



AccessCoVE: European Centre of Vocational Excellence in Accessibility

Research report
2.1 B

User requirements specification

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User requirements specification

Qualitative research

1. Introduction

The present qualitative study focuses on investigating and defining user requirements. The research on the user requirements of end-users was carried out in two stages. The first stage presented in detail in the present chapter of this report, titled "Qualitative Research." This chapter introduces the qualitative research and its findings, involving people with disabilities and older people as participants. A semi-structured interview was employed with seven different groups of participants. The methodology followed is described in the "Instruments and Procedures" section below.

The initial intention was to conduct focus groups with representatives from these groups, but for practical reasons on recruitment obstacles related to the use of English by the research subjects, the study was decided to conduct individual semi-structured interviews. This decision, although it required a greater workload for the researchers and research participants, produced more and higher quality data.

This report contains all 56 interviews summarized in tables over the areas of accessibilities, and a list of accessibility problem areas and solutions highlighted by participants for each of the four countries. However, not all problem areas are covered with a direct solution, as interviewees did not always have a solution for the issue mentioned.

Based on the findings of the interviews a survey questionnaire was then developed (see Quantitative Research section in this report) to make the final assessment on the accessibility challenges and difficulties faced by individuals with disabilities and older people, as well as the extent of these challenges/ difficulties concerning all accessibility areas. The findings derived on the first stage (interviews) were used to develop the questionnaire.

2. Objective

The objective of the present study is to document the accessibility challenges and difficulties faced by individuals with disabilities and older people, as well as the solutions proposed by the subjects of research, for each of the following accessibility areas and the sub-areas (see Instruments and Procedures section) they include:

1. Core Accessibility,
2. Digital accessible transformation,
3. Educational Accessibility,
4. Employment Accessibility,

5. Cultural Heritage Accessibility,
6. Tourism Accessibility, and
7. Accessibility in Security and Evacuation Situations.

3. Participants

The research participants will be recruited from seven (7) different groups/categories of individuals:

- 1) individuals with learning disabilities,
- 2) individuals with visual impairments,
- 3) individuals with hearing impairments,
- 4) individuals with physical disabilities/ mobility impairments,
- 5) individuals with mild intellectual disability,
- 6) individuals with high functioning autism,
- and 7) older people.

The initial objective of the researchers was to include two (2) participants from each country for each of the seven (7) categories mentioned above. This goal was largely achieved, with a minor exception. From Italy, one participant from the "older people" category and three participants from the "physical/mobility impairments" category took part. As a result, a total of 56 participants from the four (4) different programme countries (Greece, Italy, Spain, and Sweden), with 14 participants from each country, participated in the survey.

4. Instruments and Procedures

A semi-structured interview was employed with seven different groups of participants. The following three prompts were addressed in each group, for each accessibility area separately. For each problem/difficulty mentioned by the participants, they were also asked to mention the solution they think is appropriate. The general prompt helped the interviewees to think of each area holistically and prioritize the sub-areas.

Prompts 1. Do you experience any problems/difficulties in ... (*accessibility area*) ... which includes ... (*sub-areas*) ...?

Prompts 2. Please elaborate on these difficulties focusing on possible solution(s).

General prompt: Please, mention the sub-areas or sections of them for which you think there should be accessibility consideration and prioritize them (for instance, in the accessibility area they can refer to educational material or – more specifically – in images, maps etc.)

The participants shared their opinions about problems and solutions that they identified in all accessibility areas and subareas presented below, and the researchers recorded their answers.

Areas and Sub-areas

“Core Accessibility”:

- Physical/Spatial Accessibility of indoor and outdoor spaces
- Mobility with the means of transportation
- Communication with and services of the public and private sectors
- Web Accessibility

“Accessible Digital transformation”:

- E-commerce
- Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)
- Digital customer communication
- Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)
- Digital libraries and repositories
- Digital devices and their software/apps (e.g. mobile phones, smart TV, home appliances)

“Educational Accessibility”:

- Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary),
- Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology
- Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)
- Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)
- Accessibility in distance education/online learning

“Employment Accessibility”

- Spatial/Physical Accessibility in the workplace
- Accessible services in the workplace (e.g. hiring processes, communication with different sectors),
- In-service training and career up-skilling

- Assistive Technology in the workplace and accessible material

“Cultural Heritage Accessibility”

- Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards the main entrance)
- Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)
- Accessibility in museum exhibits and works of art

“Tourism (including recreation and sports) Accessibility”

- Accessibility in Tourism Services
- Accessibility in accommodation (hotel units, camps, camping)
- Accessibility in transportation
- Accessibility in sports & recreational facilities
- Accessibility at beaches
- Accessible shows (theaters, cinemas, concerts...) & accessible movies

“Accessibility in Security and Evacuation Situations”

- Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)
- Accessibility in Evacuation Planning (e.g. accessible evacuation plan)
- Accessibility of emergency information (Multiple channels)

5. Results

In this section, the findings obtained from the analysis of the interviews are presented for each country separately. Also, for each participant, their demographic/individual characteristics are presented. The means of assistive technology mentioned by each survey participant are presented below, although some of them do not formally belong to assistive technology but are part of mainstream technology. However, these means are presented here in order to faithfully reflect the participants' responses.

5.1. Summary of interviews from Sweden - List of accessibility problem areas and solutions

a. Core accessibility

Physical/Spatial accessibility of indoor and outdoor spaces

- **Problem areas:**

- High thresholds in buildings, inconsistent sidewalk access and maintenance, and stairs as barriers (Mobility impairment, Visual impairment).
- Lack of sidewalk maintenance in winter with snow causing mobility barriers (Mobility impairments (wheelchairs), and Visual impairment).
- Revolving doors (Visual impairment).
- Difficulty locating receptions in buildings without navigation cues (Visual impairment).
- Older buildings pose accessibility physical barriers (Mobility impairment)
- Overly bright lighting in stores causes discomfort (Mild intellectual disability).
- Overwhelming noisy environments causes stress (Specific learning disabilities, Autism, Visual impairment).
- Perception issues with curbstones and reading signs (65+).
- Crowded spaces cause stress and discomfort (Autism, Mild intellectual disability).
- Difficulty hearing in noisy environments (65+, Hearing impairments).
- Forgetting item locations and tasks (e.g., turning off taps). (65+).
- Challenges with spatial awareness and sound directionality (Hearing impairment)
- Difficulty hearing in larger rooms (>2 meters). (Hearing impairment)

- **Solutions:**

- Ensure new buildings are designed with accessibility in mind from the start.
- Old buildings: install ramps, lifts, handrails in stairs and provide the option of additional personal assistance if needed (Mobility impairment, Visual impairment, 65+).
- Better road maintenance in winter for sidewalks, not only bike lanes (Mobility impairment, Visual impairment).
- Standardize navigation paths for consistency in indoor environments, such as finding a reception (Visual impairments).
 - Alternatively, offer personal assistance at entrances to provide guidance (Visual impairment).

- Standardize lighting levels across stores.
- Create calm, minimalistic environments.
- Improve maintenance of public spaces to ensure existing solutions work.
- Designate quiet hours or areas in public spaces to reduce cognitive load (Autism, Specific learning disabilities, Visual impairment).
- Provide larger text for signs in public spaces (65+).
- Enhance the use of sound absorbing materials to reduce noise levels (65+, Hearing impairments, Visual impairments).
- Use of lists and reminders to aid memory (e.g., Alexa). (65+).
- Assistive technology: Use of conference microphones to extend hearing range (hearing impairment).
- Assistive technology: Utilize smaller, discreet devices like the Roger pen for social situations (hearing impairment).
- Assistive technology: Improve hearing aid to determine where sound comes from (hearing impairment).

Mobility with means of transportation

- **Problem areas:**

- Car: limited access to accessible parking (Mobility impairment).
- Car: Losing the right for vehicle adaptation support needed after retirement at age 66 (Mobility impairment).
- Car: Forgetting to wear glasses while driving (65+).
- Special transportation service: Issues with transport service providers opening hours, causing a risk of being stranded (Mobility impairment).
- Special transportation service: drivers lack training in how to assist visually impaired individuals (Visual impairment).
- Bus: Broken and unmaintained bus ramps (Mobility impairment).
- Bus: Inconsistent bus stop locations may lead to missed buses (Visual impairments).
- Public transport information displays hard to comprehend (Specific learning disabilities, Mild intellectual disability).
- Temporary bus stops causing safety hazards due to unexpected gap to the ground level (65+).
- Difficulty with complex ticketing apps (Mild intellectual disability).
- Poor treatment due to lack of awareness among transport staff (specific learning disability, mild intellectual disability).
- Overwhelming noise and crowds in public transportation (Autism, specific learning disability, Visual impairment).

- Request for assistance takes time, posing barriers for spontaneity (Visual impairments).
- Bike: Inability to hear traffic while biking, risking safety (Hearing impairment).
- Difficulty hearing in environments who have glass protection, such as in the police station (Hearing impairment).
- **Solutions:**
 - Continued support for vehicle adaptations post-retirement (Mobility impairment).
 - Improved operational protocols, opening hours and emergency response for special transport services (Mobility impairment).
 - Assistive technology for memory: reminders for glasses before driving (65+).
 - Enhance training for transportation staff on how to assist (Visual impairment)
 - Digital information displays: ensure there is a person to ask for assistance (Mild intellectual disability).
 - Ensure bus exits matches street height for safety (65+, Visual impairments).
 - Implement real-time location tracking for buses, telling the individual if the bus is further away (Visual impairment).
 - Simplified alternatives for ticketing (Mild intellectual disability, Specific learning disability).
 - Promote greater awareness of invisible disabilities among transport staff.
 - Propose quiet zones on public transport (Autism, Specific learning disability, Visual impairment)
 - Suggesting alternative less crowded routes for people on the spectrum or with other social needs (Autism).
 - Increase assistance availability for spontaneous travel needs (Visual impairments).
 - Consider alternative materials for barriers to improve sound transmission (Hearing impairment).

Communication with public and private sectors

- **Problem areas:**
 - Social interaction: variability in respectful communication (Mobility impairment, Specific learning disabilities, Mild intellectual disability).
 - Being addressed through assistants rather than directly (Mobility impairment).
 - Difficulty being understood over the phone due to speech difficulties (Mobility impairment (with condition impacting speech)).
 - Website navigation: difficulty finding contact information (Visual impairment).

- Inaccessibility of chat windows for screen readers (Visual impairment).
- Complex navigation to get in contact, too complicated digital paths (65+, Mild intellectual disability).
- Complex navigation to get in contact: Challenges in understanding too much text that is not adapted to an easy-to-read format (Mild intellectual disability, Specific learning disabilities).
- Difficulty communicating with individuals who are wearing face masks (hearing impairment).
- Social environment: Hesitation to ask for help due to fear of judgment (Specific learning disability, Mild intellectual disability).
- Exclusion due to lack of digital ID and literacy among elderly.
 - Too complex task of navigating alternatives in phone cues (65+).
- **Solutions:**
 - Educate workers to address individuals in wheelchairs directly; and not their assistant for respectful communication.
 - Provide multiple communication channels (through direct call and mail).
 - Digital navigation: clarify location of contact info, preferably on the first page (Visual impairments).
 - Provide access to people rather than digital bots for assistance; to help simplify communication channels.
 - Provide easy-to-read texts for information.
 - Increase awareness of different communication needs and styles.
 - Provide simplified communication and personal interaction for assistance (65+, Mild intellectual disability, Specific learning disabilities).

Web accessibility

- **Problem areas:**
 - Websites lacking easy-to-read formats (Mild intellectual disability, Specific learning disabilities)
 - Difficulty reading small text on screens (65+).
 - Cumbersome manual adjustments for preferred settings across digital spaces (65+)
 - Websites lack easy-to-read formats (Mild intellectual disability, Specific learning disabilities).
 - Navigation difficulties in digital interfaces due to information overload (Specific learning disabilities, Mild intellectual disability).
- **Solutions:**

- Simplify process for personalized and preferred settings across digital services and devices (65+).
- Provide easy-to-read alternatives for complex digital content (Mild intellectual disability, Specific learning disabilities)
- Provide multimodal features/options on websites for the user to choose from (Mild intellectual disabilities, Specific learning disabilities).

b. Digital accessible transformation

Digital documents

- **Problem areas:**
 - Assistance needed for signing documents
 - To understand content, health and finance related as examples (Mild intellectual disability).
 - To sign a physical paper (Mobility impairment).
 - E-forms sometimes incompatible with screen readers (Visual impairments).
 - Complex health-related forms are hard to navigate (Specific learning disabilities, Mild intellectual disability).
 - Navigation difficulties in digital interfaces due to information overload (Specific learning disabilities, Mild intellectual disability).
- **Solutions:**
 - Provide easy-to-read alternatives for complex digital content, using a QR code as one alternative (Mild intellectual disability, Specific learning disabilities)
 - Provide the option of digital signing of documents (Mobility impairments).
 - Design documents for assistive tech compatibility (Visual impairments).
 - Use simpler language and clearer questions in forms and questionnaires (Mild intellectual disability).
 - Provide personal assistance if needed to ask questions (Specific learning disabilities, Mild intellectual disability)

Digital services

- **Problem areas:**
 - Difficulties with online services (e.g., needing personal assistance at the postal service). (Specific learning disability)
 - Digital assistants, Siri one example, contains errors in interpreting input (Mobility impairment)
 - Inaccessible design of phones: the initial buttons on devices like iPhones (Mobility impairment)

- Some actions require two fingers, but can only use one.
- **Solutions:**
 - Make sure there is always an option to get personal assistance. (Specific learning disability)
 - Improved speech-to-text technology (Mobility impairment).

E-commerce

- **Problem areas:**
 - Overwhelming information on websites, causing fatigue (Visual impairments).
 - Inadequate product descriptions hinder online shopping experiences (Visual impairments).
 - Security concerns over sharing sensitive information (65+, Autism).
 - Difficulty with basic mathematics affects shopping experiences (Mild intellectual disability).
 - Avoidance of online shopping due to fear and lack of understanding (Mild intellectual disability, 65+).
 - Vulnerability to online scams (Mild intellectual disability, Autism, 65+).
- **Solutions:**
 - Simplify online content, provide easy to read versions (Mild intellectual disability, Specific learning disability).
 - Enhance product descriptions with sensory details (Visual impairments).
 - Ensure accessible design of digital process for screen readers (Visual impairments).
 - Allow payment via invoice instead of online to reduce safety concern in sharing bank details online (65+).
 - Improve education on math for students with mild intellectual disabilities to improve their independence in managing basic math skills for shopping (Mild intellectual disability).
 - Develop technology to detect scams and alert users (Autism, 65+, mild intellectual disability).

Digital customer communication

This sections problem areas and solutions overlaps and are covered in **Communication with public and private sectors**.

Digital banking and payment

- **Problem areas:**
 - Inaccessibility of payment methods (touchscreens vs. buttons) (Visual impairments).

- Barriers for elderly in managing finances due to digital payments with Bank ID (65+).
- **Solutions:**
 - Provide buttons on payment machines (Visual impairment).
 - Ensure cash acceptance (65+).
 - Ensure personal assistance in a physical space for individuals who don't understand bank ID (65+).

c. Educational accessibility

Spatial accessibility in educational units

- **Problems areas:**
 - Navigation challenges; hard to move across campuses (Visual impairment).
 - Difficulty concentrating in crowded environments (Specific learning disabilities).
 - Lack of sound-absorbent materials in classrooms leading to poor listening conditions (Hearing impairment).
- **Solutions:**
 - Maintain consistent lecture locations (Visual impairment).
 - Provide extended writing time and private exam settings (Specific learning disabilities).
 - Provide calm and distraction free environments for learning (Specific learning disabilities).
 - Use sound-absorbing materials in educational environments (Hearing impairment).

Accessibility in services provided by educational units:

- **Problems areas:**
 - Restrictions on pursuing further education due to disability benefits policies (Mobility impairment).
 - Challenges with self-selection in group work, leading to social isolation (Hearing impairments, Specific learning disabilities, Visual impairments)
 - Reliance on classmates for note-taking causing a social issue (Specific learning disabilities, Visual impairments).
 - Inconsistent accommodations from different instructors/teachers (Specific learning disabilities).
 - Stronger support systems for consistent accommodation across courses and teachers (Specific learning disabilities).
 - Lack of understanding of the struggles of a student with an invisible condition (Autism, Mild intellectual disability, Specific learning disabilities)

- **Solutions:**

- Policy changes to allow further education without losing benefits (Mobility impairment).
- Educators should actively form groups to ensure inclusivity (Hearing impairments, specific learning disabilities, Visual impairments).
- Offer institutional support for note-taking rather than students (Visual impairments).
- Stronger and robust support systems for consistent accommodation across courses (Specific learning disabilities).
- Emphasize the importance of a structured environment to maintain focus (Specific learning disabilities).
- Promote an empathetic and supportive educational environment that accommodates different needs (Autism, Mild intellectual disability, Specific learning disabilities).

Accessibility in educational material

- **Problems/Difficulties:**

- Limited educational options and career pathways (Mild intellectual disability).
- Delays in obtaining audio texts (Visual impairments, Specific learning disabilities)
- Presentations with visual cues not accommodating visual impairments (Visual impairment).
- Lack of motivation from arbitrary tasks with no real-world relevance (Autism).

- **Solutions:**

- Offer tailored support for invisible disabilities and broader career aspirations.
- Increase the window of time for material requests; allow it before the course starts (Visual impairments, Specific learning disabilities).
- Train educators on inclusive presentation methods.
- Assigning tasks with clear real-world relevance (Autism).

d. Employment accessibility

Spatial/Physical accessibility in the workplace

- **Problem areas:**

- Inaccessible presentation room, leading to a barrier in job performance (Mobility impairment).
- Stress from noise levels (Specific learning disabilities, Autism).

- Safety concerns working alone (65+).
- Difficult to hear in larger conference rooms (Hearing impairment).

- **Solutions:**

- Ensure booked rooms for presentations are accessible (Mobility impairment).
- Advocate for a calm work environment.
- Allowance to take breaks for recovery.
- Assistive technologies for hearing aid (Hearing impairment).

Assistive technology in the workplace

- **Problems areas:**

- Digital work tools, such as Outlook calendar, have too many functionalities making use of a screen reader difficult (Visual impairment).
- Complex software and tools can be overwhelming; difficulty managing multiple tasks digitally (65+).
- Lack of tailored support for invisible disabilities (mild intellectual disability).

- **Solutions:**

- Provide digital services in different complexity levels, where level 1 would be a simplified version with the base functionalities (Visual impairment).

Accessible services in the workplace

- **Problems areas:**

- Personal assistance required to work; financial aid was removed for this which led to unemployment (Mobility impairment).
- Adapting to unfamiliar social environments and unspoken rules is challenging (Autism).

- **Solutions:**

- Allow assistants at work for individuals who need them (Mobility impairment).
- Policy changes to ensure the ability of both education and employment (Mobility impairment).
- Providing guidelines from coworkers and clear expectations. Offering additional social support to understand workplace norms. (Autism).

e. Tourism and recreation accessibility

Accessibility in sports & recreational facilities

- **Problems/Difficulties:**

- Barriers to participation in hobbies due to mobility issues (Mobility impairment).

- Barriers to participation in hobbies due to lack of accessible local initiatives in small cities (Mild intellectual disability).
- **Solutions:**
 - Explore assistive technologies tailored for specific activities (Mobility impairment).
 - Explore ways to facilitate contexts for local inclusive activities (Mild intellectual disability).

Accessibility in tourism services

- **Problems areas:**
 - Overwhelmed by planning trips independently due to navigating multiple digital channels (Specific learning disabilities).
- **Solutions:**
 - Ensure travel agencies accommodate people with disabilities for comprehensive planning to avoid stress.

Accessibility in transportation for tourism

- **Problems areas:**
 - Inaccessible holistic transport system.
 - Complicated booking processes and inaccessible options (Visual impairments, Mobility impairments, Mild intellectual disability).
 - Overwhelmed by planning trips independently due to navigating multiple digital channels (Specific learning disabilities).
 - Limited options in travel organizers (Mild intellectual disability).
- **Solutions:**
 - Simplify booking procedures for events and make them accessibility compliant (Visual impairment).
 - Streamline assistance requests throughout the entire user journey with user-friendly apps or booking services (Visual impairment, Mobility impairment, Specific learning disabilities).
 - Ensure accessible parking spots (Mobility impairments).
 - Simplify booking processes and provide information in an easy-to-understand format (Mild intellectual disabilities).
 - Provide the service of personal support in booking (Specific learning disabilities, Mild intellectual disabilities, 65+).

Events and shows

- **Problems/Difficulties:**
 - Issues with concert seating for assistants, not always considered or allowed causing additional costs as a barrier (Mobility impairments, Visual impairments).

- Inconvenient bag policies restrict carrying essential items (mild intellectual disability).
- Insufficient warnings about sensory triggers at events (Autism, Mild intellectual disability).
- Lack of hearing loops in cinemas (65+, Hearing impairment).
- Difficulty managing crowded exits at events (Autism).
- **Solutions:**
 - Ensuring free seating for assistants (Mobility impairments, Visual impairments).
 - Implement alternative security measures.
 - Include detailed sensory trigger information in announcements (Autism, Mild intellectual disability).
 - Ensure hearing accommodations/hearing loops (65+, Hearing impairment).
 - Designate areas for assistive devices (extended microphones) near performance stages (Hearing impairments, 65+).
 - Structured exits to avoid crowds leaving at the same time (Autism)

f. Cultural heritage accessibility

- **Problems/Difficulties:**
 - High noise levels in cultural spaces can be overwhelming (Visual impairments).
 - Difficulty reading information signs in museums due to time pressure from others (Specific learning disabilities).
 - Affordability issues with high ticket costs (mild intellectual disability).
 - Difficulty navigating essential facilities in museums (mild intellectual disability).
 - Language complexity in museum guides and exhibits (mild intellectual disability).
- **Solutions:**
 - Suggest implementing QR codes for audio information to reduce stress and to listen in ones own time (Specific learning disabilities, Mild intellectual disability).
 - Implement sound-absorbing materials (Visual impairments, Autism).
 - Establish quiet hours (Visual impairments, Autism).
 - suggest QR codes for audio information in museums.
 - Improve signage and navigation aids; use simplified language and easy-to-read text.

g. Security and emergency situations

- **Problems/Difficulties:**

- Difficulty understanding critical information; inadequate accessibility of crucial information (Mild intellectual disability).
- Disengagement with complex pandemic-related communications (Mild intellectual disability).
- Lack of awareness among personnel regarding the needs of visually impaired individuals (Visual impairment).
- Inaccessible emergency information (only visual, or only sound) can pose serious risks (Visual impairments, Hearing impairments).
- Challenges with physical limitations during emergencies, such as stairs (Mobility impairment, 65+).
- Distress from unexpected events and emergencies (Autism).
- **Solutions:**
 - Ensure information is in easy-to-read formats with clear language and visual aids (Mild intellectual disability).
 - Provide engaging educational activities (Mild intellectual disability).
 - Provide training on emergency procedures tailored to assist those with disabilities (Visual impairments).
 - Ensure multiple channels for emergency communication are accessible (Visual impairments, Hearing impairments).
 - Discussing emergency plans with family to ensure preparedness and avoid additional stress in an already stressful situation (Autism).

h. Other areas:

Prejudices and societal attitudes

- **Problems/Difficulties:**
 - Miscommunication by addressing assistants rather than individuals; societal attitudes assume limitations (Mobility impairments).
 - Unawareness due to a lack of recognition for research in invisible disabilities (Mild intellectual disability).
- **Solutions:**
 - Encourage direct communication and address misconceptions through education (Mobility impairments).
 - Promote awareness highlighting the importance of inclusive research and encourage participation from individuals with diverse disabilities (Mild intellectual disability).

Social connectedness

- **Problems areas:**
 - Preference for physical interactions over digital (65+)
 - Misunderstandings in social cues leading to isolation (Hearing impairment).
- **Solutions:**
 - Support for maintaining social connections through face-to-face engagements. (65+)
 - Improve hearing aid technology for better sound perception and support (Hearing impairment).

Grocery shopping

- **Problem area:** Forgetting items and challenges with digital assistants (65+)
- **Solutions:** Use mobile phones for lists and simplify digital interactions for groceries. (65+)

Social interactions and media

- **Problem for interviewee 1:** Online interactions can lack context and lead to misunderstandings (Autism).
- **Solutions for interviewee 1:** Prefer face-to-face interactions in meaningful settings over online communication (Autism).

Clear and direct communication styles

- **Problem:** Frustration with unclear punctuation, unfinished sentences, and excessive use of emojis (Autism).
- **Solutions:** Encouraging clear and direct communication styles (Autism).

5.2. Interviews (Sweden)

Sweden – Specific learning disabilities no 1

Demographic data

1. **Gender:** Female
2. **The place (country) of residence:** Sweden
3. **The type of learning disabilities (official clinical diagnosis):** ADHD
4. **Do you face other difficulties apart from the SLD per se?** Dyslexia, ongoing investigation
5. **The age of diagnosis of learning disabilities:** 2020
6. **Age:** 29
7. **Educational level (e.g., lower secondary school):** 4 years Primary Education Programme
8. **Do you use assistive technology?** Yes
9. **If yes, which means of assistive technology?**

She utilizes Legimus for reading literature, which provides digital books read aloud. University support includes assistance with notetaking. A fellow student in her group takes notes, allowing her to concentrate on listening. Additionally, she can request lectures and seminars ahead of time.

10. **What kind of educational material is more suitable for you? (you can choose more than one answers):** Video is described as the best means for her to learn. She also likes to read with the support of something visual. But she says that this usually takes a long time for her.
11. **Do you use any kind of accessible educational material?** Yes
12. **If yes, what kind of it?** Same as the one stated above.

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		When navigating outdoor spaces with an abundance of stimuli, she quickly becomes exhausted. She explains how	To manage these challenges, she prioritizes getting a good amount of

	<p>easily she becomes irritable under these conditions, affecting her ability to focus and remain present.</p> <p>Indoor environments crowded with numerous objects also pose challenges, causing distractions and reducing her ability to concentrate.</p> <p>Traveling on public transportation is difficult due to high noise levels and the overwhelming amount of impressions from crowded spaces.</p>	<p>sleep. Additionally, she limits her time spent in busy city environments.</p> <p>At home, she prefers clean white walls and creates a calm environment with minimal distractions to help maintain focus.</p>
Mobility with the means of transportation	<p>She finds traveling by public transportation challenging due to the high noise levels and overwhelming sensory input from crowded spaces.</p> <p>When she must take the bus, she uses headphones to listen to music or engages with her phone to distract herself and maintain focus on a single activity.</p>	<p>When she must take the bus, she uses headphones to listen to music or engages with her phone to distract herself and maintain focus on a single activity.</p> <p>Ideally, she prefers traveling by car for a more comfortable and controlled environment.</p>

Communication with and services of the public and private sectors	<p>She occasionally faces challenges in expressing herself clearly, often speaking too quickly and occasionally forgetting details, which can lead to misunderstandings.</p> <p>In her younger years, she struggled with communication to the extent that some believed she couldn't speak. This difficulty is linked to her diagnosis, where her motivation to speak must come from within; she won't communicate unless she chooses to.</p>	<p>To manage these challenges, she now plans her communications meticulously, creating written lists of what she wants to say, especially when interacting with healthcare providers.</p> <p>She took on the role of a telemarketer as a personal challenge to overcome her fear of contacting people. This experience has significantly diminished her previous concerns about communication.</p>
Web accessibility		
Digital accessible transformation		
E-commerce		
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)		
Digital customer communication		
Digital Banking (including ATMs/cash points and Interactive Teller		

Machines inside a bank)		
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	<p>She finds herself getting caught up in various social media platforms, which not only drains her energy but also causes anxiety by diverting her focus from important tasks. Social media often becomes a procrastination tool, especially for tasks she perceives as burdensome.</p> <p>Similarly, when she starts watching a series on Netflix, she feels compelled to finish it in one sitting, which further distracts her from other responsibilities.</p>	<p>To combat these distractions, she has found that temporarily deleting social media apps or streaming services helps her redirect her time and attention towards more productive activities. This strategy ensures she prioritizes her time effectively.</p>
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	<p>She is easily distracted by surrounding sounds, which poses challenges when taking exams in crowded spaces.</p> <p>Additionally, she experiences high levels of claustrophobia in small, confined spaces over extended periods.</p> <p>Having too many objects in her environment also disrupts her ability to focus.</p>	<p>To accommodate her during written examinations, she benefits from extended writing time and the option to take the exam in a private setting. She has obtained certification of these accommodations from NAIS.</p> <p>During individual exams, she values having a spacious room with an adjustable table and a sofa. This setup</p>

		allows her to take brief breaks during long writing sessions, which she finds particularly beneficial.
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	<p>She finds it difficult to simultaneously take notes and listen, as multitasking presents a significant challenge for her.</p> <p>Understanding the course schedule was initially challenging for her.</p> <p>She often perceives information and organization as chaotic and lacking clear logic.</p>	<p>To address these challenges, she relies on another student in her group to take notes for her.</p> <p>She sought assistance and clarification from a student counselor, which proved helpful.</p> <p>She prefers literature lists and articles to be organized alphabetically for clarity and ease of reference.</p> <p>Overall, she values instructions that are structured to be as clear and organized as possible.</p>
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	<p>Administrative services have been inconsistent in accommodating her needs. She encountered frequent disputes and a convoluted process when attempting to enroll in a course for which she had the right to apply. Understanding the information provided was challenging, and clarification was not readily available.</p>	<p>Despite these challenges, she persisted and received support from a student counselor who assisted her in enrolling in the course.</p> <p>Clear instructions and reminders for submitting the certificate, along with specific guidance on where and to whom to send it, are highly beneficial to her.</p>

	<p>Each course and institution at the university requires different procedures, complicating the submission of her certificate outlining her need for assistance. Some teachers facilitate this process, while others place the responsibility on the individual student.</p> <p>Submitting the certificate for each course is a tiresome task that she sometimes forgets, resulting in delays in receiving necessary support.</p>	<p>Ideally, she envisions a system where she only needs to submit her certificate once, and the university's digital services automatically recognize her needs for every course. This automated system would provide her with extended writing time and access to recorded lectures without the need for frequent requests throughout her studies. This streamlined approach would fulfill her desire for simplicity and consistency in accessing necessary accommodations.</p>
<p>Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)</p>	<p>She sometimes gets stuck on assignments due to small details she doesn't understand, which can lead to frustration and easily turning to distractions.</p> <p>There have been instances where she sought help from teachers to understand assignment instructions but did not receive the assistance she needed.</p> <p>Group work has been challenging for her. In one course, she was left without a partner despite being required</p>	<p>She often seeks help from family members. She also tries to adopt a mindset of not getting bogged down by minor details and moving on to other tasks, but this approach is difficult for her.</p> <p>Initially, she had a mentor to assist her at the start of her studies, but this support is no longer available.</p> <p>One positive experience was in a special education course where she received the following supports without needing to ask:</p>

	<p>to pair up with other students, which she described as feeling like adult bullying. This left her to complete the assignment alone while still meeting the same requirements as those working in pairs.</p>	<ul style="list-style-type: none"> • Clear and easily accessible instructions on what tasks to complete, deadlines, and where to submit work. • Pre-recorded lectures. <p>Regarding group work, she suggests that teachers assign partners to ensure everyone has someone to collaborate with. If a student must work alone, the assignment requirements should be adjusted to account for the workload and time constraints of a single person. These accommodations would help alleviate some of the challenges she faces in group assignments.</p>
Accessibility in distance education/online learning		
Employment Accessibility		
Spatial/Physical Accessibility in the workplace	<p>She used to work with children, but their loud noise levels caused stress and a sense of panic at times.</p>	<p>To manage the noise levels, she feels it's necessary to work fewer hours and avoid consecutive shifts.</p> <p>While she considers medication as a potential</p>

		<p>solution, she views it as a last resort. Her primary focus is on creating a calm environment, especially in learning and work settings. She believes that establishing a peaceful environment benefits both herself and the children within her context of work.</p> <p>By prioritizing the environment and surrounding conditions, she envisions creating a beneficial environment for everyone involved.</p>
Accessible Services in the work place (e.g. hiring processes, communication with different sectors)		
In-service training and career up-skilling		
Assistive Technology in the work place and accessible material		
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites,		

religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)		
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art		
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in tourism Services		
Accessibility in accommodation (hotel units, camps, camping)		
Accessibility in transportation	<p>She finds it difficult to sit still in a narrow space for longer periods of time. She gets very restless.</p> <p>She also doesn't appreciate sitting close to people she doesn't know.</p> <p>Exiting an airplane is described as a stressful situation, she does not like to wait for everyone to get up and leave.</p>	<p>She plans ahead with things to keep her occupied. Such as movies, snacks, music. At some point she also took a sleeping pill to ensure that she slept through the journey.</p> <p>She likes to sit close to the exit of the plane so she can get out fast.</p> <p>Preferably, she would go by car. She loves to drive the car herself as she likes to be</p>

		in control. Driving is also something to focus on. She does not like to sit as a passenger as that would make her restless.
Accessibility in sports & recreational facilities		
Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible movies		
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)		
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)		
Accessibility of emergency information (Multiple channels)		
Other areas discussed Distractions and stress management	She often delays tasks that she dislikes to do but must complete, leading to stress as deadlines approach. However, she acknowledges that this pressure sometimes motivates her to complete tasks. Other	

	<p>distractions that pose challenges include:</p> <ul style="list-style-type: none"> • Too many items on walls or surroundings. • Sudden changes in plans or environments. • Managing these distractions is important for her to maintain focus and reduce stress. 	
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Sweden – Specific learning disabilities no 2

Demographic data

1. **Gender:** Female
2. **The place (country) of residence:** Sweden
3. **The type of learning disabilities (official clinical diagnosis):** Dyslexia
4. **Do you face other difficulties apart from the SLD per se?** Rheumatism, fatigue.
Combined with dyslexia, causes exhaustion.
5. **The age of diagnosis of learning disabilities:** 1997
6. **Age:** 52
7. **Educational level:** Higher education
8. **Do you use assistive technology?** Yes
9. **If yes, which means of assistive technology?** Spell check, text-to-speech, Text enlargement
10. **What kind of educational material is more suitable for you? (you can choose more than one answers):** Text and visual. **Added note:** She would like to have presentations recorded and sent to hear afterwards, and also text read up to her.
11. **Do you use any kind of accessible educational material?** No, she adapts things to her needs by herself. If she receives a text in PDF, she makes sure she uses her assistive technologies to have it read up to her.

