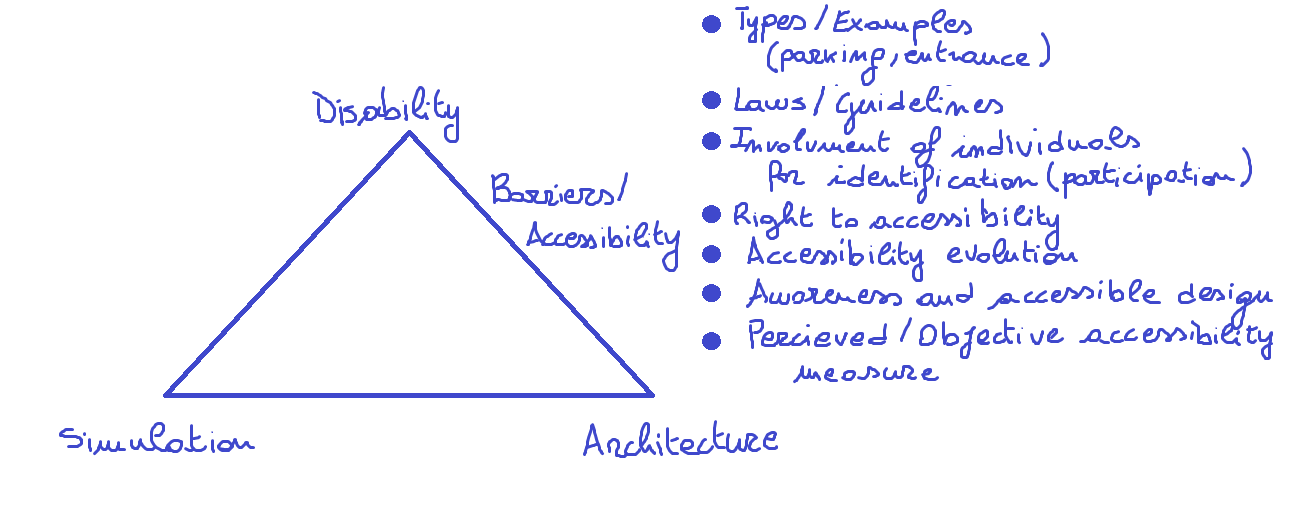
**Literature \_ Chapter Organization**





**Architectural Barriers for disabilities**

* Architectural barriers for disabilities
* Accessibility and architectural barriers
* Public buildings accessibility in Germany
* Universal design

### **1 - Architectural Barriers to Persons with Disabilities in Businesses in an Urban Community [ok]**

#### **Abstract**

It is the purpose of this study to determine the frequency of architectural barriers to persons with disabilities in businesses in a small urban community in central Virginia. The survey was conducted by a trained volunteer using a one-page checklist. Only 27% of the businesses had no architectural barriers to individuals with disabilities. The most common architectural barrier for individuals with disabilities was the interference with parking and entrance into the business (65%). Faced with these architectural barriers, all individuals are encouraged to identify the architectural barriers in businesses and to file letters of complaints to the Department of Justice requesting their removal.

#### **Keywords**

Disabled, persons disability, community, frequency of architectural barriers, common barriers, parking, entrance, America.

#### **Citation**

Helen C. Ahn and others, Architectural Barriers to Persons With Disabilities in Businesses in an Urban Community, The Journal of Burn Care & Rehabilitation, Volume 15, Issue 2, March-April 1994, Pages 176–179, <https://doi.org/10.1097/00004630-199403000-00014>

### **2 - Architectural Barriers: a Perspective on Progress [ok]**

#### **Abstract**

Over the past twenty-five years, laws have been enacted mandating that buildings be designed and constructed to be accessible to persons with handicaps. The implementation of these laws with barrier-free design standards, which also developed in this period, has led to significant process in the involvement of disabled persons in the fabric of American society. Accessible design is currently in an age of implementation. It is apparently on a projected course where "handicapped design" will' ultimately be so fully integrated into the creative process that it will be part of "universal design" in which architects and designers maximize the number of users and their experiences in a facility.

