - ☐ De-identificeerbaar door pseudoniem: Dat betekent dat mijn naam wordt veranderd in een pseudoniem. De vertrouwelijkheid van mijn gegevens zal bij elke stap van het onderzoek worden beschermd. Bestandsnamen voor notities, interviews, audiotranscripties zullen worden vervangen door pseudoniemen of codes, en alle originele bestanden zullen worden verwijderd.
- ☐ Afhankelijk van de mate waarin ik mijn autisme op het werk heb onthuld, begrijp ik dat de geproduceerde foto's zullen worden aangepast om mogelijke risico's te beperken. Ik kies de volgende optie met betrekking tot het gebruik van deze foto's.
  - ☐ Kan gebruikt en gepubliceerd worden om het resultaat van het onderzoek te illustreren. De onderzoeker zal mij om toestemming vragen telkens als hij ze wil publiceren.
  - ☐ Kan alleen worden gebruikt voor onderzoeksanalyse en wordt niet gepubliceerd om mijn privacy te beschermen.
- ☐ dat ik begrijp dat deelname volledig vrijwillig is.
- ☐ dat ik voldoende tijd heb gekregen om na te denken over mijn deelname.
- ☐ dat ik weet dat er in dit onderzoek audio-opnames van mij gemaakt kunnen worden.
- ☐ dat ik weet dat ik voor vragen of voor de uitoefening van mijn rechten (inzage gegevens, correctie ervan,…) na mijn deelname terecht kan bij Hannah Denys (hannah.denys@student.kuleuven.be) Meer informatie rond privacy in onderzoek kan ik terugvinden op www.kuleuven.be/privacy. Verdere vragen over privacyaspecten kan ik richten tot de functionaris voor gegevensbescherming: dpo@kuleuven.be

- ☐ Ik wil op de hoogte gehouden worden van de resultaten van het onderzoek. De onderzoeker mag mij hiervoor contacteren op het volgende emailadres:
  _____

Datum: Handtekening participant:

Semi-structured interview guide

Vragen die op voorhand aan de participanten zijn bezorgd zodat ze weten waaraan ze zich moeten verwachten zijn onderlijnd

Inleiding interview

- Nog eens korte herhaling van het onderzoek en alvast bedanken dat ze dit met me willen doen en de meerwaarde ervan benadrukken
- Vermelden dat het gesprek wordt opgenomen (audio) en er worden notities genomen. Dit is enkel om de verwerking van het interview te vergemakkelijken en blijft vertrouwelijk (zoals vermeld in uitnodigingsbrief)
- Nog eens vermelden dat een pseudoniem zal worden gebruikt (tenzij anders gevraagd)
- Tijdsduur : 1,5 u tot 2u
- Toestemmingsformulier laten ondertekenen
- Er zijn geen juiste of foute antwoorden. Je mag de vragen zo ruim mogelijk beantwoorden en alles wat volgens jou met de vraag te maken heeft, mag je aanhalen. De focus ligt op het ruimtelijk aspect, maar je moet zeker niet selecteren in je antwoorden en enkel daarop focussen.
- Als een vraag voor jou moeilijk ligt of je deze liever niet wil beantwoorden mag je dat aangeven, dat is geen probleem en wordt volledig gerespecteerd.

Openingsvragen

- Hoelang werk je al als leerkracht? Hoelang werk je hier?
- Hoelang en waar heb je gewerkt?
- Heb je ook in andere scholen of sectoren gewerkt?
    - Eventueel vragen naar andere algemene dingen om de persoon beter te leren kennen: leeftijd, woonplaats ten opzichte van werk, heb je zelf kinderen? Werk je fulltime? Parttime en nog een andere job?
- Wat houdt jou job precies in?
- Hoe ziet een typische werkdag er voor jou uit?
    - Wanneer neem je je pauzes, met wie en waar?
- Is je diagnose van autisme bekendgemaakt in je (werk)omgeving?
    - Zo ja,
        - Heb je het gevoel dat mensen je anders behandelen nu ze weet hebben van je diagnose? Heb je het gevoel dat mensen anders naar je kijken als leerkracht dan ze naar andere leerkrachten kijken?
        - Welke voor-en nadelen ervaar je?
    - Zo neen,
        - Waarom vertel je dit niet aan je omgeving? (stigma, negatieve bias…)
        - Welke voor- en nadelen ervaar je?

[algemene dingen]

- Hoe verloopt de communicatie met

    - Leerlingen
        - Denk je dat autistische leerlingen meer houvast kunnen vinden bij jou dan bij andere leerkrachten?
        - Probeer je soms inclusievere vormen van onderwijs toe te passen?
    - Ouders
    - Collega's
        - Lerarenkamer
- Waar ga je heen als je even tijd voor jezelf nodig hebt tijdens werktijd?

Inleidende vragen

- Wat heb je gefotografeerd?
- Waarom heb je dit gefotografeerd?
- Vond je het moeilijk om te kiezen wat je fotografeerde?
- Waren er andere mensen in de buurt toen je deze foto's nam?
- Heb je met andere mensen besproken wat je zou fotograferen voor deze opdracht?
    - Kan invloed hebben op de foto

Overgangsvragen en sleutelvragen

[interview aan de hand van zelf genomen foto]

- Kun je beschrijven wat je op deze plek zoal doet?
- Hoe vaak ben je op deze plek? Spendeer je hier veel tijd?
    - Peilen naar dag/week tijdsbesteding
- Hoe bereik je deze plek?
    - Moet je hiervoor door andere ruimtes?
    - Ervaar je hierbij (soms) obstakels?
- Hoe voel je je als je hier bent? Voel je je hier op je gemak?
    - Voel je je altijd zo als je hier bent?
        - Is het altijd zo geweest?
    - Zijn er dingen die je irriteren / stress geven op deze werkplek?
    - Zijn er aspecten die je op je gemak stellen? Waardoor je je goed voelt? Waar je van geniet?
    - Vragen naar elementen in verband met:
        - Lawaai
        - Storende elementen
        - Privacy
        - Temperatuur
        - Licht
        - Zintuiglijke overbelasting [dieper ingaan op specifieke elementen op de foto's, kleuren, zichten, planten, relatie met andere ruimtes].
- Zijn er elementen die anders mogen voor jou?
- Zijn er elementen die je zeker zou behouden?
- Heb je elementen toegevoegd of aangepast aan deze omgeving (om je meer op je gemak te voelen / meer persoonlijk te maken)?
    - Waarom heb je ze toegevoegd/aangepast?