Accessibility	Area	Problems/difficulties	Solutions
- Sub-areas			

Core Accessibility		
Physical/Spatial Accessibility of indoor and outdoor spaces	If there are many people and things going on around her, she can find it difficult to consume information in public spaces. Especially when there is some kind of pressure that she has to do it fast.	She would like a calm environment in which she can scan the information and have it read to her at her own pace.
Mobility with the means of transportation	<p>Information displays for public transport are usually messy to understand.</p> <p>Also, they tend to inform on the end destination, and not the destinations along the way. If she is going to an in-between destination, she can find it difficult to know which train she should take.</p>	<p>She has learnt to look at the train number, as that is the better cue for her to understand which specific train that she should take.</p> <p>She would also appreciate more personal service, in addition to the displays so she can go ask a person. Bigger cities in Sweden are better at this than the smaller cities.</p> <p>In addition to the display there also needs to be calls from the trains as well as the destinations at which the trains are arriving to ensure everyone can take part in that information.</p>
Communication with and services of the public and private sectors	One problem area with the public sector sending information on paper that is being sent in physical form is	She stresses the importance of fostering environments where individuals feel encouraged to ask for help

	<p>that she won't be able to use her assistive tools to adapt the texts to her needs.</p> <p>When information is too complicated, she describes a problem that some people might be hesitant asking for help as they don't want to be perceived as being unintelligent. She also describes the wish for people to manage on their own and raises the need to enable people to manage on their own. She called her doctor and got the auto response if she could write her errand and schedule an appointment online or alternatively wait if and voice her errand. She wonders why anyone would like to go online and do all of that if there is an option of taking it directly on the phone.</p> <p>The same goes for contact with her bank, that is reducing the available times for being able to contact them through phone call.</p>	<p>without hesitation.</p> <p>Since there are people who might not dare to ask for help given the fear of being judged, she says it's important to not make things unnecessarily complicated.</p> <p>She would like to call the hospital and talk to a person who knows her journal and errand.</p>
Web accessibility	Problems of too much text and not knowing where to find the information she is looking for.	
Digital accessible transformation		

E-commerce	<p>She went to the postal service to send a package, but she had to order the wrapping online. Previously that could be done at the postal office, and now she had to use an iPad provided to her while being there on the spot. This was difficult for her, and she needed personal assistance. She also did not understand why she would not be able still to buy it at the counter.</p>	<p>There should always be the option of getting help from a physical person for things that people won't be able to do digitally. She raised this of general importance in order to avoid societal exclusion in ongoing digitalization.</p>
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	<p>She filled in a health-related form which had very difficult questions for her to answer. Given that it was questions about her health, they were also important questions to interpret right.</p> <p>She describes a problem that some people might also be hesitant asking for help as they don't want to be perceived as being unintelligent. She also describes the wish for people to manage on their own and raises the need to enable people to manage on their own.</p> <p>Documents from the bank with numbers and of text makes it hard for her to navigate this information. Leading her to sometimes not read through this information at all. If there is an important contract she</p>	<p>In these situations, she goes and asks for clarifications. Preferably, she would have appreciated a much simpler language to prevent her having to ask for help. She appreciates clear and direct questions.</p> <p>Since there are people who might not dare to ask for help given the fear of being judged, she says it's important to not make things unnecessarily complicated.</p> <p>She would prefer that important information from the bank would also be more accessible through a QR code with a version of the</p>

	needs to sign, then she will make sure to take the time to properly read it.	information being read and explained to her.
Digital customer communication	Chatbots are described as being cumbersome. They can work on easy questions such as checking the availability of a product.	For other more complicated questions she prefers asking in person.
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)		
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	She has a blog in which she writes, and even with spell-checkers she sometimes has a hard time making herself understood in text.	Currently she dictates text through her assistive technology and then she uses a spell checker to doublecheck for errors. It still misses some errors. She enjoys putting Swedish caption in Swedish movies.
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)		

Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	Even though provided with access to audio books, it took time to receive books in audio format. This resulted in her having to read the book anyways to not fall behind.	<p>She had the right to receive audiobooks, extra time, and someone to write notes for her. Most worked, but the time it took to get the literature in audio was an issue.</p> <p>She bought a spellchecker for her computer on her own as this at that time was not provided by the university.</p>
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff).	She described a problem with inconsistent accommodation from different teachers. Some were understanding, while others were not, with one teacher even making condescending comments that could have discouraged her.	<p>Despite this, she felt strong and was able to handle the lack of understanding. Without that inner support, she believes she might have dropped out, thinking she was too dumb for it.</p> <p>However, she also had teachers who were great role models regarding her dyslexia.</p>
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)		
Accessibility in distance education/online learning		
Employment Accessibility		

Spatial/Physical Accessibility in the work place	Writing or reading under the same condition and pressure of others is described as challenging.	<p>She would like more time and space to do reading and writing at her own pace.</p> <p>She would also appreciate a greater awareness of these needs in the workplace.</p>
Accessible Services in the work place (e.g. hiring processes, communication with different sectors)		
In-service training and career up-skilling		
Assistive Technology in the work place and accessible material	<p>She describes understanding the world differently living with Dyslexia, which can sometimes lead to being easily misinterpreted.</p> <p>She often identifies simpler ways of doing things and proposes these methods in her work collaborations, as she believes in avoiding unnecessary complications. However, this has occasionally caused friction with colleagues who have different workflows.</p> <p>She describes herself as easily seeing different ways of being n other people, sensing if a colleague too might have a diagnosis that is not voiced.</p>	<p>Having faced similar barriers, she has developed an awareness of different needs among colleagues and people who she works for. She adapts her communication to the level of others and strives to keep it as straightforward and accessible to ensure everyone can understand.</p> <p>She advocates for increased awareness of invisible disabilities in the workplace and better accommodations for people's differences.</p> <p>More time and the opportunity to complete writing tasks at her own pace</p>

	<p>She discussed how to balance accommodating the colleague's needs while still meeting job requirements, recognizing the importance of finding a balance between individual needs and work demands.</p> <p>In her own work, she sometimes faces the expectation to perform writing tasks under the same conditions and time constraints as others without dyslexia. She knows others with dyslexia share this issue but remains silent. She expressed frustration at not being given the time she needs in these situations.</p>	would be greatly appreciated.
<i>Cultural Heritage Accessibility</i>		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)		
Accessibility in cultural heritage		

sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art	At one point she was in a museum and was trying to read a sign, which is a task that takes time for her. People were waiting behind her, causing stress. She describes how she usually stops to read and tries to form her own understanding by other visual cues.	Ideally, she would like to scan a QR code to step aside and listen to the information instead.
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in tourism Services	Difficulty syncing all aspects of planning a trip. Having to navigate through different digital channels for different things (booking flight, hotel, transport to the airport etc.).	She would appreciate being able to call an agency to help her with the entire planning of the trip.
Accessibility in accommodation (hotel units, camps, camping)	She does not wish to put together the trip in all its details by herself. The problem being all the navigation across different sites with information being difficult to piece together.	She prefers to book all- inclusive so that all is planned once getting there.
Accessibility in transportation		
Accessibility in sports & recreational facilities		
Accessibility at beaches		
Accessible shows		She appreciates it when

(theaters, cinemas, concerts...) & accessible movies		there are captions when watching a show or a movie.
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)		
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)		
Accessibility of emergency information (Multiple channels)	There is usually a lot of information to grasp. Important information. She emphasizes the need to make this information as easy and clear as possible.	They have at the workplace discussed formulating five distinct and essential security related things to write as a short list, as an alternative to the denser information provided.
Other areas discussed The accessibility of the information provided about the interview	Information was sent beforehand as a pdf document to the participant. This text was also walked through together with the participant in the beginning of the interview. The text in the pdf was not described as a problem to read, but the walkthrough of the information together was appreciated.	A suggestion for further improvement was to also include a QR code in which participants could scan and listen to the information beforehand at their own pace.

Demographic data

1. **Gender:** Male
2. **The place (country) of residence:** Sweden
3. **The type of your disability and the cause of it (official clinical diagnosis):** Cataract
4. **The age at onset of visual impairments:** 13 years old

Added answer: His vision has changed a lot since he got his diagnosis. He went from being able to fully see, to not having any vision today.

5. **Age:** 41
6. **Educational level:** 1 year at university, bachelor's level
7. **Severity of disability:** Blindness
8. **What means do you use to read?** Screen reader
9. **Visual acuity of the left eye:** Only light perception
10. **Visual acuity of the right eye:** Only light perception
11. **Visual field:** Central vision loss, Peripheral vision loss
12. **You move alone or with the help of an attendant?** Alone, but with a guide dog
13. **How often do you move alone?** Always.
14. **Do you use assistive technology?** Yes
15. **If yes, which means of assistive technology?** White cane, screen readers, speech synthesis in his computer and phone, a little bit of braille
16. **What kind of educational material is more suitable for you?** Text read up with his screen readers, audio, audio-visual (he listens to Youtube videos for learning)
17. **Do you use any kind of accessible educational material?** Yes
18. **If yes, what kind of it?** A program he thinks is called Textview, for audio-based books. Legimus was also a service that provided access to audiobooks through The Swedish Agency for Accessible Media.

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		Town squares can be very challenging due to their large open spaces. These are difficult to navigate.	More tactile paving paths would be helpful for navigation, making it easier to get around. Clear edges

	<p>Low-hanging branches, especially in the spring, can be problematic. He has walked into branches multiple times.</p> <p>Outdoor seating areas, for example, that are not well-marked can be problematic, as he might walk straight into the tables.</p> <p>Does not feel safe crossing a road if there is no traffic light.</p> <p>Indoor space: Shopping centers are hard to navigate, there are no designated paths. No clear directions given on where the shop he would like to go to is and how to get there. Easy to get lost.</p> <p>Indoor space: shows an image of the staircase in his apartment being located as a spiral in the middle of a room. Easy to bump into.</p> <p>Kitchen: there are many kitchen technologies that are designed today that do not work for him. Touch screens and certain buttons. Not audio-</p>	<p>and environmental differences are important, so they can be felt with a cane.</p> <p>Better consideration of the overall environment, the things that the white can might not detect.</p> <p>Greater awareness of the paths designed for blind people. So that barriers won't unintentionally be put there.</p> <p>More traffic lights in general.</p> <p>Shopping centers: he would like more work to be done on AI solutions, for example, so that people can find and navigate indoor environments more easily. Like google maps, but inside.</p> <p>Apartment: general more thoughtful designs when planning and building apartment.</p> <p>Uses his own made solutions of setting out small markers</p>
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	based, only visual.	for each button. He wishes there would be tactile differences on the buttons.
Mobility with the means of transportation	<p>He takes the bus. But sometimes the bus does not stop where it is supposed to go. For example, if another bus is in front of it, it might stop and take on passengers behind the bus in front. In these situations, the bus driver misses him, and he misses the bus.</p> <p>This is described as a problem across abilities: it's also about understanding that not everyone can rush to the third bus over there. Someone in a wheelchair, or maybe an 80-year-old person, can't move that quickly. The information provided in society needs to be much better. Bus companies should understand that they can't just stop the third bus and drive away if there's someone with a wheelchair, a white cane, or a guide dog waiting at the bus stop.</p> <p>Underground: there are accidents where blind people fall down the tracks.</p> <p>People do not always offer help</p>	<p>Having the bus needing to stop in an exact place each time.</p> <p>Technical solutions that could help: With AI, for example, there is a lot of potential for providing guided assistance, like having a guide in your pocket via your phone. For instance, if the bus is farther away, you could get real-time information.</p> <p>Solutions: should be protecting walls like there are in the commuter trains in Stockholm train station. With doors opening only where to</p>

	<p>in Stockholm. This is described as a shame. He experiences a cultural difference in this, comparing Sweden with the helpful social environment on his trip to Portugal and Italy.</p> <p>He has the option of assistance, such as guidance services, in public transportation. However, it must be booked 24 hours in advance. This causes a problem with flexibility and the wish to be spontaneous.</p> <p>Some Uber drivers cancel their bookings once they learn he is blind. Not all drivers agree to take his guide dog.</p>	<p>enter the train.</p> <p>He is an extroverted person so he can ask for help, but not all do.</p> <p>He thinks that people should offer help and let him decide if he needs it at the moment or not.</p> <p>There should be more resources for assistance at short notice.</p> <p>There should be a controlling system, checking the basis for cancellations in these systems.</p> <p>It should be illegal to cancel his booking based on this.</p>
Communication with and services of the public and private sectors	Public sector: It is not always possible to mail in relation to sensitive content. GDPR issues. This content is instead sent to him in a physical letter, which means he needs help from someone with vision to read his post for him. He does not want that.	He would like to have all his communication, even sensitive information, digitally in the mail so he can read it with his screen reader.
Web accessibility	He is forced to use what works,	More accessible options.

	rather than which site provides the cheapest offers.	
Digital accessible transformation		
E-commerce	Not all online experiences consider how it adapted towards a screen reader.	He has certain websites he knows work for him.
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	Digital documents and forms do not always work well with speech synthesis. They are not designed to be compatible, making it difficult to use the speech synthesis	
Digital customer communication		
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	<p>Chooses bank on the level of its accessibility, does not get to choose based on who provides the best deal. He does not have the same freedom and condition to choose between options, as most people do.</p> <p>Accessibility also changes with new solutions built into services.</p> <p>When paying at a restaurant, for example: going from buttons to touch screens on paying machines: he is no longer able to pay himself. He does not want to tell a stranger his code.</p> <p>Bank ID: QR code not working.</p> <p>Problem in not knowing where</p>	<p>Gets recommendations frequently on better solutions when problems occur within his community. Together they share their experiences of digital services and options that work for them.</p> <p>This is getting better as the systems get smarter: as long as you direct it kind of in the right direction.</p>

	to direct the camera.	
Digital libraries and repositories	No issues as he remembers.	
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	He does not get the chance to choose devices and services based on price, but to which extent they are accessible to him.	There should be more accessible options, not just one solution for his group. Solution to meet low number of options: pitching this as business opportunities, understanding there is a market of needs within this area.
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	When changing the location of lectures, having to navigate across campus is a problem.	Use one room and stick to it throughout the course.
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	It takes a lot of time to get the student literature in audio version. Problem of getting access to the literature too late. This causes a risk of falling behind.	Get notification if you are admitted to a course before others: in order to request the material in audio and receive it in time.
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the	He had a classmate getting paid through university for helping him take notes. Socially a problem, it is not always that fun to ask a peer to do this work for him.	This service should be provided by someone through the university.

administrative staff)		
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	<p>Too long presentations with numbers being displayed in a presentation, that does not work.</p> <p>Coursework: risk of being left out in situations in which students choose whom to work with.</p>	<p>Teachers need to get the education they need in order to work with a student that is blind.</p> <p>He is extroverted and has no problem making contact, but the university could be better providing a set structure for this.</p>
Accessibility in distance education/online learning	<p>Zoom works well, but when holding a presentation himself he prefers having it in the physical space.</p> <p>He holds presentations in his work and prefers to do these in the physical space as he can't feel the audience responses a digital meeting.</p>	<p>Solution for getting more audience feedback online: described difficult, but other tactile feedback could perhaps be explored, rather than only the visual ones.</p>
Employment Accessibility		
Spatial/Physical Accessibility in the work place		
Accessible Services in the work place (e.g. hiring processes, communication with different sectors)	<p>He needs assistive tools for his work as a self-employed person, but the process to determine responsibility and implementation is slow and unclear, unlike the quicker, established routines for job applicants.</p>	
In-service training and career up-skilling		
Assistive Technology in		

the work place and accessible material		
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)		
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art		
Tourism (including recreation and sports) Accessibility		
Accessibility in tourism Services	Booking tickets can sometimes be so complicated that he ended up not getting a ticket for an event he would have liked to attend. He Definitely can't compete with others queuing to get a ticket, since accessibility barriers make it take longer	Accessibility compliant processes.

	time for him.	
Accessibility in accommodation (hotel units, camps, camping)		
Accessibility in transportation	Booking a train: The main issue described is the inefficiency and complexity in the process of arranging assistance, including booking a trip with a guide dog, when using public services designed to help with this. He feels frustrated with being redirected to different personnel and encountering delays, especially when new staff are involved.	The process should be simplified by allowing users to indicate their needs directly through an app like SJ (main app for booking trains), avoiding the many extra tasks in planning.
Accessibility in sports & recreational facilities		
Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible movies	Problems: he usually finds someone that would like to go to the concert with him. However, there are a lot of people that would like to go but can't since they have no one to go with. These people have to pay an extra ticket for an assistant to follow them to a concert. This causes a problem of higher costs.	In Finland and other countries, one can take their assistant with them for free. But in Sweden, it's up to the event. There should exist a universal solution that holds everywhere and every time.
Accessibility in Security and Evacuation Situations		
Accessibility in Security	Lack of education amongst	The need for education on

Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	personnel can become dangerous in not understanding the needs of someone that is blind. There is a lack of awareness of this within security plans and education.	different approaches towards different people in an emergency situation. For personnel at different locations.
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)		
Accessibility of emergency information (Multiple channels)		
<i>Other areas mentioned</i> <i>Voting in election</i>	He is not able to vote anonymous in parliamentary elections as a blind person: The paper in which he is to submit his vote through, does not have braille. To check the right box in the paper, he needs to tell someone with vision what he wants to vote for. This was expressed as a basic democratic right violation.	You can get information beforehand in braille, but there is no braille on the actual paper you are to put your vote on. This needs to change. The process should be digitalized, with Bank Id working as a mode for person verification.

Sweden – Visual impairments, no 2

Demographic data

1. **Gender: Female**
2. **The place (country) of residence:** Sweden
3. **The type of your disability and the cause of it** (official clinical diagnosis): Total blindness, she started becoming blind at 10 years old.
4. **The age at onset of visual impairments:** At 29 she lost her sight due to benign tumors. Her vision kept getting worse and worse, so she went to an eye doctor herself at age 29, that's when they discovered the tumors.
5. **Age:** 54

6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree): Bachelors level
7. **Severity of disability: Blindness**
8. **What means do you use to read?** Screen reader
9. **Visual acuity of the left eye:** Total blindness, loss of light perception
10. **Visual acuity of the right eye:** Total blindness, loss of light perception
11. **Visual field:** Central vision loss, Peripheral vision loss
12. **You move alone or with the help of an attendant?** With the help of an attendant.
Additional answer: She has another disability as well, a mobility impairment that makes it very difficult for her to walk on her own. It is a neuromuscular disease that causes the muscles in her feet and lower legs to be very atrophied.
13. **How often do you move alone?** Never
14. **Do you use assistive technology?** Yes
15. **If yes, which means of assistive technology?** She uses various assistive and mainstream technologies, including a white cane for navigation and several apps on her phone and computer. Screen readers help her interact with her devices, while AI-powered apps like Be My Eyes offer significant visual assistance. Previously, she could call someone anonymously for visual help, such as checking for dirt on her shirt, but now AI interprets photos for her, helping her check clothes, locate lost items, and more without needing to direct the camera precisely. She also uses Seeing AI from Microsoft to check the colors of her clothes. Although she has tried other OCR readers, they weren't as effective. Be My Eyes remains her primary tool for reading mail and other visual tasks. Additionally, she uses a color indication device to check her clothes and determine if a light is on or off by pointing it at lamps.
16. **What kind of educational material is more suitable for you? (you can choose more than one answers):** Text: digitally so that her screen-reader can read it up for her.
17. **Do you use any kind of accessible educational material?** No

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor		Uneven surfaces sometimes cause problems for her	For better balance: more handrails in, for example,

<p>and outdoor spaces</p>	<p>balance.</p> <p>Revolving doors, these are impossible for her to enter through when she can't see the doors that are moving. In addition to these there is usually a regular door, but how could she know where this one is located? This is something she needs to learn for each place she goes to or gets information on.</p> <p>The existing guidance paths in the subway are good for tactile reference with her cane, but a problem for her other condition having problem with her balance, making it a risk for her to stumble on them. These might also be a barrier for people in a wheelchair. She feels like these paths could have been more carefully designed together with the people who are to use them.</p> <p>Squares: the tactile tiles or paving outside is described to be very hard to follow. They can also become very slippery in the case of rain.</p> <p>Lack of awareness of these tactile paths which makes other people put things in their way. In a walking street, she feels like bikers of the city are being given larger considerations</p>	<p>stairs. Put them on both sides of the stairs.</p> <p>Make it the same everywhere, so there is a common pattern.</p> <p>She is never alone as she uses assistance, so it is not a big problem for her. But for other people who want to navigate by themselves, there should be better cues in navigation to the alternative door, or just make the door easier for everyone to enter in the first place.</p> <p>When inside, the guidance paths do not have to be as high. Since the floor is usually even when being inside, or in the subway, the navigation paths does not have to have as big of a contrast in height.</p> <p>Solutions: better maintenance by the ones responsible for these spaces. Ensuring the paths are walkable for blind people. Removing snow in the winters as one example.</p> <p>There should be a clearer division between walking lanes and biking lanes, with space and consideration (removing snow) being given to both.</p>
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	<p>than people walking. For example, they remove snow in the bike lanes in the winters but not on the sidewalk in which she needs to walk.</p> <p>Inside: walking into a building and finding the reception is hard. There are no cues for her on where to go, she needs to call for help or ask someone to guide her there.</p> <p>Sometimes receptions are located on another floor in a building. She needs to call beforehand to have someone meet her at the door.</p>	<p>Personal service: Having a person at the entrance that spot her white cane and offering assistance.</p> <p>Some kind of signal stating the direction she should walk. Have the location of receptions close to the entrance. Making this a pattern everywhere so it becomes logical.</p>
Mobility with the means of transportation	<p>If going alone she uses special transportation service: if it's delayed, waiting time can be a problem when it's cold outside and there are no other modes of transportation available. This used to be a bigger problem before, it got better with another taxi company.</p> <p>A problem before: drivers sometimes did not know how to properly guide. They lacked the knowledge of how to approach her. She is holding on to them, and not the other way around being one example.</p> <p>Going with someone else she can use public transport: she finds it incredibly convenient to take the subway because she</p>	<p>In these situations, she informs and educates them on how she wishes them to help her.</p> <p>Solution: she wishes for less people and less stressful surroundings. A better sound environment. Silent areas in public transport are one solution, but she thinks people would have a hard time respecting that.</p> <p>Designated silent areas in</p>

	<p>always knows she'll get to her destination, and buses too sometimes. But there are a lot of noise and many people, and sometimes they don't lower the bus, making the step really high.</p> <p>Loud noise environments make her very tired and makes it hard for her to navigate and know where she is.</p>	<p>public transport being one solution. Also looking into how to put more sound absorbing materials in different spaces as well as in the vehicles.</p>
Communication with and services of the public and private sectors	<p>It is not always possible to call certain actors. Chat windows can be a bit difficult with her screen readers. It's always most convenient and easy for her to call. Public agencies tend to make it hard to call, as they wish people to contact them in other ways.</p> <p>Asking for help with assistive technologies through the employment agency was described as almost impossible.</p> <p>They are hiding the contact information, both mail and number, on websites. Making it hard to find a way of contacting them. Both in the public and private sectors.</p>	<p>Should be easy to call and always someone to talk to directly.</p> <p>This information should be clearly stated on the front page of each website. Or in the footer of each page. Then she can search for it through her screen reader. Preferably using the same phrasing of "contact us" or "tel" so she knows what to search for.</p>
Web accessibility	<p>Public agencies are better than commercial actors.</p> <p>There is sometimes too much alt text in the descriptions of images.</p>	<p>Follow the accessibility directives. Summarizing texts that are short but carry the essential information.</p> <p>If digital: make QR codes</p>

	<p>QR codes have been an issue, it is not always easy to direct the camera to the right space of the computer screen. They are also too small.</p>	<p>clickable to enlarge them to full screen size. Alternatively, write an instruction for those who cannot see where it's located. Previously, she used to wave the camera around and scan from left to right.</p> <p>There should be information on how to do it: holding the camera steady from about 30 cm or so—just a small instruction like that would make a huge difference.</p> <p>The AI apps, Be my eyes, have also improved screening for the QR code in a picture.</p>
Digital accessible transformation		
E-commerce	<p>Too much information from private companies trying to sell her things. Sometimes she does not go through with her purchase because there is too much information to navigate through. They lose her as a customer.</p> <p>The descriptions of the things she wishes to buy online are usually not good. Does not like to buy things online due to this reason.</p>	<p>Public agencies are better at this. They more often follow the accessibility guidelines and code their services so they're compliant with my screen reader.</p> <p>She wishes for more descriptions of the feeling of the materials, the colors and which way they fit onto the body. Things that you would see if you saw the clothing. She prefers buying clothes in stores so she can try it and</p>

		<p>feel the materials.</p> <p>She also asks someone else for their opinion. Even though she can get information on the color through her assistive technologies, sometimes nuances of the color are hard to get properly. Also, the material, for example if a shirt is very matte, it would not go together with a pair of shiny pants. This she would like to get better feedback on her assistive tools.</p>
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)		
Digital customer communication		
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)		
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	<p>She dreams back to the time when there were less functionalities in software. She uses 2 % of all available things to do in, for example Outlook. With all else irrelevant features</p>	<p>Should be different level of the service. For example, one very basic with the most fundamental features. All additional features make it unnecessarily difficult for</p>

	<p>to her, she finds it difficult to find the things that she wants to use.</p> <p>The differences across all devices are also a problem as she has to learn the paths for each tool she uses.</p> <p>Finds Netflix and HBO bad, and the TV4's app from an accessibility standpoint. Putting on the show from the exact time she stopped watching is difficult. Finding the setting for putting on audio description is also a challenge.</p>	<p>her.</p> <p>Light, medium or high themes of the same service, going from the core functionalities towards the more advanced settings that some users might want. But not everyone.</p> <p>She does not wish to customize a version tailored to herself; she wishes it to be a set version of the basic functions. Make it easy.</p> <p>Different versions that would be beneficial for everyone, not just for people who are visually impaired.</p> <p>Some kind of universal standard.</p> <p>Follow the accessibility standards for apps. SVT play, the swedish public service streaming site, is one example in which works much better.</p>
Educational Accessibility	During her education she still had her sight.	
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)		

Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology		
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)		
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)		
Accessibility in distance education/online learning		
Employment Accessibility		
Spatial/Physical Accessibility in the work place		
Accessible Services in the work place (e.g. hiring processes, communication with different sectors)		
In-service training and career up-skilling		
Assistive Technology in	She has problems with her	A simpler version, as stated

the work place and accessible material	Outlook calendar.	further above. Make the services “cleaner” and remove the features she is unlikely to use.
<i>Cultural Heritage Accessibility</i>		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	She can find it quite overwhelming with the sound of children, especially at the Modern Museum on weekends. The high noise levels in the entrance hall can be challenging, and in some museums in general, there are many children making a lot of noise, which tires her out.	Considering sounds absorbent materials within these spaces. Children free timeslots.
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art		Enjoys guided tours with someone describing the artifacts.
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in tourism Services		
Accessibility in accommodation (hotel units, camps, camping)		

Accessibility in transportation		
Accessibility in sports & recreational facilities		
Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible movies		
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	Describing this as a nightmare if there are no clear spoken directions of what to do and where to go.	Making sure there are spoken instructions for someone who can't see.
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)		
Accessibility of emergency information (Multiple channels)		

Sweden – Deaf- Hard of hearing, no 1

Demographic data

1. **Gender:** Male
2. **The place (country) of residence:** Sweden
3. **The type of your hearing loss and the cause of it** (official clinical diagnosis): no answer
4. **The age at onset of hearing loss:** 30 years old
5. **Age:** 58
6. **Educational level:** university

7. **Do you have bilateral hearing loss?** Yes
8. **Degrees of hearing loss in left ear:** Severe hearing loss (71-90 dB)
9. **Degrees of hearing loss in right ear:** Moderate hearing loss (56-70 dB)
10. **Level of difficulty in understanding the oral language (through lip reading)**
Neutral
11. **Do you read and understand the written form of the official language of your country?** Very easy
12. **Level of difficulty in reading and understanding the written language:** Very easy
13. **Do you know sign language?** No
14. **Do you use assistive technology?** Yes
15. **If yes, which means of assistive technology?** Hearing aid
16. **What kind of educational material is more suitable for you? (you can choose more than one answers):** Text, Visual, Audio, Audio-visual
17. **Do you use any kind of accessible educational material?** No

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		Navigation in space can sometimes be hard in not understanding where sounds come from. This is something that also makes balance hard for him.	Make hearing aids better, and more similar in how the ear naturally perceives sound and where it comes from.
Mobility with the means of transportation			
Communication with and services of the public and private sectors		Some contact with doctors at the medical center was described as problematic as they did not understand his needs. He also described his doctors for sometimes being a bit arrogant. One encounter	A more empathetic approach in the personal encounter. She also had a solution- oriented thinking that he described other doctors lacked. She understood that he can become very

	<p>with one specific person was described as a gamechanger, as she met him with more compassion than the others.</p> <p>He can become tired when interacting for a long time. He describes exhaustion as the tension that builds up for a student preparing for an exam, becoming very tired afterwards.</p>	<p>exhausted from longer interactions.</p> <p>He takes out his hearing aids for about 15 minutes to recover after longer interactions. But when he takes the hearing aid out, his balance becomes a bit difficult.</p>
Web accessibility	<p>No perceived issues in relation to his hearing impairment.</p> <p>However, it was described as sometimes being too many affordances/available things to do that he could get distracted and a bit confused. This connects to his described problem of staying focused for longer times.</p> <p>There is sometimes too much information for him to process.</p>	
Digital accessible transformation		
E-commerce		
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)		
Digital customer communication		

Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)		
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	He did not describe phone calls as a major problem but mentioned speech to text in video calls as a good solution making digital interactions in video easier. In social media there was a problem area in relation to his lack of focus sometimes.	Videophone calls with speech to text were described as a great invention. But there is still the problem of not quite catching everything that people say.
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)		
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	Speech to text can be good sometimes, but described to be quite complicated when people talk and interact live. It won't cover all the things being said, and there will be a delay in the interaction.	
Accessibility in services provided by the educational units (e.g. communication with the		

administrative services, announcements by the teaching and the administrative staff)		
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	<p>Group work, in which students choose groups themselves, was described as a problem. The people he knew in class were already in other groups, he ended up with one person also left out of a group which was very unmotivated in doing the assignment. He ended up doing assignments intended for 4-5 people, by himself.</p> <p>He did not describe the issue of being left outside of a group to have with his hearing impairment, but more that he was older than most students and thereby had other areas of interest in, for example, the group work topic.</p>	<p>Course responsible divides the groups to ensure everyone is part of a group. The responsible teachers should, as soon as some people are without a group, step in with a structure to ensure everyone has a spot. Also, in the case of someone doing all of the work, step in to ensure the workload is adapted to 1 person.</p>
Accessibility in distance education/online learning		
Employment Accessibility		
Spatial/Physical Accessibility in the work place		
Accessible Services in the work place (e.g. hiring processes, communication with different	<p>Problem in finding a job in the domain in which he has studied. Instead, he has been forced to take other jobs to provide for himself.</p>	

sectors)	<p>In these other jobs in service, he also describes a competition for these jobs among sometimes 100+ applicants. It is described to be generally more difficult today to get a job than it was when he was younger.</p> <p>He reflects upon how this might also relate to him misunderstanding social interactions, and thereby loses opportunities in relation to these misunderstandings.</p> <p>This has had an impact on his mental and emotional wellbeing, reflecting on how it has caused depression.</p>	
In-service training and career up-skilling	<p>He has some gaps in his resume and lacks the required work experience in relation to his ideal work scenario.</p> <p>This is something that companies in the domain he wishes to work within point out as a problem and reason for not getting the job he has applied for.</p>	
Assistive Technology in the workplace and accessible material		
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage		

sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)		
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art	Problem in interpretation guided tours and ongoing events. It was described as sometimes being too much to interpret, which can make him feel lonely. Despite being amongst other people, he can feel very isolated.	Hearing aids becoming better.
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in tourism Services		
Accessibility in accommodation (hotel units, camps, camping)		
Accessibility in transportation		
Accessibility in sports &		

recreational facilities		
Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible movies		
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)		
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)		
Accessibility of emergency information (Multiple channels)		
Other areas discussed Social situations	The main problem described with a hearing disability is that he can completely misunderstand social situations. It's described as being hard to read social cues. Sometimes people can become angry at him for not hearing what they are saying. He understands their frustration. He wishes to engage more, but it makes him	Don't see any direct solutions apart from making the hearing aid technology he uses even better. He describes a solution as a combination of fostering a will for the individual with a hearing impairment of wanting to engage in the social public sphere, but that

	<p>very tired.</p> <p>This can cause misunderstanding and people around him don't understand what he is talking about, stemming from the fact that he has misperceived what they are talking about.</p> <p>It was described to sometimes being too much to try to interpret. Despite being amongst other people, he can feel very isolated.</p>	<p>this person should be supported by the best possible technology in hearing aids in order to do this.</p> <p>He also mentioned existing research in curing different hearing impairments, but that is far in the future.</p>
Hearing aid complications	<p>The aid can pick up and make him hear a sound, but he does not know where it comes from. He is advised by doctors to always have the hearing aid on, as that will allow the brain to adjust and get used to it. But this makes him exhausted.</p>	<p>He wishes to get sound as natural as possible. The ones he is using now are almost there providing that.</p> <p>He needs to sometimes take them out to recover.</p>
Focus	<p>He describes that he has a problem with sometimes losing focus, and thereby following in events that is going on.</p>	<p>He sometimes says that he needs certain things repeated from his surroundings, this helps him get back to following the conversation.</p>

Sweden – Deaf- Hard of hearing, no 2

Demographic data

1. **Gender:** Male
2. **The place (country) of residence:** Sweden
3. **The type of your hearing loss and the cause of it** (official clinical diagnosis):
congenital impairment due to rubella during pregnancy
4. **The age at onset of hearing loss:** 0
5. **Age:** 61

6. **Educational level:** university
7. **Do you have bilateral hearing loss?** No
8. **Degrees of hearing loss in left ear:** Profound hearing loss (91+ dB), deaf
9. **Degrees of hearing loss in right ear:** Moderate hearing loss (56-70 dB)/ Severe hearing loss (71-90 dB)
10. **Level of difficulty in understanding the oral language (through lip reading):** Easy
11. **Do you read and understand the written form of the official language of your country?** Yes
12. **Level of difficulty in reading and understanding the written language:** Very easy
13. **Do you know sign language?** No
14. **Do you use assistive technology?** Yes
15. **If yes, which means of assistive technology?** Hearing aid extended with sometimes a conference microphone or a pen microphone.
16. **What kind of educational material is more suitable for you? (*you can choose more than one answers*)** No answer
17. **Do you use any kind of accessible educational material?** No answer

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		<p>Inside: In larger rooms it can be difficult to hear. His hearing aid has a range of 2 meters, which makes the lack of range in larger rooms with multiple people sitting further than 2 meters difficult.</p> <p>When entering his home and asking if someone in his family is home and that person would state "here", he would not be able to know where the sound is coming from.</p> <p>Outside: he does not perceive any direct problems. He said that the only alternative would</p>	<p>Uses the conference microphone, which extends the range of his hearing aid. This is helpful in the context of meetings. With the conference mic, he can sit at the very back of a conference room if he has placed the extended mic in the front.</p> <p>He does not like to use this at home, dinners or at parties, it's a bit too cumbersome. In these situations, here prefers to</p>