#### **Keywords**

Architectural barriers, laws, barrier-free design standards, accessible design, America.

#### **Citation**

Charles D. Goldman, ARCHITECTURAL BARRIERS: A PRESPECTIVE ON PROGRESS, 5 W. New Eng. L. Rev. 465 (1983), <http://digitalcommons.law.wne.edu/lawreview/vol5/iss3/8>

### **3 - The perspective of children and youth: How different stakeholders identify architectural barriers for inclusion in schools [ok]**

#### **Abstract**

Recent inclusive policies are promoting the involvement of individuals with disabilities in identifying barriers that limit their full participation and inclusion in public spaces. The present two studies explored the contributions provided by different stakeholder groups in the identification of architectural barriers in elementary and secondary schools. In each school, the principal, special education resource teacher and a student independently identified architectural barriers using an observational walkthrough method. The first study consisted of 29 schools where the student evaluator had a physical disability and the second study consisted of 22 schools where the student evaluator did not have a disability. The results of both studies showed that students identified the greatest number of barriers and principals the least. The type and location of identified barriers are explored and the conclusions are examined in relation to person-environment congruence. The results highlight the efficacy of youth involvement and provide support for collaborative assessments that equitably involve all stakeholders in inclusive environmental assessments.

#### **Keywords**

Inclusive environmental assessment, child and youth participation, children with disabilities, architectural barriers, accessibility, schools.

#### **Citation**

Pivik, Jayne. (2010). The perspective of children and youth: How different stakeholders identify architectural barriers for inclusion in schools. Journal of Environmental Psychology. 510-517. <https://www.researchgate.net/publication/222824936_The_perspective_of_children_and_youth_How_different_stakeholders_identify_architectural_barriers_for_inclusion_in_schools>

Pivik, J. R. (2010). The perspective of children and youth: How different stakeholders identify architectural barriers for inclusion in schools. Journal of Environmental Psychology, 30(4), 510–517. doi:10.1016/j.jenvp.2010.02.005

### **4 - Public space without architectural barriers as friendly and accessible for people with disabilities [ok]**

#### **Abstract**

Accessible public space for people with disabilities is the space where there are no barriers that prevent them from normal functioning in a given place. In this paper, there was collected a number of examples of most common barriers and design guidelines needed to plan or transform space into the accessible one. There was also described type of barriers and factors that affect on the accessibility of the public space.

#### **Keywords**

Universal design, designing for disabled, accessibility, public space, architectural barriers, common barriers examples, design guidelines, plan or transform, type of barriers, factors that affect accessibility.

#### **Citation**

Rawski, K. (2017). Public space without architectural barriers as friendly and accessible for people with disabilities. Teka Komisji Architektury, Urbanistyki I Studiów Krajobrazowych, 13(2), 45-52. <https://doi.org/10.35784/teka.1700>

### **5 - Beyond Architectural Barriers: Building a Bridge Between Disability and Universal Design [ok]**

#### **Abstract**

The paper is focused on the evolution of the concept of accessibility, by considering data of the World Health Organization (WHO) and of the Istat (Italian statistical institute). From these data it emerges that the population (worldwide and in Italy) dealing with disability represents an important share of the total. These disabilities are linked not only with disease, but also with other situation due to age, size, language, culture, job, etc. For this reason, this paper analyses how the way of seeing and dealing disability is changed over time, starting from the Italian Standard evolution. Then the action of the WHO is analyzed. The two WHO focus points are: i) disability is a health condition in an unfavorable environment; ii) disability is not a problem of a minority group within a community, but an experience that everyone, in their lifetime, can experience. All of these analyses underlined the importance of the environment influence on life of every person. Finally, the concept of Universal design UD is investigated, highlighting the importance of recognizing and understanding that human beings will have different steps in their abilities throughout their life. The originality of this research is the shifting of the attention also to people normally served by poor services, such as people of small stature, the elderly, pregnant women, parents with children in strollers, people who speak different languages and more.