- Hoe verschilt deze werkruimte met je werkruimte thuis? (of andersom: hoe verschilt deze met je werkruimte op school?)
    - Zijn er bepaalde dingen die je hier doet en op de andere niet?

Besluitende vragen

- Op welke manier denk je dat jij werkruimtes anders ervaart dan mensen/ collega's zonder autisme?
- Heb je nog andere ideeën wat voor jou een aangename werkruimte zoal inhoudt en welke elementen ervoor zorgen dat je je werk op de best mogelijk manier kan verrichten?
    - Vragen naar productiviteit, concentratie, licht/geluid/privacy
- Welke tips zou je geven aan toekomstige architecten van scholen?
- Van alles wat we besproken hebben, wat is voor jou het belangrijkste om mee te geven voor ons onderzoek?
- Is er nog iets dat we niet besproken hebben en je kwijt zou willen of wat jou relevant lijkt voor dit onderzoek?

Topic lists interviews

Interview Bart

Strategies
- to stay under the radar
- to keep it 'manageable'

Regular timetable
Teaching style (as a strategy)
Spatial aspects
- Nature
- Enough space
- Warm wooden cabinets
- Overview
- Accessibility

Sensory aspects
- Sound
- Smell
- Protection from stimuli

(Not) having an own classroom
New technology versus old furniture
Vision on education
Personal elements in the workplace
(Non) Disclosure – feeling an outsider
Working at home versus working at school
Use(rs)

Interview Sophie

Empathy
Autism as strength
Personal things in the workplace
(Adapted) Furniture
Sensory aspects
- Sound
- (Adaptable) lightning

Order versus chaos
Spatial aspects
- Different compartments
- Shielded
- Colours
- Nature

Structure in space and time
Work versus free time
Meaning something to others as another dimension of well-being
Getting the diagnosis

Interview Sabine

Empathy
Teaching style versus design classrooms
Strategies
- Daily schedule

Team dynamics and support
Creating a safe space
- To reduce the stimuli

Spatial aspects
- Continuity of materials
- Continuous planes (no pokey elements)
- Round shapes
- Colours
- Nature
- Overview
- Looking at a wall
- Location school

Sensory aspects
- Lighting
- Sound
- Smell
- Protection from stimuli

Furniture
Technology
Use(rs)
Bringing identity into the workplace

Interview Emma

Strategy
- Prevention for stimuli
- Combination of jobs

Use(rs)
Sensory aspects
- Sound
- Temperature
- Lightning
- ventilation
- concentration

Spatial aspects
- Not enough different rooms
- Nature
- Location school

Team dynamics and support
Furniture
- Schedule system

Working at home versus working at school
- School materials

Getting the diagnosis

Bibliography

Personal conversations with participants

Bart, interview, March 13, 2024.
Sophie, interview, March 21, 2024.
Sabine, interview, March 29 2024.
Emma, interview, April 17, 2024.
Eleonora, reflection presentation, May 22, 2024.

Language program

To revise some phrases I used: OpenAI. (2024). ChatGPT (GPT-4) [Large language model]. https://www.openai.com/

Auditory and visual sources

Van der Erve, J. (Host). (2024, April 22). *Hallo Nederland*. (No. 4) [Audio podcast episode]. In de jongen zonder gisteren. NPO Luister / WNL. https://open.spotify.com/episode/77L3vspdufna32MqeMMr2J?si=c4215bb248934b0c

VRT CANVAS. (2024). Hoe was het op school [Video]. VRT max. https://www.vrt.be/vrtmax/a-z/hoe-was-het-op-school/#afleveringen

Written sources

Ahrentzen, S., & Steele, K. (2016). *At Home With Autism: designing housing for the spectrum*. Policy Press.

Albrecht, G. L., & Devlieger, P. J. (1999). The Disability Paradox: Highly Qualified of Life against All Odds. *Social Science and Medicine*, *48*, 977–988.

Amick, B., Menéndez, C., Bazzani, L., Robertson, M., DeRango, K., Rooney, T., & Moore, A. (2011). A field intervention examining the impact of an office ergonomics training and a highly adjustable chair on visual symptoms in a public sector organization.