	<p>be for him to start hearing better, and that is not possible. The additional tools of extension to his hearing aid, the conference mic and the Roger pen, comes with a “cost” as he describes it. It’s a bit cumbersome to set the whole thing up. It’s not that many steps in setting it up, but it becomes a barrier of always have to fiddle with it. He only uses them if he must.</p> <p>Difficulty in expecting all spaces to be designed for a perfect sounds environment for him, it is described to be better to equip himself with the assistive tools he needs to still be able to participate and interact within spaces no matter their conditions for sound.</p>	<p>use a smaller more discreet extension of his hearing aid in the form of a pen. The form of a pen is appreciated, to avoid the stigma of standing out.</p> <p>When using the pen being out at a bar, he described himself having better hearing than what a person with full hearing would in the same situation.</p> <p>The solutions are good, but he wishes them to provide him with better feedback on how much battery is left.</p>
Mobility with the means of transportation	<p>When biking he can’t hear the traffic surrounding him in the same way. He has been part of situations in which there could have been an accident, but he is not sure if this is related to his lack of hearing or if it because of the driver that would not see/not minding his visual cues with hands stating his directions when biking.</p> <p>When going by car, he prefers driving the car himself as that</p>	<p>In public transport, he finds that there are visual elements that make transportation feasible for him.</p> <p>Make cars more silent.</p> <p>He could potentially use the conference mic, locating it at the center of the car. But he thinks it will pick up too many surrounding sounds, such as the sounds of the car, that it will be difficult.</p>

	directs his hearing ear towards others in the car. This is necessary for him to be able to perceive and interact with others in the car.	In taxi situations, he usually uses his pen to point towards the driver to make sure he hears.
Communication with and services of the public and private sectors	<p>Interactions at the hospital, a problem when staff has face masks. This was very difficult during the pandemic, as most people had face masks. He reads lips, this was then impossible. He described that most people, even people with hearing, experienced slightly more difficulty in interacting with others, as facial cues in the interaction were missing.</p> <p>Can sometimes be hard to hear on the phone.</p> <p>At the dentist, he takes out his hearing aid to avoid hearing all the unwanted sounds.</p> <p>When renewing your passport at the police, having to take a picture, and there's glass in front of the police officers you are interacting with, that is a challenge for the hearing and my aids. These are usually expected and familiar interactions of showing one's ID and so forth, so it usually works. But if something unexpected comes, then it becomes difficult to follow.</p>	<p>Hospital staff ultimately took down their mask so that they would be able to communicate. He was not sure which solution could accommodate both the need to read lips, and the need for protection of the mask.</p> <p>At the dentist: he states that he has a hearing impairment so that people understand that once he removes the aid, he won't be able to hear anything.</p> <p>Consider other materials than glass in which sounds can better be transferred through.</p>
Web accessibility	No problems given the visual	Captions are a good solution

	elements of the web.	to take part in videos.
Digital accessible transformation		
E-commerce		
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)		
Digital customer communication		
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)		
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)		
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)		<p>In elementary school his class got a wall-to-wall carpet in the classroom as a sound absorbent. This made the learning environment a little better for him.</p> <p>He describes that most school environments are</p>

		designed with sound absorbent materials to accommodate the need for a quiet and calm learning environment.
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	No provided more accessible alternatives. He had to adapt to the form of education. This was also in the time before using hearing aids.	To sit at the front of the classroom at lectures to hear.
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)		
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)		
Accessibility in distance education/online learning		
Employment Accessibility		
Spatial/Physical Accessibility in the work place	Digital meetings were described as ideal for hearing all things at a meeting, as the hearing aid is connected to the phone or computer. However, he described it as not being ideal to be one of few	Even though he hears better online, he prefers joining a meeting with his hearing aids in the physical space.

	colleagues joining meeting remotely. This becomes a problem of engagement and social interaction among colleagues.	
Accessible Services in the work place (e.g. hiring processes, communication with different sectors)	<p>He raises the issues of being “employable” in regard to putting pressure on companies to provide an accessible environment for him. Everything comes at a “cost”.</p> <p>Putting the expectation of having the external environment rebuilt or more accessible was described as a big request to accommodate his needs. He would rather equip himself with assistive technologies enabling him to navigate existing structures and spaces.</p>	<p>In the ideal world, all spaces would be accessible to everyone. This was described as somewhat of an Utopia or a far future ahead.</p> <p>He stresses the need for assistive tools for the individual with impairment to be able to navigate in the existing world. This is an important parallel strategy in relation to making spaces, offices, services etc more universally accessible for everyone. He needs to be able to navigate across different offices and customers who might not have considered accessibility.</p>
In-service training and career up-skilling		
Assistive Technology in the work place and accessible material	He wants things to work for him without having to ask for any additional assistance. He uses his devices, and no one has reacted in any way. It works.	
Cultural Heritage Accessibility		

Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	Problems in long proximity, needs to be close to the guide at museums.	Better sounds environments in general. Positions himself close to the guide and also uses his pen to specify the sounds that come from the direction of the guide.
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art		
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in tourism Services		
Accessibility in accommodation (hotel units, camps, camping)		
Accessibility in transportation	Similarly, as public transportation, there are usually always visual boards with information. Not an issue. At the security check the personnel checked his Roger pen and got very worried that they would try to twist it as it	In this situation he quickly told them that they need to be careful. He also makes sure to always have a backup solution in the situation if his

	looked like a pen. Risking causing damage to his aid	aid stops functioning.
Accessibility in sports & recreational facilities		
Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible movies	<p>Speech to text, is currently not working seamlessly in different streaming services. SVT play has debates being broadcast live, with a live audio description robot. It makes mistakes and goes back to correct the mistakes. Not working as it should. Wrote to the broadcaster stating this and got the response that it was "unfortunate that he felt this way".</p> <p>In live theaters, there are accessible solutions for hearing such as hearing loops in which hearing aids can connect to and get better audio of the theater. This is not compatible with all hearing aids.</p> <p>At one point he went to the movies, and the pen picked up the audio from the movie in the room next to him instead of the movie he was watching. This was a strange experience.</p> <p>Concerts have too high sounds environments, which puts the hearing he has left at risk.</p>	<p>Public service agencies should prioritize and buy better solutions.</p> <p>Buying tickets in the front seats is one solution.</p> <p>Locate the extended hearing devices closer to the stage. There could be a designated place in which people can put their extended hearing devices close to the stage, to avoid any misunderstandings or someone picking it up wondering what it is.</p> <p>Solution in finding sound protecting earplugs, but this was described as defeating the purpose of going to a concert.</p> <p>Alternatively, if his existing hearing aid could protect his ears from the volume. This is currently not possible.</p>

Accessibility in Security and Evacuation Situations	No problems mentioned.	
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)		
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)		
Accessibility of emergency information (Multiple channels)		
Other areas discussed Hearing aid complications	<p>When starting to use the hearing aid there is a huge difference in being able to hear and not having to read lips or maintaining eye contact in his social interactions. But the hearing aid also comes with sounds that he did not want. This was described as very psychologically difficult.</p> <p>He uses an app to sync his hearing aid with his forms of extensions (conference mic and pen). The app is not compatible with an Iwatch, he described it as cumbersome to take out the app all times.</p> <p>Lack of options and features in</p>	<p>There is training required to use a hearing aid for the brain to adjust. So, this is one solution to start identifying the unwanted sounds described as psychologically difficult. However, such training is very draining, and he usually takes out his hearing aid to recover.</p> <p>One solution described is to start with a hearing aid as soon as possible, and not to wait so that the brain can still identify certain sounds. When the brain has forgotten what certain sounds are, then they are just perceived</p>

	<p>relation to the hearing aid. He made a comparison to being able to choose from different types of cars. Some people only get the basic option: like a Mazda, which still gets you from point A to point B. Others have the luxury of choosing something like a Tesla, which has many more features. Both serve the same fundamental purpose, but the level of comfort and additional benefits vary significantly.</p>	<p>as noise that you can't put together with the surroundings.</p> <p>Have the app and settings available through his Iwatch. He stated that the automatic setting works quite well, so these small changes are not too important.</p> <p>But it would be nice to easily get an overview of the battery status of his devices, just by looking at the watch. He also likes to set the volume right, preferably with his watch as it's the easiest.</p>
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Sweden – Mobility impairments, no 1

Demographic data

1. **Gender:** Male
2. **The place (country) of residence:** Sweden
3. **The type of your disability and the cause of it (official clinical diagnosis):** broke his neck, resulting in a severe spinal cord injury known as Tetraplegia. As a result, he has limited mobility and function in all four limbs. He is able to move his left arm to some extent as well as his head. Almost totally paralyzed from the shoulders down.
4. **The age at onset of mobility impairments:** 56
5. **Age:** 66
6. **Educational level:** PhD
7. **Your disability occurs:** On both sides of the body from the shoulders down
8. **How would you most accurately describe the functionality of your hands?**

D. I can only handle selected (very specific) objects that are easy and only in adapted activities. Usually, I only perform parts of an entire activity with a lot of effort and with limited success. I need continuous support, assistance and/or adapted equipment.

9. You move alone or with the help of an attendant? Sometimes alone and sometimes with help of an attendant

10. How often do you move alone? C. Sometimes in an electrical wheelchair

11. How would you describe your commute?

When he needs to go into town, he uses his own adapted car that his assistants drive. When he arrives, he transfers to an electric wheelchair.

12. Do you use assistive technology? Yes

13. If yes, which means of assistive technology?

For mobility within his home, he utilizes a lift for safe transfers between bed and chair. Personal hygiene is facilitated by a specially designed chair, permanently installed for ease of use. Fine motor skills are supported by a universal grip and pen holder, allowing him to handle and manipulate objects like pens effectively. He can also hold cans and glasses with this solution. His kitchenware includes adapted glasses in the right size towards his grip. Occasionally, a manual wheelchair is employed for visits to places, usually older buildings, with narrow spaces. In these situations, he needs to be pushed. For travel, he relies on a portable solution for both the lift and the hygiene chair, that can be disassembled and carried along. Additionally, he has tried using an eye-control system for his computer, but he felt that it still went faster with a touch pen attached to his hand which he still has a little bit of movement in. With the touch pen he uses an assistive keyboard for the computer, which for him is a combination of aid that goes fastest. He has also tried to use speech to text through Siri, but too often Siri misinterprets him which still needs editing work from him. It goes faster for him to write himself. In relation to his wheelchair, he has parts that can make him stand up. This is not meant as a practical aid, but rather for his health as it's good for his blood pressure as well as to prevent osteoporosis. Sometimes he uses a currency counter when reading a paper, to help him switch pages.

14. What kind of educational material is more suitable for you? He prefers to read digitally.

15. Do you use any kind of accessible educational material? No

Accessibility Area - Sub-areas	Problems/difficulties	Solutions
Core Accessibility		
Physical/Spatial Accessibility of indoor and outdoor spaces	High thresholds in the built environment are a common problem. He describes that	Inside his house, he has a ramp and ensures there are no high thresholds to

	<p>even though there are solutions like ramps, once he gets up, he often encounters a 10 cm threshold, creating barriers in accessibility that are frequently overlooked, preventing further progress.</p> <p>In the city, he also notes that there might be one accessible way up to the sidewalk, but once he reaches the other side, there's sometimes a high edge, posing additional challenges.</p> <p>The stairs are described as impossible. For example, he hasn't been upstairs or downstairs in his house in about ten years, so that's not feasible.</p> <p>He encounters accessibility barriers more frequently in older buildings. There might be a lift, but then there is often a stair to get to the lift, further complicating access.</p>	<p>navigate.</p> <p>To overcome barriers, he sometimes relies on good friends to carry him upstairs. This only works with his manual wheelchair, as the electric wheelchair is too heavy to carry. Other solutions, such as installing lifts, have been considered, but the high cost often makes it seem like a low priority for others.</p>
Mobility with the means of transportation	<p>He used to drive a car, but not anymore as it became too scary for him. However, in the city where he lives you need to drive the car yourself to get an accessible parking slot ticket. This was one of the reasons why he continued to drive</p>	<p>Provisions should be made to ensure continued accessibility to vehicle adaptations after retirement age. This involves advocating for policies that support affordability through the Social Insurance Agency,</p>

	<p>himself.</p> <p>Navigating daily life with his adapted vehicle presents challenges. He has a modified car equipped with a lift that allows him to transfer from his wheelchair into the driver's seat. However, a significant concern is the changes once he turns 66, as they will affect the cost of essential vehicle adaptations covered by the Social Insurance Agency.</p> <p>Public transport presents varying experiences. shortcomings in local services, such as an unsafe lift. On the contrary, a positive train experienced was marked by personal service by the train conductor.</p> <p>Instances of miscommunication with transport service providers have led to inconvenience and frustration. A misunderstanding about pick-up times left him stranded, underscoring the need for improved operational protocols and emergency response procedures.</p>	<p>thereby maintaining independence in transportation.</p> <p>When he did not receive his transport as planned, he called a family member. He did not know how else he would have solved the situation as he thinks he would have been stranded there for the night.</p>
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Communication with and services of the public and private sectors	<p>In terms of a respectful approach, he describes that communication can vary a lot. It's very much case by case. Sometimes there are no problems at all, and others he describes as hopeless, this can be very different.</p> <p>At some points he had encounters with doctors speaking to his assistant rather than him, this was described as very disrespectful as he does not have any form of cognitive impairment.</p>	<p>He frequently tells people to address him directly in situations in which he is overlooked, and people speak with his assistant.</p>
Web accessibility	<p>His navigation online takes time, right now his main form of interaction is through his touch pen attached with his grip aid.</p> <p>One problem arises with a lack of sensitivity. He does not know how hard he pushes, so he quickly wears the pens out. He also sometimes experiences bad connection to the screen with the pen, and then usually asks to borrow the finger of his assistant.</p>	<p>Pen in copper is a material that is a solution to last longer.</p> <p>He wishes there were a Siri version that would work better and know how to write better than a few words that he describes he needs to correct. He suggests that there should be a solution that could teach both his voice and his vocabulary to create a better experience.</p>
Digital accessible transformation		
E-commerce		

Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)		He signs documents digitally.
Digital customer communication		
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)		
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	<p>He needs assistance to press the first button to enter his iPhone, but once he's within his phone, he can navigate without any issues.</p> <p>Writing extensively tires him out, as it requires significant effort from his shoulder.</p> <p>When navigating digital services, he sometimes ends up in a loop, returning to the starting point without achieving his goal.</p> <p>Reading the newspaper on his iPad is frustrating because it automatically activates the read-aloud function. The button for this feature is too accessible, forcing him to shut</p>	<p>The first button on his iPhone should be improved for easier access.</p> <p>Speech-to-text and a better-functioning Siri would be highly appreciated solutions for him.</p> <p>He usually asks his children for assistance to navigate digitally and to help him get out of a loop. If they can't figure it out, he prefers calling the service directly for support. In these situations, he relies on someone else for help.</p>

	it off multiple times. Additionally, some actions are designed for two fingers, but he can only use one.	
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)		
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology		
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)		
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)		
Accessibility in distance education/online learning		He frequently joins meetings online, but that is because the people he works with are

		spread across places, so it becomes natural. That does not have anything to do with him as he usually goes to the physical space for work. However, he stated it was also practical to have meetings online in his kitchen.
Employment Accessibility		
Spatial/Physical Accessibility in the work place	There was an instance where he couldn't access a room and had to deliver his presentation from the doorway. Accommodation was eventually made. As the building was modern and new, the lack of spatial accessibility was described as surprising.	
Accessible Services in the work place (e.g. hiring processes, communication with different sectors)	The general description is that his work has accommodated him well.	
In-service training and career up-skilling		
Assistive Technology in the workplace and accessible material		
Cultural Heritage Accessibility		
Physical accessibility in		

cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)		
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art		
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in tourism Services		
Accessibility in accommodation (hotel units, camps, camping)		
Accessibility in transportation		
Accessibility in sports & recreational facilities	He had to stop previous activities such as hunting and fishing, he can no longer participate. He wished to keep up with bird watching, but lack of mobility in his neck makes finding a solution hard.	He explores tailored solutions for him specifically.

Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible movies	He would like to attend the opera more frequently, but it requires careful planning to ensure accessible transportation. This includes finding a train with accommodating conductors who can assist with his electric wheelchair. If going by car, he must also prearrange an accessible parking space, although these are often fully booked in advance.	Whilst the transport to the event was described cumbersome, the accessibility upon reaching the opera house was described as a great experience, with someone offering immediate assistance to accommodate him.
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)		
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)		
Accessibility of emergency information (Multiple channels)		
Other areas discussed Prejudices Against Wheelchair Users	An issue with societal attitudes was highlighted, where people often assume he cannot perform tasks simply because he uses a wheelchair.	He wishes people to speak with him directly as they would with anyone else.

	<p>There's a misconception that he may have intellectual limitations or other impairments. Sometimes, people begin conversing with his assistant, which he described sometimes don't understand the context or lacking proficiency in Swedish. It's frustrating when others fail to communicate directly with him about matters concerning him.</p> <p>Despite his insistence that people address him directly, there's a tendency for continued uncertainty, and they continue directing their conversation towards his assistant. This situation was described as a frequent occurrence, highlighting ongoing challenges in communication and societal perceptions.</p>	
<i>Emerging technologies and AI</i>	<p>In addition to our main discussions, emerging technologies were touched upon. Virtual reality (VR) relies partly on head movements, which is not feasible for him.</p> <p>.</p>	<p>Augmented reality (AR) using eye movement with glasses is another intriguing option. He is curious to try these new forms of interactions.</p> <p>AI in combination with Siri, which could be a self-learning function that gets</p>

		better over time, was described as a combination holding great promise. With this improved AI, he could potentially start writing longer texts more easily.
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Sweden – Mobility impairments, no 2

Demographic data

1. **Gender:** Female
2. **The place (country) of residence:** Sweden
3. **The type of your disability and the cause of it (official clinical diagnosis):** Mobility impairment, Cerebral palsy
4. **The age at onset of mobility impairments:** Since birth
5. **Age:** 30
6. **Educational level:** Special needs upper secondary school.
7. **Your disability occurs:** Arms, legs and ability to speak
8. **How would you most accurately describe the functionality of your hands? Her own answer:** As long as it doesn't involve intricate tasks like threading a necklace or anything that requires very fine motor skills, her hands work. It takes longer, but she manages. However, she can't carry a cup; if she tries, it usually ends up on the floor.
9. **You move alone or with the help of an attendant?** Sometimes alone and sometimes with help of an attendant
10. **How often do you move alone?** Never
11. **How would you describe your commute?**

Her own answer: Typically, she is always in her wheelchair, except when she needs to move shorter distances from one spot to another. For instance, if she is switching to the sofa, she temporarily walks with the help of an assistant.

12. **Do you use assistive technology?** Yes
13. **If yes, which means of assistive technology?**

Electric wheelchair indoors and an electric wheelchair outdoors. Also, a computer mouse joystick and a keyboard with overlays, so that you only press one key at a time. Without the overlay, it becomes very difficult to press a key. She also has a dog for

assistance, which can help her pick up things she might drop on the floor amongst other things.

14. **What kind of educational material is more suitable for you?** Text

15. **Do you use any kind of accessible educational material?** No

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		Most times buildings are accessible, but there have been instances when she has been wanting to go to a store and the only way to get inside is through the stairs.	<p>There isn't much to do other than avoid going there. If it happens, she usually writes to the store or the chain that it's not accessible.</p> <p>One ideal scenario is for all buildings to have a lift or a ramp in addition to the stairs. The best scenario is to be able to go inside through the main entrance, having it accessible from scratch.</p>

<p>Mobility with the means of transportation</p>	<p>Most of the time she uses an electric wheelchair. Sometimes she takes the bus.</p> <p>When she takes the bus, there's a ramp she uses to get on. Sometimes the ramp is broken. Then she has to wait for the next bus, which means that she arrives late. It's happened twice in the past few weeks, but usually it doesn't happen that often.</p> <p>In the winters, there is the problem of maintaining the roads and paths. If it's not maintained, it is very difficult for her to transport herself in her electric wheelchair as she wishes. This differs depending on the winter, but this could be much better.</p>	<p>She prefers going in her electric wheelchair. She therefore wishes for better snow shoveling for road maintenance in the winters.</p>
<p>Communication with and services of the public and private sectors</p>	<p>She finds it difficult to be understood over the phone.</p> <p>Reflecting upon differences between public and private sectors, she states that maybe it's not about where you write, but more about who writes. It's about the individual person responding to me.</p>	<p>Her assistant sometimes calls on her behalf. She prefers writing emails, but this is not always possible for her.</p>
<p>Web accessibility</p>	<p>Does not experience any problems.</p>	

Digital accessible transformation		
E-commerce	Does not experience any problems.	
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)		When signing contracts, she usually gets help to read it together with her assistant or a family member, and then she signs it herself once I've understood what it means. This is a process she feels comfortable with.
Digital customer communication		She prefers writing to customer service rather than calling.
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)		
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)		
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)		

<p>Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology</p>		
<p>Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)</p>	<p>When asked about her desire to continue studying, she faces a significant obstacle: although she wishes to pursue further education, she is restricted by existing regulations. Despite improving her grades to regular levels from elementary school, she is prohibited from pursuing higher education. This restriction stems from the policy that attending special education qualifies individuals for disability benefits from the Social Insurance Agency.</p> <p>If she were to enroll in further education, it would be assumed that she is capable of holding a standard job, which she asserts is not feasible due to her condition. Undertaking education would result in the loss of her current benefits. Furthermore, if she were unable to secure employment after completing her studies, which she describes to be a challenge, it would be difficult to</p>	<p>Elementary school was described as well adapted. The level of difficulty was right, and she had her own assistant. When she didn't have her own assistant, there were many teachers and one student assistant. At that time, everyone in her class had some type of disability, all getting the help they needed.</p> <p>She would like society to give everyone a chance to pursue education. They shouldn't assume that just because someone can study, they can also work a regular job, because those are not the same. Instead of labeling people in society as not able, it should be up to each individual to decide what they are capable of and what they are not capable of.</p>

	regain disability benefits.	
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)		
Accessibility in distance education/online learning		
Employment Accessibility		
Spatial/Physical Accessibility in the work place		
Accessible Services in the work place (e.g. hiring processes, communication with different sectors)	<p>She has worked in a daily activities program, which is a job that those who have attended special education get after finishing high school because their grades aren't enough to apply for regular education. She had an assistant at work, which allowed her to work at a company, an external workplace within the daily activities program.</p> <p>The municipality decided to remove the assistance. That's why she doesn't have a job</p>	<p>In an ideal world she would like to work to help others in her situation.</p> <p>To be able to do that, she describes how society would probably need to change its rules. Both regarding education, that you're not allowed to study when you receive benefits. And also that you can have an assistant at work.</p>

	today, because it doesn't work for her to not have an assistant at work.	
In-service training and career up-skilling		
Assistive Technology in the workplace and accessible material		
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)		
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art		
Tourism (including recreation and sports) Accessibility	She has been on vacation abroad in Europe together with her family and assistant. This has worked well, so no	

	mentioned problems.	
Accessibility in tourism Services		
Accessibility in accommodation (hotel units, camps, camping)		
Accessibility in transportation		
Accessibility in sports & recreational facilities		
Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible movies	One issue was raised when attending a concert with her assistant. Despite booking a “handicap spot” and expecting free entry for assistants as per the website information, the assistant was denied seating in the designated area upon arrival.	Her assistant should be given a spot as promised.
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)		
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)		
Accessibility of		

emergency information (Multiple channels)		
<i>Other areas discussed</i> <i>Stigma</i>	In most scenarios, she stresses the wish to be treated as equally as possible.	However, in the context of going to a concert or something similar she describes it as being important to be accommodated appropriately to have a good view. Sitting in a regular seat with a wheelchair in the audience could mean not having a clear view. Except for concerts and similar events, she wants to be treated like everyone else in all other situations.
<i>The accessibility of the interview format</i>	Continuing to interview participants who have a lack of mobility in their arms, signing the consent form on paper was one area that could be made easier.	One example would have been to make the signing for consent digital. She recommended that, especially if interviewing participants like herself.

Sweden – Mild intellectual disability, no 1

Demographic data

1. **Gender:** Female
2. **The place (country) of residence:** Sweden
3. **The type of your disability (official clinical diagnosis):** Mild intellectual disability
4. **Level of intelligence:** She doesn't know
5. **Other difficulties/disabilities (difficulties in hearing, vision, movement etc):** Scoliosis, Epilepsy, Asthma. She had a stroke which has affected her memory. Brain fatigue when having to read too much text.
6. **Educational level:** High school included a vocational program tailored for individuals with disabilities. It's noteworthy that due to her invisible disability, which was initially

unrecognized, she attended a mainstream school until 9th grade. Transitioning to a specialized school markedly enhanced both her learning experience and social environment.

7. **Do you use assistive technology?** Yes

8. **If yes, which means of assistive technology?**

Only mainstream like Handy, an app to help her schedule her days. She, however, prefers a physical schedule that she can make with her hands. She likes to scrapbook, and a physical calendar motivates her better than Handy.

9. **Do you find it difficult communicating with others? Own answer:** No problem speaking with others, but she has sometimes hard to understand which might lead to misunderstandings. She appreciates it and finds it very important that people doublecheck with her if she has understood something.

10. **Do you live alone?** Yes

11. **You move alone or with the help of an attendant?** a. Alone

12. **How often do you move alone?** e. Always

13. **Do you use a personal computer?** No, she uses an iPad.

14. **If yes, how often do you use a PC?** She uses her iPad every day, it varies for how long at a time. Sometimes 15 minutes, sometimes longer.

15. **What kind of educational material is more suitable for you? (you can choose more than one answer)** Text.

Added comment: She prefers not to have information overly simplified, as she believes important contextual details can be lost in the process. She prefers having the original text and can ask for clarification if needed. **b. Visual** aids are useful when they enhance the information provided in text. However, if not carefully chosen, visuals can lead to misunderstandings. **The ideal situation** for her is to have access to both a simplified version for easy reading and the original source to ensure no crucial details are omitted. She also prefers having physical copies of materials rather than digital ones.

16. **Do you use any kind of accessible educational material?** Not that she remembers.

Accessibility - Sub-areas	Area	Problems/ difficulties	Solutions
Core Accessibility			
Physical/Spatial		No problems reported.	

Accessibility of indoor and outdoor spaces		
Mobility with the means of transportation	<p>Too complex digital apps: The ticket purchasing app for public transportation is difficult to use. Information within the app is challenging to read and understand.</p> <p>Lack of understanding: She faces poor treatment from bus drivers due to a lack of awareness of her invisible disability. Sometimes she must ask for additional help, and people don't understand why. Communication barriers arise because drivers may not understand or accommodate their needs.</p> <p>Lack of information: Public transportation services do not adequately provide information about benefits cards or similar services. There is insufficient communication about how individuals, particularly those with limited financial resources, can access these benefits.</p> <p>Lack of knowledge: Staff in special transportation services lack understanding and awareness of invisible disabilities. This results in</p>	<p>Simplified user interfaces: Simplify the app interface for purchasing tickets to make it more user-friendly and less complex.</p> <p>Raising awareness: Increase societal awareness about the needs of individuals with disabilities, including those with invisible disabilities. Educate the public and transportation staff to foster understanding and empathy towards these individuals.</p> <p>Accessible information: Provide more accessible information about available benefits and discounts for individuals with disabilities. Ensure clear guidance on how to access these benefits, especially for those with limited financial resources.</p> <p>Education for transportation staff: Train transportation staff to be more attentive and knowledgeable about</p>

	navigation errors and miscommunication, such as drivers expecting passengers to provide directions they are unable to give.	interacting with individuals with invisible disabilities.
Communication with and services of the public and private sectors	<p>Lack of easy-to-read Information: Information provided by both private and public sectors is often difficult to understand, creating barriers for engagement and communication.</p> <p>Avoidance of communication: Due to the complexity of information, she avoids interacting with private sector entities as she struggles to comprehend their communications.</p> <p>Independence in communication: She desires to manage communications independently but faces challenges due to the complex nature of information provided by private and public sectors.</p> <p>Imposed disability by society: Society's communication practices contribute to her feeling more disabled than she actually feels that she is.</p> <p>Learning curve with medical</p>	<p>Easy-to-read information: Provide easy-to-read versions of information using simplified language. This would help her understand communications independently without relying on others. However, she would like to have access to both the original and simplified version of the information.</p> <p>Direct communication options: Offer options for direct communication via phone calls rather than requiring her to navigate digital platforms or write emails. This accommodates her preference for personal interaction over digital communication.</p> <p>Supportive communication environment: Create a supportive environment where she feels comfortable communicating directly with service providers. This could</p>

	services: She has learned to navigate communication with medical services.	include training staff to understand and accommodate individuals with invisible cognitive disabilities.
Web accessibility	She barely uses the web. Too complex information and too much text are the biggest barriers.	
Digital accessible transformation	<p>Overwhelmed by technical tools: The interviewee experiences fatigue and overwhelm when using technical tools or digital solutions. Managing digital or complex technological solutions is mentally exhausting for her.</p> <p>Fear of unfamiliar digital activities: She hesitates to interact with unfamiliar digital interfaces or tools. Fear of pushing buttons or links she doesn't fully understand restricts her digital activities to only those she is familiar with, such as watching movies or playing games on her iPad.</p>	<p>Preference for physical documents: She prefers physical documents that she can hold and interact with, indicating a preference for tangible, non-digital formats. This approach reduces mental fatigue associated with digital tools and enhances her ability to manage and comprehend information effectively.</p> <p>If she has to navigate other services digitally, she asks her family for help.</p>
E-commerce	Fear and lack of understanding: The	Ensure that non-digital options are still available

	<p>interviewee avoids buying things online due to a lack of understanding of how online transactions work. There is a fear of not knowing what will happen during the online shopping process.</p> <p>Fear of being swindled: There is a fear of getting swindled by someone online, stating that she experiences a lack of platforms, transactions, transactions and other people she comes across online.</p> <p>Barriers to online independence: These fears and lack of understanding create barriers to independently engaging in online shopping or digital transactions.</p>	<p>as she prefers buying products she can physically touch and see.</p>
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	<p>Uncertainty in managing any digital documents/contracts by herself due to its complexity: She feels uncertain about signing any document alone due to difficulty understanding the documents fully.</p> <p>Simplification issue: When a lot of information is removed in an attempt to simplify, the context becomes difficult to</p>	<p>Support from trusted individuals: she feels more comfortable signing papers when she has someone she trusts with her, such as her sister.</p> <p>Easy-to-read options: Provide both the original source in text and an easy-to-read version. This allows her to cross-reference and ensure they have not missed</p>

	understand.	any important details that might have been omitted in the simplified version.
Digital customer communication		
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	<p>Lack of understanding of financial Information: The information provided by the bank is often too complex for her to understand. Financial jargon and detailed terms create confusion and prevent independent management of her bank account.</p> <p>Limited mathematical skills: She has never learned mathematics in school, which hinders her ability to perform basic financial calculations.</p> <p>Dependence on others: She relies on others, such as family members or trusted individuals, to help manage her bank account.</p>	<p>She currently gets assistance from her family.</p> <p>Learning math in school: She would have wished to learn math during her education so she would be able to manage her own banking.</p>
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	<p>The interviewee finds using transportation apps challenging due to several factors:</p> <p>Complex navigation within the app, such as selecting departure times and confirming</p>	

	<p>choices, which involves multiple steps, clicks and can be confusing.</p> <p>Difficulty with memory recall: making it hard to remember details like travel plans when putting in the information.</p>	
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)		
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	No issues reported.	In a class with different needs, she emphasized the importance of tailoring the material and activities towards each student , providing different solutions for different needs.
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	<p>Struggles in mainstream schools: The interviewee struggled in a mainstream school due to having an unrecognized disability, leading to difficulties in keeping up with the standard curriculum.</p> <p>Lack of tailored educational support: There was an</p>	<p>Appropriate educational placements: ensure relocation are suited to the specific needs of students with disabilities to enhance their learning and independence.</p> <p>Specialized schools and</p>

	<p>absence of tailored educational support for students with invisible disabilities, causing the interviewee to feel different and face academic delays and a barrier to her own learning journey.</p>	<p>classes: Establish specialized schools and classes specifically catering to students with invisible disabilities. Provide an environment that offers tailored support, enabling students to learn and grow independently.</p>
<p>Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)</p>	<p>Limited educational options: The interviewee had only two options regarding her education and career path when starting high school: a vocational program related to consumption or a technical workshop. She opted for the consumption path, as she did not want to pursue the technical route but desired more options similar to her sisters.</p> <p>Inadequate career path choices: The lack of diverse educational and career pathways limited her ability to explore and pursue her interests. The restricted choices impacted her overall career satisfaction and development.</p> <p>Lack of access to a high school diploma: During the time of her study, she was</p>	<p>Increase educational options: Provide a wider variety of vocational and academic programs to ensure students have multiple paths to choose from.</p> <p>Expand choices beyond traditional vocational programs to include fields like creative arts, child care, and other areas of interest.</p>

	unable to obtain a high school diploma.	
Accessibility in distance education/online learning		
Employment Accessibility		
Spatial/Physical Accessibility in the work place		
Accessible Services in the work place (e.g. hiring processes, communication with different sectors)		
In-service training and career up-skilling	<p>Closure of community programs: High costs led to the shutdown of beneficial local community programs, such as those involving interactions with farm animals. This closure limited opportunities for engagement, socialization, and personal growth for individuals who benefited from these activities such as herself.</p> <p>Uncomfortable relocation: The interviewee was relocated to a different program at a store, where she did not feel comfortable. The new environment included individuals with more severe</p>	<p>Specialized work environments: Create work environments where participants are grouped based on similar levels of ability and interests. Focus on tasks that promote individual growth and skill development.</p>

	<p>disabilities, making the interviewee feel out of place.</p> <p>Lack of suitable activities: The new program did not provide activities that matched the interviewee's interests or needs. The interviewee's role primarily involved caring for others, rather than engaging in activities that foster personal development.</p> <p>Feeling of displacement: The interviewee never felt a true sense of belonging or personal growth in their current environment. Efforts to adapt to the new program were unsuccessful, leading to feelings of unfulfillment and lack of personal development.</p>	
Assistive Technology in the work-place and accessible material		
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g.	<p>Limited local activities: Activities and resources for organising cultural events suitable to her are predominantly concentrated in large cities, posing challenges for individuals in smaller towns. This restricts access to desired</p>	<p>Expand local cultural activities: Increase the variety and frequency of cultural activities available locally.</p> <p>Collaborate with community centers,</p>

parking space, guidance towards main entrance)	<p>activities and events, limiting social engagement and opportunities for personal development.</p> <p>Physical accessibility issues: She has difficulty navigating stairs due to mobility challenges.</p>	<p>libraries, and local organizations to host events such as art exhibitions, music performances, and workshops.</p> <p>This provides opportunities for socialization, engagement, and personal enrichment without the need for extensive travel.</p> <p>Enhance accessibility in cultural Institutions: Install easier-to-navigate stairs with handrails and use yellow tape to clearly mark steps for enhanced visibility, especially in low-light conditions.</p>
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	<p>Sometimes guides during tours have too complex language.</p>	<p>Simplified language: She would like the language to be easier to follow. To speak slower and showcase what they mean by examples. This wish for easier language was also raised as a solution for immigrants also sharing difficulties in understanding too complex language.</p> <p>Easy-to-read alternative text: Provide easy-to-read versions of all written materials. Create alternative texts with simplified language</p>

		<p>and visual aids where necessary. Ensure accessibility of forms, brochures, and informational materials in museums, libraries, and public spaces. Facilitates access to information for individuals with varying literacy levels and cognitive abilities.</p> <p>Appreciates alternative forms of engagement inspired by designs usually made for children: The interviewee finds value in interactive activities tailored for children at museums, such as audio guides and scavenger hunts. These engaging features enhance learning, motivation for her, making the museum experience more enjoyable and informative.</p>
Accessibility in museum exhibits and works of art	High ticket costs pose a significant accessibility issue for the interviewee due to limited financial resources, preventing her from participating in various cultural and recreational activities.	The cost of entry to museums and cultural sites should be affordable , as high prices can prevent access for individuals with disabilities and those with limited financial means.
Tourism (including recreation and sports)	Difficulty finding organizations or organizers	She would like the ability to travel, even for shorter trips

<p>Accessibility</p>	<p>conducting inclusive trips specifically tailored for individuals with disabilities.</p> <p>Limited options available for participating in group trips that cater to her needs and preferences.</p> <p>To have the courage to travel, she needs to feel trust towards the organizers.</p>	<p>within Sweden. To do that, she needs someone to organize it so that it becomes accessible to her.</p>
<p>Accessibility in tourism Services</p>	<p>Lengthy application process: For travels within Sweden she needs assistance. The bureaucratic procedure for securing municipal assistance for travel involves multiple steps and paperwork, making it cumbersome and time-consuming and ultimately inaccessible.</p> <p>Availability of personnel: Difficulty in finding available municipal personnel who can process travel assistance requests, exacerbated by factors such as holidays or staff shortages.</p> <p>Uncertainty in processing: Due to the reliance on municipal procedures, there is uncertainty about when and if travel assistance will be approved and provided, leading</p>	

	to a lack of predictability. Limitation on spontaneity: These uncertainties prevent spontaneous travel decisions, restricting her ability to travel independently and on short notice.	
Accessibility in accommodation (hotel units, camps, camping)		
Accessibility in transportation		
Accessibility in sports & recreational facilities		
Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible movies		
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)		
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	Difficulty understanding information: The information related to the pandemic received in physical letters was complex and difficult for her to comprehend.	Interactive presentations by experts: Employ individuals who can deliver information in an interactive and engaging manner, such