#### **Keywords**

Accessibility, disability, universal design, World Health Organization, architectural barriers, disability is not a minority, Italy.

#### **Citation**

Pinna, F., Garau, C., Maltinti, F., Coni, M. (2020). Beyond Architectural Barriers: Building a Bridge Between Disability and Universal Design. In: , et al. Computational Science and Its Applications – ICCSA 2020. ICCSA 2020. Lecture Notes in Computer Science(), vol 12255. Springer, Cham. <https://doi.org/10.1007/978-3-030-58820-5_51>

### **6 - Raising Awareness about Accessibility [ok]**

#### **Abstract**

Every citizen has to right to move throughout a city safely and independently. The term accessibility refers this right in built environment mostly for public uses. In the beginning of 20th century, accessibility started from a restricted application but nowadays it became more comprehensive due to a better understanding of physical barriers in the world. According to a recent research, designers are not aware of how architectural barriers restrict accessibility for different users. It should not be forgotten that accessibility for everyone will increase the whole citizens’ quality of life. Thus, the paper tries to show importance of raising awareness in design studios for better implementing accessibility for all people. In our urban design studio, a strong relationship has been found between accessible design solutions and students’ awareness about physical barriers. The paper concludes that there is an immediate need to elaborate design courses with universal design principles.

#### **Keywords**

What is accessibility, accessibility is a right, accessibility to improve quality of life, importance of rising awareness on accessibility, design curriculum, universal design.

#### **Citation**

Ayse Nilay Evcil, Raising Awareness about Accessibility, Procedia - Social and Behavioral Sciences, Volume 47, 2012, Pages 490-494, ISSN 1877-0428. <https://doi.org/10.1016/j.sbspro.2012.06.686>. (<https://www.sciencedirect.com/science/article/pii/S1877042812024226>)

### **7 - Wheelchair accessibility to public buildings in Istanbul [ok]**

#### **Abstract**

Background. Accessibility to public environment is the human right and basic need of each citizen and is one of the fundamental considerations for urban planning.

Purpose. The aim of this study is to determine the compliance of public buildings in central business districts (CBD) of Istanbul, Turkey, to wheelchair accessibility to the guidelines of the instrument and identify architectural barriers faced by wheelchair users.

Methods. This is a descriptive study of 26 public buildings in CBD of Istanbul. The instrument used is the adapted Useh, Moyo and Munyonga questionnaire to collect the data from direct observation and measurement. Descriptive statistics of simple percentages and means are used to explain the compliance to the guidelines of the instrument and wheelchair accessibility.

Results. The descriptive survey results indicate that wheelchair users experience many accessibility problems in public environment of the most urbanised city (cultural capital of Europe in 2010) in a developing country.

Conclusion. It is found that the major architectural barrier is the public transportation items with the lowest mean compliance (25%). Beside this, the most compliant to the instrument is entrance to building items with 79% as mean percentage. It is also found that there is an intention to improve accessibility when building construction period is investigated. This article describes the example of the compliance of public buildings accessibility when the country has legislation, but lacking regulations about accessibility for the wheelchair users.

#### **Keywords**

Wheelchair accessibility, accessibility is a right, public buildings, urban planning, design, accessibility questionnaire, Turkey

#### **Citation**

A. Nilay Evcil (2009) Wheelchair accessibility to public buildings in Istanbul, Disability and Rehabilitation: Assistive Technology, 4:2, 76-85, <https://doi.org/10.1080/17483100802543247>

### **8 - Wheelchair accessibility of public buildings: a review of the literature [ok]**

#### **Abstract**

Purpose. The purpose of this review was to examine the wheelchair accessibility in public buildings and discuss the role of professional in this practice area.