Applied Ergonomics, *43*, 625–631. https://doi.org/10.1016/j.apergo.2011.09.006
Annemans, M., Van Audenhove, C., Vermolen, H., & Heylighen, A. (2012). *Hospital Reality from a Lying Perspective:Exploring a Sensory Research Approach BT - Designing Inclusive Systems* (P. Langdon, J. Clarkson, P. Robinson, J. Lazar, & A. Heylighen (eds.); pp. 3–12). Springer London.
ANTONOVSKY, A. (1996). The salutogenic model as a theory to guide health promotion. *Health Promotion International*, *11*(1), 11–18. https://doi.org/10.1093/heapro/11.1.11
Appel-Meulenbroek, R., Voordt, T. van der, Aussems, R., Arentze, T., & Le Blanc, P. (2020a). Impact of activity-based workplaces on burnout and engagement dimensions. *Journal of Corporate Real Estate*, *22*(4), 279–296. https://doi.org/10.1108/JCRE-09-2019-0041
Appel-Meulenbroek, R., Voordt, T. van der, Aussems, R., Arentze, T., & Le Blanc, P. (2020b). Impact of activity-based workplaces on burnout and engagement dimensions. *Journal of Corporate Real Estate*, *22*(4), 279–296. https://doi.org/10.1108/JCRE-09-2019-0041
Armstrong, T. (2010). *The power of neurodiversity*. Da Capo Lifelong Books.
Asperger, H. (1944). Die „Autistischen Psychopathen" im Kindesalter. *Archiv Für Psychiatrie Und Nervenkrankheiten*, *117*(1), 76–136. https://doi.org/10.1007/BF01837709
Atsmon, T., Yaakobi (Gorga), L., & Lowinger, S. (2019). *Adults on the Autism Spectrum and Their Families: Residential Issues BT - Autism in Adulthood* (S. Lowinger & S. Pearlman-Avnion (eds.); pp. 155–181). Springer International Publishing. https://doi.org/10.1007/978-3-030-28833-4_8
Babapour Chafi, M., & Cobaleda-Cordero, A. (2022). Methods for eliciting user experience insights in workplace studies: spatial walkthroughs, experience curve mapping and card sorting. *Journal of Corporate Real Estate*, *24*(1), 4–20. https://doi.org/10.1108/JCRE-12-2020-0069
Babisch, W. (2008). Road traffic noise and cardiovascular risk. *Noise & Health*, *10*(38), 27–33. https://doi.org/10.4103/1463-1741.39005
Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. In *Journal of Occupational Health Psychology* (Vol. 22, Issue 3, pp. 273–285). Educational Publishing Foundation. https://doi.org/10.1037/ocp0000056
Bakker, A. B., Demerouti, E., & Sanz-Vergel, A. I. (2014). Burnout and Work Engagement: The JDR Approach. *Annual Review of Organizational Psychology and Organizational Behavior*, *1*, 389–411. https://doi.org/10.1146/annurev-orgpsych-031413-091235
Bal, P. (2010). Weekly work engagement and performance: A study among starting teachers. *Journal of Occupational and Organizational Psychology*, *83*, 189–206. https://doi.org/10.1348/096317909X402596
Bamps, R. (2023). *How to make the campus life more comfortable for students on the spectrum ? Focussing on the KU Leuven built environment How to make the campus life more comfortable for students on the spectrum ? Focussing on the KU Leuven built environment*.
Banbury, S. P., & Berry, D. C. (2005). Office noise and employee concentration: Identifying causes of disruption and potential improvements. *Ergonomics*, *48*(1), 25–37. https://doi.org/10.1080/00140130412331311390
Barnes, E. (2016). *The Minority Body: A Theory of Disability*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780198732587.001.0001
Baumers, S., & Heylighen, A. (2010). *Harnessing Different Dimensions of Space: The Built Environment in Auti-biographies BT - Designing Inclusive Interactions* (P. M. Langdon, P. J. Clarkson, & P. Robinson (eds.); pp. 13–23). Springer London.

Baumers, S., & Heylighen, A. (2014). *Performing their Version of the House. Views on an Architectural Response to Autism* (pp. 57–69). Routledge. https://doi.org/10.4324/9781315813523

Baumers, S., & Heylighen, A. (2015). Capturing Experience: An Autistic Approach to Designing Space. *The Design Journal*, *18*(3), 327–343. https://doi.org/10.1080/14606925.2015.1059599

Bergefurt, L., Weijs-Perrée, M., Appel-Meulenbroek, R., & Arentze, T. (2022). The physical office workplace as a resource for mental health – A systematic scoping review. *Building and Environment*, *207*(August 2021). https://doi.org/10.1016/j.buildenv.2021.108505

Berger, P., & Luckmann, T. (2018). *Społeczne tworzenie rzeczywistości*. Wydawnictwo Naukowe PWN.

Bianchin, M., & Heylighen, A. (2018). Just design. *Design Studies*, *54*, 1–22. https://doi.org/10.1016/J.DESTUD.2017.10.001

Bickenbach, J. E., Felder, F., & Schmitz, B. (2015). *Disability and the Good Human Life*. Cambridge University Press. https://books.google.be/books?id=s-kfAgAAQBAJ

Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member Checking: A Tool to Enhance Trustworthiness or Merely a Nod to Validation? *Qualitative Health Research*, *26*(13), 1802–1811. https://doi.org/10.1177/1049732316654870

Bjørnstad, S., Patil, G. G., & Raanaas, R. K. (2016). Nature contact and organizational support during office working hours: Benefits relating to stress reduction, subjective health complaints, and sick leave. *Work*, *53*, 9–20. https://doi.org/10.3233/WOR-152211

Bluyssen, P. M. (2009). *The Indoor Environmental Handbook*. Eartscan.

Bluyssen, P. M., Aries, M., & van Dommelen, P. (2011). Comfort of workers in office buildings: The European HOPE project. *Building and Environment*, *46*(1), 280–288. https://doi.org/https://doi.org/10.1016/j.buildenv.2010.07.024

Boerstra, A. C., Kulve, M. te, Toftum, J., Loomans, M. G. L. C., Olesen, B. W., & Hensen, J. L. M. (2015). Comfort and performance impact of personal control over thermal environment in summer: Results from a laboratory study. *Building and Environment*, *87*, 315–326. https://doi.org/https://doi.org/10.1016/j.buildenv.2014.12.022

Brickman, P. D., & Campbell, D. T. (1971). Adaptation-level Theory. In *Hedonic relativism and planning the good society* (pp. 287–302). Academic Press.

Buck, T. R., Viskochil, J., Farley, M., Coon, H., McMahon, W. M., Morgan, J., & Bilder, D. A. (2014). Psychiatric Comorbidity and Medication Use in Adults with Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders*, *44*(12), 3063–3071. https://doi.org/10.1007/s10803-014-2170-2

Candido, C., Chakraborty, P., & Tjondronegoro, D. (2019). The Rise of Office Design in High-Performance, Open-Plan Environments. In *Buildings* (Vol. 9, Issue 4). https://doi.org/10.3390/buildings9040100

Carpiano, R. M. (2009). Come take a walk with me: The "Go-Along" interview as a novel method for studying the implications of place for health and well-being. *Health & Place*, *15*(1), 263–272. https://doi.org/https://doi.org/10.1016/j.healthplace.2008.05.003

Chadburn, A., Smith, J., & Milan, J. (2017). Productivity drivers of knowledge workers in the central London office environment. *Journal of Corporate Real Estate*, *19*(2), 66–79. https://doi.org/10.1108/JCRE-12-2015-0047

Chung, H., Seo, H., Forbes, S., & Birkett, H. (2020). WFH DURING THE LOCKDOWN: Changing preferences and the future of work UK. *Journal of the University of Kent (KAR)*. https://kar.kent.ac.uk/83896/1/Working_from_home_COVID-19_lockdown.pdf

Colenberg, S., Jylhä, T., & Arkesteijn, M. (2021). The relationship between interior office space and employee health and well-being–a literature review. *Building Research and Information*, *49*(3), 352–366. https://doi.org/10.1080/09613218.2019.1710098