	<p>Disinterest due to complexity: The complexity of the information discouraged her from making an effort to understand it, resulting in disengagement towards crucial information.</p> <p>Barriers to awareness: Challenges in understanding pandemic-related information may have hindered her ability to stay informed and make informed decisions about health and safety measures.</p>	<p>as crisis management personnel or museum exhibit guides. This approach helps in making complex subjects more accessible and memorable.</p> <p>Contextualized explanation: Ensure that information is not only delivered but also explained in context, helping her to understand its relevance and application in real-life scenarios.</p> <p>Use of visual aids and examples: Incorporate visual aids and real-life examples to illustrate key points and enhance understanding among audiences.</p> <p>Dynamic communication: Utilize dynamic communication styles that cater to different learning preferences, such as storytelling, demonstrations, or interactive activities.</p> <p>Accessibility of information: Ensure that information is delivered in various forms, including a format that is easy to comprehend, avoiding jargon</p>
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		and complex language to improve accessibility for all individuals, including those with varying levels of comprehension.
Accessibility of emergency information (Multiple channels)	Information is often too complicated .	Make it easier to engage with , as raised above.
<p>Other areas</p> <p>Misunderstandings</p> <p>Not being considered: appreciation to research in the spectrum of disabilities</p> <p>Desire for Personal</p>	<p>Verbal communication misconceptions: There's an assumption that verbal ability correlates with understanding, which often overlooks her actual comprehension level. This misunderstanding can hinder effective communication in various settings, from everyday interactions to more formal discussions or instructions.</p> <p>Self-perception and societal expectations: The interviewee values being seen as a person beyond her disability, with both strengths and weaknesses like anyone else.</p> <p>Disabled by society: Societal norms tend to categorize individuals into binary extremes of disability: either severely disabled or not disabled at all. This oversimplification fails to acknowledge the nuanced</p>	<p>Confirmation of understanding: She appreciates it when people check with her to ensure she has understood something right. This practice helps mitigate misunderstandings and ensures clarity in communication.</p> <p>Advocacy and awareness: she appreciates the efforts of researchers and advocates who delve into issues faced by individuals with disabilities, also considering her stance as “mildly” disabled. As she feels like society makes her more disabled than she is, she stresses that understanding of her in-between position is lacking today.</p>

	<p>activities like coffee gatherings or games. This lack of options contributes to feelings of isolation and restricts her ability to foster meaningful connections within her community.</p> <p>Exploitation concerns: There's a significant concern about scammers targeting individuals who may not fully grasp the complexities of technology or recognize the signs of fraudulent activities. These scammers often exploit trust and manipulate through friendly personas over the phone, leading to financial exploitation and emotional distress for vulnerable individuals. The increasing complexity of technology, including AI-driven interactions and sophisticated scam tactics, adds to this experienced vulnerability.</p>	<p>measures to prevent scams: Develop technological solutions that enhance security in digital interactions. This could include features like dedicated buttons on phones that ensure safer transactions and reduce vulnerability to scams.</p>
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Sweden – Mild intellectual disability, no 2

Demographic data

1. **Gender:** Female
2. **The place (country) of residence:** Sweden
3. **The type of your disability (official clinical diagnosis):** Mild intellectual disability
4. **Level of intelligence:** She don't know
5. **Other difficulties/disabilities (difficulties in hearing, vision, movement etc):**

Epilepsy, Anxiety related issues

6. **Educational level:** High school, a vocational program for individuals with disabilities
7. **Do you use assistive technology?** Yes
8. **If yes, which means of assistive technology?** She uses visual timers to help track her time effectively. For presentations and meetings, she relies on the Time Timer app on her phone. She also uses Digi Jag, a simplified app designed for people with cognitive disabilities, which provides information from the various organizations she is involved with and includes agenda points for upcoming meetings. To plan her days, she has created a physical schedule using cardboard and also uses a digital calendar on her phone. Additionally, she plans to start using a simplified digital calendar called Today.
9. **Do you find it difficult communicating with others?** No
10. **Do you live alone?** Yes
11. **You move alone or with the help of an attendant?** Sometimes alone, sometimes with friends or family
12. **How often do you move alone?** Always
13. **Do you use a personal computer?** Yes
14. **If yes, how often do you use a PC?** Everyday, sometimes more than 1 hour per day.
15. **What kind of educational material is more suitable for you? (you can choose more than one answer)** Prefers a. text, c.audio (verbal information) and d.video.
Added note: video is better when she is tired.
16. **Do you use any kind of accessible educational material?** No

Accessibility Area - Sub-areas	Problems/difficulties	Solutions
Core Accessibility		
Physical/Spatial Accessibility of indoor and outdoor spaces	<p>Overly bright lighting: Some stores have excessively bright lighting, causing eye strain and fatigue as she is sensitive to some light.</p> <p>Varied lighting conditions: Inconsistent lighting levels</p>	<p>Consistent lighting for a calm experience: standardized lighting levels across stores could help ensure a comfortable shopping experience for all customers.</p>

	<p>between stores (some too bright, others too dim) can be disorienting and uncomfortable.</p> <p>Crowded spaces: crowded stores can be overwhelming and stressful.</p>	<p>Designated quiet hours: Implement designated shopping hours specifically for vulnerable groups, such as individuals with disabilities or those who prefer quieter environments. For example, stores can designate certain hours of the day as "quiet hours" or "low-traffic hours" where there are fewer customers. This allows individuals to shop without feeling rushed or overwhelmed by crowds.</p> <p>Color coding: Use a traffic light system (green, yellow, red) to indicate the level of busyness at different times of the day. This could help customers plan their visits, promoting a more relaxed and accessible shopping experience.</p>
Mobility with the means of transportation	<p>Inaccessible information in the event of sudden changes: Lack of timely and clear information about bus delays, cancellations, or changes causes stress and uncertainty.</p>	<p>On-site personnel for assistance: Ensure that there are dedicated staff members available at transportation hubs who can provide assistance, directions, and information in person, especially for passengers who may find digital interfaces challenging</p>

		<p>or inaccessible.</p> <p>There needs to be a balance between digital communication channels and direct human interaction. While digital updates are valuable, having personnel on-site who can offer personalized assistance and address individual needs is crucial.</p>
Communication with and services of the public and private sectors	<p>Complex and tiring digital processes: Navigating digital interfaces for contacting customer service or accessing information can be overly complex and confusing.</p> <p>Complex and tiring content: there is usually too much text to consume, resulting in brain fatigue.</p> <p>Lack of direct contact with a person for help. In the services that do provide direct contact through call, there is an issue of long waiting times.</p>	<p>Simplify website navigation: Offer a simplified version of the website for easier navigation.</p> <p>Ensure that users can easily find the information they need without unnecessary clicks.</p> <p>Provide easy-to-read options: These alternatives could be offered similarly as a translating features. So that all text is available in an easy-to-read alternative one click away.</p> <p>Offer alternative communication channels: Provide a phone number prominently displayed on the website. Enable immediate access to live support without</p>

		lengthy waiting times. Implement callback feature: Introduce a callback service where users can request to be called back by customer service.
Web accessibility	Lack of accessible information: Websites often lack accessibility features like easy-to-read formats, alternative communication methods, and visual supports. Users with cognitive disabilities or difficulties comprehending standard text formats are excluded from accessing vital information.	Easy-to-read formats: Introduce easy-to-read versions of web content, including simple language and clear structure. Provide a link on websites to switch between standard and easy-to-read formats. Providing multimodal content: alternative forms in which information is given. Stretching from digital content with multimodal features, combining text with images, icons, or videos to improve comprehension.
Digital accessible transformation		
E-commerce	Lack of easy-to-read text.	Should provide easy-to-read formats to ensure the requirements for returns etc. are understood before buying something.

Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)		
Digital customer communication		
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	No issues for her, but she raises that many people sharing her disability do not have their own Bank-Id and are dependent on someone else for this responsibility.	There is a described wish for greater independence among her peers to also have their own BankId.
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	Lack of notification on interface changes: she meet difficulties when platforms like Facebook or other digital services make significant interface changes without prior notification. This can disrupt the familiarity and usability of services, particularly for those with cognitive or visual impairments who rely on consistency.	Notify users of upcoming changes and do it in an easy-to-read format.
Educational Accessibility	No issues reported.	
Spatial Accessibility in educational units (public and private education,		

primary, secondary and post-secondary education including tertiary)		
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology		
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)		
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)		
Accessibility in distance education/online learning		
Employment Accessibility	No issues reported.	
Spatial/Physical Accessibility in the work place		
Accessible Services in the work place (e.g. hiring processes, communication with different		Understanding of wage subsidies: There is a need for understanding and communication regarding wage subsidies. These

sectors)		subsidies are intended to accommodate specific needs, such as adjustments to work structures or schedules. This has worked well for her as she needs more structure provided in her work.
In-service training and career up-skilling		
Assistive Technology in the work-place and accessible material		
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	Navigation and information: she sometimes finds it challenging to locate essential facilities such as cafes and dining areas within venues like museums. Stating a need for clearer navigation and information.	Signs in the built environment on directions.
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	Complex language and fast paced communication in guided museum tours: she finds that guided museum tours often proceed too quickly, making it difficult for her to fully grasp the information.	Adjust tour pace: Museum guides should be trained to speak at a slower pace, allowing participants to absorb information comfortably. Provide multimodal forms of interaction and

		<p>alternatives: provide accessible formats such as easy-to-read materials and visual aids.</p> <p>This accommodates diverse needs and ensures everyone can follow along independently.</p>
Accessibility in museum exhibits and works of art		
Tourism (including recreation and sports) Accessibility		
Accessibility in tourism Services	<p>No reported issues.</p> <p>Everything tends to work well expect when there are changes and delays in transport. Then there is a barrier of accessible information in a situation of change.</p>	<p>Personal assistance: there should be someone she could ask for help or guidance providing this information.</p>
Accessibility in accommodation (hotel units, camps, camping)	No reported issues.	
Accessibility in transportation	<p>Difficulty remembering departure dates and time: she mixed up the dates for a travel once.</p>	<p>Notification with reminders: she would have appreciated a reminder to help her plan. A notification about her trip through a text as one example.</p>
Accessibility in sports & recreational facilities		
Accessibility at beaches		

<p>Accessible shows (theaters, cinemas, concerts...) & accessible movies</p>	<p>Attending a concert: Bag ban and security concerns: She finds the bag ban policy inconvenient. While acknowledging security concerns, she states that she needs her bag to keep track of her things.</p> <p>The bag ban restricts individuals from carrying essential items like hotel keys or personal necessities.</p> <p>Concerts: lack of accessibility features in seating areas: she and her friend prefer sitting at the ground floor instead of using elevated seating areas due to mobility challenges.</p> <p>They discovered a lift last year that could have facilitated easier access, but this information was not readily available until then.</p> <p>Limited accessibility features such as handrails or lifts make it difficult for individuals with mobility impairments to access seating areas comfortably. Inconsistent availability of such facilities adds to the challenge.</p> <p>Lack of social consideration:</p>	<p>Alternative security measures: Implement alternative security measures such as increased security personnel who can thoroughly check bags rather than imposing a complete ban.</p> <p>Handrails and lifts in the built environment.</p> <p>Improved information on where these are located.</p>
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	<p>She had to be relocated in relation to a discomforting light where she was sitting, her brother was not allowed to move with her.</p> <p>Inadequate accommodation for individuals with sensory sensitivities: During an event she attended with her brother a bright blinking lamp caused discomfort, prompting them to request a seat change. However, the venue staff did not allow the speaker's brother to accompany them to the new seating area.</p> <p>Insufficient notification and preparation for sensory triggers at events: she highlights the lack of warning about sensory triggers at events, such as concerts. She mention instances where flashing lights were not adequately communicated beforehand, potentially causing discomfort or distress.</p>	<p>Her brother should be regarded as an assistant in such a scenario, being given the same relocation as her.</p> <p>Pre-event Information: Include detailed information about potential sensory triggers in event announcements, ticketing platforms, and promotional materials. Specify the types of stimuli (e.g., flashing lights, loud noises) that attendees may encounter during the event.</p>
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security		

systems in case of fire, earthquake, etc.)		
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)		The importance of accessible information on security trials: It is important, to avoid distress, to send warnings in advance about upcoming emergency drills like "hesa Fredrik." In Sweden. This information needs to be accessible to everyone.
Accessibility of emergency information (Multiple channels)	Inadequate accessibility of information during COVID-19: She highlights the lack of accessible formats, such as easy-to-read or visual formats, for important COVID-19 information. This meant that crucial information was not readily available to individuals with varying cognitive abilities or language skills for some time.	Easy-to-read formats: Develop easy-to-read versions of critical information using simplified language, short sentences, and visual aids to enhance comprehension.
Other areas	Difficulty in performing basic mathematics, such as adding up totals while shopping.	

Sweden – High functioning autism, no 1

Demographic data

1. **Gender:** Male
2. **The place (city & country) of residence:** Denmark
3. **Age:** 30

4. **The type of your disability (official clinical diagnosis):** In the process of being diagnosed for autism spectrum disorder
5. **Level of intelligence:** He has not taken an official test at any point. He does not like IQ point system due to its historical baggage and he thinks it's not a good measurement tool for intelligence. Taken other more recent trial tests, and he would say he is generally above average.
6. **Other difficulties/disabilities:** ADHD, Osteoporosis, Sarcoidosis
7. **Educational level:** Master degree
8. **Do you use assistive technology?** Yes
9. **If yes, which means of assistive technology?** No, uses spell checkers but that is not related to autism or ADHD. Depending on how assistive technology is defined, he also mentioned his medication in this regard. Noise canceling headphones to manage stressful situations.
10. **Do you find it difficult communicating with others?** Sometimes.
11. **Do you use any kind of communication aid?** No
12. **Do you live alone?** No, he lives with his family
13. **You move alone or with the help of an attendant?** Alone
14. **How often do you move alone?** Always
15. **Do you use a personal computer?** Yes
16. **If yes, how often do you use a PC?** More than 1 hour a day
17. **What kind of educational material is more suitable for you?** A combination of all answers is usually the best way to go. Through interactions he learns the best. All answers apply.
18. **Do you use any kind of accessible educational material?** He answers that everyone does this, as all of us look for information in their own way. So, the answer is both no, in the formal sense of having something more accessible provided, but also yes, as he forms his own strategies of learning.

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		Being in crowded spaces can be very stressful and energy-draining for him. He often feels exhausted at the end of a day	To avoid this, he prefers to go grocery shopping during off-peak hours to steer clear of the crowds. Additionally,

	spent around too many people.	he chooses side streets over main streets to minimize interactions with large groups of people.
Mobility with the means of transportation	<p>He finds traveling during rush hours extremely stressful. When he is on a train with many conversations happening around him, he hears them all at once, which can be overwhelming.</p> <p>Having an invisible condition can be problematic because people often don't realize he has different needs in various situations.</p>	<p>He has developed some coping mechanisms as solutions.</p> <p>He raises the purpose of the Solsikken symbol which is a symbol to wear if you have an invisible disability or condition. It is a visual cue for surroundings to become aware that a person has an invisible disability.</p> <p>He advocates for designated quiet areas in various situations, such as on trains, to provide a more comfortable environment. To block out surrounding noise and impressions, he uses noise-canceling headphones to listen to music or podcasts.</p> <p>To avoid crowds, he uses technology to monitor activity levels at different locations and times. Google offers a solution for this, providing an overview that helps him plan trips to the grocery store during less busy times. Although he has learned through experience which times are best to avoid</p>

		crowds, he thinks that Google's monitoring of activity levels could be a useful tool for others with similar needs.
Communication with and services of the public and private sectors	<p>In the public sector he does not find the public sector to be a major problem for him personally, as he can navigate existing structures with the help of social workers and other resources. He understands the constraints within which public sector employees must operate. However, he believes that there should be more adaptive systems in place to support citizens who are not as capable of working around these structures. He sometimes feels that resources are more focused on gatekeeping rather than on providing actual assistance</p> <p>In the private sector, he perceives a significant issue with how companies design sometimes target individuals with mental disabilities through dark design patterns, which are particularly effective against this demographic. He views this as a lack of social responsibility, especially in industries like gambling or</p>	<p>He advocates for giving social workers, doctors, and healthcare professionals greater flexibility to bend or disregard certain arbitrary rules within various structures and systems to better accommodate specific needs. However, he recognizes that this must be carefully considered in relation to the workload and resources available to these workers.</p> <p>He is now more cautious in his interactions, actively developing strategies to avoid being swindled. He also relies more on user reviews to become better informed about different companies.</p> <p>In an ideal world, he envisions more systems and services where people can borrow items like cars or other necessities, similar to a local library. He imagines a social contract of co-owning resources within a</p>

	<p>certain mobile games.</p> <p>He has also encountered problems with communication and trust when dealing with private companies. While he likes to think of people as inherently good-natured, he has learned to be more cautious in his dealings with private entities. He has experienced complications involving money and has realized that he has been intentionally swindled on multiple occasions. He describes himself as an easier target for such exploitation, a vulnerability that he has unfortunately had to face repeatedly.</p>	<p>community, allowing everyone to borrow what they need, promoting a sense of shared responsibility and accessibility.</p>
Web accessibility		
Digital accessible transformation		
E-commerce	Difficulties in trust.	He looks at reviews of other customers.
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)		
Digital customer	Difficulties in trust.	He looks at reviews of other

communication		customers.
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	He does not experience any difficulties, but mentioned the difficulties of his grandfather who has a hard time understanding all new digital banking systems.	
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)		
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)		
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology		
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the		

teaching and the administrative staff)		
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	<p>He finds it challenging to complete tasks simply because he is told to do them. For example, arbitrary assignments designed to demonstrate that a student has learned course goals, but without a clear connection to real-world problems, are unmotivating for him. This lack of real-world relevance makes it difficult for him to stay motivated.</p> <p>He struggles to see the point of completing tasks that have already been solved just to prove he can do them. As a result, he received the lowest grade on such an assignment. However, when it came to the reflective part of the assignment, where he critiqued the purpose and relevance of the task, he earned the highest grade.</p>	He would like more motivating tasks to learn through, for example by solving “real” problems.
Accessibility in distance education/online learning		
Employment Accessibility		
Spatial/Physical Accessibility in the work place	A lot of people in the workplace at the same time is energy consuming.	He takes breaks every now and then, for 15 minutes to be by himself. This is

		something that he has learnt works for him as a way to cope with existing structures around him.
Accessible Services in the work place (e.g. hiring processes, communication with different sectors)	Arbitrary assignments are again described as draining. The task of having to report his hours on a weekly basis is something he finds unnecessarily time-consuming and does not contribute to his work. He has the same issue with reporting travel costs.	<p>He would prefer a system that notifies him only when a specific detail needs to be checked, rather than requiring him to provide all the details every time.</p> <p>He envisions a system based on trust, where it is assumed he is fulfilling his work and hours. Only if there is a reason to doubt this should he be required to start reporting his hours.</p>
In-service training and career up-skilling		
Assistive Technology in the work place and accessible material	Starting a new job often means adapting to an unfamiliar social environment. Navigating this can be challenging when there is a lack of structure or clear expectations. Unspoken rules and invisible norms can be particularly difficult to grasp.	<p>He would like additional social support to understand how things work in this specific work setting.</p> <p>He would also appreciate receiving guidelines from the workplace or coworkers on aspects to consider for his work, providing him with a helpful starting point.</p>
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage	Problem with crowded spaces during the days.	He enjoys it when there are night exhibitions, as there

sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)		are usually less visitors then.
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	Sometimes the content of certain exhibitions can be triggering. Surprising elements are something that can cause discomfort.	He thinks that it would be a good idea to provide information with trigger warnings to let people mentally prepare before walking into a room with very graphic or violent content.
Accessibility in museum exhibits and works of art		
<i>Tourism (including recreation and sports) Accessibility</i>	He and his family, all members on the spectrum, are currently practicing different things in order to travel in the future, to understand what works well for them.	
Accessibility in tourism Services		
Accessibility in accommodation (hotel units, camps, camping)	New situations sensory inputs can be a stressful scenario for his children.	To help them acclimate, the family practices by visiting local hotels and restaurants. They also ensure they have "safe food," familiar foods that everyone in the family enjoys, in case new foods become overwhelming.
Accessibility in	New situations or sensory	Familiarity is described as a

transportation	inputs can be a stressful scenario for his children.	solution for stressful situations, currently preferring to travel by car as it is their own "safe space".
Accessibility in sports & recreational facilities		
Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible movies	<p>He likes to go to concerts, and this is a problem area of a space with a lot of people.</p> <p>In cinemas, it is very stressful and problematic to get in and out of the salon. All the people are standing up and starting to walk at the same time. He usually sits until everyone has gone, and then leaves.</p>	<p>He participates in his own way. Using earplugs and usually sitting in the back at a distance from people.</p> <p>He thinks that the cinema could provide a structure of having one row leave at a time to maintain a calmer pace for everyone.</p> <p>He thinks this thinking could be applied in the context of leaving other spaces, such as leaving a train as well.</p>
Accessibility in Security and Evacuation Situations	For him, he doesn't see any direct problems in the situation of an emergency. He has taken a first aid course, that he repeatedly takes, to ensure he is adequately equipped to act in case of someone getting hurt around him	He would like for others to equip themselves in case of him being the one getting hurt.
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire,	Sensory sensitivity is described as a problem for the entire family in the case of evacuation or crisis.	They have developed a strategy to prepare for stressful situations, such as a power outage, by

earthquake, etc.)		maintaining a large stock of "safe foods" at home. This helps to prevent adding more stress during already challenging times.
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	In the scenario of unexpected events such as an emergency, planning for maintaining some familiarity can prevent additional distress for his family.	He engages in conversations with his kids in various scenarios to ensure the family feels prepared in case of unexpected events. He emphasizes the balance of discussing plans without causing undue stress for his children.
Accessibility of emergency information (Multiple channels)		
Other areas discussed Stigma	<p>He feels that people perceive him as more neurotypical than he actually feels he is, which contrasts with the typical experience of stigma.</p> <p>He explains that stigma often revolves around visible disabilities, where people hold preconceived notions about certain conditions. However, this isn't always the case for social diagnoses that are mostly invisible. This lack of visibility is seen as problematic, highlighting the need for greater awareness and understanding of the needs of people with invisible</p>	<p>The Solsikke snurran is one solution aimed at increasing awareness of the needs of people with invisible disabilities.</p> <p>One solution is to strive for social cohesion, creating mutual spaces in which we start to learn more about people functioning differently than ourselves.</p>

	<p>disabilities.</p> <p>He identifies a fundamental issue as the societal division among different groups of people. There is a gap in understanding between people, and he thinks the current societal structure of our set divisions contributes to such a problem.</p>	
<i>Interactions in social media</i>	<p>Interacting on social media or in different online spaces poses challenges for him. He finds it difficult because online interactions can sometimes lack common context and understanding, creating emotional distance that wouldn't exist in face-to-face encounters.</p> <p>He also gets frustrated with others' communication styles, particularly when there is no punctuation or finished sentences, and when emojis replace words. His direct communication style sometimes unintentionally leads to misunderstandings. Things he finds annoying:</p> <ul style="list-style-type: none"> • No punctuation • No finished sentences • The use of emojis rather than words 	<p>He prefers face-to-face social interactions in specific, meaningful settings rather than generic online interactions.</p> <p>He values interactions that serve a purpose related to shared interests, rather than merely socializing for the sake of it.</p>

Sweden – High functioning autism, no 2

Demographic data

1. **Gender:** Other
2. **The place (country) of residence:** Sweden
3. **Age:** 30
4. **The type of your disability (official clinical diagnosis):** Autism
5. **Level of intelligence:** They don't know
6. **Other difficulties/disabilities:** ADD, PMDS
7. **Educational level:** Vocational education
8. **Do you use assistive technology?** Yes
9. **If yes, which means of assistive technology?** Only mainstream technology like SMR and fidget toys or other practices like meditation and comfortable clothes
10. **Do you find it difficult communicating with others?** Sometimes
11. **Do you use any kind of communication aid?** No
12. **Do you live alone?** Yes
13. **You move alone or with the help of an attendant?** Sometimes alone and sometimes with help of an attendant
14. **How often do you move alone?** Most of the time
15. **Do you use a personal computer?** Yes
16. **If yes, how often do you use a PC?** More than 1 hour a day
17. **What kind of educational material is more suitable for you?** Visual, Audio-visual
18. **Do you use any kind of accessible educational material?** No

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		<p>Loud environments with many people are a general problem area with the following unwanted aspects:</p> <ul style="list-style-type: none"> • Unexpected noises • Unnecessarily loud 	<p>General things that make things more manageable:</p> <p>In the social environment they would respectful behavior in public spaces,</p>

	<p>talking</p> <ul style="list-style-type: none"> • Taking up too much space • People bumping into you and being in a hurry • Strange odors <p>Private behaviors in public:</p> <ul style="list-style-type: none"> • Excessive throat clearing • Coughing without covering mouths • Coughing into hands (strongly disincentivizing handshakes) • Strong odors of sweat, smoke, and perfume <p>Noisy actions in the inside space:</p> <ul style="list-style-type: none"> • Slamming dishes • Dragging chairs instead of lifting • Slamming doors and cupboards 	<p>respecting personal space and avoiding rushing and pushing.</p> <p>Individual solutions:</p> <p>Use earplugs or headphones consistently to manage sensory overload during errands.</p> <p>Minimize interactions with people whenever possible.</p> <p>Take regular breaks, practice deep breathing, and move at her own pace to manage stress and sensory overwhelm.</p> <p>Affirm their right to exist in public spaces and validate her own way of functioning.</p>
Mobility with the means of transportation	<p>If they have to do several things in one day or go to multiple places, they avoid public transportation. This is in order to avoid getting overly stimulated and anxious.</p>	<p>They bike. That way, they have control and can go at their own pace. When they feel too overwhelmed, they get a ride. Usually by their husband.</p> <p>Current solution: rely on their husband for transportation to</p>

		<p>avoid triggering panic attacks from public transportation.</p> <p>Proposed solutions were autism-friendly areas (quiet zones) on trains, buses, trams, and subways. They also state that they don't think it would work in practice.</p> <p>They would also like more alternative routes, queues, etc., for people on the spectrum or with other social needs. They would appreciate a generally increased understanding and knowledge so that everyone can be a part of society.</p>
Communication with and services of the public and private sectors	<p>They find it difficult to formulate their thoughts if they can't write them down.</p> <p>Phone calls are described as the worst. They forget everything except their name, get stressed, and just want to get it over with.</p>	<p>Email and text format, in general, are preferable for them. They describe it as good that you can send messages in most sectors these days.</p>
Web accessibility		<p>They describe their online presence as a solution to socially engage on their own terms. They state that there's information, honesty, and</p>

		various communities where they feel seen without needing to speak.
Digital accessible transformation		
E-commerce		<p>They describe their online presence as a solution to socially engage on their own terms.</p> <p>Being able to order almost everything online has made a big difference for their life, stating that they would not know how else they would have managed if society weren't so digitalized.</p>
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)		
Digital customer communication		
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)		
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV,	Problems can arise when they miss the social nuances and cues in social media and	They take breaks from social media and stick to using internet services strictly as

home appliances)	<p>YouTube.</p> <p>Since they take things literally, they easily get caught up in ads and other people's lifestyles.</p>	tools.
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)		
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	<p>Reflecting on their experience in school, they described a non-understanding environment in which they expect to participate in the same way as others.</p> <p>They find the demands very challenging. Generally, they struggle with meeting expectations, and have a hard time performing tasks in front of others.</p>	Some things they describe that they just have to get through, because the support they need is described as a fantasy and not available in the real world. They wish for a world in which people are more empathetic.
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	<p>School is described as a major source of anxiety.</p> <p>Everyone says it doesn't show that they are autistic, so they feel that they have to maintain that image.</p>	Same as above.

Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	Teachers were described to generally only notice those who were outwardly expressive with their struggles, which meant that someone like them, who struggled quietly and were introverted, flew under the radar. It was assumed that they were “a good girl” who coped well.	Same as above.
Accessibility in distance education/online learning		
Employment Accessibility		
Spatial/Physical Accessibility in the work place		
Accessible Services in the work place (e.g. hiring processes, communication with different sectors)	<p>They describe how they can't have a regular job. It's described as highly stressful trying to live up to the pressure and expectation of how others function.</p> <p>They describe a lack of willingness to compromise from managers.</p>	<p>They are studying for something that allows them to be their own boss. This is described as the only way they can make money.</p> <p>A more empathetic social environment in general.</p> <p>Normalizing accommodating different needs.</p>
In-service training and career up-skilling		
Assistive Technology in the work place and accessible material	Generally, they describe how they push themselves until they burn out because they don't want to be treated differently.	Same as above.

	<p>They describe that there's probably internalized ableism driving this.</p> <p>They describe how other people mirror them as that it is not noticeable that they are autistic. Due to this expectation, they feel like they have to uphold that image. This causes both anxiety and fatigue.</p>	
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)		
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art		
Tourism (including		

<i>recreation and sports)</i> <i>Accessibility</i>		
Accessibility in tourism Services	They do not like to travel. They need many aids and extensive planning that often drains the most energy, describing that the journey itself not worth it.	<p>They do not think there are solutions to accommodate this situation.</p> <p>They describe it like this: If they go abroad and stay for 10 days, it takes them 2-3 days to adjust to the new routines after arriving.</p> <p>Then, they might be able to relax for 3 days before feeling travel anxiety again. So out of 10 days, they might only 'enjoy' a third.</p> <p>They would rather stay home and do something fun in the forest.</p>
Accessibility in accommodation (hotel units, camps, camping)		
Accessibility in transportation		
Accessibility in sports & recreational facilities		
Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible movies	<p>Sometimes they go to the movies and concerts/musicals. It's described as challenging, but if they rest the day before and the day after, they can manage it.</p>	<p>Planning for rest before and after. Earplugs.</p>

	If they forget their earplugs, it might cause a breakdown.	
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)		
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)		
Accessibility of emergency information (Multiple channels)		

Sweden – Older people, no 1

Demographic data

1. **Gender:** Female
2. **The place (country) of residence:** UK (been living in Sweden)
3. **Do you face any kind of difficulties/disabilities:** Hearing: a little bit. Vision: naturally long-sighted and now the long sight is progressively getting worse.

4. Do you face any kind of other difficulties/disabilities:

Becoming forgetful. Nothing long-term but forget smaller details. Little everyday things. This is the difficulty that is worrying her the most. She is aware of the implications of dementia, and worries that she will start to forget things. This awareness makes her increasingly worried as she starts to forget things. Additionally, she was diagnosed with mild dyslexia when she started university.

5. **Educational level (e.g., lower secondary school, tertiary level of education, master degree):** PhD
6. **Do you use assistive technology?** Yes
7. **If yes, which means of assistive technology?**

Technology in general like make text larger. She reads books on her iPhone in an app called Books. This app allows her to change the font color and size. She likes it more on her phone than on her computer. On the computer, she sets the text to 14 and makes the window narrower. Sans serif is also easier for her to read.

