
The architectural challenge for physically disabled people

A research through the eyes of the physically disabled

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Introduction

In the Netherlands there are 1,4 million people with a physical disability which limits them in performing general daily activities and taking care of themselves. There are no exact numbers, but from this 1,4 million there are approximately 250.000 individuals that are dependent on a wheelchair ('Factsheet Mensen Met Lichamelijke of Verstandelijke Beperkingen,' 2012). From the 1,4 million people with a physical disability over one-third hardly ever go out for a day or evening (HandicapNL, 2020). This big group of people is dependent on daily care provided by their informal caretakers or medical professionals. In most cases those informal caretakers are family members, friends or neighbours. The help that they provide ranges from emotional support and companionship to household support and even nursing tasks (de Boer et al., 2020). This has a direct impact on their living environment. Their homes are adapted to remain accessible and to create space for informal caretakers or medical professionals to provide them with the care that is needed. The accessibility of a building is also documented in the building regulations (Hoofdstuk 4. Technische bouwvoorschriften uit het oogpunt van bruikbaarheid | Bouwbesluit Online, z.d.). The height of ceilings, the width of doorways, the location of elevators are determined in this document. These laws force a designer to think about the accessibility of a building but at the same time does not challenge the designer to come up with new forms of accessibility as mentioned in the research of Boys (2017). This leads to buildings that are 'adapted to' disabled people but not to buildings that are 'created for' disabled people. Over the years the view on disabled people and their role in the built environment has changed in a positive way, but there is still room for improvement (van Trignt et al., 2017). A feeling that there is currently a building typology missing in society remains and forms a challenge to be further investigated.

The focus for this research will be on the physically disabled adults who live at home, are dependent on a wheelchair and daily care. The objective is to gather knowledge about how physically disabled adults experience a place and in what way an architectural design can influence this in a positive way. To design in a new and innovative way one must first understand what the current situation is in the built environment for these physically disabled adults. Considering that physically disabled people experience space differently than body abled people, this aspect needs further research. Thus formulating the main question: *How is a place perceived from the perspective of the physically disabled?*

In the next section the theoretical framework that is needed to get a better understanding of the research will be further addressed. The section methodology will discuss what type of research and how this will be performed to answer the question. A first prediction of a possible outcome will be discussed in the third section. At the end of this paper a first relation between the research and to what kind of design idea this will lead will be created. Ending this paper with a clear set up for the research.

Theoretical framework

There are many different types of disability. A disability can be classified as physically or mentally. Since this research focuses on the physically disabled adults, the mentally disabled will not be further researched. According to Sociaal en Cultureel Planbureau (2012) “a disability means that as a result of health problems, people have difficulty performing daily activities, e.g. household activities, getting from one place to another or personal care” (p. 1). Looking at physical disabilities there are three classifications, a motor, a visual and a hearing impairment. This research will focus on the motor impairment. A motor impairment means that an individual has difficulty with performing daily activities from the aspect of limbs or body parts that do not function as normal (HandicapNL, 2020). Therefore they mostly have difficulties, besides daily activities, with mobility and prolonged sitting and standing. For this research the motor impairment is defined as the physical disability.

As mentioned in the introduction this research will focus on the physical disabled adults that live at home and therefore are dependent on the care of informal caretakers and/or medical professionals. Whereas in nursing homes the care is completely provided by professional medical staff, the situation at home is very different. In most cases where an individual has a physical disability or develops one and remains at home, their immediate social circle can become informal caretakers. Their direct family members are the biggest part of this group. In the Netherlands there are approximately 5 million informal caretakers from which 9.1% feels heavily burdened by the responsibility that they bear (de Boer et al., 2020). Their personal relationships can be strained by the care that the physically disabled need. A wife and husband might lose their intimacy when one becomes completely dependant on the other. This creates mental health issues for both the informal caretaker as the physically disabled where there are already enough health issues to worry about. There are places where the physically disabled adults can go to to relieve the informal caretakers. Such a place is known as lodging care (Ministerie van Volksgezondheid, Welzijn en Sport, 2021). Those lodging care places are in fact healthcare facilities where medical professionals take care of the physical disabled adults. Whereas this relieves the informal caretakers, the physically disabled adults themselves spend time in a hospital or clinical feel environment where they are still confronted with their disability. Besides mostly of these healthcare facilities are focused on the mentally disabled people (Sociale kaart Nederland, n.d.).