Cook, J., Hull, L., Crane, L., & Mandy, W. (2021). Camouflaging in autism: A systematic review. *Clinical Psychology Review*, *89*, 102080. https://doi.org/10.1016/j.cpr.2021.102080

Cooper, K., Smith, L., & Russell, A. (2017). Social Identity, Self-Esteem, and Mental Health in Autism. *European Journal of Social Psychology*, *47*. https://doi.org/10.1002/ejsp.2297

Crespi, B. J. (2010). Revisiting Bleuler: relationship between autism and schizophrenia. *British Journal of Psychiatry*, *196*(6), 495. https://doi.org/DOI: 10.1192/bjp.196.6.495

Crilly, N., Maier, A., & Clarkson, P. (2008). Representing Artefacts as Media: Modelling the Relationship Between Designer Intent and Consumer Experience. *International Journal Design*, *2 (3)*. https://www.ijdesign.org/index.php/IJDesign/article/view/429

Crowley, S. J., Molina, T. A., & Burgess, H. J. (2015). A week in the life of full-time office workers: Work day and weekend light exposure in summer and winter. *Applied Ergonomics*, *46*, 193–200. https://doi.org/https://doi.org/10.1016/j.apergo.2014.08.006

Cummins, R. A. (2010). Subjective Wellbeing, Homeostatically Protected Mood and Depression: A Synthesis. *Journal of Happiness Studies*, *11*(1), 1–17. https://doi.org/10.1007/s10902-009-9167-0

Davis, L. (2013). *The Disability Studies Reader: The social model of disability*. *December 1974*, 214–221. http://ieas-szeged.hu/downtherabbithole/wp-content/uploads/2018/02/Lennard-J.-Davis-ed.-The-Disability-Studies-Reader-Routledge-2014.pdf#page=221

De Vries, B. (2021). Autism and the Right to a Hypersensitivity-Friendly Workspace. *Public Health Ethics*, *14*(3), 281–287. https://doi.org/10.1093/phe/phab021

Delle Fave, A., Massimini, F., & Bassi, M. (2011). *Hedonism and Eudaimonism in Positive Psychology BT - Psychological Selection and Optimal Experience Across Cultures: Social Empowerment through Personal Growth* (A. Delle Fave, F. Massimini, & M. Bassi (eds.); pp. 3–18). Springer Netherlands. https://doi.org/10.1007/978-90-481-9876-4_1

Demerouti, E. (2007). The Job Demands-Resources Model: State of the Art. *Journal of Managerial Psychology*, *22*, 309–328. https://doi.org/10.1108/02683940710733115

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. In *Journal of Applied Psychology* (Vol. 86, Issue 3, pp. 499–512). American Psychological Association. https://doi.org/10.1037/0021-9010.86.3.499

Demerouti, E., & Euwema, M. (2005). Job Resources Buffer the Impact of Job Demands on Burnout. *Journal of Occupational Health Psychology*, *10*, 170–180. https://doi.org/10.1037/1076-8998.10.2.170

Demerouti, E., & Schaufeli, W. (2003). The socially induced burnout model. *Advances in Psychology Research*, *25*.

Devlieger, P. (2005). *Generating a cultural model of disability*.

Devlieger, P., Rusch, F., & Pfeiffer, D. (2007). *Rethinking disability - the emergence of new definitions, concepts and communities*. Garant.

Di Blasio, S., Shtrepi, L., Puglisi, G. E., & Astolfi, A. (2019). A Cross-Sectional Survey on the Impact of Irrelevant Speech Noise on Annoyance, Mental Health and Well-being, Performance and Occupants' Behavior in Shared and Open-Plan Offices. In *International Journal of Environmental Research and Public Health* (Vol. 16, Issue 2).

https://doi.org/10.3390/ijerph16020280
Dierckx de Casterle, B., Gastmans, C., Bryon, E., & Denier, Y. (2012). QUAGOL: A guide for qualitative data analysis. *International Journal of Nursing Studies*, *49*(3), 360–371. https://doi.org/10.1016/j.ijnurstu.2011.09.012
Dodge, R., Daly, A., Huyton, J., & Sanders, L. (2012). The challenge of defining wellbeing. *International Journal of Wellbeing*, *2*(3), 222–235. https://doi.org/10.5502/ijw.v2i3.4
Doren, C. Van. (2010). *Another Perspective on the Built Environment Confronting Architects' View with the Experience of Persons with Disabilities*. https://p.cygnus.cc.kuleuven.be/bbcswebdav/pid-19837804-dt-content-rid-105757088_2/courses/B-KUL-H03U1a-1718/masterpaperCarolineVanDoren.pdf
Douglas, I. P., Murnane, E. L., Bencharit, L. Z., Altaf, B., Costa, J. M. dos R., Yang, J., Ackerson, M., Srivastava, C., Cooper, M., Douglas, K., King, J., Paredes, P. E., Camp, N. P., Mauriello, M. L., Ardoin, N. M., Markus, H. R., Landay, J. A., & Billington, S. L. (2022). Physical workplaces and human well-being: A mixed-methods study to quantify the effects of materials, windows, and representation on biobehavioral outcomes. *Building and Environment*, *224*(July). https://doi.org/10.1016/j.buildenv.2022.109516
Fattore, T., Mason, J., & Watson, E. (2009). When Children are Asked About Their Well-being: Towards a Framework for Guiding Policy. *Child Indicators Research*, *2*(1), 57–77. https://doi.org/10.1007/s12187-008-9025-3
Feinberg, J. (1988). *The Moral Limits of the Criminal Law: Volume 2: Offense to Others*. Oxford University Press USA.
Forgeard, M. J. C., Jayawickreme, E., Kern, M. L., & Seligman, M. E. P. (2011). Doing the Right Thing: Measuring Well-Being for Public Policy. *International Journal of Wellbeing*, *1*(1), 79–106. https://doi.org/10.5502/ijw.v1i1.15
Forooraghi, M., Cobaleda-Cordero, A., & Babapour Chafi, M. (2022). A healthy office and healthy employees: a longitudinal case study with a salutogenic perspective in the context of the physical office environment. *Building Research & Information*, *50*(1–2), 134–151. https://doi.org/10.1080/09613218.2021.1983753
Francis, P., Balbo, S., & Firth, L. (2009). Towards co-design with users who have autism spectrum disorders. *Universal Access in the Information Society*, *8*(3), 123–135. https://doi.org/10.1007/s10209-008-0143-y
Franck, K., & Lepori, B. (2007). *Architecture from the inside out: from the body, the senses, the site and the community* (2nd ed.). Wiley.
Freudenberger, H. J. (1974). Staff burn-out. *Journal of Social Issues*, *30*(1), 159–165.
Froggatt, K. (2001). The analysis of qualitative data: processes and pitfalls. *Palliative Medicine*, *15*, 433–438.
Gaines, K., Bourne, A., Pearson, M., & Kleibrink, M. (2016). Designing for autism spectrum disorders. *Designing for Autism Spectrum Disorders*, 1–220. https://doi.org/10.4324/9781315856872
Gajendran, R. S., Harrison, D. A., & Delaney-Klinger, K. (2015). Are telecommuters remotely good citizens? Unpacking telecommuting's effects on performance via i-deals and job resources. *Personnel Psychology*, *68*(2), 353–393. https://doi.org/10.1111/peps.12082
Gaudion, K., Hall, A., Myerson, J., & Pellicano, L. (2015). A designer's approach: how can autistic adults with learning disabilities be involved in the design process? *CoDesign*, *11*(1), 49–69. https://doi.org/10.1080/15710882.2014.997829
Gibson, J. J. (1979). Gibson, James J. "The Theory of Affordances" The Ecological Approach to Visual Perception. Boston: Houghton Mifflin, 1979. Print. *The Ecological Approach to Visual Perception*, 127–137.
Giddens, A. (2006). *Sociology* (5th ed.). Polity Press.
Grandin, T. (2009). *Thinking in Pictures*. Bloomsbury Publishing.