8. **Do you live alone?** Yes

9. **You move alone or with the help of an attendant?** Alone

10. **How often do you move alone?** Always

11. **Do you use a personal computer?** Yes

12. **If yes, how often do you use a PC?** More than 1 hour a day

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		<p>She doesn't feel impaired or disabled in quiet environments, but finds it difficult to hear people in noisy settings like restaurants or places with music, even if they're right next to her. This causes irritation.</p> <p>She forgets where she has placed things at home, like a glass of water, which can be frustrating. For example, she might pour a glass of water, put it in the fridge to cool, and then forget where she left it. She also has a fear of forgetting to turn the tap off or something damaging in the house.</p> <p>When living alone and being in her apartment, there is a fear of not getting help if something</p>	<p>Not sure how to make noise levels more manageable.</p> <p>Solution: She is currently writing lists to help to remember. The use of Alexa as an assistant was also discussed to help remember where she might have put things.</p> <p>Solution: Wearable technology to call for help. Smart watch being one example, but she wishes it</p>

	<p>were to happen to her.</p> <p>In the streets of London, there is the problem of physical security. There is pick pocketing, a fear of someone taking her phone. Not necessarily has to do with aging or an accessibility issue, but more of a changing world.</p>	<p>was more elegant than the current ones are. Problem: to remember to wear it. Another problem is that she does not want digital notifications to disturb her at all times. This was described to probably be easy to set to only have the functionalities she wishes.</p> <p>Solution: she is mindful of having her phone in a careful place in her bag. If taking it up she usually has a look around.</p>
Mobility with the means of transportation	<p>Can legally drive a car, but sometimes forgets to have the right glasses on. If being stopped by the police in the case of an accident, this will have legal consequences.</p> <p>Different glasses for different situations are good in terms of the function, but remembering which ones to put or bring for different context is a difficulty.</p> <p>Underground stations: Sweden's underground escalators are described as both fast and going down far. She is conscious in the way she is using it to ensure she</p>	<p>Solution: something to make sure she has the right glasses on. A proposed solution: a reminder "do you have the right glasses on" when entering the car. Needs a solution to help remember to wear them in certain situations. Alternatively, and preferably, have one pair of glasses that works in all contexts.</p> <p>Solution: there are usually other ways of getting down and up, such as an elevator. Also not having to go down at all and taking a bus</p>

	<p>does not fall. It works okay for her now but might become a bigger problem in the future.</p>	<p>instead. She also prefers walking sometimes.</p> <p>Solution: in the UK you can get a map which tells you all the stations which have step free access. which she thinks means they have lifts.</p>
Communication with and services of the public and private sectors		
Web accessibility	<p>Can't read the print on the computer sometimes.</p> <p>She tried wearing very focal glasses that you wear all the time. That would have solved the problem of reading print close to her and driving but she just couldn't get used to them. It made her dizzy. She needs 3 pairs of glasses.</p> <p>Having to manually make her preferred changes of text for each digital service she is using.</p>	<p>She changes fonts, color and text size.</p> <p>Having a solution for her preferred settings that could work across platforms and sites.</p>
Digital accessible transformation		
E-commerce		
Digital documents and services of the public and private sectors (e.g. e-forms, informational	<p>Difficulty to read small text.</p> <p>Black on white background is too much contrast and not pleasant to read.</p>	<p>Enlarges text and changes font size and color.</p>

material, tax or government sites/applications)	<p>Described to be “fiddly” to make all adaptations across all different digital programs. These actions are wasting her time and distracting her from the main task of reading the document.</p> <p>The place for changing settings is put into different places and is also changing place sometimes. This is irritating.</p> <p>Learning where something is located and then it changes place. It’s too complicated to find and takes time.</p> <p>Also, the settings do not hold for an entire session. She must go in and reset the settings for each document.</p> <p>In Adobe acrobat, when scrolling a document, the page flips automatically to the other page. This is irritating.</p>	<p>Ideal scenario: for each device she uses, she can specify the settings she wants. Whenever going into a different document or program, the settings will be set automatically without her having to go in manually each time.</p> <p>She uses a lot of programs: Microsoft Excel, Microsoft Word, Adobe, Mac, e-mail, Chrome, Google Chrome. One solution to work across platforms would be ideal. This is a feature she thinks most people, no matter the condition, would appreciate. A solution for everyone.</p> <p>Solution: to scroll digital documents smoothly. This can be set within the settings: but the settings change location.</p>
Digital customer communication		
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)		
Digital libraries and		

repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)		
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)		
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	Same concern as raised in digital documents.	
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)		
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)		
Accessibility in distance education/online learning		

Employment Accessibility		
Spatial/Physical Accessibility in the work place		
Accessible Services in the work place (e.g. hiring processes, communication with different sectors)	Before Covid digital meetings was something she was unfamiliar with. Now she does it everyday with no problem.	
In-service training and career up-skilling		
Assistive Technology in the work-place and accessible material		
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	When her mother was retired, she loved going to museums and art galleries. She said the problem was she would need her distance glasses for looking at the objects. But then she'd want to read the labels and she'd have to get out her reading glasses. So basically, she had two pairs of glasses going on and off. This is a scenario she resonates with.	She wishes to have one solution that could work in multiple contexts, but the technology of the glasses is not quite there to accommodate that. Glasses she has tried to work across contexts made her dizzy.
Accessibility in cultural heritage sites/environments (museums, art galleries,		

archaeological sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art		
Tourism (including recreation and sports) Accessibility		
Accessibility in tourism Services		
Accessibility in accommodation (hotel units, camps, camping)		
Accessibility in transportation	Driving in a foreign country is harder now in comparison to when she was younger.	She accepts the fact that she might not be comfortable driving by herself. There are solutions in other options of transportation.
Accessibility in sports & recreational facilities		
Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible movies		
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	Walked down 11 floors due to an electricity failure. It was very hot, and it was a long way to get out to get back up again. This made her tired.	Not sure how the situation could be solved in a different way. Visual lights blinking could

	<p>Fire alarm is described to be loud enough, she would hear it.</p> <p>A general concern: if someone can't hear it, how would they get notified?</p>	<p>aid in emergency situation. Described to not always be the case.</p>
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)		
Accessibility of emergency information (Multiple channels)		
<p>Other areas</p> <p>Grocery shopping</p> <p>And the need for lists to remember things</p>	<p>She often finds herself forgetting items when she goes grocery shopping. In her younger days, forgetting a few things didn't bother her much, but now it's more frustrating. She has a habit of making a shopping list but sometimes forgets to bring it along, leaving it on the kitchen table. To mitigate this, she recognizes the convenience of using her mobile phone to create lists since she always has it with her.</p> <p>She has attempted to use Alexa as a digital assistant for managing her shopping lists but has encountered challenges. For instance, when cooking and needing to add an</p>	<p>She finds pen and paper to be her reliable method for making lists, whether it's for groceries or daily tasks. Despite trying to use Alexa for list management, she describes the experience as "awful" and prefers the simplicity of writing things down manually. For instance, when she realizes she's run out of onions while cooking and wants to add them to her shopping list, Alexa often fails to register her request promptly or correctly.</p> <p>Looking ahead, she sees potential in Alexa if it becomes more user-friendly and less complicated. For</p>

	<p>item like onions to the list, she finds it inconvenient because Alexa doesn't always register her commands promptly or accurately. Despite feeling knowledgeable about technology, she admits to struggling with these technologies, which makes her empathetic towards older users who might also find such systems difficult to use effectively.</p>	<p>example, she envisions a smoother experience where she can directly instruct Alexa to update her grocery list as she notices items need replenishing in her fridge.</p> <p>She values the idea of customizing her list-making experience to suit her specific needs, such as organizing different types of lists for various tasks like shopping or to-do items. However, she emphasizes that setting up such customizations should be straightforward and reliable, ensuring that the system functions as intended without unnecessary complexity.</p> <p>Her ideal scenario involves having the flexibility to tailor lists according to different contexts and needs, like specifying items for specific stores or different categories of tasks. She thinks there should be a preset of options to start with, with the option of further customization.</p>
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Sweden – Older people, no 2

Demographic data

1. **Gender:** Female
2. **The place (country) of residence:** Sweden
3. **Do you face any kind of difficulties/disabilities:** **Hearing:** she uses a hearing aid that does not work that well at all times. **Sight:** nearsighted. **Movement:** Generalized osteoarthritis, she has prostheses in both of her knees.
4. **Do you face any kind of other difficulties/disabilities:** No, only the age-related disabilities as mentioned.
5. **Educational level (e.g., lower secondary school, tertiary level of education, master degree):** University
6. **Do you use assistive technology?** Yes
7. **If yes, which means of assistive technology?** Hearing aid and glasses.
8. **Do you live alone?** Yes
9. **You move alone or with the help of an attendant?** Alone
10. **How often do you move alone?** Always
11. **Do you use a personal computer?** Yes
12. **If yes, how often do you use a PC?** C. 1h a day

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		<p>Perceiving curbstones: She struggle to perceive the height and location of curbstones, posing significant safety risks during urban navigation. This difficulty can lead to tripping hazards or challenges in crossing streets safely.</p> <p>Stairs without handrails: Navigating stairs without a handrail is especially challenging, particularly when visiting a friend who lives on the top floor of an old building with</p>	<p>More ramps. This was also described as being helpful for a friend of hers in a wheelchair.</p> <p>Handrails in stairs.</p>

	<p>no elevator. Her poor balance necessitates careful and cautious movement.</p> <p>Reading signs: Reading signs is difficult for her, requiring her to go very close to see which direction to take, which can be inconvenient and sometimes unsafe.</p> <p>High thresholds in old apartments: While high thresholds in old apartments pose accessibility challenges, she describes this as a relatively minor issue for her.</p>	Make the text larger .
Mobility with the means of transportation	<p>Unfamiliar temporary bus stops: During road closures and bus stop relocations, unfamiliar temporary bus stops pose significant challenges. These changes can create safety hazards, such as unexpected drops in pavement height. For example, one evening, the interviewee almost fell when exiting a bus onto the street, unaware that their usual bus stop had been relocated.</p> <p>Lack of parking spaces: The shortage of parking spaces in town forces her to more often rely on public transportation. Her car is described as her</p>	Make sure the bus lowers towards the height of the street to avoid a gap.

	<p>freedom.</p> <p>Driving in familiar areas only: She only drives in areas she is familiar with, as her visual impairment makes it difficult to read new directional signs, limiting her ability to navigate unfamiliar routes.</p>	
Communication with and services of the public and private sectors	<p>She described not herself having trouble with digital communication, but mentioned she many times aids other older people with the following problems:</p> <p>Complex navigation: The process of navigating automated phone systems is cumbersome, requiring users to go through multiple steps and select from various options, which can be difficult to remember and manage.</p> <p>Memory overload: The need to keep track of several levels of options often causes confusion, especially for older individuals, making it hard to proceed with the call.</p> <p>Excluded by not having digital ID: some elderly, do not have access to or are unable to use mobile BankID or similar digital authentication tools,</p>	<p>Personal assistance by direct call: To address the difficulties faced by individuals navigating automated phone systems, it is beneficial to provide access to live human operators. This allows callers to interact with a real person rather than an AI or recorded message, offering a more personal and comprehensible experience.</p> <p>Eliminating the need for complex digital tools like touch phones and mobile BankID simplifies the process, ensuring that all individuals, regardless of their technological proficiency, can access necessary services directly through their healthcare provider.</p>

	<p>which further restricts their ability to access necessary services.</p> <p>Excluded by lack of digital literacy: Elderly individuals is described to often struggle to navigate today's digital services due to a lack of understanding and familiarity with technology. She describes a preference and need to call directly to a service without having to navigate any digital steps beforehand. Currently, it is many times required to use a touch phone and possess digital identification (such as BankID), which they may not understand or have. This creates significant barriers to receiving the help and guidance they need.</p>	
Web accessibility		
Digital accessible transformation	<p>She does not experience any major barriers in accessibility as she describes herself as having digital know-how.</p> <p>She finds that algorithms can pose challenges to digital accessibility. Algorithmic filtering of news and online content restricts access to diverse perspectives and</p>	<p>She wish for more transparency on how the algorithms work from big tech.</p>

	comprehensive information. She, despite being adept with technology, struggles to break free from these curated algorithms, hindering her ability to choose freely information she wishes to engage with. This is described as a societal issue impacting everyone.	
E-commerce	<p>Security issue: She do not want to give any sensitive information, like her bank account, online.</p> <p>She rarely buys anything online due to a lack of trust and the risk of being swindled.</p> <p>Too complicated: she also finds the steps and navigation cumbersome in the few attempts she has made to buy something online.</p>	The ability to not have to add sensitive credentials online, but instead get the option of paying by an invoice being sent to her home, is one mentioned solution to overcome the issue of trust and security.
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	She sometimes has faced challenges with reading invoices due to small text size and PDF format limitations. When invoices are received in PDF format, enlarging the text requires manually adjusting the view, which is cumbersome and inefficient.	She has, with the help of the service providers of her Ipad and phone, set up the same settings in which text gets automatically enlargen text.
Digital customer communication		

<p>Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)</p>	<p>Whilst not facing difficulties herself, she helps other elderly people who face significant barriers in managing their finances due to a lack of access to and understanding of digital payment methods and banking systems.</p> <p>Without bank cards or the knowledge to handle digital transactions, they struggle to make purchases and manage their money, relying instead on cash. This lack of digital literacy and resources limits their ability to participate fully in the modern economy and often leads them to seek help for various financial issues.</p> <p>Despite legal requirements mandating that merchants and shops must accept cash payments, many do not comply. This lack of adherence poses significant accessibility issues for individuals who rely on cash transactions and do not use or understand digital payment methods.</p>	<p>Personal service beyond digital solutions. She stresses the importance of being able to call for assistance and help, without being advised to navigate websites.</p> <p>To ensure accessibility for all individuals, it is essential that all merchants and establishments comply with the mandate to accept cash payments. Strict enforcement of this requirement would guarantee that those who rely on cash transactions, including individuals who do not use or understand digital payment methods, can continue to conduct their</p>
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		transactions without difficulty.
Digital libraries and repositories	She enjoys going to the library to borrow books, appreciating the physical space. She values the opportunity to interact socially, preferring physical movement and human contact.	
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)		
Educational Accessibility	No reported issues.	
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)		
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology		
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the		

administrative staff)		
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)		
Accessibility in distance education/online learning		
Employment Accessibility	She continues to work extra to keep providing for herself.	
Spatial/Physical Accessibility in the work place	<p>Safety concerns at the office: She is uncomfortable being alone at the office due to fears of falling or sustaining an injury.</p> <p>Need for ergonomic chair: She requires a chair that supports her physical condition, particularly as she spends long hours sitting.</p> <p>Eye discomfort from medical condition: Post surgery, she experiences eye discomfort and is cross-eyed, impacting screen focus and digital device use.</p> <p>Challenges in conference settings: Due to the room layout and hearing impairment, she struggles to both see PowerPoint presentations clearly and hear speakers effectively during conferences.</p>	<p>Coordinated office schedule: her work schedule is synchronized with colleagues' presence to avoid being alone, ensuring immediate assistance in case of accidents or emergencies.</p> <p>Hearing extension aid: Implementing Bluetooth-enabled microphones strategically in conference rooms to transmit audio directly to her hearing aids. This setup enhances her ability to hear distant speakers clearly, overcoming challenges posed by room layouts and distance.</p> <p>Request for speaker visibility: She prefers that speakers do not cover their mouths during presentations or discussions.</p>

Accessible Services in the work place (e.g. hiring processes, communication with different sectors)	She emphasizes the need for adapted work arrangements and communication with their supervisors to ensure a safe working environment, following regional guidelines closely. This has worked well.	
In-service training and career up-skilling		
Assistive Technology in the work-place and accessible material	<p>She faces difficulties managing multiple ongoing tasks through digital chat platforms, which often leads to confusion and errors.</p> <p>The fast-paced and demanding nature of digital communication exacerbates stress and fatigue for her.</p>	<p>To manage these challenges, she has opted for direct, physical communication methods such as phone calls.</p> <p>This approach allows for clearer and more personal interactions, reducing the risk of errors caused by digital multitasking.</p>
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	Given her condition she finds it challenging if there are not areas to sit, as she needs to sit down and rest once in a while.	Locate chairs in the physical space in the venue.

<p>Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)</p>	<p>Difficult access to Castle: The uphill location of a nearby Castle poses a significant challenge for people with mobility issues, making it hard to reach without proper accessible infrastructure.</p> <p>Location of cultural institutions: Cultural venues like the art museum are often situated in less accessible areas, requiring visitors to navigate through challenging transportation options.</p> <p>Desire for relocation: There is a strong desire for cultural institutions to relocate to more central and accessible locations.</p> <p>Improving accessibility: Moving cultural venues to more accessible areas would enhance their reach and inclusivity, ensuring that everyone, regardless of mobility challenges, can enjoy cultural activities without barriers.</p>	<p>Preservation of historical sites: She emphasizes the importance of maintaining the historical authenticity and integrity of sites when considering accessibility improvements.</p> <p>Accessible solutions: She advocates for finding practical and respectful ways to enhance accessibility without detracting from the historical charm and identity of cultural and historical landmarks.</p>
<p>Accessibility in museum exhibits and works of art</p>		
<p>Tourism (including recreation and sports)</p>		

Accessibility		
Accessibility in tourism Services		
Accessibility in accommodation (hotel units, camps, camping)		
Accessibility in transportation	<p>High steps: Challenges posed by high steps when boarding buses, which can be difficult to navigate for individuals with mobility impairments or physical disabilities.</p> <p>Physical effort: Requires significant physical effort to board the bus multiple times a day due to the height of the steps.</p>	
Accessibility in sports & recreational facilities		
Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible movies	<p>Concert venues:</p> <p>Sound volume: Difficulty coping with excessively loud music at concert venues, necessitating the use of hearing protection for preservation of hearing health.</p> <p>General venue accessibility:</p> <p>Seating availability: Inaccessibility due to insufficient seating options; she requires adequate seating to</p>	<p>She has learnt which venues work for her and avoids the</p>

	<p>attend events or venues comfortably.</p> <p>Movie theaters (cinemas):</p> <p>Hearing loops: Challenges with hearing accessibility in movie theaters, particularly the absence of hearing loops that are essential for individuals with hearing aids.</p> <p>Volume levels: Some venues have high volume levels that render hearing aids unnecessary, providing an alternative for hearing-impaired individuals.</p> <p>Preference for smaller theaters: Smaller theaters are noted for their more accommodating environment, allowing the speaker to comfortably use their hearing aids without relying on a hearing loop.</p>	places that do not.
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	<p>Reduced mobility and CPR: Inability to Perform CPR Effectively: Due to reduced mobility, she faces challenges in performing CPR during</p>	

	<p>emergencies such as sudden cardiac arrests. She is unable to kneel down, which is essential for administering CPR effectively.</p> <p>Impact of physical limitations: Despite being trained as a CPR instructor, her physical limitations prevent her from applying her skills effectively in real-life emergency situations.</p>	
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)		
Accessibility of emergency information (Multiple channels)		
<p>Other areas</p> <p><i>Social connectedness: prioritizing physical encounters over digital.</i></p>	<p>Avoidance of digital substitution: The interviewee avoids replacing daily activities with digital solutions, emphasizing a reluctance to lose social connections that physical interactions provide. This reflects a preference for maintaining meaningful social interactions through face-to-face engagements rather than relying solely on digital communication methods.</p> <p>Preference for physical office presence: The interviewee</p>	<p>Enjoyment of physical shopping: They find pleasure in the social aspect of shopping, especially interacting with cashiers and other staff members at local supermarkets. This underscores the significance of in-person interactions and social engagement during daily activities like shopping</p>

	<p>values physically going to the office to engage with colleagues despite fewer people being present. This highlights the importance of face-to-face interactions and social connections in the workplace.</p>	
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5.3. Summary of interviews from Greece - List of accessibility problem areas and solutions

a. Core accessibility

Physical/Spatial accessibility of indoor and outdoor spaces

Problem areas:

- Narrow sidewalks that hinder movement.
- Insufficient ramps in public spaces.
- Various obstacles in pathways, including parked cars blocking access.
- Lack of tactile guides and proper signage.
- Poorly located infrastructure
- Obstacles in pathways, including holes for trees, columns, and construction work without proper signage.
- Inconsistent maintenance of tactile guides and pathways for visually impaired individuals.
- Difficulty in understanding or communicating needs due to physical or spatial barriers in public spaces.
- Poorly placed infrastructure (benches, columns) obstructing pathways.
- Inadequate ramps, elevators, and narrow doors in public buildings (e.g., bars, restaurants, schools, hospitals).
- Lack of accessible toilets and elevators in public spaces.

Solutions:

- Improved maintenance and design of sidewalks and pedestrian areas to enhance accessibility.
- Installation of clear signage and removal of obstacles from pathways.
- Ensure tactile guides are present and regularly maintained in all outdoor spaces.
- Ensure that physical spaces (e.g., offices, service counters) are well-designed to be accessible for individuals with communication challenges.
- Create accessible pathways and clear signage for those with mobility or cognitive impairments
- Clear signage and obstacle-free pathways.
- Install tactile guides in all outdoor spaces.
- Improve placement and maintenance of infrastructure, ensuring clear and unobstructed paths.
- Install ramps, elevators, and wider pedestrian areas.

- Educate the public about disability's needs and enforce parking regulations to keep ramps clear.
- Ensure all public buildings are accessible with proper elevators, ramps, and accessible toilets.
- Involve disability advocacy organizations to enforce rights and accessibility standards.

Mobility with means of transportation

Problem areas:

- Mass transportation schedules and routes are not integrated into Google Maps, limiting accessibility.
- Lack of accessibility features on transportation vehicles and bus stations.
- Communication barriers related to mobility when using transportation means, including lack of assistance and unclear information.
- Lack of accessibility features in transportation vehicles.
- Difficulty getting on buses due to high doorsteps and lack of assistance from the driver.
- Inadequate bus and taxi services, with no proper ramps or assistance from drivers.
- Lack of special buses for individuals in wheelchairs.
- Crowded buses with no room for wheelchair users.

Solutions:

- Integrate all mass transportation schedules and routes into Google Maps for easier navigation.
- Enhance accessibility features on transportation, such as ramps, priority seating, and clear audio-visual announcements.
- Ensure that public transportation staff are trained in assisting individuals with disabilities.
- Provide clear, accessible signage and digital tools for people to understand transportation options.
- Improve accessibility features (e.g., ramps, priority seating) in transportation means.
- Ensure buses are accessible with lower steps or ramps and train drivers to assist passengers with disabilities.
- Improve public transportation infrastructure and introduce special buses for wheelchair users.
- Increase the availability of accessible taxis.

Communication with public and private sectors

Problem areas:

- Electronic platforms are not consistently accessible, posing challenges for users with disabilities.
- Lack of patience and understanding from staff when interacting with customers with communication challenges.
- Difficulty in communication with public and private sectors due to misunderstanding information or struggling to explain needs.
- Lack of interpretation services in public and private sectors (e.g., hospitals, banks).
- Speech difficulties leading to misunderstandings and refusal of service.
- Lack of signage and written information about bus stops or airports, making navigation difficult.
- Difficulty in crowded spaces (e.g., large gatherings) and low lighting making communication difficult for deaf individuals.

Solutions:

- Ensure all platforms are compatible with screen readers and other assistive technologies.
- Conduct regular accessibility checks and updates to maintain and improve platform accessibility.
- Train service staff to be more patient and informed about communication difficulties, ensuring they help where necessary.
- Implement clearer, simpler communication methods, including alternative formats for information (e.g., audio, visual aids, or simplified language).
- Provide interpretation services in all public and private sectors and larger screens for interpretation on TV programs.
- Implement circular tables for better eye contact and ensure adequate lighting in communication areas.
- Provide information in multiple formats for buses, airplanes, and other transportation services (e.g., sign language, written messages, audio).
- Promote awareness and empathy towards the challenges faced by deaf individuals.

Web Accessibility

Problem areas:

- Platforms are not structured or converted to meet accessibility standards, limiting usability for individuals with disabilities.
- Lack of specific, understandable instructions for tasks (e.g., digital forms, submissions) on websites, leading to confusion and anxiety.
- Platforms are not always accessible with screen readers.

- Platforms are not designed or structured with inclusion principles.
- Difficulty with electronic forms, lack of specific instructions for completing them.

Solutions:

- Design and structure all web platforms with inclusive principles, ensuring compatibility with screen readers and other assistive tools.
- Implement accessible navigation, clear layout, and alternative text for images.
- Ensure that websites and digital platforms provide specific, clear instructions, especially for critical processes like submitting forms or handling taxes.
- Integrate accessible design standards into web platforms, ensuring compatibility with assistive technologies and clear guidance for users.
- Ensure all platforms are accessible with screen readers and conduct regular accessibility checks and updates.
- Make sure that all digital platforms (e.g., online forms, services) have accessible design structures to support a wide range of disabilities.

b. Digital accessible transformation

E-commerce

Problem areas:

- Platforms are not compatible with screen recognition programs.
- Some websites are not accessible during final stages of transactions.
- Inconsistent accessibility during online shopping and payments.
- There is a fear of fraud in online shopping.

Solutions:

- Develop e-commerce platforms to be fully compatible with screen recognition software.
- Ensure complete accessibility throughout all stages of online transactions.
- Standardize accessibility features across all e-commerce websites.

Digital documents and services of the public and private sectors

Problem areas:

- Difficulty understanding digital forms due to unclear instructions.
- Some platforms are not accessible with screen recognition programs.
- Unfamiliar terminology in digital documents causes confusion.

Solutions:

- Provide clear and specific instructions for completing digital forms.
- Make all digital platforms accessible with screen recognition programs.
- Use simpler and more common vocabulary in digital forms and documents.

Digital customer communication**Problem areas:**

- Difficulty communicating due to unfamiliar terminology or lack of clarity.
- Difficulty with phone-based customer service.
- Lack of video call options for sign language communication.

Solutions:

- Better training for customer service representatives to handle communication with individuals who have difficulties.
- Implement video call options for sign language communication.
- Provide customer service platforms that are fully compatible with screen recognition software.

Digital banking and payment**Problem areas:**

- Inconsistent accessibility across different banks.
- ATMs and banking platforms are not accessible with screen recognition programs.
- Banking software is not fully accessible or functional for some users.
- Difficulty with digital banking transactions and reliance on ATMs.

Solutions:

- Ensure all banking platforms and ATMs are compatible with screen recognition programs.
- Standardize accessibility features across all banks.
- Implement digital banking services with simpler navigation and clearer instructions for users.
- Provide assistance and tutorials for learning to use digital banking services.

Digital libraries and repositories**Problem areas:**

- Difficulty navigating and using digital libraries due to unclear instructions.
- Digital libraries are not frequently used due to navigation difficulties.

Solutions:

- Improve the structure and accessibility of digital libraries.
- Provide clearer navigation and better guidance for using digital libraries and repositories.
- Enhance accessibility features within digital library platforms for all users.

Digital devices and their software/apps

Problem areas:

- Some devices and software are not compatible with accessibility tools.
- Initial difficulty with managing digital formats and devices.
- Difficulty understanding unfamiliar software terminology.

Solutions:

- Ensure all digital devices and apps are compatible with accessibility tools.
- Provide continuous assistance and support for users adapting to digital devices.
- Use simpler, more common vocabulary in software and apps to improve understanding.
- Offer personalized support, including video calls for technical assistance with sign language options.

c. Educational accessibility

Spatial accessibility in educational units

Problem areas:

- Lack of blind guides, narrow spaces, and obstacles in educational buildings.
- Some schools and universities lack elevators or ramps.
- Difficulty accessing certain areas due to poor spatial design.

Solutions:

- Install blind guides and improve spatial design to ensure accessibility in educational units.
- Retrofit older buildings with ramps, elevators, and wider corridors.
- Ensure all educational buildings are spacious and obstacle-free, providing clear pathways.

Accessibility in educational material

Problem areas:

- Educational tools and materials are not accessible with screen recognition software.
- Lack of accessible educational materials, such as texts, images, and videos.
- Limited support for students with disabilities in terms of educational resources.
- Educational materials not compatible with assistive technologies.

Solutions:

- Ensure all educational materials are provided in accessible digital formats.
- Develop and integrate accessible digital tools for courses, such as text-to-speech and screen readers.
- Implement platforms for accessible educational resources and materials.
- Create and provide more diverse, accessible media (subtitles, sign language interpretation, and simplified text).

Accessibility in services provided by educational units**Problem areas:**

- Communication with administrative services can be challenging, especially when staff are not informed or patient.
- Lack of accessible services or information regarding academic resources.
- No clear communication for students with specific needs.

Solutions:

- Provide better training for administrative staff to assist students facing difficulties.
- Implement clear and standardized communication platforms for both administrative and academic services.
- Ensure announcements and important information are available in multiple formats (e.g., braille, audio, video with subtitles).

Accessibility in courses**Problem areas:**

- Lack of accessible tools for courses, including assistive technology and software.
- Teachers do not consistently use digital tools or e-learning platforms, especially older generations.
- Some teaching practices (fast-paced lectures, lack of audiovisual materials) do not cater to students with learning disabilities.
- Difficulty keeping up with handwritten notes during classes, especially in large classrooms.
- Teachers progress too quickly, making it difficult for students with learning difficulties (e.g., dyslexia) to follow.

Solutions:

- Encourage and train educators to utilize accessible teaching tools, including interactive boards, digital textbooks, and audiovisual aids.
- Implement more interactive and inclusive teaching strategies that incorporate technology and multimedia.

- Offer more personalized support for students, including providing additional learning materials (videos, simplified notes) and using slower-paced teaching methods.
- Provide recorded lectures and digital notes for better notetaking and comprehension.
- Implement smaller class sizes for better interaction and teacher engagement.
- Provide additional time and support for students with learning difficulties to help them absorb material more effectively

Accessibility in distant education

Problem areas:

- Inaccessibility of online learning platforms for students with disabilities.
- Distance learning is not effective for practical or hands-on subjects.
- Electronic exams are complicated, time-constrained, and often inaccessible for students with learning disabilities.

Solutions:

- Ensure distance education platforms are fully accessible with screen recognition tools.
- Provide a mix of online and in-person learning opportunities, especially for practical subjects that require hands-on experience.
- Modify exams and assessments to be more inclusive (e.g., flexible timing, clearer questions, oral exams).
- Train teachers and administrative staff to better support students with learning difficulties, using both online and in-person methods.

d. Employment accessibility

Spatial/Physical accessibility in the workplace

Problem areas:

- Narrow spaces that hinder movement and accessibility.
- Lack of accessible toilets and facilities.
- No ramps or elevators in certain workplaces, preventing access to all areas.
- Poor infrastructure that limits accessibility for employees with mobility challenges.
- Inadequate space and bad design make it hard for wheelchair users to navigate.

Solutions:

- Widen doorways and hallways to ensure smooth movement for individuals with mobility devices.
- Install ramps and elevators in all areas to provide access to upper and lower floors.
- Ensure that all restrooms are accessible and compliant with accessibility standards.
- Modify workplace layouts to eliminate obstacles and ensure free movement for all

employees.

- Regularly evaluate and update the office space to meet current accessibility standards.

Accessible services in the workplace

Problem areas:

- Lack of accessible services during the hiring process, making it difficult for individuals with disabilities to apply.
- Inaccessible communication channels between employees and various workplace sectors.
- Fear of disclosing disabilities (e.g., deafness) during recruitment, leading to discrimination.
- Limited understanding and support from employers regarding accessibility needs.

Solutions:

- Ensure all hiring processes are accessible, including providing materials in accessible formats (e.g., braille, audio, or screen reader-compatible formats) and using accessible online platforms for applications.
- Create accessible communication channels, including the use of sign language interpreters, captioning, and assistive listening devices during interviews and meetings.
- Educate employers about the importance of accommodating employees with disabilities and making workplace recruitment inclusive.
- Provide a clear and confidential process for employees to disclose disabilities, and ensure they are supported without fear of discrimination.

In-service training and career up-skilling

Problem areas:

- Limited access to in-service training or career development programs that are accessible to employees with disabilities.
- Training programs that do not cater to the specific needs of employees with learning disabilities or other disabilities.
- Lack of tailored and inclusive professional development opportunities.
- Insufficient opportunities for employees to gain new skills or advance in their careers due to accessibility barriers.

Solutions:

- Provide accessible and inclusive training programs that accommodate various disabilities (e.g., using screen readers, offering content in multiple formats).
- Offer career development and upskilling opportunities specifically designed for employees with disabilities.

- Ensure that training is delivered in accessible formats, such as through captioned videos or braille materials.
- Regularly assess and improve in-service training materials to make sure they meet accessibility needs.

Assistive technology in the workplace and accessible materials

Problem areas:

- Lack of provision for assistive technology, such as screen readers, hearing aids, or other devices.
- Inadequate instructions or support for using assistive technology effectively.
- Inaccessibility of training or work materials for employees with disabilities.
- Limited access to accessible versions of work-related documents (e.g., braille, audio, digital formats).

Solutions:

- Ensure that assistive technologies (e.g., screen readers, speech-to-text tools, hearing aids) are available for all employees who need them.
- Provide detailed, user-friendly instructions and ongoing support for employees using assistive technology.
- Make sure all work-related materials, including documents, presentations, and reports, are available in accessible formats (e.g., large print, audio, braille, or digital formats).
- Regularly evaluate the accessibility of workplace materials and technology to ensure they meet the needs of employees with disabilities.

e. Cultural heritage accessibility

Problem areas:

- There is a lack of clear directions to entrances, making it difficult for visitors to locate accessible entry points.
- Limited indicators and accessible pathways for people with mobility or visual impairments.
- Some museums lack elevators, restricting access to upper floors for individuals who use mobility aids.
- Inaccessible seating arrangements in theaters and cinemas, limiting options for wheelchair users and those with other mobility needs.
- Lack of accessible services for deaf visitors, including the absence of sign language interpretation or video guides in exhibitions.
- Challenges in guided tours for deaf visitors due to large group sizes, making it hard to

follow sign language interpretation.

- Lack of accessible information about museum exhibits, and limited tactile experiences, which creates barriers for blind and partially sighted visitors.
- Absence of audio or sign language options for exhibit descriptions, leaving some visitors without the support they need.

Solutions:

- Provide clear directions and descriptions in mapping tools like Google Maps and on-site signage to help guide visitors to accessible entrances.
- Implement tactile maps, braille labels, and accessible pathways that include ramps and clear indicators.
- Provide accessible services and information at cultural heritage sites, including trained staff who can assist visitors with diverse needs.
- Install screens in exhibitions with sign language interpretation and provide image-based information to enhance accessibility for deaf visitors.
- Reduce group sizes for guided tours for deaf visitors or use individual screens and headsets with sign language videos for a more personalized experience.
- Provide braille labels and incorporate NFC technology for easy access to audio descriptions or additional information on mobile devices.
- Include tactile elements within exhibits, such as touchable replicas and braille signage, to create interactive, hands-on experiences for visitors with visual impairment.
- Ensure that exhibits include videos or screens with sign language interpretation and provide both auditory and visual options for exhibit descriptions to accommodate different learning preferences.

f. Tourism (including recreational activities and sports) accessibility

Problem areas:

- Staff often lack training on accessibility needs, leading to inadequate assistance for travelers with disabilities.
- Lack of interpretation for announcements on transportation and other services can create difficulties for individuals who are deaf or hard of hearing.
- Limited accessibility information in hotel descriptions makes it difficult for individuals with disabilities to know if a location meets their needs.
- At some hotels there is a lack of ramps, accessible rooms, and elevators that can limit access for wheelchair users and individuals with mobility impairments.
- Lack of accessible transportation options, including ramps and adequate support,

limits mobility for individuals with disabilities.

- Announcements on transportation are not always accessible for deaf or hard-of-hearing individuals.
- Lack of accessible paths, ramps, and clear indicators in sports and recreational areas, making it challenging for individuals with disabilities to navigate.
- Inadequate support for individuals with disability in sports facilities, such as lack of accessible lockers, seating, or equipment.
- Beaches often lack accessible paths, ramps, or designated seating, making it difficult for wheelchair users and those with mobility challenges to access them.
- Limited interpretation or assistive options for individuals who are deaf or hard of hearing during shows and movies.
- Lack of guidance for visually impaired individuals in navigating theaters or locating seats.

Solutions:

- Train all staff on accessibility practices, including assisting individuals with visual, auditory, or mobility needs, and incorporate sensitivity training.
- Provide interpretation services, with email or text notifications for important updates. Ensure staff are trained to assist individuals with hearing impairments.
- Provide detailed accessibility descriptions, including wheelchair access, braille labels, and other relevant accommodations, on booking platforms and hotel websites.
- Install and maintain functional ramps, elevators, and accessible paths in hotels, camps, and other accommodation settings.
- Modify transportation services to include ramps, accessible seating, and trained staff to assist passengers with a disability.
- Use visual announcements, text messages, and accessible email communications. Provide training to staff to assist passengers with hearing impairments.
- Install accessible paths, tactile maps, and ramps in all facilities, along with clear signage for easy navigation.
- Ensure that in sports facilities, accessible lockers, seating, and adaptive sports equipment are available and that staff are trained to assist as needed.
- Provide wooden pathways, accessible ramps, and reserved seating areas for individuals with mobility impairments. Ensure these facilities are regularly maintained.
- In theaters and cinemas offer sign language interpretation, closed captioning, and audio descriptions, and ensure availability of assistive listening devices.
- Provide tactile maps, braille signage, and assistance from trained staff to help visually impaired patrons navigate the space and locate their seating.

g. Accessibility in security and evacuation situations

Problem areas:

- There is a lack of accessible evacuation routes and plans.
- Insufficient audible alarms for visually impaired individuals and visual aids for those who are deaf or hard of hearing.
- Staff unprepared for emergencies involving individuals with disabilities.
- Emergency plans are not always accessible, practiced, or frequently updated to include accessibility needs.

Solutions:

- Install accessible emergency alert systems that include both audible alarms and visual signals to ensure inclusivity for all users.
- Accessible and regularly updated evacuation plans.
- Regularly train all staff on inclusive emergency protocols and assistive techniques to support people with disabilities during evacuations.
- Ensure that evacuation plans are available in accessible formats (braille, large print, digital), are regularly reviewed for inclusivity, and practiced in drills to reinforce readiness for all participants.

5.4. Interviews (Greece)

Greece – Specific learning disabilities no 1

Demographic data

1. **Gender:** Female

2. **The place (country) of residence:** Greece

3. **The type of learning disabilities** (official clinical diagnosis): Specific learning disabilities: Dyslexia

4. **Do you face other difficulties apart from the SLD per se?** ADHD

5. **The age of diagnosis of learning disabilities:** 17

6. **Age:** 29

7. **Educational level** (e.g., lower secondary school): Higher education

8. **Do you use assistive technology?:** Yes

9. **If yes, which means of assistive technology?:** Only mainstream like Google calendar

10. **What kind of educational material is more suitable for you? (you can choose more than one answers)**

a. Text

b. Visual

c. Audio

d. Audio-visual (e.g., video)

11. **Do you use any kind of accessible educational material?:** Yes

12. **If yes, what kind of it? :** Videos

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial		Narrow and neglected sidewalks.	Better maintenance and design

Accessibility of indoor and outdoor spaces	Obstacles such as holes for trees, columns, and various works without signage. Maintenance of free blind drivers not upheld.	of sidewalks and pedestrian areas Clear signage and obstacle-free pathways Ensure all outdoor spaces have tactile guides.
Mobility with the means of transportation	Mass transportation not integrated into Google Maps. Lack of accessibility features.	Integrate all mass transportation schedules and routes into Google Maps for accessibility Improve accessibility features on transportation means.
Communication with and services of the public and private sectors	Electronic platforms not always accessible.	Ensure all platforms are accessible with a screen reader. Regular accessibility checks and updates on platforms.
Web accessibility	Platforms not converted and structured to be accessible.	Design all web platforms with accessibility in mind, including compatibility with screen readers.
Digital accessible transformation		
E-commerce	Platforms not compatible with screen recognition programs.	Develop e-commerce platforms to be fully accessible with screen recognition software.
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	Some ATMs and banking platforms not accessible.	Ensure all ATMs have screen recognition functionality. Make all banking platforms compatible with screen recognition programs.
Digital customer communication	Some platforms not accessible.	Make digital customer communication platforms accessible with screen recognition programs.

Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	Inaccessibility of some banking software and platforms.	Ensure all banking software and platforms are accessible with screen recognition programs.
Digital libraries and repositories	Not frequently used due to navigation difficulties.	Improve accessibility features in digital libraries.
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	Inaccessibility of some applications and platforms.	Ensure all digital devices and software are compatible with accessibility tools.
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	Accessibility issues in educational buildings.	Implement blind guides and improve spatial accessibility in educational units.
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	Educational tools not accessible with screen recognition.	Ensure all educational materials are provided in accessible digital formats.
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	Communication depends on the digital environment.	Standardize accessible communication platforms in educational units.
Accessibility in courses – modifications in teaching practices and tools	Lack of accessible digital tools.	Develop and integrate accessible digital tools for courses.

(devices, software/apps)		
Accessibility in distance education/online learning	Inaccessibility of some online learning platforms.	Ensure distance education platforms are accessible with screen recognition tools.
Employment Accessibility		
Spatial/Physical Accessibility in the workplace	Lack of technical support for accessibility tools.	Provide technical support and ensure accessibility tools are available in the workplace.
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)	Lack of accessible services in the hiring process.	Ensure all hiring processes are accessible.
In-service training and career up-skilling	None mentioned.	None needed.
Assistive Technology in the workplace and accessible material	None mentioned.	None needed.
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	Lack of clear directions to entrances.	Include clear directions and descriptions in Google Maps. Implement tactile maps and braille labels at sites.
Accessibility in cultural heritage sites/environments (museums, art galleries,	None mentioned.	None needed.

archaeological sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art	Lack of descriptions for navigating exhibits.	Provide braille labels and NFC technology for descriptions.
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in tourism Services	Lack of awareness and training among staff.	Train staff on accessibility needs.
Accessibility in accommodation (hotel units, camps, camping)	Lack of braille labels and tactile maps.	Require accommodations to have braille labels and tactile maps.
Accessibility in transportation	Lack of accessibility features and support.	Improve accessibility features and train staff to assist travelers.
Accessibility in sports & recreational facilities	None mentioned.	None needed.
Accessibility at beaches	Difficulty locating chairs and belongings.	Provide wooden paths and consider instruments like beepers for locating items.
Accessible shows (theaters, cinemas, concerts...) & accessible movies	Lack of specific instructions and assistance.	Provide specific instructions and ensure someone is available to assist.
<i>Accessibility in Security and Evacuation Situations</i>		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	Uncertainty in evacuation plans.	Develop clear and audible evacuation plans.
Accessibility in Evacuation Planning (e.g. accessible	Lack of study on effective	Further study needed for effective evacuation plans.

evacuation plan)	implementation.	
Accessibility of emergency information (Multiple channels)	Lack of audible signals for emergency exits.	Implement audible signals and study effective ways to guide individuals during emergencies.

Greece – Specific Learning Disabilities no 2

Demographic data

1. **Gender:** Female

2. **The place (country) of residence:** Greece

3. **The type of learning disabilities** (official clinical diagnosis): Dyslexia

4. **Do you face other difficulties apart from the SLD per se?**

ADHD

5. **The age of diagnosis of learning disabilities:** 9

6. **Age:** 24

7. **Educational level** (e.g., lower secondary school): Higher education

8. **Do you use assistive technology?:** Yes

9. **If yes, which means of assistive technology?:** Various

10. **What kind of educational material is more suitable for you? (*you can choose more than one answers*)**

a. Text

b. Visual

c. Audio

11. **Do you use any kind of accessible educational material?:** No

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial		Sometimes I face difficulties in	My opinion is that people working

Accessibility of indoor and outdoor spaces	communication with public and private sector services because I don't always understand the information explained to me, or I struggle to explain what I want in an understandable way.	in fields that demand social interaction should be more informed about communication difficulties, more patient, and, most importantly, willing to help.
Mobility with the means of transportation	Sometimes I face difficulties in communication with public and private sector services because I don't always understand the information explained to me, or I struggle to explain what I want in an understandable way.	My opinion is that people working in fields that demand social interaction should be more informed about communication difficulties, more patient, and, most importantly, willing to help.
Communication with and services of the public and private sectors.	Sometimes I face difficulties in communication with public and private sector services because I don't always understand the information explained to me, or I struggle to explain what I want in an understandable way.	My opinion is that people working in fields that demand social interaction should be more informed about communication difficulties, more patient, and, most importantly, willing to help.
Web accessibility	Access to the internet in general, especially in our generation, has come from a very young age. I have learned to handle it quite well, as I believe most young people have.	If I struggle with a problem, I will probably ask for help. For instance, with taxes and similar issues, which are very specific, there are times when I may have problems and need better clarification about what to do. In such cases, I ask for help either from someone in the municipality, from someone who has done it before, or from my family. The most characteristic example that comes to mind is when I graduated and had to submit a digital statement to accept my degree and send it to

		the office. I was very anxious because the instructions were not very specific, and I didn't know if what I did, what I found, and what I submitted was the correct document. I want more specific and valid instructions so that I do not waste time.
Digital accessible transformation		
E-commerce	: In some websites, it would be beneficial to have a translation feature. Not all websites accommodate translation capabilities in some way. I find myself frequently copying and pasting paragraphs that I don't understand or can't make sense of into a dictionary. This process is time-consuming and slows down my workflow significantly. For instance, a task that could take me half an hour ends up taking 2-3 hours, which is detrimental to my productivity. With my issues with distraction, completing tasks efficiently becomes even more challenging for me.	Implementing translation features on more websites to save time and reduce confusion.
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government	If the instructions for completing digital forms are not specific, it can cause anxiety and mistakes.	Provide clear and specific instructions for completing digital forms and accessing services.

sites/applications)		
Digital customer communication	I sometimes face difficulties in understanding or explaining information during digital communications.	Better training for customer service representatives to handle communication with individuals who have difficulties.
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	Specific issues with digital banking and the need for clear instructions.	Provide more detailed guidance and support for users facing difficulties.
Digital libraries and repositories	Accessing digital libraries can be challenging if instructions and navigation are not clear.	Improve navigation and provide better guidance for using digital libraries and repositories.
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	Sometimes, navigating software and apps can be confusing and time-consuming.	Implement features that simplify navigation and provide user-friendly interfaces.
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	In higher education, there's a lack of support and understanding for students with learning difficulties. Professors often don't engage with students who need extra help, which is discouraging.	Schools should have psychologists to assess and support all children, helping to identify learning difficulties early. This would foster a better understanding of diverse learning needs and create more effective teaching strategies.
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	Many teachers, especially those of older generations, did not utilize e-learning tools. Consequently, I often had to rely solely on reading from textbooks and creating my own diagrams or PowerPoint presentations.	Utilize technology more frequently and implement interactive boards in all schools. Use more audiovisual material to aid in understanding.
Accessibility in services	Communication with	Provide better training for

provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	administrative services can be challenging if the staff is not well-informed or patient.	administrative staff to handle communication with students facing difficulties.
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	Distance learning posed significant challenges, especially with electronic exams that were overly complicated and time-constrained.	Incorporate more specific and clear questions that test critical thinking and comprehension without overwhelming students. Having a mix of oral and written exams could cater to different strengths and learning styles.
Accessibility in distance education/online learning	The limited time for these exams was especially problematic for students with dyslexia or hyperactivity.	Teachers should undergo psychological evaluations and training to better understand and support students with learning difficulties. The educational material should be updated regularly, and there should be feedback mechanisms to ensure that students understand the lessons.
Employment Accessibility		
Spatial/Physical Accessibility in the workplace	Dealing with dyslexia in the workplace can be challenging, especially when employers don't provide specific instructions or consider individual needs.	Effective training should be more detailed and tailored, addressing potential misunderstandings and ensuring clarity. Understanding and support from employers are crucial for a productive work environment.
Accessible Services in the workplace (e.g. hiring	Clear and specific guidance is often lacking.	Provide clear, specific guidance and avoid assumptions.

processes, communication with different sectors)		
In-service training and career up-skilling	Prejudices and misconceptions can be barriers.	Thorough and empathetic training can mitigate many issues.
Assistive Technology in the workplace and accessible material	Lack of specific instructions for using assistive technology can be problematic.	Provide detailed instructions and support for using assistive technology.
<i>Cultural Heritage Accessibility</i>		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	No specific challenges mentioned.	Ensure clear and precise directions included in Google Maps about how to reach the entrance and descriptions for navigating inside the building.
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	No specific challenges mentioned.	Implement better information availability and clear guidance.
Accessibility in museum exhibits and works of art	No specific challenges mentioned.	Use braille labels and NFC technology for descriptions.
<i>Tourism (including recreation and sports) Accessibility</i>		

Accessibility in tourism Services	Booking accommodations or traveling shouldn't be significantly challenging for individuals with specific learning disabilities.	Provide better information availability and assistance.
Accessibility in accommodation (hotel units, camps, camping)	Booking accommodations can be challenging.	Ensure assistance is available and provide clear instructions for booking.
Accessibility in transportation	Booking and navigating transportation can be challenging.	Provide better information availability and assistance.
Accessibility in sports & recreational facilities	Not specifically mentioned.	Provide assistance and clear instructions for using facilities.
Accessibility at beaches	Not specifically mentioned.	Provide assistance and clear instructions for accessing beaches.
Accessible shows (theaters, cinemas, concerts...) & accessible movies	Not specifically mentioned.	Provide assistance and clear instructions for accessing shows and movies.
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	It's essential to provide clear and concise instructions, especially during emergencies like fire.	Use visual aids or videos for understanding steps to take.
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	Mechanizing everything does not help people with dyslexia.	Maintain human interaction in situations where understanding and being understood are vital.
Accessibility of emergency information (Multiple channels)	Visual aids or videos can be beneficial for understanding steps to take.	Use multiple channels for providing emergency information, ensuring it is clear

		and concise.
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Greece – Visual impairment no 1

Demographic Data

1. **Gender:** Male
2. **The place (country) of residence:** Greece
3. **The type of your disability and the cause of it** (official clinical diagnosis): Leber, Total blindness
4. **The age at onset of visual impairments:** date of birth
5. **Age:** 32
6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree): Master degree
7. **Severity of disability:** Blindness
8. **What means do you use to read?** Braille or screen reader
9. **Visual acuity of the left eye** Total blindness, loss of light perception
10. **Visual acuity of the right eye** Total blindness, loss of light perception
11. **Visual field** Central vision loss, Peripheral vision loss
12. **Do you move alone or with the help of an attendant?** Sometimes alone and sometimes with help of an attendant
13. **How often do you move alone?** Most of the time
13. **Do you use assistive technology?:** Yes
14. **If yes, which means of assistive technology?** Screen reader, AI applications for image description
15. **What kind of educational material is more suitable for you? (*you can choose more than one answers*)**
 - a. Text
 - c. Audio
16. **Do you use any kind of accessible educational material?:** Yes

17. If yes, what kind of it? Digital books

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		Narrow and neglected sidewalks. Obstacles such as holes for trees, columns, and various works without signage. Maintenance of free blind drivers not upheld	Better maintenance and design of sidewalks and pedestrian areas. Clear signage and obstacle-free pathways. Ensure all outdoor spaces have tactile guides.
Mobility with the means of transportation		Mass transportation not integrated into Google Maps. Lack of accessibility features.	Integrate all mass transportation schedules and routes into Google Maps for accessibility. Improve accessibility features on transportation means.
Communication with and services of the public and private sectors		Electronic platforms not always accessible.	Ensure all platforms are accessible with a screen reader. Regular accessibility checks and updates on platforms.
Web accessibility		Platforms not converted and structured to be accessible.	Design all web platforms with accessibility in mind, including compatibility with screen readers.
Digital accessible transformation			
E-commerce		Platforms not compatible with screen recognition programs.	Develop e-commerce platforms to be fully accessible with screen recognition software.
Digital documents and services of the public and private sectors (e.g. e-		Some ATMs and banking platforms not accessible.	Ensure all ATMs have screen recognition functionality. Make all banking platforms

forms, informational material, tax or government sites/applications)		compatible with screen recognition programs.
Digital customer communication	Some platforms not accessible.	Make digital customer communication platforms accessible with screen recognition programs.
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	Inaccessibility of some banking software and platforms.	Ensure all banking software and platforms are accessible with screen recognition programs.
Digital libraries and repositories	Not frequently used due to navigation difficulties.	Improve accessibility features in digital libraries.
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	Inaccessibility of some applications and platforms.	Ensure all digital devices and software are compatible with accessibility tools.
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	Accessibility issues in educational buildings.	Implement blind guides and improve spatial accessibility in educational units.
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	Educational tools not accessible with screen recognition.	Ensure all educational materials are provided in accessible digital formats.
Accessibility in services provided by the educational units (e.g.	Communication depends on the digital environment.	Standardize accessible communication platforms in educational units.

communication with the administrative services, announcements by the teaching and the administrative staff)		
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	Lack of accessible digital tools.	Develop and integrate accessible digital tools for courses.
Accessibility in distance education/online learning	Inaccessibility of some online learning platforms.	Ensure distance education platforms are accessible with screen recognition tools.
Employment Accessibility		
Spatial/Physical Accessibility in the workplace	Lack of technical support for accessibility tools.	Provide technical support and ensure accessibility tools are available in the workplace.
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)	Lack of accessible services in the hiring process.	Ensure all hiring processes are accessible.
In-service training and career up-skilling	None mentioned.	None needed.
Assistive Technology in the workplace and accessible material	None mentioned.	None needed.
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites,	Lack of clear directions to entrances.	Include clear directions and descriptions in Google Maps. Implement tactile maps and braille labels at sites.

religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)		
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	None mentioned.	None needed.
Accessibility in museum exhibits and works of art	Lack of descriptions for navigating exhibits.	Provide braille labels and NFC technology for descriptions.
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in tourism Services	Lack of awareness and training among staff.	Train staff on accessibility needs.
Accessibility in accommodation (hotel units, camps, camping)	Lack of braille labels and tactile maps.	Require accommodations to have braille labels and tactile maps.
Accessibility in transportation	Lack of accessibility features and support.	Improve accessibility features and train staff to assist travelers.
Accessibility in sports & recreational facilities	None mentioned.	None needed.
Accessibility at beaches	Difficulty locating chairs and belongings.	Provide wooden paths and consider instruments like beepers for locating items.
Accessible shows (theaters, cinemas, concerts...) & accessible movies	Lack of specific instructions and assistance.	Provide specific instructions and ensure someone is available to assist.
<i>Accessibility in Security</i>		

and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	Uncertainty in evacuation plans.	Develop clear and audible evacuation plans.
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	Lack of study on effective implementation.	Further study needed for effective evacuation plans.
Accessibility of emergency information (Multiple channels)	Lack of audible signals for emergency exits.	Implement audible signals and study effective ways to guide individuals during emergencies.

Greece – Visual impairment no 2

Demographic data

1. **Gender:** Female

2. **The place (country) of residence:** Greece

3. **The type of your disability and the cause of it** (official clinical diagnosis): Visual impairment, Retrolental fibroplasia

4. **The age at onset of visual impairments:** 2 months old

5. **Age:** 37

6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree): Higher education

7. **Severity of disability:** Blindness

8. **What do you use to read?** Braille or screen reader

9. **Visual acuity of the left eye** Only light perception

10. **Visual acuity of the right eye** Total blindness, loss of light perception

11. **Visual field**

- a. Central vision loss
- b. Peripheral vision loss

12. **Do you move alone or with the help of an attendant?** Sometimes alone and sometimes

with help of an attendant

13. **How often do you move alone?** Most of the time

13. **Do you use assistive technology?:** Yes

14. **If yes, which means of assistive technology?** NVDA, voice over, braille watch, weight scale with voice over

15. **What kind of educational material is more suitable for you? (you can choose more than one answers)**

c. Audio

d. Audio-visual (e.g., video)

16. **Do you use any kind of accessible educational material?:** Yes

17. **If yes, what kind of it?** Tactile images, verbal description, maps, gps

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		Poorly located or obstructed infrastructure, non-existent or inadequate ramps, columns, benches, and other obstacles.	Proper placement and maintenance of infrastructure, ensuring clear and unobstructed paths.
Mobility with the means of transportation		Lack of information and proper treatment for people with visual impairments, parked cars obstructing access, inadequate driver assistance.	Educating the public and drivers, enforcing parking regulations, providing necessary information and assistance.
Communication with and services of the public and private sectors		Lack of specific measures for visually impaired individuals in public services and hospitals, insufficient training for employees.	Providing tactile maps, braille labels, audible information, and employee training.
Web accessibility		Accessible internet but other core issues remain with physical	Improving the physical environment and infrastructure

	accessibility.	for better overall accessibility.
Digital accessible transformation		
E-commerce	Many websites are not accessible, particularly during final steps of transactions.	Ensuring complete accessibility throughout all stages of online transactions.
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	Inconsistent accessibility in banks and e-banking, limited functions in ATMs.	Standardizing accessibility features across all banks and improving ATM functionalities.
Digital customer communication	Inaccessible websites and applications.	Enhancing the accessibility of digital platforms.
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	Inconsistent accessibility across different banks.	Implementing universal accessibility standards for all banks.
Digital libraries and repositories	Difficult navigation in digital libraries.	Improving the structure and accessibility of digital libraries
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	None reported.	Continuing to ensure that devices and software remain accessible.
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	Lack of guides for blind individuals, narrow spaces, and obstacles.	Providing proper guides and ensuring spacious, obstacle-free environments.

Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	Lack of accessible educational materials and support for employees with disabilities	Creating accessible educational materials and a support network for teachers with disabilities
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	Inaccessible educational materials and lack of support	Implementing platforms for accessible educational resources and materials
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	Issues with accessing educational materials and courses	Ensuring all educational resources are accessible and accommodating different needs
Accessibility in distance education/online learning	Difficulties accessing online courses and materials	Providing accessible online educational resources and materials
Employment Accessibility		
Spatial/Physical Accessibility in the workplace	Narrow spaces, lack of accessible toilets	Improving workplace infrastructure for better accessibility
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)	Lack of accessible hiring processes and communication	Implementing accessible digital hiring processes and communication channels
In-service training and career up-skilling	Limited access to in-service training and career development	Providing accessible training and up-skilling programs
Assistive Technology in the workplace and accessible material	Lack of provision of assistive technology	Ensuring availability and access to assistive technology and materials.

<i>Cultural Heritage Accessibility</i>		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	Lack of indicators and accessible pathways.	Implementing tactile maps, accessible pathways, and clear indicators.
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	Inadequate accessibility in services.	Providing accessible services and information in cultural heritage sites.
Accessibility in museum exhibits and works of art	Limited tactile experiences and guidance.	Providing tactile exhibits, audio descriptions, and knowledgeable guides.
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in tourism Services	Lack of accessible hotel descriptions and accommodations.	Providing detailed accessibility information and ensuring accessible accommodations.
Accessibility in accommodation (hotel units, camps, camping)	Lack of accessible facilities and information.	Ensuring all accommodations are accessible and providing clear accessibility information.
Accessibility in transportation	Inaccessible transportation websites and facilities	Implementing tactile maps, auditory signals, and guides for

		the blind.
Accessibility in sports & recreational facilities		
Accessibility at beaches	Inadequate ramps and assistance.	Providing and maintaining functional ramps and trained assistants.
Accessible shows (theatres, cinemas, concerts...) & accessible movies	Inaccessible booking systems and lack of audio descriptions	Implementing accessible booking systems and providing audio descriptions
<i>Accessibility in Security and Evacuation Situations</i>		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	Lack of specific provisions for people with disabilities in emergencies.	Developing inclusive emergency plans and training for handling emergencies involving people with disabilities
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	Lack of accessible evacuation plans.	Implementing and practicing inclusive evacuation plans.
Accessibility of emergency information (Multiple channels)	Insufficient emergency information for people with disabilities.	Providing emergency information through multiple accessible channels.

Greece – Deaf- Hard of hearing, no 1

Demographic data

1. **Gender:** Female

2. **The place (city & country) of residence:** Thessaloniki, Greece

3. **The type of your hearing loss and the cause of it** (official clinical diagnosis):

Sensorineural hear loss / bilateral deafness

4. **The age at onset of hearing loss:** 6 months old

5. **Age:** 45

6. **Educational level** (e.g., lower secondary school, tertiary level of education):

Higher education level

7. **Do you have bilateral hearing loss?** Yes
8. **Degrees of hearing loss in left ear:** Profound hearing loss (91+ dB)
9. **Degrees of hearing loss in right ear:** Profound hearing loss (91+ dB)
10. **Level of difficulty in understanding the oral language (through lip reading)** Easy
11. **Do you read and understand the written form of the official language of your country?** Yes
12. **Level of difficulty in reading and understanding the written language:** Very easy
13. **Do you know sign language?** Yes
14. **Do you use assistive technology?** No
15. **If yes, which means of assistive technology?** None
16. **What kind of educational material is more suitable for you? (you can choose more than one answers)**
- a. Text
- b. Visual
- d. Audio-visual (e.g., video)
17. **Do you use any kind of accessible educational material?** Yes
18. **If yes, what kind of it?** Visual

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		Difficulty in communication due to distance and low lighting.	Circular tables for better eye contact and adequate lighting.
Mobility with the means of transportation		Low lighting outdoors, especially during evening outings.	Legislation and adequate lighting.
Communication with and services of the public and private sectors		Large gatherings making it hard for deaf individuals to communicate.	Awareness and empathy towards the challenges faced by deaf individuals.
Web accessibility		None mentioned specifically.	None mentioned.
Digital accessible transformation			
E-commerce		Difficulty understanding	Use more common vocabulary

	unfamiliar terminology in digital documents.	on digital forms.
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	Difficulty understanding unfamiliar terminology.	Use more common vocabulary.
Digital customer communication	Difficulty communicating with technical assistance for digital devices.	Option to make video calls with someone in sign language for assistance.
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	Banks claim to provide accessibility but do not in reality.	Implementation of real accessibility services for deaf individuals.
Digital libraries and repositories	Difficulty reading large amounts of text with complex vocabulary.	Provide smaller, more convenient texts with simpler vocabulary.
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	None mentioned.	None mentioned.
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	None mentioned.	None mentioned.
Accessibility in educational material (documents – text & images/maps and	Lack of interpretation in schools and universities.	Classrooms should have TVs with subtitles or sign language interpretation. Teachers should

graphs, video, presentations, VR & AR) and assistive technology		be informed about deafness and provide notes in simple language. Some lessons could be pre-recorded in sign language.
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	None mentioned.	None mentioned.
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	Teachers progress lessons too quickly for lip-readers.	Teachers should speak clearly and slowly, and provide analytical notes before classes.
Accessibility in distance education/online learning	None mentioned.	None mentioned.
Employment Accessibility		
Spatial/Physical Accessibility in the workplace	None mentioned.	None mentioned.
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)	Fear of disclosing deafness during recruitment.	Employers should be more informed about accommodating individuals with hearing disabilities.
In-service training and career up-skilling	None mentioned.	None mentioned.
Assistive Technology in the workplace and accessible material	None mentioned.	None mentioned.
Cultural Heritage		

Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	Lack of accessibility in museums for deaf individuals.	Screens in exhibitions with sign language interpretation and image-based information.
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	None mentioned.	None mentioned.
Accessibility in museum exhibits and works of art	Difficulty with guided tours in sign language due to group size.	Provide screens with sign language videos.
Tourism (including recreation and sports)		
Accessibility		
Accessibility in tourism Services	Lack of interpretation for announcements on transportation.	Email communication for clarity, staff training on dealing with deaf individuals.
Accessibility in accommodation (hotel units, camps, camping)	None mentioned.	None mentioned.
Accessibility in transportation	Lack of interpretation for announcements on transportation.	Staff training and interpretation services.
Accessibility in sports & recreational facilities	None mentioned.	Provide information about deaf individuals' needs.

Accessibility at beaches	None mentioned.	None mentioned.
Accessible shows (theaters, cinemas, concerts...) & accessible movies	None mentioned.	None mentioned.
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	None mentioned.	Visual signals for building evacuations.
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	None mentioned.	Notifications and visual signals.
Accessibility of emergency information (Multiple channels)	Current emergency application is not very effective.	Better-equipped applications for emergencies.

Greece – Deaf- Hard of hearing, no 2

Demographic data

1. **Gender:** Female

2. **The place (city & country) of residence:** Greece

3. **The type of your hearing loss and the cause of it** (official clinical diagnosis):

Sensorineural hear loss

4. **The age at onset of hearing loss:** Date of birth

5. **Age:** 26

6. **Educational level** (e.g., lower secondary school, tertiary level of education): Higher education level

7. **Do you have bilateral hearing loss?** Yes

8. **Degrees of hearing loss in left ear:** Profound hearing loss (91+ dB)

9. **Degrees of hearing loss in right ear** Profound hearing loss (91+ dB)

10. **Level of difficulty in understanding the oral language (through lip reading)** Easy

11. Do you read and understand the written form of the official language of your country? Yes

12. Level of difficulty in reading and understanding the written language Easy

13. Do you know sign language? Yes

14. Do you use assistive technology? Yes

15. If yes, which means of assistive technology? Hearing aids

16. What kind of educational material is more suitable for you? (*you can choose more than one answers*)

a. Text

b. Visual

d. Audio-visual (e.g., video)

17. Do you use any kind of accessible educational material? Yes

18.If yes, what kind of it? Interpretation

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		Indoors, difficulty in crowded spaces without good contact with interlocutors. Outdoors, sudden movements by people can be startling, and not seeing/hearing cars can be dangerous.	Round tables indoors. Awareness and education about deafness and the difficulties faced by deaf individuals.
Mobility with the means of transportation		Lack of signage or written information about bus stops, making navigation difficult. Lack of access to information on airplanes and ships.	Buses should provide information in multiple formats. Airplanes and ships should have screens with sign language interpretation and videos for standard messages.
Communication with and services of the public and private sectors		No interpretation services in public and private sectors, leading to stress and difficulties, especially in hospitals and banks.	Provide interpretation services in all sectors, larger screens for interpretation on TV programs, and simpler vocabulary.

Web accessibility	None mentioned specifically.	None mentioned.
Digital accessible transformation		
E-commerce	Fear of scams.	Option to make video calls with someone in sign language for assistance.
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	None mentioned specifically.	None mentioned.
Digital customer communication	Difficulty communicating with technical assistance for digital devices.	Option to make video calls with someone in sign language for assistance.
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	Banks claim to provide accessibility but do not in reality.	Implementation of real accessibility services for deaf individuals.
Digital libraries and repositories	Difficulty reading large amounts of text with complex vocabulary.	Provide smaller, more convenient texts with simpler vocabulary.
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	None mentioned specifically.	None mentioned.
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education)	None mentioned specifically	None mentioned

including tertiary)		
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	Lack of interpretation in schools and universities.	Classrooms should have TVs with subtitles or sign language interpretation. Teachers should be informed about deafness and provide notes in simple language. Some lessons could be pre-recorded in sign language.
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	None mentioned specifically	None mentioned.
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	Teachers progress lessons too quickly for lip-readers.	Teachers should speak clearly and slowly, and provide analytical notes before classes.
Accessibility in distance education/online learning	None mentioned specifically	None mentioned.
Employment Accessibility		
Spatial/Physical Accessibility in the workplace	None mentioned specifically	None mentioned.
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)	Fear of disclosing deafness during recruitment.	Employers should be more informed about accommodating individuals with hearing disabilities.
In-service training and career up-skilling	None mentioned specifically.	None mentioned.

Assistive Technology in the workplace and accessible material	None mentioned specifically.	None mentioned.
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	Lack of accessibility in museums for deaf individuals.	Screens in exhibitions with sign language interpretation and image-based information.
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	None mentioned specifically.	None mentioned.
Accessibility in museum exhibits and works of art	Difficulty with guided tours in sign language due to group size.	Provide screens with sign language videos.
Tourism (including recreation and sports) Accessibility		
Accessibility in tourism Services	Lack of interpretation for announcements on transportation.	Email communication for clarity, staff training on dealing with deaf individuals.
Accessibility in accommodation (hotel units, camps, camping)	None mentioned specifically.	None mentioned.

Accessibility in transportation	Lack of interpretation for announcements on transportation.	Staff training and interpretation services.
Accessibility in sports & recreational facilities	None mentioned specifically.	Provide information about deaf individuals' needs.
Accessibility at beaches	None mentioned specifically.	None mentioned.
Accessible shows (theaters, cinemas, concerts...) & accessible movies	None mentioned specifically.	None mentioned.
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	None mentioned specifically.	Visual signals for building evacuations.
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	None mentioned specifically.	Notifications and visual signals.
Accessibility of emergency information (Multiple channels)	Current emergency application is not very effective.	Better-equipped applications for emergencies

Greece – Mobility Impairments no 1

Demographic data

1. **Gender:** Female

2. **The place (country) of residence:** Greece

3. **The type of your disability and the cause of it** (official clinical diagnosis): Left hemiplegia

4. **The age at onset of mobility impairments:** 11

5. **Age:** 25

6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree):
Higher education level

7. **Your disability occurs** On one side of your body

8. **How would you most accurately describe the functionality of your hands?** I handle all objects with somewhat reduced quality (accuracy) or/and speed. Certain activities need to be done in alternative ways. Usually, these difficulties do not restrict my independence in my daily activities.

9. **You move alone or with the help of an attendant?** Alone

10. **How often do you move alone?** Most of the times

11. **How would you describe your commute?** I walk on any place without restrictions and assistance. I may have balance, speed or motor-coordination difficulties.

12. **Do you use assistive technology?** Yes

13. **If yes, which means of assistive technology?** Orthopedic brace on my left hand and on my left foot

14. **What kind of educational material is more suitable for you? (you can choose more than one answers)**

- a. Text
- b. Visual
- c. Audio
- d. Audio-visual (e.g., video)

15. **Do you use any kind of accessible educational material?** No

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		There are no ramps or sidewalks in many places. Bars and restaurants lack accessible toilets and elevators. The school	Installation of ramps, elevators, and wider pedestrian areas.

	lacks ramps and elevators, making it difficult to move between floors.	
Mobility with the means of transportation	Difficulty getting on buses due to the high doorsteps and lack of assistance from drivers or passengers.	Implementing accessible buses with lower steps or ramps and training drivers to assist passengers with disabilities.
Communication with and services of the public and private sectors	Lack of infrastructure for wheelchair users in public services like hospitals, which refuse to grant seats even with a disability card	Active involvement of the National Confederation of Disabled People (NCDP) to enforce accessibility and respect for disability rights.
Web accessibility
Digital accessible transformation		
E-commerce		
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	None reported	
Digital customer communication	None reported	
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	None reported	
Digital libraries and repositories	None reported	
Digital devices and their software/apps (e.g. mobile phone, smart TV, home	None reported	

appliances)		
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	There is a lack of elevators or ramps in some schools, making it difficult to access certain areas	Installing ramps and elevators and modifying old school buildings to improve accessibility
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	Lack of information about useful tools and apps for students with disabilities	Training teachers to support students with disabilities and providing information about assistive tools
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	Inadequate support for students with disabilities in administrative services	Appointing trained staff to assist students with disabilities in educational institutions
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	Slow writing speed affecting note-taking and comprehension during classes	Recording lectures and providing notes to improve accessibility for students with disabilities
Accessibility in distance education/online learning	Difficulties in keeping up with handwritten notes during online classes	Recording lectures and providing digital notes to enhance accessibility
Employment Accessibility		
Spatial/Physical Accessibility in the	Lack of ramps and elevators in the workplace	Improving infrastructure with ramps and elevators to enhance

workplace		accessibility
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)	No specific difficulties reported, but better infrastructure is preferred	Continuous improvement of accessibility services in the workplace
In-service training and career up-skilling	None reported	
Assistive Technology in the workplace and accessible material	None reported	
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	Some museums lack elevators, making it difficult to access different floors	Providing alternative means such as maps, brochures, and specialized coordinators to assist visitors with disabilities
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	Inaccessible seating arrangements in theaters and cinemas	Reserving accessible seating in the last rows of theaters and cinemas
Accessibility in museum exhibits and works of art		
Tourism (including recreation and sports)		

Accessibility		
Accessibility in tourism Services	Lack of ramps and accessible facilities in some tourist areas.	Ensuring that accommodations and tourist services are accessible and providing necessary assistance.
Accessibility in accommodation (hotel units, camps, camping)	Issues with room accessibility and elevator availability.	Providing accessible rooms and facilities in hotels and camping sites.
Accessibility in transportation	Inadequate design of transportation services for people with disabilities.	Modifying transportation means including ramps and assistance for disabled passengers
Accessibility in sports & recreational facilities	None reported	
Accessibility at beaches	Lack of ramps for wheelchair users.	Providing ramps and trained assistants at beaches.
Accessible shows (theaters, cinemas, concerts...) & accessible movies	Inaccessible seating arrangements.	Reserving accessible seating for people with disabilities.
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	Concerns about safety during emergencies due to mobility issues.	Developing structured programs for emergency assistance and providing comprehensive information for people with disabilities.
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	Lack of accessible evacuation plans.	Implementing inclusive evacuation plans and training staff for emergency situations.
Accessibility of emergency information (Multiple channels)	Information is not directed towards people with disabilities.	Providing emergency information through multiple channels and ensuring inclusivity.