Method. Of the 85 originally identified publications from a search of major electronic bibliographic databases, 12 studies relating to wheelchair accessibility in public buildings were selected. The compliance rates with wheelchair accessibility in different areas were summarised.

Results. No study reported 100% wheelchair accessibility despite the enforcement of existing laws and regulations. Parking had the lowest compliance rate among all facilities in terms of accessibility, while entrances had the highest.

Conclusions. A global review is needed of both new and old buildings regarding wheelchair accessibility. Professional in this practice area has an important role to play in advocating wheelchair accessibility and assisting wheelchair users to participate fully in all areas of the community.

#### **Keywords**

Wheelchair use, barrier-free environment, community, public buildings, literature review, parking, plan or transform.

#### **Citations**

Nandana Welage & Karen P. Y. Liu (2011) Wheelchair accessibility of public buildings: a review of the literature, Disability and Rehabilitation: Assistive Technology, 6:1, 1-9, <https://doi.org/10.3109/17483107.2010.522680>

### **9 - Disability Law in Germany: An Overview of Employment, Education and Access Rights [ok]**

#### **Abstract**

Under German law, people with disabilities are entitled to help and assistance in order to avert, eliminate or improve their disability. The general goal is to overcome, as much as possible, the disability's effects and to enable the disabled to participate in all areas of society, especially in the labor market and in community life. The Federal Government is obliged to a barrier-free design and construction of public buildings, streets, etc. and to provide barrier-free access to communication, especially in the field of administrative Internet sites, official forms and notifications. In the area of public transportation, all facilities and means of transportation (bus, train, aircraft) are also required to be barrier-free. The same applies to restaurants.

#### **Keywords**

Access rights, law, Germany, barrier-free design, public buildings.

#### **Citation**

Kock, M. (2004). Disability Law in Germany: An Overview of Employment, Education and Access Rights. German Law Journal, 5(11), 1373-1392. <https://doi.org/10.1017/S2071832200013286>

### **10 - What about the people? Developing measures of perceived accessibility from case studies in Germany and the UK [ok]**

#### **Abstract**

As a primary objective in transport planning urban neighbourhood accessibility plays an essential role in the sustainable transformation of cities and their infrastructure. In most studies, accessibility is objectively measured using aggregate travel time or generalised costs as an indicator of the separation of people from places. However, this approach does not reflect perceptions of residents, which ultimately shape mobility decisions and represent the “lived reality” of accessibility. This paper addresses this research gap, adding to a growing evidence base on understanding the relationship between perceived and objective measures of accessibility, and discusses opportunities for incorporating perceptions into measures of accessibility. We offer suggestions for how and why individual perceptions of accessibility differ from objective measures using data from Germany and the UK.

#### **Keywords**

Perceived accessibility, urban mobility, comparative research, sustainable access, UK, Germany.

#### **Citation**

Anna-Lena van der Vlugt, Angela Curl & Dirk Wittowsky (2019) What about the people? Developing measures of perceived accessibility from case studies in Germany and the UK, Applied Mobilities, 4:2, 142-162, <https://doi.org/10.1080/23800127.2019.1573450>

**Others**

11\_Perceived accessibility: What it is and why it differs from calculated accessibility measures based on spatial data [ok]

On the survey

12\_ Accessibility and facilities for the disabled in public and university library buildings in Iran [ok]

13\_ Access to Higher Education for the Disabled Student: A building survey at the University of Liverpool [ok]

14\_Perspectives on building accessibility: survey responses by people with disabilities on accessibility experiences [requested full access] read here online <https://www.resna.org/sites/default/files/conference/2019/public%20policy/Tomashek.html>

15\_The Participation Experience of Children with Disabilities in Portuguese Mainstream Schools [ok]