https://books.google.be/books?id=gUgXehHL82AC
Haapakangas, A., Hallman, D. M., Mathiassen, S. E., & Jahncke, H. (2018). Self-rated productivity and employee well-being in activity-based offices: The role of environmental perceptions and workspace use. *Building and Environment*, *145*, 115–124. https://doi.org/https://doi.org/10.1016/j.buildenv.2018.09.017
Hakanen, J., & Demerouti, E. (2006). How dentists cope with their job demands and stay engaged: The moderating role of job resources. *European Journal of Oral Sciences*, *113*, 479–487. https://doi.org/10.1111/j.1600-0722.2005.00250.x
Hakanen, J., Demerouti, E., & Xanthopoulou, D. (2007). Job Resources Boost Work Engagement, Particularly When Job Demands Are High. *Journal of Educational Psychology*, *99*. https://doi.org/10.1037/0022-0663.99.2.274
Hakanen, J. J., Bakker, A. B., & Schaufeli, W. B. (2006). Burnout and work engagement among teachers. In *Journal of School Psychology* (Vol. 43, Issue 6, pp. 495–513). Elsevier Science. https://doi.org/10.1016/j.jsp.2005.11.001
Harding, S., Morris, R., Gunnell, D., Ford, T., Hollingworth, W., Tilling, K., Evans, R., Bell, S., Grey, J., Brockman, R., Campbell, R., Araya, R., Murphy, S., & Kidger, J. (2019). Is teachers' mental health and wellbeing associated with students' mental health and wellbeing? *Journal of Affective Disorders*, *242*(July 2018), 180–187. https://doi.org/10.1016/j.jad.2018.08.080
Harris, J. (2018). Leo Kanner and autism: a 75-year perspective. *International Review of Psychiatry*, *30*(1), 3–17. https://doi.org/10.1080/09540261.2018.1455646
Hayward, S. M., McVilly, K. R., & Stokes, M. A. (2020). Sources and impact of occupational demands for autistic employees. *Research in Autism Spectrum Disorders*, *76*. https://doi.org/10.1016/j.rasd.2020.101571
Headey, B., & Wearing, A. (1989). Personality, life events, and subjective well-being: Toward a dynamic equilibrium model. *Journal of Personality and Social Psychology*, *57*(4), 731–739. https://doi.org/10.1037/0022-3514.57.4.731
Headey, B., & Wearing, A. (1992). *Understanding Happiness: A Theory of Subjective Well-being*. Longman Cheshire. https://books.google.be/books?id=2bIHAgAACAAJ
Headey, B., & Wearing, A. J. (1991). *Subjective well-being: A stocks and flows framework.* https://api.semanticscholar.org/CorpusID:149195572
Henderson, G., & Bryan, W. (2011). *Psychological aspects of disability* (4th ed.). Charles C. Thomas.
Hendry, L., & Kloep, M. (2002). *Lifespan Development – Resources, Challenges and Risks*.
Hens, K. (2021). Towards an Ethics of Autism. In *Towards an Ethics of Autism*. https://doi.org/10.11647/obp.0261
Herzlich, C., & of Experimental Social Psychology, E. A. (1973). *Health and Illness: A Social Psychological Analysis*. European Association of Experimental Social Psychology by Academic Press. https://books.google.be/books?id=ILceAQAAIAAJ
Heylighen, A. (2012). *Challenging prevailing ways of understanding and designing space*.
Heylighen, A., Baumers, S., Herssens, J., Nijs, G., & Vermeersch, P.-W. (2010). Challenging prevailing boundaries in design. In *Borderline, pushing design over the limit*. Cumulus.
Heylighen, A., Leuven, K. U., & Froyen, H. (2009). *Architecture criticism blindfolded*. 1–6.
Heylighen, A., Van Doren, C., & Vermeersch, P.-W. (2013). ENRICHING OUR UNDERSTANDING OF ARCHITECTURE THROUGH DISABILITY EXPERIENCE. *Open House International*, *38*(1), 7–19. https://www.proquest.com/scholarly-journals/enriching-our-understanding-architecture-through/docview/1357568636/se-2?accountid=17215
Hopf, R., Larriba-Quest, K., & Pratt, C. (2017). *Characteristics of individuals with an autism spectrum disorder (ASD)*. https://www.iidc.indiana.edu/pages/characteristics
Houtman, I., Douwes, M., de Jong, T., Meeuwsen, J. M., Jongen, M., Brekelmans, F., Weegh,