Greece – Mobility impairments, no 2

Demographic data

1. **Gender:** Female
2. **The place (country) of residence:** Greece
3. **The type of your disability and the cause of it** (official clinical diagnosis): Mobility impairment in lower limbs
4. **The age at onset of mobility impairments:** Date of birth
5. **Age:** 31
6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree): master degree
7. **Your disability occurs:** In your lower extremities
8. **How would you most accurately describe the functionality of your hands?** I handle all objects easily and successfully. I may have some difficulties in activities that require great speed or/and accuracy. However, these difficulties do not restrict my independence in my daily activities at all.
9. **Do you move alone or with the help of an attendant?** With help of an attendant
10. **How often do you move alone?** Never
11. **How would you describe your commute?** In most places, I walk without any assistance. However, outside my home, I may use either walking aids – walkers, crutches, cane – for walking or climbing up the stairs or a wheelchair for long distances.
12. **Do you use assistive technology?** No
13. **If yes, which means of assistive technology?** None
14. **What kind of educational material is more suitable for you? (you can choose more than one answers)**
 - a. Text
 - d. Audio-visual (e.g., video)
15. **Do you use any kind of accessible educational material?** No

Accessibility	Area		
- Sub-areas		Problems/difficulties	Solutions

Core Accessibility		
Physical/Spatial Accessibility of indoor and outdoor spaces	Poor infrastructure, non-existent or inadequate ramps, narrow doors, and lack of accessible toilets. External spaces are difficult to navigate due to obstacles like parked cars in front of ramps.	Installing and maintaining proper ramps and elevators, ensuring accessibility in all public and private buildings, educating the public about disability needs, and enforcing traffic regulations to keep ramps clear.
Mobility with the means of transportation	Inadequate bus and taxi services, lack of proper ramps and assistance from drivers.	Improving public transportation infrastructure, training drivers to assist passengers with disabilities, and increasing the availability of accessible taxis.
Communication with and services of the public and private sectors	Lack of accessible facilities in workplaces and public services.	Implementing accessible infrastructure in all public and private sector buildings and providing education on disability sensitivity.
Web accessibility	None reported	
Digital accessible transformation		
E-commerce	None reported	
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	None reported	
Digital customer communication	None reported	
Digital Banking (including ATMs/cash points and	None reported	

Interactive Teller Machines inside a bank)		
Digital libraries and repositories	None reported	
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	None reported	
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	Inadequate space and blocked ramps at educational institutions.	Ensuring accessible infrastructure in all educational buildings and preventing obstructions in accessible areas
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	None reported.	
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	None reported	
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	None reported	
Accessibility in distance	None reported	

education/online learning		
Employment Accessibility		
Spatial/Physical Accessibility in the workplace	Narrow spaces and lack of accessible toilets	Improving infrastructure to ensure accessibility, including wider doors and accessible bathrooms.
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)	None reported	
In-service training and career up-skilling	None reported	
Assistive Technology in the workplace and accessible material	None reported	
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	Uncertainty about accessibility at cultural sites and non-operational elevators.	Ensuring reliable and maintained accessibility features at cultural heritage sites.
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological	None reported	

sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art	None reported	
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in tourism Services	Lack of proper ramps and accessible facilities at tourist sites	Implementing and maintaining accessibility features at tourist sites, educating staff, and providing detailed accessibility information on websites.
Accessibility in accommodation (hotel units, camps, camping)	Issues with room accessibility and bathroom facilities.	Ensuring all accommodations have accessible rooms and bathrooms, and providing clear information about accessibility features.
Accessibility in transportation	Inadequate design of transportation services for people with disabilities.	Modifying transportation means to include ramps and assistance for disabled passengers.
Accessibility in sports & recreational facilities	None reported	
Accessibility at beaches	Lack of functional ramps and misuse by the public.	Providing and maintaining accessible ramps at beaches and educating the public on their proper use.
Accessible shows (theaters, cinemas, concerts...) & accessible movies	None reported	
<i>Accessibility in Security and Evacuation Situations</i>		
Accessibility in Security	Concerns about safety during	Developing structured

Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	emergencies due to mobility issues and narrow spaces.	emergency plans and ensuring proper infrastructure to facilitate safe evacuation for people with disabilities.
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	Lack of accessible evacuation plans.	Implementing inclusive evacuation plans and training staff for emergency situations.
Accessibility of emergency information (Multiple channels)	None reported	

Greece – Mild intellectual disability, no 1

Demographic data

1. **Gender:** Male

2. **The place (country) of residence:** Greece

3. **The type of your disability** (official clinical diagnosis): Mild intellectual disability

4. **Other difficulties/disabilities** (difficulties in hearing, vision, movement etc): Vision problems, epileptic seizures

5. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree). Lower secondary school, Joinery and Information Technology - Vocational Training Center for the Disabled (Lakia)

6. **Do you use assistive technology?:** No

7. **If yes, which means of assistive technology?** None

8. **Do you find it difficult communicating with others?** Never

9. **Do you live alone?:** Yes

10. **Do you move alone or with the help of an attendant?** Alone

11. **How often do you move alone?** Most of the times

12. **Do you use a personal computer?:** Yes

13. **If yes, how often do you use a PC?** 2-3 time a week

14. **What kind of educational material is more suitable for you? (you can choose more than one answers)** Text

15. Do you use any kind of accessible educational material?: No

16. Age: 30

Accessibility Area - Sub-areas	Problems/difficulties	Solutions
Core Accessibility		
Physical/Spatial Accessibility of indoor and outdoor spaces	None mentioned specifically for indoor/outdoor spaces.	None mentioned.
Mobility with the means of transportation	Buses are crowded, no room to stand, lack of ramps and space for wheelchairs. Lack of special buses for individuals in wheelchairs.	Increase the number of buses. Introduce special buses for individuals in wheelchairs with adequate space and ramps.
Communication with and services of the public and private sectors	Speech difficulties leading to misunderstandings and refusal of service.	Speech therapy for individuals with speech difficulties, patience and effort from service providers to understand and help.
Web accessibility	Internet access requires payment, which can be a burden. Cost of internet.	None provided.
Digital accessible transformation		
E-commerce	Fear of using a credit card online.	Option to pay by cash on delivery.
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	None mentioned.	None mentioned.
Digital customer	None mentioned	None mentioned.

communication		
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	Only able to withdraw money from ATM, never tried digital transfers.	None mentioned.
Digital libraries and repositories	None mentioned.	None mentioned.
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	None mentioned.	None mentioned.
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	Small spaces at Lakia.	Enlarge educational spaces.
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	None mentioned.	None mentioned.
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	None mentioned.	None mentioned.
Accessibility in courses – modifications in teaching	Difficult courses, but viewed positively.	None mentioned.

practices and tools (devices, software/apps)		
Accessibility in distance education/online learning	Lack of student engagement during online classes.	Mandatory attendance and engagement.
Employment Accessibility		
Spatial/Physical Accessibility in the workplace	None mentioned.	None mentioned.
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)	None mentioned.	None mentioned.
In-service training and career up-skilling	None mentioned.	None mentioned.
Assistive Technology in the workplace and accessible material	None mentioned.	None mentioned.
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	None mentioned.	None mentioned.
Accessibility in cultural heritage sites/environments	Generally not interested in cultural heritage sites; only visited the White Tower in	None mentioned.

(museums, art galleries, archaeological sites) as for the services (physical and digital)	Thessaloniki without issues.	
Accessibility in museum exhibits and works of art	Lack of interest in museum exhibits or works of art.	
Tourism (including recreation and sports) Accessibility		
Accessibility in tourism Services	Speech difficulties while arranging accommodations.	More patient service providers.
Accessibility in accommodation (hotel units, camps, camping)	Difficulty communicating due to speech problems.	Service providers should be more patient and understanding.
Accessibility in transportation	Comfortable with all means of transport.	More frequent draws for trips or discounts for people with disabilities. Free bus service to beaches during summer.
Accessibility in sports & recreational facilities	Lack of facilities (basketball/football field) at Lakia	Install sports fields.
Accessibility at beaches	None mentioned.	None mentioned.
Accessible shows (theaters, cinemas, concerts...) & accessible movies	None mentioned.	None mentioned.
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	None mentioned.	None mentioned.
Accessibility in Evacuation	None mentioned.	Training and awareness.

Planning (e.g. accessible evacuation plan)		
Accessibility of emergency information (Multiple channels)	None mentioned.	Multiple channels for emergency information.

Greece – Mild intellectual disability, no 2

Demographic data

1. **Gender:** Male

2. **The place (country) of residence:** Greece

3. **The type of your disability** (official clinical diagnosis): Mild intellectual disability

4. **Other difficulties/disabilities** (difficulties in hearing, vision, movement etc): No

5. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree).

Lower secondary school, Joinery- Vocational Training Center for the Disabled (Lakia)

6. **Do you use assistive technology?:** Yes

7. **If yes, which means of assistive technology?** Only mainstream like my mobile phone

8. **Do you find it difficult communicating with others?** Never

9. **Do you live alone?:** No, with my parents

10. **Do you move alone or with the help of an attendant?** Alone

11. **How often do you move alone?** Always

12. **Do you use a personal computer?:** Yes

13. **If yes, how often do you use a PC?** 2-3 time a week

14. **What kind of educational material is more suitable for you? (you can choose more than one answers)** Text

15. **Do you use any kind of accessible educational material?:** No

16. **Age:** 23

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions

Core Accessibility		
Physical/Spatial Accessibility of indoor and outdoor spaces	No, I don't face any difficulty, I am quite comfortable. I didn't have the chance yet to communicate with any public service, my dad usually deals with that.	None specified.
Mobility with the means of transportation	I only wish we had more buses, so that everyone can use them. For example, for people in wheelchairs or the elderly it is difficult.	Increase the number of buses to accommodate everyone, including those with mobility challenges.
Communication with and services of the public and private sectors	No specific difficulties as the interviewee has not yet communicated with public services.	
Web accessibility	No difficulties mentioned; comfortable with internet usage, including GPS. Solutions: None specified.	None specified
Digital accessible transformation		
E-commerce	Prefers cash on delivery for safety reasons when purchasing items online.	None specified
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	Not experienced yet as the interviewee's father handles these tasks.	Will seek help from family when needed.
Digital customer communication	Needed help initially to create a Facebook account but no	None specified.

	ongoing difficulties.	
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	No experience yet, but I am aware of how e-banking works.	Plans to seek help from family when needed.
Digital libraries and repositories	Not mentioned.	None specified.
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	Uses mobile phone frequently with no difficulties.	None specified.
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	No problems currently but had difficulties in school due to speech problems and the fast pace of teachers.	Teachers should speak more slowly and repeat instructions if needed, especially for students with learning difficulties.
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	Struggled with reading and writing quickly, leading to difficulties with homework and exams.	Providing oral exams and additional help for students with these challenges.
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	Not mentioned.	Not specified.
Accessibility in courses – modifications in teaching	Distance learning during COVID was ineffective for practical	Practical subjects need hands-on learning, not distance

practices and tools (devices, software/apps)	subjects like joinery.	education.
Accessibility in distance education/online learning	Did not like online lessons during COVID for practical subjects.	None specified.
Employment Accessibility		
Spatial/Physical Accessibility in the workplace	Faced issues in past employment experiences, such as slow performance and lack of oversight on employers.	Need for better oversight on employers to ensure fair treatment.
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)	Had an interview with a construction company but received no follow-up.	Ensure employers follow up with candidates and provide clear communication.
In-service training and career up-skilling	None specified.	None specified.
Assistive Technology in the workplace and accessible material	Not mentioned.	None specified.
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	No difficulties guided tours make visits enjoyable.	Continue providing guides and informational videos in cultural heritage sites
Accessibility in cultural heritage	None mentioned.	None specified.

sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art	Enjoyed visits with guides and informational videos.	Implement informational videos in more cultural heritage sites.
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in tourism Services	No difficulties mentioned; first travel experience outside Thessaloniki was smooth.	Ensure assistance is available for travelers.
Accessibility in accommodation (hotel units, camps, camping)	No difficulties, girlfriend handled hotel booking.	None specified.
Accessibility in transportation	No difficulties, father handled booking tickets.	None specified.
Accessibility in sports & recreational facilities	None mentioned.	None specified.
Accessibility at beaches	None mentioned.	None specified.
Accessible shows (theaters, cinemas, concerts...) & accessible movies	None mentioned.	None specified.
<i>Accessibility in Security and Evacuation Situations</i>		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	Familiar with earthquake drills and procedures.	None specified.

Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	No personal experience with emergencies.	None specified.
Accessibility of emergency information (Multiple channels)	Not mentioned.	None specified.

Greece – Autism (High Functioning/Asperger’s Syndrome), no 1

Demographic data

1. **Gender:** Male
2. **The place (country) of residence:** Greece
3. **The type of your disability** (official clinical diagnosis): Asperger’s syndrome
4. **Level of intelligence** : IQ>85
5. **Other difficulties/disabilities:** sound sensitivity, phobia for animals
6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree):
Higher Education, Aristotle University of Thessaloniki
7. **Do you use assistive technology?:** No
8. **Do you find it difficult communicating with others?** Never
9. **Do you use any kind of communication aid?:** No
10. **Do you live alone?:** Yes
11. **Do you move alone or with the help of an attendant?** Alone
12. **How often do you move alone?** Always
13. **Do you use a personal computer?:** Yes
14. **If yes, how often do you use a PC?** 2-3 time a week
15. **What kind of educational material is more suitable for you? (you can choose more than one answers)** Audio-visual (e.g., video)
16. **Do you use any kind of accessible educational material?:** No
17. **Age:** 21

Accessibility Area - Sub-areas	Problems/difficulties	Solutions
Core Accessibility		
Physical/Spatial Accessibility of indoor and outdoor spaces	None specified.	None specified.
Mobility with the means of transportation	None specified.	None specified.
Communication with and services of the public and private sectors	Long waiting times in lines and lack of priority for people on the autism spectrum.	Inform and educate people to be more understanding and offer positions in lines to those on the autism spectrum.
Web accessibility	Insulting use of the word "autistic" on the internet. Difficulty finding socialization groups for people with Asperger's and autism.	More control over the internet and greater awareness among people. Creating a platform to find socialization groups for people with Asperger's and autism
Digital accessible transformation		
E-commerce	No significant problems encountered.	None specified.
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)		
Digital customer communication	None specified.	None specified.
Digital Banking (including	None specified.	None specified.

ATMs/cash points and Interactive Teller Machines inside a bank)		
Digital libraries and repositories	None specified.	None specified.
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)		
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	Difficulty with unclear and indirect exam questions.	Providing clear instructions and repetitions in courses.
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	Challenges in large classes due to distance from the board and listening to the teacher.	Smaller class sizes for better lessons and personal contact with teachers.
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	Inefficient distant education experiences. Social challenges with peers.	Implementing interactive boards and organizing field trips for practical knowledge. More understanding from peers.
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	Large books with redundant information.	Smaller, focused educational materials.

Accessibility in distance education/online learning	Teacher was in a hurry, making it hard to digest information and take notes.	Recording and providing access to distant education sessions for review.
Employment Accessibility		
Spatial/Physical Accessibility in the workplace	No employment yet, but fear of socializing in the work environment.	Establishing a labor inspection agency to check for discrimination or toxic behaviors.
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)	Concerns about socializing in the workplace.	Connecting state or municipalities with autism associations to help find jobs. Creating associations to help individuals on the autism spectrum socialize and gain experience for employment.
In-service training and career up-skilling	None specified.	None answer.
Assistive Technology in the workplace and accessible material	None specified.	None specified.
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	None specified	
Accessibility in cultural heritage	None specified.	

sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art	Not much experience attending such sites.	None specified.
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in tourism Services	Challenges in very crowded places with intense sounds due to sound sensitivity.	Discounts for transportation and accommodation for individuals with disabilities.
Accessibility in accommodation (hotel units, camps, camping)		
Accessibility in transportation	Challenges in very crowded places with intense sounds due to sound sensitivity.	Discounts for transportation and accommodation for individuals with disabilities.
Accessibility in sports & recreational facilities	None specified.	None specified.
Accessibility at beaches	None specified.	None specified.
Accessible shows (theatres, cinemas, concerts...) & accessible movies		
<i>Accessibility in Security and Evacuation Situations</i>		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	Lack of detailed knowledge about emergency procedures beyond calling 112.	More emergency exits and clearer signs in schools and universities.

Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	No specific difficulties mentioned.	More information about self-protection in case of an emergency.
Accessibility of emergency information (Multiple channels)	No specific difficulties mentioned.	

Greece – Autism (High Functioning / Asperger's Syndrome), no 2

Demographic data

1. **Gender:** Male
2. **The place (country) of residence:** Greece
3. **The type of your disability** (official clinical diagnosis): Asperger's syndrome
4. **Other difficulties/disabilities:** No
5. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree): secondary school, ECDL, Information Technology- Vocational Training Center for the disabled (Lakia)
6. **Do you use assistive technology?** Yes
7. **If yes, which means of assistive technology?** In general technology like my laptop, mobile phone and tablet
8. **Do you find it difficult communicating with others?** Few times
9. **Do you use any kind of communication aid?:** No
10. **Do you live alone?:** No. With my mum or with my dad
11. **Do you move alone or with the help of an attendant?** Sometimes alone and sometimes with help of an attendant
12. **How often do you move alone?** Sometimes
13. **Do you use a personal computer?:** Yes
14. **If yes, how often do you use a PC?** 2-3 time a week
15. **What kind of educational material is more suitable for you? (you can choose more than one answers)**

- a. Text
- b. Visual
- c. Audio
- d. Audio-visual (e.g., video)

18. Do you use any kind of accessible educational material?: No

19. Age: 24

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		My struggle, basically, is that recently, whenever I am in an external space, pleasant things and thoughts come to mind, while in internal spaces, such as my house or my storeroom, I have unpleasant thoughts.	The only solution, first of all, is to clear my mind. I would like to be able to change this, but it is really difficult to control my thoughts.
Mobility with the means of transportation		The only difficulty that I encounter is that I try to find the single seats in front so that I don't sit in the double seats and sit next to someone, but they are not always available. Also, I don't want to stand upright because I won't be able to protect my stuff and I'm afraid someone will steal them.	There should be more buses so that they are not so crowded.
Communication with and services of the public and private sectors		I want to make some changes in my life. I have gone through really bad situations in school, where other students teased and tortured me. I have been	I think that teachers should be more involved in preventing bad situations. They need to educate all children to have good behavior.

	humiliated several times. The same thing happens in the school where I am right now, in Lakia.	
Web accessibility	Regarding the access to the internet, I don't face any difficulties, I just pay attention to what pages I enter.	Sometimes I'm afraid of being hacked.
Digital accessible transformation		
E-commerce	Problems/Difficulties: When I buy things, I never use a card; I always request to pay by cash on delivery because my parents don't give me permission to use their card as they are afraid of fraud.	
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)		
Digital customer communication		
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)		
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV, home	I don't like changes; it's difficult for me when I am used to something and then have to	I haven't used other software like Linux and iMac yet.

appliances)	change it.	
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	When I go to a new environment, I'm a bit curious because it's new, and I'm going for the first time. It makes sense. Who will I meet? What will I do? As I mentioned earlier, I have had bad experiences with my peers.	Teachers should be more involved in preventing bad situations. They need to educate all children to have good behavior.
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology		
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)		
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	Throughout my school years, I had a teacher by my side to guide me and help me do at least something. Now that I don't have a teacher, it is much more difficult to read and do my homework without their help, and I often can't manage it.	
Accessibility in distance education/online learning	: I had to do that once and it was very difficult for me to participate; it was very fast, I didn't have help	

	from a teacher, and the biggest problem was my old laptop.	
Employment Accessibility		
Spatial/Physical Accessibility in the workplace	I haven't really worked anywhere yet.	
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)		
In-service training and career up-skilling		
Assistive Technology in the workplace and accessible material		
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	Most museums are boring.	
Accessibility in cultural heritage sites/environments (museums, art galleries,		

archaeological sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art	It would definitely be better to have both image and sound combined, rather than just reading a text.	For example, headsets with a guide talking, or something that can be heard through a speaker, would be more engaging.
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in tourism Services	I have never traveled alone, only with my family.	
Accessibility in accommodation (hotel units, camps, camping)	I like hotels, despite the fact that I am picky with the food.	
Accessibility in transportation		
Accessibility in sports & recreational facilities		
Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible movies	I like cinema sometimes, except terror movies. I'm afraid of the dark.	
<i>Accessibility in Security and Evacuation Situations</i>		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)		
Accessibility in Evacuation		

Planning (e.g. accessible evacuation plan)		
Accessibility of emergency information (Multiple channels)		

Greece – Older people, no 1

Demographic data

1. **Gender:** Female

2. **The place (country) of residence:** Greece

3. **Do you face any kind of difficulties/disabilities:** vision

4. **Do you face any kind of other difficulties/disabilities:** No

5. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree).
Higher education

6. **Do you use assistive technology?:** No

7. **If yes, which means of assistive technology?** None

8. **Do you live alone? :** Yes

9. **Do you move alone or with the help of an attendant?** Alone

10. **How often do you move alone?** Most of the time

11. **Do you use a personal computer?** Yes

12. **If yes, how often do you use a PC?** More than 1 hour a day

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		No significant difficulties.	None.

Mobility with the means of transportation	No significant difficulties.	None.
Communication with and services of the public and private sectors	Sometimes spend more time to find information on unfamiliar websites.	None.
Web accessibility	None mentioned specifically.	None mentioned.
Digital accessible transformation		
E-commerce	Difficulty managing digital formats initially.	Support from family and personal effort to adapt.
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	Difficulty managing digital formats initially.	Support from family and personal effort to adapt.
Digital customer communication	None.	None.
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	None.	None.
Digital libraries and repositories	None.	None.
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	None.	None.
Educational Accessibility		
Spatial Accessibility in educational units (public and private education,	None.	None.

primary, secondary and post-secondary education including tertiary)		
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	Old school methods preferred, new tools are confusing.	Simpler tools might help.
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	None.	None.
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	None.	None.
Accessibility in distance education/online learning	None.	None.
Employment Accessibility		
Spatial/Physical Accessibility in the workplace	None.	None.
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)	None.	None.
In-service training and career up-skilling	Old school methods preferred, new tools are confusing.	Simpler tools might help.

Assistive Technology in the workplace and accessible material	Vision problems in one eye causing fatigue.	None.
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	None.	None.
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	None.	None.
Accessibility in museum exhibits and works of art	None.	None.
Tourism (including recreation and sports) Accessibility		
Accessibility in tourism Services	None.	None.
Accessibility in accommodation (hotel units, camps, camping)	None.	None.
Accessibility in transportation	None.	None.

Accessibility in sports & recreational facilities	None.	None.
Accessibility at beaches	None.	None.
Accessible shows (theaters, cinemas, concerts...) & accessible movies	None.	None.
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	None.	None.
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	None.	None.
Accessibility of emergency information (Multiple channels)	None.	None.

Greece – Older people, no 2

Demographic data

1. **Gender:** Female

2. **The place (country) of residence:** Greece

3. **Do you face any kind of difficulties/disabilities:** vision

4. **Do you face any kind of other difficulties/disabilities:** No

5. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree).

Higher education

6. **Do you use assistive technology?:** Yes

7. **If yes, which means of assistive technology?** Not assistive but in general technology like computers and mobile phone

8. **Do you live alone?** : Yes

9. **Do you move alone or with the help of an attendant?** Alone

10. **How often do you move alone?** Most of the time

11. **Do you use a personal computer?** Yes

12. **If yes, how often do you use a PC?** 2-3 times a week

Accessibility Area - Sub-areas	Problems/difficulties	Solutions
Core Accessibility		
Physical/Spatial Accessibility of indoor and outdoor spaces	Difficulty moving in crowded indoor spaces; sudden movements of people in outdoor spaces cause fear.	Use of round tables for better communication, better public awareness about challenges faced by deaf individuals.
Mobility with the means of transportation	In Athens, chaotic mass transportation, overcrowded metro, unclear routes.	Clearer and more specific routes, larger letters on information signs.
Communication with and services of the public and private sectors	Lack of interpretation, difficulty understanding and being understood.	Televisions showing written information, better maintenance of display systems in hospitals and banks, larger interpretation screens, simpler vocabulary in subtitles.
Web accessibility	Insecurity about internet use, especially for financial transactions.	More controlled internet environment to prevent fraud, assistance for learning digital tools.
Digital accessible transformation		
E-commerce	Fear of scams, additional costs	More regulation to prevent fraud.

	for cash on delivery.	
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	Difficulty understanding unfamiliar terminology.	Use simpler, more common vocabulary.
Digital customer communication	Difficulty with phone-based customer service.	Video call options for sign language communication.
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	Difficulty with digital transactions, reliance on ATMs only.	Assistance in learning how to use digital banking services.
Digital libraries and repositories	Difficulty reading large amounts of text.	Provide smaller, more convenient texts with simpler vocabulary.
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	Initial difficulty with learning digital devices.	Continuous assistance and repeated explanation.
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	Limited familiarity with new environments.	None specified.
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	Limited familiarity with new environments. Difficulty with complex texts and lack of interpreters.	Use simpler language, provide notes in advance, ensure all educational material is accessible.

Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	Lack of communication support.	More staff trained in sign language and alternative communication methods.
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	Fast-paced teaching, unclear articulation.	Slower teaching pace, clear articulation, pre-recorded lessons in sign language.
Accessibility in distance education/online learning	Inconsistent engagement during online classes.	Ensure mandatory attendance and active participation.
Employment Accessibility		
Spatial/Physical Accessibility in the workplace	None specified.	None specified.
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)	Fear of discrimination during hiring.	More information for employers, greater empathy.
In-service training and career up-skilling	None specified	None specified
Assistive Technology in the workplace and accessible material	None specified	None specified
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments	Lack of trained staff, cancellations of group visits.	Organized group visits with trained staff, use of images for better understanding.

(museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)		
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	Lack of trained staff, cancellations of group visits.	Organized group visits with trained staff, use of images for better understanding.
Accessibility in museum exhibits and works of art	Lack of trained staff, cancellations of group visits.	Organized group visits with trained staff, use of images for better understanding.
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in tourism Services	Lack of staff trained in disability issues.	Staff training, prompt response to text messages, daily communication.
Accessibility in accommodation (hotel units, camps, camping)	None specified.	None specified.
Accessibility in transportation	Lack of interpretation.	Interpretation screens, staff training.
Accessibility in sports & recreational facilities	Limited participation.	Provide information about difficulties faced by deaf individuals.
Accessibility at beaches	None specified	None specified.
Accessible shows (theaters, cinemas,	None specified.	None specified.

concerts...) & accessible movies		
<i>Accessibility in Security and Evacuation Situations</i>		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	Lack of organized plans for deaf individuals.	Organized plans, visual signals in addition to audible ones.
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	Lack of organized plans for deaf individuals.	Organized plans, visual signals in addition to audible ones.
Accessibility of emergency information (Multiple channels)	Reliance on digital technology is insufficient.	Organized and practical plans for various accessibility needs.

5.5. Summary of interviews from Italy - List of accessibility problem areas and solutions

a. Core accessibility

Physical/Spatial accessibility of indoor and outdoor spaces

- **Problem areas for indoor spaces:**

- Architectural Barriers:
 - Entrances: Many buildings lack accessible entrances, such as ramps or automatic doors.
 - Elevators and Stairlifts: Often, elevators or stairlifts are broken or not available, making it difficult for individuals with mobility impairments to navigate buildings.
 - Restrooms: Accessible restrooms are not always marked or available.
- Navigation and Orientation:
 - Complex Layouts: Indoor spaces with complex layouts can be challenging to navigate, especially for individuals with visual impairments or cognitive disabilities.
 - Signage: Lack of clear and accessible signage can make it difficult for individuals to find their way.
- Sensory Sensitivity:
 - Lighting and Noise: Environments with harsh lighting (e.g., neon lights) and loud noises can be overwhelming for individuals with sensory sensitivities, such as those on the autism spectrum.

- **Problem areas for outdoor spaces:**

- Sidewalks and Pathways:
 - Obstacles: Sidewalks often have obstacles such as uneven surfaces, steep slopes, or vehicles blocking the way.
 - Slippery Surfaces: Outdoor routes can become very slippery in the rain, posing a hazard for individuals using wheelchairs or other mobility aids.
- Public Transportation:
 - Accessibility: Public transport systems are not always fully accessible. Issues include non-punctual services, lack of accessible vehicles, and difficulty identifying stops.

- Information: Lack of real-time information on accessibility conditions can make it challenging for individuals to plan their journeys.
- Public Spaces:
 - Parks and Recreational Areas: These areas often lack accessible pathways and facilities, making it difficult for individuals with mobility impairments to enjoy outdoor activities.
 - Beaches: Accessible walkways to the sea are rare or poorly maintained, limiting access for individuals with disabilities.
- **Proposed solutions:**
 - Entrances: Install ramps and automatic doors to ensure accessible entrances.
 - Elevators and Stairlifts: Regular maintenance and ensuring functionality of elevators and stairlifts. Implement devices on wheelchairs that allow users to select the floor of the elevator.
 - Restrooms: Clearly mark accessible restrooms on maps and ensure they are available.
 - Clear Signage: Improve signage to be clear and accessible, helping individuals navigate complex layouts.
 - Decompression Spaces: Create sensory-friendly spaces with low lighting and minimal noise for individuals with sensory sensitivities.
 - Lighting and Noise: Use softer lighting and reduce noise levels in public indoor spaces. Provide noise-canceling headphones or earplugs for those who need them.
 - Obstacle Removal: Ensure sidewalks are free of obstacles and have even surfaces. Implement stricter controls by authorities to maintain walkability.
 - Non-Slip Surfaces: Use non-slip materials for outdoor routes to prevent hazards during rain.
 - Accessibility: Ensure public transport vehicles are accessible and provide real-time information on accessibility conditions through apps.
 - Punctuality: Improve the punctuality of public transport to help individuals manage their time better.
 - Accessible Pathways: Ensure parks and recreational areas have accessible pathways and facilities.
 - Beaches: Maintain accessible walkways to the sea and provide appropriate aids for individuals with disabilities.

Mobility with means of transportation

- **Problems/Difficulties:**

- Public transport is often not punctual, making it difficult for individuals to manage their time effectively.
- Buses and Urban Buses: Generally accessible, but trams are less so.
- Metro: Good accessibility, but issues arise when elevators are not working.
- Trains: Good support for traveling by train, but traveling between countries (e.g., Italy to France) can be problematic.
- Lack of real-time information on accessibility conditions can make it challenging for individuals to plan their journeys.
- Difficulty in identifying stops and knowing when to get off, especially for individuals with visual impairments.
- Airlines often do not allow individuals with disabilities to travel alone, and there is no discount for an accompanying person.
- Wheelchairs cannot stay in the cabin, posing a risk of damage as they are fragile and customized.
- Accessibility often needs to be verified by phone, which can be cumbersome and unreliable.

- **Solutions proposed:**

- Develop apps that provide real-time updates on accessibility conditions for public transportation.
- Implement stricter controls by authorities to maintain walkability and remove obstacles from sidewalks and pathways.
- Use GPS apps to notify individuals when they have arrived at their stop and to help identify which bus has arrived.
- Facilitate the use of accessibility tools built into operating systems for easier navigation.
- Provide support services via chat or email for better communication with public and private sectors.

Communication with public and private sectors

- **Problems/Difficulties:**

- The language used by public and private services is often too complex and verbose, making it difficult for individuals to understand and engage effectively.
- Many companies use totems (kiosks) for taking numbers or accessing services, which are often not accessible to individuals with disabilities.

- Individuals with specific learning disabilities or cognitive impairments may find it challenging to explain concepts clearly, leading to communication barriers.
- There is often a lack of support services available via chat or email, which can be crucial for individuals with hearing impairments or other disabilities that affect verbal communication.

- **Solutions:**

- Use plain language in all communications to ensure that information is clear and easy to understand. Avoid jargon and overly complex sentences.
- Make totems accessible by integrating features such as voice guidance, touchscreens with large buttons, and compatibility with smartphone apps that can assist individuals with disabilities.
- Provide support services via multiple channels, including chat, email, and text messaging, to accommodate different communication needs. Ensure that staff are trained to handle inquiries from individuals with disabilities.
- Ensure that websites and digital services are fully accessible. This includes using readable fonts, providing subtitles for videos, and ensuring that all digital content is compatible with screen readers and other assistive technologies.
- Encourage the use of assistive technologies such as voice conversion tools, transcription apps, and other aids that can help individuals communicate more effectively.
- Train public and private sector employees on how to communicate effectively with individuals with disabilities. This includes understanding the use of assistive technologies and being aware of the specific needs of different disabilities.
- Implement feedback mechanisms that allow individuals to report communication barriers and suggest improvements. This can help organizations continuously improve their accessibility and communication strategies.

Web accessibility

- **Problems/Difficulties:**

- Fonts used on websites are often difficult to read, which can be a significant barrier for individuals with visual impairments or specific learning disabilities.

- Some websites are not user-friendly, making it challenging for users to find the information they need. This can be particularly problematic for individuals with cognitive impairments or those who rely on assistive technologies.
- Websites that are not fully accessible for screen readers pose a significant challenge for individuals with visual impairments. This includes issues with navigation, lack of alternative text for images, and improperly tagged PDFs.
- Websites with complex navigation structures can be difficult for users with cognitive impairments or those who are not tech-savvy.

- **Solutions:**

- Ensure that fonts are clear and easy to read. This includes using larger font sizes, high-contrast colors, and avoiding overly decorative fonts.
- Simplify website navigation and ensure that information is easy to find. This can be achieved by using clear headings, logical structures, and intuitive design.
- Make websites fully accessible for screen readers. This includes providing alternative text for images, ensuring that all interactive elements are accessible, and properly tagging PDFs and other documents.
- Follow accessible design practices such as using ARIA (Accessible Rich Internet Applications) landmarks, ensuring keyboard navigability, and providing captions for videos.
- Conduct user testing with individuals who use assistive technologies to identify and address accessibility issues. This can help ensure that websites are usable by everyone.
- Offer information in multiple formats (e.g., text, audio, video) to accommodate different preferences and needs. Ensure that all formats are accessible.
- Train web developers and content creators on accessibility best practices. Raise awareness about the importance of web accessibility and the impact it has on users with disabilities.

b. Digital accessible transformation

Digital documents

- **Problems/Difficulties:**

- Inaccessibility of Government Applications: Government applications are problematic and difficult to read, making it challenging for users to access and understand necessary information.

- Difficulty Understanding Documents: Some users have trouble understanding the meaning of digital documents, which can be a barrier to accessing important information and services.
- Motor Difficulties with Digital Tools: Users with motor impairments face challenges using digital tool input devices, such as mice, keyboards, and touchscreens, which can hinder their ability to interact with digital documents.
- **Solutions:**
 - Simplify Government Applications: Make government applications easier to read and understand by using plain language, clear formatting, and intuitive design.
 - Provide More Understandable Documents: Ensure that digital documents are written in clear and simple language. Use visual aids, such as images and diagrams, to help explain complex information.
 - Facilitate Use of Assistive Tools: Implement accessibility tools built into operating systems to assist users with motor difficulties. This includes features like voice recognition, automatic dictation systems, and eye-tracking technology.
 - Use OCR Software: For documents that are not initially accessible, use Optical Character Recognition (OCR) software to convert them into readable formats.
 - Enhance Contrast and Font Size: Increase font size and enhance contrast in digital documents to make them easier to read for individuals with visual impairments.

Digital services

- **Problems/Difficulties:**
 - Government applications are problematic and difficult to read, making it challenging for users to access and understand necessary information.
 - Users feel lost with the a university app, preferring the old one. The new app lacks images, and schedules are harder to understand, although the maps section has improved.
 - Many companies use totems (kiosks) for taking numbers or accessing services, which are often not accessible to individuals with disabilities.
 - Users with motor impairments face challenges using digital tool input devices, such as mice, keyboards, and touchscreens, which can hinder their ability to interact with digital services.

- **Solutions:**

- Make government applications easier to read and understand by using plain language, clear formatting, and intuitive design.
- Make totems accessible by integrating features such as voice guidance, touchscreens with large buttons, and compatibility with smartphone apps that can assist individuals with disabilities.
- Implement accessibility tools built into operating systems to assist users with motor difficulties. This includes features like voice recognition, automatic dictation systems, and eye-tracking technology.

E-commerce

- **Problems/Difficulties:**

- E-commerce sites can be problematic if they are not accessible, making it difficult for users with disabilities to navigate and use these platforms.
- There are issues with coordinating delivery times, which can be particularly challenging for users who need to agree on an exact time for delivery.
- Some users find it difficult to buy things online due to complex procedures.

- **Solutions:**

- E-commerce companies need to make sure their sites are usable by everyone. This includes ensuring compatibility with screen readers and other assistive technologies.
- Provide accurate product descriptions to compensate for users not being able to see photos. This can help users make informed purchasing decisions.
- Implement systems that allow users to agree on exact delivery times via SMS, email, or messaging apps like WhatsApp.
- Make the online purchasing process easier by simplifying procedures and ensuring that the steps are clear and straightforward.

Digital customer communication

This sections problem areas and solutions overlaps and are covered in [Communication with public and private sectors](#).

Digital banking and payment

- **Problems/Difficulties:**

- ATMs are often too high and lack space for wheelchair users, making them difficult to use.

- Some users have trouble counting money, which can be a barrier to using digital banking services effectively.
- **Solutions:**
 - Place ATMs at an appropriate height and ensure there is enough space for wheelchair users to access them comfortably.
 - Provide assistive features or tools that can help users count money more easily, such as voice-guided instructions or digital displays that clearly show the amount being dispensed.

c. Educational accessibility

Spatial accessibility in educational units

- **Problems/Difficulties:**
 - Limited Study Room Spaces: There are few places available in study rooms, and additional spaces are needed for rest.
 - Outdoor Routes in Rainy Conditions: Outdoor routes become very slippery in the rain, posing a hazard for wheelchair users.
 - Elevator Issues: Elevators are frequently problematic, which can hinder accessibility.
 - Ticketing Service Difficulties: The ticketing service of the student services office is difficult to use.
- **Solutions:**
 - Provide more spaces in study rooms and ensure there are designated areas for rest.
 - Enhance the safety of outdoor routes, especially in rainy conditions, to prevent slipping hazards for wheelchair users.

Ensure regular maintenance and prompt repair of elevators to improve reliability and accessibility.

Accessibility in services provided by educational units:

- **Problems/Difficulties:**
 - Communication with Student Administration Office: Difficulty in communicating with the student administration office.