16\_[Barrier-free design: a manual for building designers and managers](https://books.google.com/books?hl=it&lr=&id=CS4GZcvEmC8C&oi=fnd&pg=PP2&ots=WbtaI398Jx&sig=2eBmL6eaKnA4QiZ35sF_VcDsrZY)

17\_[Universal design: Clarifying a common vocabulary](https://www.tandfonline.com/doi/abs/10.1080/08882746.2003.11430488)

18\_[Access for all: universal design and the employment of people with disabilities](https://www.tandfonline.com/doi/abs/10.1080/15367100903202771)

19\_Measuring accessibility and utilization of public spaces in Famagusta

**20\_ A scoping review of public building accessibility**

#### **Abstract**

Background

The built environment needs to be designed so that all people can participate in the activities they want and need to do. Yet, accessibility is difficult to put into practice, and accessibility issues tend to be overlooked in the building and planning processes.

Objectives

The aim of this scoping review was to summarize the research front in the area of accessibility to public buildings. Specific aims were to identify knowledge gaps, to identify access activities in relation to environmental features and to link to predominant activities in terms of the International Classification of Functioning, Disability and Health (ICF).

Methods

A literature search was performed in PubMed, PsycINFO, Inspec, Embase and Cochrane databases. Articles in English based on original empirical studies investigating accessibility of public buildings for adults aged ≥18 years with functional limitations were considered.

Results

Of the 40 articles included, ten involved study participants, while 30 only examined buildings using instruments to assess accessibility. In addition, the psychometric properties were only tested for a few of them. All articles concerned mobility and several visual limitations, while few addressed cognitive or hearing limitations. Ten main access activities were identified, from using parking/drop-off area to exiting building.

Conclusions

By using the ICF and theoretically relating the accessibility problems to activities, the results revealed that there are large knowledge gaps about accessibility to public buildings for [older people](https://www.sciencedirect.com/topics/medicine-and-dentistry/older-people) and people with functional limitations and that there is a need for more methodological considerations in this area of research.

#### **Keywords**

#### Environment design, ICF, Impairment, Participation, Person-environment fit.

#### **Citation**

G. Carlsson, B. Slaug, S.M. Schmidt, L. Norin, E. Ronchi, G. Gefenaite, A scoping review of public building accessibility, Disability and Health Journal, Volume 15, Issue 2, 2022, 101227, ISSN 1936-6574, <https://doi.org/10.1016/j.dhjo.2021.101227>. (<https://www.sciencedirect.com/science/article/pii/S1936657421002004>)

**21 \_ Guideline: Accessibility in Building Design (January 2015 )**

#### **Abstract**

Autonomous living - this aim entails specific requirements for the built environment. The Government has committed itself to consistent accessibility in all its construction projects. Accessibility means building without barriers for anyone, including people with motor, visual, auditory, and cognitive impairments. Accessible buildings need to be easy to find, provide barrier-free access, and above all, they need to be easy to use. This applies both to new buildings and to existing ones, including their access routes and outdoor facilities.  
This Guideline is intended to serve as a manual for the work of the federal building authorities, developers, planners, and users of other public buildings and workplaces, in other words, for everyone intending to build without barriers. It illustrates what specifically needs to be taken into account in terms of accessibility in building design. By explaining areas of action in detail and describing a reference project, the Guideline shows what integrated planning means and exactly what individual and practicable solutions can look like.

#### **Keywords**

#### **Citation**

<https://www.leitfadenbarrierefreiesbauen.de/archiv>

*The following guidelines are of significance, for example, for accessibility:*

*• Model Ordinance on Places of Assembly (Muster-Versammlungsstättenverordnung, MVStättV), June 2005 version, last amended in February 2010; here, for example, the provisions on space for wheelchair users are relevant*

*• Model Guidelines for High-Rise Buildings (Muster-Hochhaus-Richtlinie, MHHR), April 2008 version, containing provisions for rescuing people with disabilities*