M., Brouwer, D., Bossche, S., Zwetsloot, G., Reinert, D., Neitzner, I., Hauke, A., Flaspöler, E., Zieschang, H., Kolk, A., Nies, E., Prieshoff, H., Roman, D., & Corral, A. (2008). *New Forms of Physical and Psychosocial Health Risks at Work*. https://doi.org/10.13140/RG.2.2.21037.79845

Jellema, P., Annemans, M., & Heylighen, A. (2018). At home in the hospital and hospitalised at home: Exploring experiences of cancer care environments. *Breaking Down Barriers: Usability, Accessibility and Inclusive Design*, 215–226. https://doi.org/10.1007/978-3-319-75028-6_19

Jellema, P., Annemans, M., & Heylighen, A. (2020). The roles of cancer care facilities in users' well-being. *Building Research & Information*, *48*(3), 254–268. https://doi.org/10.1080/09613218.2019.1620094

Kamphaus, R. W., Dowdy, E., Kim, S., & Chin, J. (2013). Diagnosis, classification, and screening systems. In *The Oxford handbook of child psychological assessment.* (pp. 182–201). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199796304.001.0001

Kanner, L. (1968). Autistic disturbances of affective contact. *Acta Paedopsychiatrica*, *35*(4), 100–136.

Kasser, S. L., & Lytle, R. K. (2005). *Inclusive Physical Activity: A Lifetime of Opportunities*. Human Kinetics.

Kebritchi, M., Lipschuetz, A., & Santiague, L. (2017). Issues and Challenges for Teaching Successful Online Courses in Higher Education. *Journal of Educational Technology Systems*, *46*(1), 4–29. https://doi.org/10.1177/0047239516661713

Kenny, L., Hattersley, C., Molins, B., Buckley, C., Povey, C., & Pellicano, E. (2015). Which terms should be used to describe autism? Perspectives from the UK autism community. *Autism*, *20*(4), 442–462. https://doi.org/10.1177/1362361315588200

Kinnaer, M. (2012). *Autisme van bovenaf of binnenuit Een genuanceerder beeld over autismevriendelijke*.

Kinnaer, M., Baumers, S., & Heylighen, A. (2014). *How do People with Autism (Like to) Live? BT - Inclusive Designing* (P. M. Langdon, J. Lazar, A. Heylighen, & H. Dong (eds.); pp. 175–185). Springer International Publishing.

Kinnaer, M., Baumers, S., & Heylighen, A. (2016). Autism-friendly architecture from the outside in and the inside out: an explorative study based on autobiographies of autistic people. *Journal of Housing and the Built Environment*, *31*(2), 179–195. https://doi.org/10.1007/s10901-015-9451-8

Kloep, M., Hendry, L., & Saunders, D. (2009). A new perspective on human development. *Conference of the International Journal or Arts and Sciences*, *1(6)*, 332–343.

la Velle, L. (2020). The challenges for teacher education in the 21st century: urgency, complexity and timeliness. *Journal of Education for Teaching*, *46*(1), 1–3. https://doi.org/10.1080/02607476.2019.1708621

LANDMAN, P., FISHBURN, K., Kelly, L., & TONKIN, S. (2005). *MANY VOICES MAKING CHOICES: MUSEUM AUDIENCES WITH DISABILITIES*.

Lawrence, C. (2019). "I can be a role model for autistic pupils": Investigating the voice of the autistic teacher Teacher Education Advancement Network Journal pages. *Cumbria*, *11*(2), 50–58.

Lawrence, C., * C., Collyer, E., & Poulson, M. (2021). "Howling at the scrabble-board": exploring classroom literature from an autistic viewpoint. *English in Education*, *55*(2), 164–176. https://doi.org/10.1080/04250494.2020.1801345

Lee, J. Y., Rocco, T. S., & Shuck, B. (2020). What is a resource: Toward a taxonomy of resources for employee engagement. *Human Resource Development Review*, *19*(1), 5–38. https://doi.org/10.1177/1534484319853100

Leemans, G., & Ahlefeld, H. Von. (2013). *Building Policy and Practice in Belgium ' s Flemish*

Community. *92*.
Lewtas, J. (2007). Air pollution combustion emissions: characterization of causative agents and mechanisms associated with cancer, reproductive, and cardiovascular effects. *Mutation Research*, *636*(1–3), 95–133. https://doi.org/10.1016/j.mrrev.2007.08.003
Liebergesell, N. P., Vermeersch, P. W., & Heylighen, A. (2018). Designing from a disabled body: The case of architect marta bordas eddy. *Multimodal Technologies and Interaction*, *2*(1). https://doi.org/10.3390/mti2010004
Love disabled life. (2017). *The Four Most Recognized Models of Disability in Disability Studies*. https://www.lovedisabledlife.com/blog/the-four-most-recognized-models-of-disability-in-disability-studies
Lowinger, S., & Pearlman-avnion, S. (2019). *Autism in adulthood : challenges and management*.
Marks, N., & Shah, H. (2004). A well-being manifesto for a flourishing society. *Journal of Public Mental Health*, *3*, 9–15. https://doi.org/10.1108/17465729200400023
Maslach, C., & Leiter, M. P. (1997). *The Truth About Burnout: How Organizations Cause Personal Stress And What To Do About It*. Jossy-Bass.
Maslach, C., & Leiter, M. P. (2008). *The Truth About Burnout: How Organizations Cause Personal Stress and What to Do About It*. Wiley. https://books.google.be/books?id=uzomWhbqcCAC
MCALLISTER, K., & MAGUIRE, B. (2012). Design considerations for the autism spectrum disorder-friendly Key Stage 1 classroom. *Support for Learning*, *27*(3), 103–112. https://doi.org/https://doi.org/10.1111/j.1467-9604.2012.01525.x
McDermott, R., & Varenne, H. (1995). Culture as disability. In *Anthropology and Education Quarterly* (pp. 323–348).
Mcgee, M. (2012). Neurodiversity. *Contexts*, *11*(3), 12–13. https://doi.org/10.1177/1536504212456175
Mendell, M. J. (2007). Indoor residential chemical emissions as risk factors for respiratory and allergic effects in children: a review. *Indoor Air*, *17*(4), 259–277. https://doi.org/10.1111/j.1600-0668.2007.00478.x
Mohamed, B., N., C. I., J., R. K., Chia-Hui, W., & C., Z. P. (2024). Impact of Windows and Daylight Exposure on Overall Health and Sleep Quality of Office Workers: A Case-Control Pilot Study. *Journal of Clinical Sleep Medicine*, *10*(06), 603–611. https://doi.org/10.5664/jcsm.3780
Monk, R., Whitehouse, A. J. O., & Waddington, H. (2022). The use of language in autism research. *Trends in Neurosciences*, *45*(11), 791–793. https://doi.org/10.1016/j.tins.2022.08.009
Mortelmans, D. (2015). *Handboek kwalitatieve onderzoeksmethoden*. Acco.
Mostafa, M. (2015). *The Autism ASPECTSS* Design Index*. ASPECTSS* Architecture for Autism. https://www.autism.archi/aspectss
Mostafa, M. (2021). *THE AUTISM FRIENDLY UNIVERSITY DESIGN GUIDE*.
Mpofu, E., Tansey, T., Mpofu, N., Tu, W.-M., & Li, Q. (2019). *Employment Practices with People with Autism Spectrum Disorder in the Digital Age* (pp. 309–326). https://doi.org/10.1007/978-3-030-28180-9_15
National Autistic Society. (2024). *Accessible environments*. https://www.autism.org.uk/advice-and-guidance/topics/autism-friendly-guide/accessible-environments
National instutute of Mental Health. (2023). *Attention-Deficit/Hyperactivity Disorder (ADHD)*. https://www.nimh.nih.gov/health/topics/attention-deficit-hyperactivity-disorder-adhd
NHS. (2022). *Multiple sclerosis*. https://www.nhs.uk/conditions/multiple-sclerosis/
Nimante, D., Laganovska, E., & Osgood, R. (2023). To tell or not to tell–disclosure of autism