Currently people with physical disabilities do not have the option to be away from home for a short or longer period of time to relieve themselves from the medical situation at home. For the mentally disabled, or children with a disability, these places exist in abundance. Where there is a lot of literature focused on mentally disabled people and disabled children and what their needs are when away from home, there is not much literature on physically disabled adults. The definition of what such a place should be is left open during this research. The focus is on the perception of the physically disabled adults of a place without giving it a definition. The research of Heylighen et al. (2013) is a first good step in researching the perception of the physically disabled people and how architecture can fall short in this. Together with the research of Boys (2017) and Halder and Assaf (2017) there is a strong base for research into the wishes of the physically disabled adults themselves.

Methodology

The main question contains two important aspects who are interrelated; the physically disabled adults and the spatial elements. In the field of spatial studies there is already a lot of research that can be found. But the perspective of the disabled adult is a different story. The research-question *'How is a place perceived from the perspective of the physically disabled?'* focuses on the personal experience of an individual, in this case the experience of a physically disabled adult. Experiencing a place is different per person, especially when the body functions differently than normal. To be able to understand their experience of a place there will be interviews held. The participants are aged 18 to 70 years old and have a physical disability. Because of their physical disability they are dependent on the use of a wheelchair, either electric or manual. They are also dependent on daily care from their informal caretakers or medical professionals. Besides the physically disabled adults themselves, the caretakers and medical professionals will also participate in the interviews. In total there are 6 participants, 2 physically disabled, 2 informal caretakers and 2 medical professionals. The interview is semi-structured with questions that will guide the conversation in the right way. The main focus is on the participant's personal feeling and experience connected to spatial conditions. The questions are formulated as following:

Wanneer je naar een nieuwe plek gaat was is dan het eerste waar je, praktisch gezien, op let?

When you go to a new place what is the first thing you pay attention to, practically speaking?

Wanneer je naar een nieuwe plek gaat wat is dan het eerste dat je gevoelsmatig opvalt?

When you go to a new place what is the first thing you notice from your feeling?

Wat zijn de meest voorkomende frustraties wanneer je naar een nog onbekende plek gaat?

What are the most common frustrations when you go to an unfamiliar place?

Hoe zou jij jouw ideale sfeer omschrijven van een plek?

How would you describe your ideal ambience of a place?

Wat zijn activiteiten die je graag onderneemt?

What are activities you like to undertake?

Besides the method of interviewing, there will also be observation by video. This will be achieved by following a day in the life of a physically disabled adult with a camera placed on their eye level. This way the video will show the perception from their point of view. What can be normal for these individuals can be very different for body abled people and might not be mentioned in the interviews. The observation video will add this information for the research through analysis of the images. The width and height of their point of view and also the interaction with other people can be documented.

Expected outcome

As for the expected outcome of this research, the expectation is that from the interviews two strong different perceptions will become clear. That of the physically disabled adult and that from the medical professional. The medical professional will most likely have a more practical view on the subject discussed during the interview. The view of the physically disabled adult is expected to be more personal and from their experience and feeling. The informal caretaker might be in-between these two viewpoints. That of the caring family member and at the same time of the more practical caretaker. Looking at the practical view from the medical professional, the interview will probably result in practical answers such as the width of doorways and alleys, the height of windows and if the floor is even or not. Also a feeling of safety for themselves and their client will be of importance so that the medical tasks can be given if needed. The physical disabled adult is more likely to give information about the personal experience as an abled body person but from their perspective. Practical things such as accessibility will probably also be of importance to them but emotions like joy and self-confidence are expected to play a bigger role. The fact that they want to enjoy themselves in their daily activities generates a different view on the subject that is asked about. With the practical and the more emotional based categories next to each other, the expectation is that the informal caretaker will give information that can be placed in the middle. Since the informal caretaker is on the one hand their caretaker but also their friend or family, they will probably experience both practical feelings as emotional ones. The observation by video can enhance the gathered information that otherwise might not be mentioned. An expected outcome of this is the fact that there will be limited eye contact or even a very limited amount of people where their face will be visible as seen from the wheelchair perspective. Also the eye height in the built environment is likely to be focused on the abled body person, resulting in views of walls and parapets instead of what is behind.

This expected outcome of the interviews creates a clear perception with different viewpoints. But it remains a personal perception, this means that there is also the possibility that medical professionals can very well have the same emotional feelings that a place creates as their clients. The same goes for the physically disabled people. This does not show that the expected outcome will be clouded, but furthermore that they are human with different personalities that each react and feel differently about the same subject. The observation by video will be more factual. Either way, the objective is to gather knowledge about how physically disabled adults experience a place and in what way an architectural design can influence this in a positive way. Combining the interviews with the video will answer this question and probably also create new questions.

For the design this information is of great importance, to a great extend the gathered information can be directly implemented in a design. This translates the wishes of the physically disabled people into spatial elements and will form the base for a building that is 'created for' instead of 'adapted to' this group of people.

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