*• Model Ordinance on Garages (Muster-Garagenverordnung, M-GarVO) Ordinance on the construction and operation of garages and parking spaces of May 1993, last amended by decisions of 30 May 2008, containing provisions on parking space dimensions for people with disabilities*

**22 \_ Evaluation of building use scenarios by crowd simulations and immersive virtual environments: a case study [ok]**

#### **Abstract**

Virtual reality (VR) is becoming common in the AEC/FM industry, closely linked to BIM implementation. VR tools can be used to anticipate operational issues, simulating them in a virtual prototype since early design. The paper investigates such a topic in relation to access, space and use performance of an existing hospital facility. A case study has been developed considering a pavilion where both medical and food spaces are located, causing a clash between flows of end-users in critical time-slots. Crowd simulations and immersive virtual environments have been tested as occupancy evaluation tools. Post-occupancy evaluation (POE) data have been translated into a dynamic simulation of the existing occupancy conditions within the BIModel of the pavilion and considering various profiles of end-users. Subsequently, both the BIModel and the crowd simulation have been imported into a game engine to be visualised and experienced in a VRheadset, switching from the analysis of flows to the perspective of end-users (i.e. able-bodied users, person in a wheelchair, visually-impaired person). The use of VR enables a clear visualisation and communication of the existing conditions. Moreover, POE data translated into a dynamic simulation of the building use scenario could be applied for the preoccupancy evaluation of internal layout reconfigurations. Finally, the combined use of crowd simulation and immersive VR enables the users to perceive crowding in the occupancy evaluation and adds the user experience as design input, representing an innovative approach that goes beyond traditional resources such as personal experience and regulations.

#### **Keywords**

Occupancy evaluation, virtual reality, crowd simulation, immersive virtual environment, building performance.

#### **Citation**

Mastrolembo Ventura, S., Hilfert, T., Archetti, M., Rizzi, M., Spezia, A., Tagliabue, L.C., Oliveri, E., Ciribini, A.L.C. (2018). Evaluation of Building Use Scenarios by Crowd Simulations and Immersive Virtual Environments: A Case Study. <https://core.ac.uk/download/pdf/162433282.pdf>

**23 \_ The capabilities of people with cognitive disabilities [ok]**

#### **Abstract**

People with cognitive disabilities are equal citizens, and law ought to show respect for them as full equals. To do so, law must provide such people with equal entitlements to medical care, housing, and other economic needs. But law must also go further, providing people with disabilities truly equal access to education, even when that is costly and involves considerable change in current methods of instruction. The central theme of this essay is what is required in order to give such people political and civil rights on a basis of genuine equality.

#### **Keywords**

Capabilities, civil rights, cognitive disability, constitutional law, economic entitlements, education, equality, human dignity, justice, mental dis-ability, political entitlements, Rawls, social entitlements.

#### **Citation**

Nussbaum, M. (2009), The capabilities of people with cognitive disabilities. Metaphilosophy, 40: 331-351. https://doi.org/10.1111/j.1467-9973.2009.01606.x

**24\_ German association for visually impaired and blind people (Deutscher Blinden- und Sehbehindertenverband, DBSV) – Guidelines for tactile writing systems, 2007**

Written information for tactile perception should always be provided both in an embossed pyramid writing style and in Braille. A sans-ser-if style is to be used for embossed texts. The information is to be installed according to the provisions of the guidelines for tactile writing systems by the German association for visually impaired and blind people (Deutscher Blinden- und Sehbehindertenverband, DBSV). The information will be easier to find if its content is standardised and placed in comprehensible uniform locations.