in the workplace. *International Journal of Developmental Disabilities*, *69*(3), 414–423. https://doi.org/10.1080/20473869.2023.2193489

Norman, D. (1999). Affordance, conventions, and design. *Interactions*, *6*, 38–42. https://doi.org/10.1145/301153.301168

O'Reilly, M., Lester, J. N., & Kiyimba, N. (2020). *Autism in the Twentieth Century: An Evolution of a Controversial Condition BT - Healthy Minds in the Twentieth Century: In and Beyond the Asylum* (S. J. Taylor & A. Brumby (eds.); pp. 137–165). Springer International Publishing. https://doi.org/10.1007/978-3-030-27275-3_7

Olkin, R. (1999). What psychotherapists should know about disability. In *What psychotherapists should know about disability.* Guilford Press.

Olkin, R. (2022). *Conceptualizing disability: Three models of disability*. American Psychological Association. https://www.apa.org/ed/precollege/psychology-teacher-network/introductory-psychology/disability-models

Owren, T., & Stenhammer, T. (2013). Neurodiversity: accepting autistic difference. *Learning Disability Practice*, *16*, 32–37. https://doi.org/10.7748/ldp2013.05.16.4.32.e681

Pallasmaa, J. (2007). *The eyes of the skin: architecture and the senses* (Reprint). Wiley-Acamedy.

Pearse, J. (n.d.). *Autistic subjectivities: A critical narrative analysis of the stories of women who self-identified as autistic in adulthood*. https://uwe-repository.worktribe.com/output/5382733

Petersson-Bloom, L., & Holmqvist, M. (2022). Strategies in supporting inclusive education for autistic students-A systematic review of qualitative research results. *Autism & Developmental Language Impairments*, *7*, 23969415221123428. https://doi.org/10.1177/23969415221123429

Radley, A. (2010). What people do with pictures. *Visual Studies*, *25*(3), 268–279. https://doi.org/10.1080/1472586X.2010.523279

Retief, M., & Letšosa, R. (2018). Models of disability: A brief overview. *HTS Teologiese Studies / Theological Studies*, *74*(1), 1–8. https://doi.org/10.4102/hts.v74i1.4738

Robertson, C. E., & Baron-Cohen, S. (2017). Sensory perception in autism. *Nature Reviews Neuroscience*, *18*(11), 671–684. https://doi.org/10.1038/nrn.2017.112

Robertson, M. M., Ciriello, V. M., & Garabet, A. M. (2013). Office ergonomics training and a sit-stand workstation: Effects on musculoskeletal and visual symptoms and performance of office workers. *Applied Ergonomics*, *44*(1), 73–85. https://doi.org/https://doi.org/10.1016/j.apergo.2012.05.001

Rogerson, L. (2023). Edith Cowan University. *The Grants Register 2024*, 470–472. https://doi.org/10.1057/978-1-349-96073-6_427

Romualdez, A. M., Walker, Z., & Remington, A. (2021). Autistic adults' experiences of diagnostic disclosure in the workplace: Decision-making and factors associated with outcomes. *Autism & Developmental Language Impairments*, *6*, 23969415211022956. https://doi.org/10.1177/23969415211022955

Santuzzi, A. M., Waltz, P. R., Finkelstein, L. M., & Rupp, D. E. (2014). Invisible disabilities: Unique challenges for employees and organizations. *Industrial and Organizational Psychology: Perspectives on Science and Practice*, *7*(2), 204–219. https://doi.org/10.1111/iops.12134

Schwartz, A., Corey, J., Duff, J., Herer, A., & Rogers, E. (2022). Anticipating the outcomes: how young adults with developmental disabilities and co-occurring mental health conditions make decisions about disclosure of their mental health conditions at work. *Disability and Rehabilitation*, *45*, 1–11. https://doi.org/10.1080/09638288.2022.2037749

Seligman, M. E. P. (2002). Positive psychology, positive prevention, and positive therapy.

In *Positive psychology, positive prevention, and positive therapy* (pp. 3–13). Oxford University Press.

Seligman, M. E. P. (2011). Flourish: A visionary new understanding of happiness and well-being. In *Flourish: A visionary new understanding of happiness and well-being.* (pp. xii, 349–xii, 349). Free Press.

Shakespeare, T. (2010). Not Properly Referenced. *The Disability Studies Reader*, *December 1974*, 266–273.

Shepherd, J. (2018). Disabilities and wellbeing: The bad and the neutral. *Oxford Handbook of Philosophy and Disability*, 1–12. http://www.ncbi.nlm.nih.gov/pubmed/22021735%0Ahttp://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=PMC3191401

Simpson, S. (2016). *Checklist for Autism--Friendly Environments NICE Endorsement statement for resource producer--E0063 This checklist supports the recommendations on the physical environment in the NICE guidelines on Autism spectrum disorder in adults and Autism spectrum disorder in under 19s*. *September*.

Sinclair, J. (2010). Cultural Commentary: Being Autistic Together. *Disability Studies Quarterly*, *30(1)*. http://www.dsq-sds.org/article/view/1075/1248

Sociaal-Economische Raad van Vlaanderen. (2022). *Analyse van de arbeidssituatie van werknemers en zelfstandige ondernemers met burn-outsymptomen*. 1–74. https://publicaties.vlaanderen.be/view-file/49692

Spek, A. (2014). *Autismespectrum stoornissen bij volwassenen: Een praktische gids voor volwassenen met ASS, naastbetrokkenen en hulpverleners*. Hogrefe.

StEvens, C. (2022). The lived experience of autistic teachers: a review of the literature. *International Journal of Inclusive Education*, *0*(0), 1–15. https://doi.org/10.1080/13603116.2022.2041738

Swanson-Kauffman, K., & Schonwald, E. (1988). Phenomenology. *NLN Publications*, *15–2233*, 97–105.

Szulc, J. M. (2022). AMO model for neuro-inclusive remote workplace. *Personnel Review*, *51*(8), 1867–1882. https://doi.org/10.1108/PR-02-2022-0085

Szulc, J., McGregor, F., & Cakir, E. (2021). Neurodiversity and remote work in times of crisis: lessons for HR. *Personnel Review*, *ahead-of-p*. https://doi.org/10.1108/PR-06-2021-0469

Tackx, E. (2020). *How the built and social environment affect the experience of living in a student accommodation*. 128 pages.

The Union Of The Physically Impaired Against Segregation and The Disability Alliance - UPIAS. (1975). The union of the physically impaired against segregation and the disability alliance discuss fundamental principles of disability. *Fundamental Principles of Disability*, 24. https://disability-studies.leeds.ac.uk/wp-content/uploads/sites/40/library/UPIAS-fundamental-principles.pdf

Thomas, D., & Woods, H. (2003). *Working with people with learning disabilities*. Jessica Kingsley Publishers.

Tomczak, M. T. (2022). How can the work environment be redesigned to enhance the well-being of individuals with autism? *Employee Relations: The International Journal*, *44*(6), 1467–1484. https://doi.org/10.1108/ER-12-2021-0535

Tomczak, M. T., & Kulikowski, K. (2023). Toward an understanding of occupational burnout among employees with autism – the Job Demands-Resources theory perspective. *Current Psychology*, *0123456789*. https://doi.org/10.1007/s12144-023-04428-0

Twardowski, A. (2022). Cultural Model of Disability – Origins, Assumptions, Advantages. *Kultura i Edukacja*, *136*(2), 48–61. https://doi.org/10.15804/kie.2022.02.03

Van der Linden, V., Dong, H., & Heylighen, A. (2019). Tracing architects' fragile knowing

about users in the socio-material environment of design practice. *Design Studies*, *63*, 65–91. https://doi.org/10.1016/J.DESTUD.2019.02.004

van Niekerk, S.-M., Louw, Q. A., & Hillier, S. (2012). The effectiveness of a chair intervention in the workplace to reduce musculoskeletal symptoms. A systematic review. *BMC Musculoskeletal Disorders*, *13*(1), 145. https://doi.org/10.1186/1471-2474-13-145

Verhoeff, B. (2013). Autism in flux: a history of the concept from Leo Kanner to DSM-5. *History of Psychiatry*, *24*(4), 442–458. https://doi.org/10.1177/0957154X13500584

Vlaams Bouwmeester. (2012). *Dossier Scholenbouw*.

Vlaams Bouwmeester. (2019). *Bouwmeester Rapport 2016-2019*.

Voitkāne, V. (2017). Inclusive Education in Italy. *SOCIETY. INTEGRATION. EDUCATION. Proceedings of the International Scientific Conference*, *3*, 136. https://doi.org/10.17770/sie2017vol3.2281

Walker, N. (2023). *Neurodiversity: some basic terms & definitions*. https://neuroqueer.com/neurodiversity-terms-anddefinitions/

Warren, S. (2002). *SHOW ME HOW IT FEELS TO WORK HERE: USING PHOTOGRAPHY TO RESEARCH ORGANIZATIONAL AESTHETICS*. https://api.semanticscholar.org/CorpusID:18414882

Weber, C., Krieger, B., Häne, E., Yarker, J., & McDowall, A. (2022). Physical workplace adjustments to support neurodivergent workers: A systematic review. *Applied Psychology*, *February 2021*. https://doi.org/10.1111/apps.12431

WELLS, M. M. (2000). OFFICE CLUTTER OR MEANINGFUL PERSONAL DISPLAYS: THE ROLE OF OFFICE PERSONALIZATION IN EMPLOYEE AND ORGANIZATIONAL WELL-BEING. *Journal of Environmental Psychology*, *20*(3), 239–255. https://doi.org/https://doi.org/10.1006/jevp.1999.0166

Wood, R., & Happe, F. (2021). What are the views and experiences of autistic teachers? Findings from an online survey in the UK. *Disability & Society*, *38*, 1–26. https://doi.org/10.1080/09687599.2021.1916888

Wrzesniewski, A., & Dutton, J. (2001). Crafting a Job: Revisioning Employees as Active Crafters of Their Work. *Academy of Management Review*, *26*, 179–201. https://doi.org/10.2307/259118

Xanthopoulou, D., Demerouti, E., & Schaufeli, W. (2007). The Role of Personal Resources in the Job Demands-Resources Model. *International Journal of Stress Management*, *14*. https://doi.org/10.1037/1072-5245.14.2.121

Xanthopoulou, D., Demerouti, E., & Schaufeli, W. (2009). Reciprocal Relationships between Job Resources, Personal Resources, and Work Engagement. *Journal of Vocational Behavior*, *74*, 235–244. https://doi.org/10.1016/j.jvb.2008.11.003