To research. (cfr pag 67 of Guideline: Accessibility in Building Design)

**25\_ Building Neurodiversity-Inclusive Postsecondary Campuses: Recommendations for Leaders in Higher Education [ok]**

#### **Abstract**

Neurodivergent people are increasingly involved in postsecondary education, but they continue to face serious barriers and challenges on college campuses. These challenges are not only related to disability functional differences and accommodation needs, but also to stigma and prejudice toward neurodivergent people. Consequently, neurodivergent people are less successful than neurotypical peers; moreover, intersections between neurodivergence and other marginalized groups are associated with even greater inequities. This article was written by neurodivergent students and researchers, and their allies, who suggest a system-wide approach is needed to promote inclusion of neurodivergent students, staff, and faculty on postsecondary campuses. Specific recommendations, based on those the authors suggested to and that were endorsed by the University of California Academic Senate, are provided. These recommendations include diversity, equity, and inclusion (DEI)-oriented reforms (viewing neurodiversity through a DEI lens; establishing Disability Cultural Centers; providing campus-wide neurodiversity training; and fostering neurodivergent leadership in neurodiversity initiatives). Other recommendations address disability accommodations and supports (integrating disability accommodations in one place; making eligibility requirements less onerous; recognizing and accommodating sensory distress and distraction; establishing programs to facilitate transitions in and out of postsecondary; improving mental health support; and creating mechanisms to resolve issues where students are denied accommodations). Finally, further recommendations address accessibility of communication (respecting students’ decisions to involve support people; and offering neurodivergent people the option to choose accessible modalities for communicating with instructors and staff and for taking classes). Institutions that embrace these reforms have an opportunity to position themselves as neurodiversity inclusion leaders and destination campuses for neurodivergent people.

#### **Keywords**

Autism, ADHD, disability, university, higher education, college.

#### **Citation**

Dwyer, P., Mineo, E., Mifsud, K., Lindholm, C., Gurba, A., Waisman, T.C. (2023). Building Neurodiversity-Inclusive Postsecondary Campuses: Recommendations for Leaders in Higher Education. Autism in Adulthood. 5:1, 1-14. <https://doi.org/10.1089/aut.2021.0042>.

**26\_ Exploring the Design Preferences of Neurodivergent Populations for Quiet Spaces**

#### **Abstract**

Quiet spaces warrant scrupulous design consideration as they offer a sensitive restorative environment to the experience of sensory overload. Currently there is a lack of guidance on how to design inclusive quiet spaces and ambiguity regarding the factors which influence design preferences. Neurodivergent populations provide valuable perspectives on how to design for sensory needs, especially considering their susceptibility to sensory overload. An online survey was administered globally to neurodivergent populations to elicit their design preferences for quiet spaces, and semi-structured interviews were conducted to enrich the study with professional perspectives. 312 survey responses and six interviews were analyzed to draw inferences. There was consensus on sound and lighting as the most important design considerations for quiet spaces, on education as the most critical place to implement them, and on nature as a favorable guiding principle in their design. However, there was a diversity of perspectives, often contradictory, regarding most design preferences. Many of these preferences are correlated with the frequency at which the person experiences sensory overload and thus people’s sensory profile may be an underlying mechanism which guides design preferences. In light of these findings it is recommended to design quiet spaces as neutral environments for the most sensitive users, with optional stimulating design features for the least sensitive, while ensuring that the experience of one does not compromise the experience of the other. Moreover, variety, flexibility and control emerged as critical themes for facilitating inclusive design and empowering users by providing them with autonomy over their environment. Given the positive association between the frequency in which sensory overload is experienced and the person’s desire for quiet spaces, it is advisable to consider additional populations which may be susceptible to sensory overload in future research on quiet spaces.

#### **Keywords**

Neurodiversity, sensory overload, sensory processing, quiet spaces, design preferences.

#### **Citation**

Sadia, T. (2020). Exploring the Design Preferences of Neurodivergent Populations for Quiet Spaces. <https://doi.org/10.31224/osf.io/fkaqj>

Simulation

Dinis F.M., Guimaraes A.S., Carvalho B.R., Martins J.P.P. Development of virtual reality gamebased interfaces for civil engineering education. In Global Engineering Education Conference (EDUCON), 2017.