- Knowledge Among Professors:
 - Little knowledge among professors about learning disabilities (DSA).
 - Lack of moral support from teachers, who doubted the student's ability to attend scientific high school and engineering.
 - Some professors did not guarantee the student's rights or intentionally put obstacles in their way.
 - Response Times for Tickets: Long wait times for responses to tickets and to collect the smart card.
- **Solutions:**
 - Enhance communication methods with the student administration office to make it easier for students to get the support they need.
 - Provide training for professors to increase their understanding of learning disabilities. □
 - Ensure professors are aware of and uphold students' rights.
Encourage moral support and belief in students' abilities.

Accessibility in educational material

- **Problems/Difficulties:**
 - Sometimes slides are not updated, which can hinder learning.
 - Slides with very little text are not helpful for understanding the material.
 - Some students have difficulty understanding written texts.
 - There is a need for more updated and comprehensive educational materials.
- **Solutions:**
 - Ensure that slides are regularly updated to reflect the most current information and course content.
 - Include more detailed text and explanations in slides to aid comprehension.
 - Utilize assistive technologies such as screen readers to help students who have difficulty understanding written texts.
 - Offer more comprehensive and updated educational materials to support learning.

d. Employment accessibility

Spatial/Physical accessibility in the workplace

- **Problem areas:**

- Exterior architectural barriers such as entrances to premises, uneven sidewalks, steep or missing slides, and impediments from vehicles.
- Need for support in the workplace for daily activities and to have a companion.
- Some devices are not accessible to wheelchair users due to height and lack of space for legs

- **Solutions:**

- Implement stricter controls by authorities to ensure the use of accessible slides and removal of architectural barriers.
- Provide laws that facilitate job inclusion and telecommuting regulations for companies that hire individuals with disabilities.
- Ensure that someone is available at all times to assist with daily activities and commuting to the workplace.

Assistive technology in the workplace

- **Problems areas:**

- If accessible technologies and materials are not available, it creates difficulties for employees with disabilities.
- Motor difficulties in using digital tool input devices such as mouse, keyboard, and touchscreen.

- **Solutions:**

- Make sure that accessible technologies and materials are available in the workplace.
- Engage in conversations with employees to understand their specific needs and provide the necessary assistive technologies.
- Facilitate the use of mouse accessibility tools and assistive tools for touchscreen interaction.
- Provide alternative virtual assistant interaction apps to help employees with motor difficulties.

Accessible services in the workplace

- **Problems areas:**

- Communication Difficulties: Difficulty in communicating with different sectors within the workplace.

- Lack of Accessible Communication Methods: Need for accessible communication methods for employees with disabilities.

- **Solutions:**

- Engage in conversations with employees with disabilities to find solutions and test accessible services together.
- Provide accessible communication methods such as chat, email, and other text-based services to support employees with disabilities.

e. Tourism and recreation accessibility

Accessibility in sports & recreational facilities

- **Problems/Difficulties:**

- Sports and recreation facilities are often very large and scattered, which does not help with orientation.
- Gyms may have accessibility issues, such as old stairlifts, causing discomfort in new places.
- Difficulty moving in a group due to hotel and facility limitations for wheelchair sports.

- **Solutions:**

- Get help from someone and try to learn the layout through landmarks.
- Staff assistance in gyms to help navigate and use facilities.

Accessibility in tourism services

- **Problems areas:**

- Difficulty in finding accurate and useful information about accessibility.
- Information provided may not always be true or reliable.

- **Solutions:**

- Ensure that information about accessibility is easy to find and accurate.
- Use updated apps to provide real-time information on accessibility conditions.
- Improve the truthfulness and reliability of information provided about accessibility.
- Provide detailed and accurate descriptions of accessibility features.

Accessibility in transportation for tourism

- **Problems areas:**

- Airlines do not allow individuals with disabilities to travel alone and do not offer discounts for accompanying persons.
- Wheelchairs cannot stay in the cabin, risking damage as they are fragile and customized.
- Traveling from Italy to France by train is problematic.
- Public transportation in Paris is not very accessible.
- Traveling alone on Interrail would be a problem.
- Public transport, including buses and urban buses, is generally fine, but trams are less accessible.
- Metro systems are good if elevators work.

- **Solutions:**

- Airlines should allow individuals with disabilities to travel alone and offer discounts for accompanying persons.
- Ensure wheelchairs can stay in the cabin or provide better handling to prevent damage.
- Improve accessibility for train travel between countries, especially from Italy to France.
- Enhance accessibility of public transportation in cities like Paris.
- Provide better support for individuals traveling alone on Interrail.
- Ensure that all public transport, including trams and metro systems, are fully accessible and that elevators are consistently operational.

Events and shows

- **Problems/Difficulties:**

- Many films provide audio descriptions, but some scenes cannot be understood without them.
- Subtitles are necessary for understanding movies, especially for those with hearing impairments.
- In theaters, there is often a limit on the number of people with disabilities who can participate, with small reserved areas that often have a limited view.
- In concerts, there are enclosed areas for people with disabilities, which can feel discriminatory.
- Individuals with sensory sensitivities may experience overstimulation in cinemas.

- **Solutions:**

- Ensure that all films and shows provide comprehensive audio descriptions.
- Use subtitles to make movies more accessible for those with hearing impairments.
- Inform in advance about architectural barriers and let people decide where to stay.
- Increase the size and improve the location of reserved areas to provide better views and a more inclusive experience.
- Implement measures to reduce overstimulation in cinemas, such as providing quiet zones or sensory-friendly screenings.

f. Cultural heritage accessibility

- **Problems/Difficulties:**

- Architectural barriers in cultural heritage sites such as museums, art galleries, archaeological sites, and religious sites.
- Accessible routes are often not provided, making it difficult for individuals with disabilities to navigate these sites.
- Historical buildings are more problematic in terms of accessibility.
- In some cases, only a portion of the museum is accessible (e.g., 30%).
- Videos and captions in museums are not designed for people with learning disabilities (DSA) (issues with font, text length, etc.).
- Audio guides are better but cannot be listened to at 2X speed.
- Museums do not always present accessible or alternative routes.
- Lack of tactile reproductions of artworks for visually impaired visitors.

- **Solutions:**

- Provide accessible routes in cultural heritage sites, including the possibility of touching certain exhibits.
- Ensure that explanations by guides are accurate and detailed so that even individuals who cannot see can appreciate the various works.
- Eliminate architectural barriers where possible and provide timely and quality information about accessibility.
- Inform visitors in advance about the accessibility level of the site and let them decide where to stay.

- Design videos and captions with consideration for people with learning disabilities, using appropriate fonts and text lengths.
- Offer audio guides that can be listened to at different speeds.
- Provide alternative routes where there are artworks reproduced tactilely for visually impaired visitors.
- Ensure that all information is provided in a usable mode for deaf people, including captioning, plain language, and transcription apps.

g. Security and emergency situations

- **Problems/Difficulties:**

- Blind individuals may face significant trouble if they have not seen evacuation plans before.
- In the case of an emergency, blind individuals need to be shown through drills and rehearsals what to do.
- People with mobility impairments may need to wait for help or be carried out in emergencies, especially if elevators are required to exit buildings.
- If evacuation plan instructions are only in paper form, blind users do not know they are there and cannot read them.
- Communications written in very small and inconspicuous fonts are difficult for individuals with visual impairments to read.
- Emergency rooms in hospitals often lack the expertise to handle certain types of disabilities.
- Deaf individuals require visible alarm systems and apps for alerts, chat, and email to be informed about emergencies.
- Some individuals with specific learning disabilities approach evacuation drills very calmly and believe they can handle emergencies well by anticipating them rationally.

- **Solutions:**

- Ensure that blind individuals are fully familiar with evacuation plans through drills and rehearsals.
- View evacuation plans together with blind individuals and modify them if necessary.
- Provide clear and accessible evacuation routes for individuals with mobility impairments, ensuring they do not have to rely solely on elevators.

- Provide evacuation plan instructions in multiple formats, including verbal explanations and digital formats accessible to screen readers.
- Increase font size and enhance contrast in written communications to make them more readable for individuals with visual impairments.
- Inform individuals about hospitals that have adequate emergency rooms equipped to handle various types of disabilities.
- Implement visible alarm systems and ensure that apps for alerts, chat, and email are available and accessible to deaf individuals.

5.6. Interviews (Italy)

Italy – Specific learning disabilities no 1

Demographic data

1. **Gender:** Male
2. **The place (country) of residence:** Italy
3. **The type of learning disabilities** (official clinical diagnosis): Specific developmental disorder of reading and writing (F81.0).
4. **Do you face other difficulties apart from the SLD per se?** ADHD, difficult concentration, chronic migraines (under treatment at a headache center).
5. **The age of diagnosis of learning disabilities:** 18
6. **Age:** 29
7. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree): B.S. in Engineering
8. **Do you use assistive technology?** Yes
9. **If yes, which means of assistive technology?** Technology in general like transcription of video lectures with AI
10. **What kind of educational material is more suitable for you? (you can choose more than one answers)**
 - d. Audio-visual (e.g., video)
11. **Do you use any kind of accessible educational material?**
 - a. Yes
12. **If yes, what kind of it?** Video-lectures with subtitles, speed 2X

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		All streets in Turin are perpendicular, making it difficult for him to orient himself.	
Mobility with the means of transportation		Public transport is not punctual, causing difficulty in managing time.	
Communication with and		Language used by public and	

services of the public and private sectors	private services is too complex and verbose.	
Web accessibility	Fonts are often hard to read.	
Digital accessible transformation		
E-commerce	E-commerce is essential because he has trouble being understood in stores.	
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	Government applications are problematic. Reading is practically impossible.	Government apps need to be easier to read and understand.
Digital customer communication	Difficulty explaining concepts.	
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)		
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	Millennial who grew up with technology, sees its potential and is not addicted to it.	
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and	Few places in study rooms, he also needs places to rest.	

post-secondary education including tertiary)		
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology		
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	<p>Difficult to communicate with the student administration office.</p> <p>Little knowledge among professors about the issue of learning disabilities (DSA).</p> <p>Lack of moral support from teachers, who didn't believe in his ability to attend scientific high school and then engineering.</p> <p>Significant problems at university with some professors, was tempted to quit studies. Some professors did not guarantee his rights or even intentionally put obstacles in his way.</p>	
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)		
Accessibility in distance education/online learning		
Employment Accessibility	No experience	
Spatial/Physical Accessibility in the work place		
Accessible Services in the		

work place (e.g. hiring processes, communication with different sectors)		
In-service training and career up-skilling		
Assistive Technology in the work place and accessible material		
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	He can navigate a museum: he has learned to compensate.	
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art	Videos and captions are not designed for people with learning disabilities (DSA) (font, text length, ...). Audio-guides are better, but you can't listen to them at 2X speed.	

<i>Tourism (including recreation and sports)</i> <i>Accessibility</i>		
Accessibility in tourism Services	<p>He finds it easier to orient himself abroad, comfortable with using a map for navigation.</p> <p>Difficulty learning English.</p> <p>Uses subtitles even for watching movies in Italian, pauses because he reads slowly.</p> <p>Products translated too sweetly (especially anime).</p>	
Accessibility in accommodation (hotel units, camps, camping)		
Accessibility in transportation		
Accessibility in sports & recreational facilities		
Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible movies	<p>Uses subtitles even for watching movies in Italian, pauses because he reads slowly.</p> <p>Products not well translated (especially anime).</p>	
<i>Accessibility in Security and Evacuation Situations</i>		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	<p>Approaches evacuation drills very calmly, with a cool head.</p> <p>Thinks he can handle emergencies quite well, anticipates emergencies rationally.</p>	
Accessibility in Evacuation		

Planning (e.g. accessible evacuation plan)		
Accessibility of emergency information (Multiple channels)		

Italy – Specific learning disabilities no 2

Demographic data

1. **Gender:** Female
2. **The place (country) of residence:** Italy
3. **The type of learning disabilities** (official clinical diagnosis): Mixed disorders of learning skills (F81.3).
4. **Do you face other difficulties apart from the SLD per se?** Organizational problems, difficulty in organizing study activities.
5. **The age of diagnosis of learning disabilities:** 17
6. **Age:** 26
7. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree): Higher secondary school (very close to B.S. in Engineering)
8. **Do you use assistive technology?** Yes
9. **If yes, which means of assistive technology?** Mainstream technology like recording with a tablet
10. **What kind of educational material is more suitable for you? (you can choose more than one answers)**
 - d. Audio-visual (e.g., video)
11. **Do you use any kind of accessible educational material?**
 - b. No
12. **If yes, what kind of it?** Video-lectures with subtitles, speed 2X

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and			

outdoor spaces		
Mobility with the means of transportation	No problems with transportation.	
Communication with and services of the public and private sectors	Uses voice conversion.	
Web accessibility	Difficulty in finding information on some websites.	
Digital accessible transformation		
E-commerce		
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	No particular difficulties, positive about digital transformation.	
Digital customer communication		
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)		
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	Feels lost with the new university app, preferred the old one (no more images, schedules were easier to understand, but the maps section has improved).	
Educational Accessibility		

Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	Accessible spaces, easy to find. Signs have been improved.	
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	Sometimes slides are not updated. Slides with few text are not helpful.	Asks for materials from other students, in some cases has asked for tutoring.
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	Tickets: long wait times for responses, waited a long time to collect the smart card.	
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	Interaction with professors: some are very helpful, others not; outdated slides sometimes. Exams: not always given extra time (oral or written).	
Accessibility in distance education/online learning	Video recordings are good, but he/she has difficulty in concentrating, experience is disorientating.	
Employment Accessibility	No experience	
Spatial/Physical Accessibility in the work place		
Accessible Services in the		

work place (e.g. hiring processes, communication with different sectors)		
In-service training and career up-skilling		
Assistive Technology in the work place and accessible material		
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)		
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art	Uses audioguides. Likes audiovisual apps.	
Tourism (including recreation and sports) Accessibility		

Accessibility in tourism Services	Plans trips to see as much as possible. Uses social media a lot, watches other people's videos (she doesn't make videos).	
Accessibility in accommodation (hotel units, camps, camping)		
Accessibility in transportation		
Accessibility in sports & recreational facilities		
Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible movies		
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	In planned emergency tests no stress. He/she experienced a very dangerous situation and was able to escape following instinct.	
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)		
Accessibility of emergency information (Multiple channels)		

Italy – Visual impairments, no 1

Demographic data

1. Gender Male

2. **The place (country) of residence:** Italy
3. **The type of your disability and the cause of it** (official clinical diagnosis): Congenital glaucoma
4. **The age at onset of visual impairments:** 7
5. **Age:**
6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree): scientific high school graduation
7. **Severity of disability** Blindness
8. **What means do you use to read?** Braille or screen reader
9. **Visual acuity of the left eye** Total blindness, loss of light perception
10. **Visual acuity of the right eye** Total blindness, loss of light perception
11. **Visual field**
 - a. Full visual field
 - b. Central vision loss
 - c. Peripheral vision loss
12. **You move alone or with the help of an attendant?** Alone
13. **How often do you move alone?** Most of the time
13. **Do you use assistive technology?** Yes
14. **If yes, which means of assistive technology?** Screen reader, a form of assistive technology that renders text and image content as speech or braille output
15. **What kind of educational material is more suitable for you? (you can choose more than one answer)** Text
16. **Do you use any kind of accessible educational material?** No
17. **If yes, what kind of it?** None

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		Before I can independently turn an indoor or outdoor location I must know it.	I make use of someone who can explain to me what a place looks like or, for outsiders, GPS navigators.
Mobility with the means of transportation		If I don't know the line I'm on I can't understand when I got to	To know when I have arrived at the stop I need to get off at, I use

	the stop I have to get off at. I don't know which bus is the bus that stopped at the stop.	GPS apps that notify me with a notification. To know which bus has arrived, if the driver doesn't tell me, I ask.
Communication with and services of the public and private sectors	One difficulty I have repeatedly encountered is the non-accessibility of totems in many companies, which allow you to take the number for the office you need.	Ask the people present. It would also be appropriate to make these totems accessible, for example, with a smartphone app
Web Accessibility	If a site is fully accessible and usable I have no problems. Problems occur when a site is not accessible for a screen reader.	Companies need to make sure their sites are usable by all people.
Digital accessible transformation		
E-commerce	I make use of e-commerce sites. Problems occur only if the site is not accessible.	Again, e-commerce companies need to make sure that their sites are usable by everyone. I would also add that it would be good for product descriptions to be accurate, to make up for not being able to see photos.
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	If the documents and all the forms are accessible and usable I have no problem. Problems occur from the moment these are not accessible	The only way I can get around inaccessible documents is to use OCR software. Companies must also make sure that they have created a properly tagged PDF, otherwise, there may be graphics that do not contain explanations
Digital customer communication	I have no problem with digital communication unless the latter is accessible.	Provide a phone number that can assist people with disabilities.
Digital Banking (including	If the app and the bank's website	Many banks provide a

ATMs/cash points and Interactive Teller Machines inside a bank)	are accessible there are no problems. For withdrawing the atm there are no problems if it is talking.	smartphone withdrawal feature that allows you to be able to withdraw independently even in those items that do not have a speech synthesis or are completely touch
Digital libraries and repositories	No problems.	
Digital devices and their software/apps (e.g. mobile phones, smart TVs, home appliances)	I have no problem if the software is accessible.	Companies need to verify that their software is accessible, and as for hardware, they should include speech synthesis in their products like TVs.
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	I have to understand an environment before I can walk through it independently	I avail myself of someone who can explain it to me and try to understand it by finding points of reference
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	Documents must be fully accessible, as mentioned above. This also applies to I videos and all other training materials.	The company must surely expect that people with disabilities can participate in the courses and therefore must make the materials accessible at the outset, for example by describing the videos that are not understandable.
Accessibility to services provided by the educational units (e.g. communication with the administrative services, announcements by the	Certainly, the various announcements should not only be in written (paper) form	Any notices should be said verbally or written on the service website as well.

teaching and the administrative staff)		
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	If they are not accessible, I cannot provide these tools	These tools should be accessible to all and tested.
Accessibility in distance education/online learning	If the online training software is accessible, I have no problem.	The company must equip itself with accessible software on which to organize the lesson. For the rest, the things said before for tools, Documents, etc. apply.
Employment Accessibility		
Spatial/Physical Accessibility in the Workplace	The workplace is usually not a problem for me. First, I just have to study it and understand it So that I can move there independent	Ask the employer to take some time to explain the structure of the workplace to me.
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)	No problem if these are accessible	Try to talk to the person with a disability so that together we can find a solution and test these services.
In-service training and career up-skilling	No problems	
Assistive Technology in the workplace and accessible material	If accessible technologies and accessible materials are available, there are no difficulties	Talk to the person to understand what they need
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries,	I don't usually go to museums and similar places. In any case, the problems lie in the fact that accessible routes are often not	The museum should provide accessible routes, e.g., the possibility of being able to touch certain things, explanations by

archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards the main entrance)	provided	guides that are accurate so that even a person who cannot see can appreciate the various works, etc. Welcome the possibility of having a less leading to the entrance.
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	As mentioned above	As mentioned above
Accessibility to museum exhibits and works of art	Sometimes, as mentioned, the museum does not present accessible or alternative routes	The museum should provide alternative routes where there are artworks reproduced tactilely
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in Tourism Services	No problems	
Accessibility to accommodation (hotel units, camps, camping)	I usually don't have too much difficulty in these facilities, I just have to have some time to get used to and understand them.	Maybe the facility manager can explain the facility itself to the blind person. Surely it is also helpful to get advice from other people who have already visited that facility to know if it is easy to understand.
Accessibility in transportation	What I said about transportation above applies.	What I said about transportation above applies.
Accessibility in sports & recreational facilities	Sometimes a sports and recreation facility is very large and scattered, which does not help orientation	Get help from someone and if possible try to learn it through landmarks

Accessibility at beaches	At beaches, the most common problem is finding one's umbrella either when arriving from the road or the sea	I have solved this problem by making use of GPS apps where I can sign points of interest, such as precisely the umbrella. Once I mark the point I can realize the distance to it and figure out when I got there. An always good solution is to ask.
Accessible shows (theaters, cinemas, concerts...) & accessible movies	Many films provide audio descriptions and, in these cases, the problem does not arise. In other cases, some scenes cannot be understood.	I try to choose audio-described films or shows. In any case, you can often understand a lot even without audio description.
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	Surely if the blind person has not seen these evacuation plans before, he or she may be in a lot of trouble	In the case of the office where one works, he or she should be shown through drills and rehearsals what the blind person should do in case of these emergencies.
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	As mentioned before, you need to be sure that the blind person is fully familiar with these plans so that he or she will not have problems in case of evacuation	Surely it is helpful to view the evacuation plans together with the blind person and figure out with him if they need to be modified
Accessibility of emergency information (Multiple channels)	If evacuation plan instructions are only in paper form the blind user does not know they are there and cannot even read them	Someone must, as mentioned, illustrate and display these plans

Italy – Visual impairments, no 2

Demographic data

1. **Gender:** Female
2. **The place (country) of residence:** Italy
3. **The type of your disability and the cause of it** (official clinical diagnosis): Low vision, congenital glaucoma
4. **The age at onset of visual impairments:** 5
5. **Age:** 40
6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree): master degree
7. **Severity of disability** Low vision
8. **What means do you use to read?** Large prints or magnifiers
9. **Visual acuity of the left eye** Better than 1/20 and worse than 1/10
10. **Visual acuity of the right eye** Better than 1/20 and worse than 1/10
11. **Visual field** Central vision loss
12. **You move alone or with the help of an attendant?** Alone
13. **How often do you move alone?** Always
13. **Do you use assistive technology?** Yes
14. **If yes, which means of assistive technology?** Video magnifier, software that allows you to enlarge anything that appears on the screen of a PC or phone
15. **What kind of educational material is more suitable for you? (you can choose more than one answers)**
 Audio
 Audio-visual (e.g., video)
16. **Do you use any kind of accessible educational material?** No
17. **If yes, what kind of it?** None

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		I have difficulty moving to a place I don't know	I make use of someone who can explain to me what a place looks like or, for outsiders, GPS navigators.
Mobility with the means of transportation		I have difficulty using public transportation that takes a route I am not familiar with	I often use GPS to get my bearings

Communication with and services of the public and private sectors	No problems	
Web Accessibility	I have difficulty if I can't enlarge the screen	I can use video magnifiers or magnifying glasses
Digital accessible transformation		
E-commerce	No problem if I can use a video magnifier	Video magnifier or magnifying glasses
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	No problems	
Digital customer communication	I have no problem with digital communication unless the latter is accessible.	Provide a phone number that can assist people with disabilities.
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	No problem if I can use a video magnifier	Video magnifier or magnifying glasses
Digital libraries and repositories	No problems.	
Digital devices and their software/apps (e.g. mobile phones, smart TVs, home appliances)	No problem if I can use a video magnifier	Video magnifier or magnifying glasses
Educational Accessibility		
Spatial Accessibility in educational units (public and private education,	I have difficulty moving to a place I don't know	I usually ask someone to explain to me how the place is arranged in the space

primary, secondary and post-secondary education including tertiary)		
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	No problem if I can use a video magnifier	Video magnifier or magnifying glasses
Accessibility to services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	I have difficulty if the ads are written in a very small and inconspicuous font	Increase font size and enhance contrast
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	No problem if I can use a video magnifier	Video magnifier or magnifying glasses
Accessibility in distance education/online learning	No problem if I can use a video magnifier	Video magnifier or magnifying glasses
Employment Accessibility		
Spatial/Physical Accessibility in the Workplace	I have difficulty moving to a place I don't know	I usually ask someone to explain to me how the place is arranged in the space
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)	I have difficulty if communications are written in a very small and inconspicuous font	Increase font size and enhance contrast
In-service training and career up-skilling	No problems	

Assistive Technology in the workplace and accessible material	If accessible technologies and accessible materials are available, there are no difficulties	Talk to the person to understand what they need
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards the main entrance)	I have difficulty moving to a place I don't know	I usually ask someone to explain to me how the place is arranged in the space
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	No problems	
Accessibility to museum exhibits and works of art	No problems	
Tourism (including recreation and sports) Accessibility		
Accessibility in Tourism Services	No problems	
Accessibility to accommodation (hotel units, camps, camping)	No problems	
Accessibility in	What I said about transportation	What I said about transportation

transportation	above applies.	above applies.
Accessibility in sports & recreational facilities	No problems	
Accessibility at beaches	I have difficulty moving to a place I don't know	I usually ask someone to explain to me how the place is arranged in the space
Accessible shows (theaters, cinemas, concerts...) & accessible movies	I have difficulty if there is no audio description	Audio description
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	I have difficulty if I don't already know the evacuation plans	Know the evacuation plans in advance
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	I have difficulty if I don't already know the evacuation plans	Know the evacuation plans in advance
Accessibility of emergency information (Multiple channels)	I have difficulty if communications are written in a very small and inconspicuous font	Increase font size and enhance contrast

Italy – Deaf- Hard of hearing, no 1

Demographic data

1. **Gender:** Male

2. **The place (country) of residence:** Italy

3. **The type of your hearing loss and the cause of it** (official clinical diagnosis): bilateral profound deafness, head trauma

4. **The age at onset of hearing loss:** 13

5. **Age:** 66

6. **Educational level** (e.g., lower secondary school, tertiary level of education): high school

graduation

7. **Do you have bilateral hearing loss?** Yes

8. **Degrees of hearing loss in left ear** Profound hearing loss (91+ dB)

9. **Degrees of hearing loss in right ear** Profound hearing loss (91+ dB)

10. **Level of difficulty in understanding the oral language (through lip reading)** Neutral

11. **Do you read and understand the written form of the official language of your country?** Yes

12. **Level of difficulty in reading and understanding the written language:** Easy

13. **Do you know sign language?** No

14. **Do you use assistive technology?** No

15. **If yes, which means of assistive technology?**

16. **What kind of educational material is more suitable for you? (you can choose more than one answers)** Text

17. **Do you use any kind of accessible educational material?** No

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		No problems	
Mobility with the means of transportation		YES (high criticality)	Providing information in a text-based manner (e.g., using Apps on smartphones)
Communication with and services of the public and private sectors		YES (high criticality)	Availability of support services via chat or email
Web Accessibility		YES	Subtitling. "Search" function on sites to find information more easily
Digital transformation	accessible		

E-commerce	YES (high criticality)	Problems especially for delivery: need to be able to agree on the exact time (SMS, email, whatsapp). This need to agree applies in general.
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	No problems	
Digital customer communication	YES (high criticality)	It is necessary to communicate knowing that this is a deaf person
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	No problems	
Digital libraries and repositories	No problems	
Digital devices and their software/apps (e.g. mobile phones, smart TVs, home appliances)	No problems	
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	No problems	
Accessibility in educational material (documents – text	YES	Materials as clear and simple as possible.

& images/maps and graphs, video, presentations, VR & AR) and assistive technology		Subtitling
Accessibility to services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	YES	Always remember that there is a deaf person, so it is necessary to find an appropriate/alternative way to communicate
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	YES (high criticality)	App for transcription
Accessibility in distance education/online learning	YES (high criticality)	Need for software tools used for distance learning to be accessible
Employment Accessibility		
Spatial/Physical Accessibility in the Workplace	YES (high criticality)	Accessibility of alarm systems. Visibility of systems. Use of apps for alerts, chat, email.
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)	YES	Assignment of a mentor for deaf people in the workplace.
In-service training and career up-skilling	YES (high criticality)	Simplicity, text clarity. Subtitling.
Assistive Technology in the workplace and	YES (high criticality)	App for subtitling, transcription, translation (if in English)

accessible material		
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards the main entrance)	YES (high criticality)	All information must be provided in a usable mode for deaf people: captioning, plain language, transcription app, website accessibility (e.g., for purchasing tickets)
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	YES (high criticality)	All information must be provided in a usable mode for deaf people: captioning, plain language, transcription app, website accessibility (e.g., for purchasing tickets)
Accessibility to museum exhibits and works of art	YES (high criticality)	All information must be provided in a usable mode for deaf people: captioning, plain language, transcription app, website accessibility (e.g., for purchasing tickets)
Tourism (including recreation and sports) Accessibility		
Accessibility in Tourism Services	YES (high criticality)	Availability of guides and adequate information (via app).

		<p>Availability of trained staff to deal with deaf people.</p> <p>Management of alarms and evacuation instructions.</p> <p>Subtitling of performances.</p>
Accessibility to accommodation (hotel units, camps, camping)	YES (high criticality)	<p>Availability of guides and adequate information (via app).</p> <p>Availability of trained staff to deal with deaf people.</p> <p>Management of alarms and evacuation instructions.</p> <p>Subtitling of performances.</p>
Accessibility in transportation	YES (high criticality)	<p>Availability of guides and adequate information (via app).</p> <p>Availability of trained staff to deal with deaf people.</p> <p>Management of alarms and evacuation instructions.</p> <p>Subtitling of performances.</p>
Accessibility in sports & recreational facilities	YES (high criticality)	<p>Availability of guides and adequate information (via app).</p> <p>Availability of trained staff to deal with deaf people.</p> <p>Management of alarms and evacuation instructions.</p>

		Subtitling of performances.
Accessibility at beaches	YES (high criticality)	<p>Availability of guides and adequate information (via app).</p> <p>Availability of trained staff to deal with deaf people.</p> <p>Management of alarms and evacuation instructions.</p> <p>Subtitling of performances.</p>
Accessible shows (theaters, cinemas, concerts...) & accessible movies	YES (high criticality)	<p>Availability of guides and adequate information (via app).</p> <p>Availability of trained staff to deal with deaf people.</p> <p>Management of alarms and evacuation instructions.</p> <p>Subtitling of performances.</p>
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	YES (high criticality)	
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	YES (high criticality)	
Accessibility of emergency information (Multiple channels)	YES (high criticality)	

Italy – Deaf- Hard of hearing, no 2

Demographic data

1. **Gender:** Male
2. **The place (country) of residence:** Italy
3. **The type of your hearing loss and the cause of it** (official clinical diagnosis): bilateral profound deafness, congenital deafness
4. **The age at onset of hearing loss:** from the birth
5. **Age:** 61
6. **Educational level** (e.g., lower secondary school, tertiary level of education): high school graduation
7. **Do you have bilateral hearing loss?** Yes
8. **Degrees of hearing loss in left ear** Profound hearing loss (91+ dB)
9. **Degrees of hearing loss in right ear** Profound hearing loss (91+ dB)
10. **Level of difficulty in understanding the oral language (through lip reading)** Neutral
11. **Do you read and understand the written form of the official language of your country?** Yes
12. **Level of difficulty in reading and understanding the written language** Easy
13. **Do you know sign language?** No
14. **Do you use assistive technology?** No
15. **If yes, which means of assistive technology?**
16. **What kind of educational material is more suitable for you? (you can choose more than one answers)** Text
17. **Do you use any kind of accessible educational material?** No
18. **If yes, what kind of it?**

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		No problems	
Mobility with the means of transportation		YES	Providing information in a text-based manner (e.g., using Apps on smartphones)

Communication with and services of the public and private sectors	YES	Availability of support services via chat or email
Web Accessibility	YES	Subtitling. “Search” function on sites to find information more easily
Digital accessible transformation		
E-commerce	YES	Problems especially for delivery: need to be able to agree on the exact time (SMS, email, whatsapp). This need to agree applies in general.
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	No problems	
Digital customer communication	YES	It is necessary to communicate knowing that this is a deaf person
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	No problems	
Digital libraries and repositories	No problems	
Digital devices and their software/apps (e.g. mobile phones, smart TVs, home appliances)	No problems	
Educational		

Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	No problems	
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	YES	Materials as clear and simple as possible. Subtitling
Accessibility to services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	YES	Always remember that there is a deaf person, so it is necessary to find an appropriate/alternative way to communicate
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	YES	App for transcription
Accessibility in distance education/online learning	YES	Need for software tools used for distance learning to be accessible
Employment Accessibility		
Spatial/Physical Accessibility in the Workplace	YES	Accessibility of alarm systems. Visibility of systems. Use of apps for alerts, chat, email.
Accessible Services in the	YES	Assignment of a mentor for deaf

workplace (e.g. hiring processes, communication with different sectors)		people in the workplace.
In-service training and career up-skilling	YES	Simplicity, text clarity. Subtitling.
Assistive Technology in the workplace and accessible material	YES	App for subtitling, transcription, translation (if in English)
<i>Cultural Heritage Accessibility</i>		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards the main entrance)	YES	All information must be provided in a usable mode for deaf people: captioning, plain language, transcription app, website accessibility (e.g., for purchasing tickets)
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	YES	All information must be provided in a usable mode for deaf people: captioning, plain language, transcription app, website accessibility (e.g., for purchasing tickets)
Accessibility to museum exhibits and works of art	YES	All information must be provided in a usable mode for deaf people: captioning, plain language, transcription app, website accessibility (e.g., for purchasing tickets)

<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in Tourism Services	YES	<p>Availability of guides and adequate information (via app).</p> <p>Availability of trained staff to deal with deaf people.</p> <p>Management of alarms and evacuation instructions.</p> <p>Subtitling of performances.</p>
Accessibility to accommodation (hotel units, camps, camping)	YES	<p>Availability of guides and adequate information (via app).</p> <p>Availability of trained staff to deal with deaf people.</p> <p>Management of alarms and evacuation instructions.</p> <p>Subtitling of performances.</p>
Accessibility in transportation	Yes	<p>Availability of guides and adequate information (via app).</p> <p>Availability of trained staff to deal with deaf people.</p> <p>Management of alarms and evacuation instructions.</p> <p>Subtitling of performances.</p>
Accessibility in sports & recreational facilities	Yes	<p>Availability of guides and adequate information (via app).</p>

		<p>Availability of trained staff to deal with deaf people.</p> <p>Management of alarms and evacuation instructions.</p> <p>Subtitling of performances.</p>
Accessibility at beaches	Yes	<p>Availability of guides and adequate information (via app).</p> <p>Availability of trained staff to deal with deaf people.</p> <p>Management of alarms and evacuation instructions.</p> <p>Subtitling of performances.</p>
Accessible shows (theaters, cinemas, concerts...) & accessible movies	Yes	<p>Availability of guides and adequate information (via app).</p> <p>Availability of trained staff to deal with deaf people.</p> <p>Management of alarms and evacuation instructions.</p> <p>Subtitling of performances.</p>
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire,	YES (high criticality)	

earthquake, etc.)		
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	YES (high criticality)	
Accessibility of emergency information (Multiple channels)	YES (high criticality)	

Italy – Mobility impairments, no 1

Demographic data

1. **Gender:** Male

2. **The place (country) of residence:** Italy

3. **The type of your disability and the cause of it** (official clinical diagnosis): Dislocation of C5-C6 with tetraplegia

4. **The age at onset of mobility impairments:** 17

5. **Age:** 26

6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree):
B.S. in Computer Science Engineering

7. **Your disability occurs**

c. In your lower and upper extremities

8. **How would you most accurately describe the functionality of your hands?**

c. I handle objects with difficulty, I need help to prepare or modify the activities. My performance is slow and can be achieved with limited success as regards the quantity and quality of activity. I can be independent, only if the activities have been adapted for me.

9. **You move alone or with the help of an attendant?**

b. Sometimes alone and sometime with help of an attendant

10. **How often do you move alone?**

c. Some times

11. **How would you describe your commute?**

e. In all cases and in all places, I use a wheelchair. At best, I can use an electric wheelchair. I always need special support in my waist, torso and head. I use many types of assistive devices for mobility impairments, but I still need the assistance of another person.

12. **Do you use assistive technology?**

a. Yes

13. **If yes, which means of assistive technology?**

Dictation, voice recognition, manual wheelchair, home automation to turn on/off lights.

14. What kind of educational material is more suitable for you?

b. Visual

15. Do you use any kind of accessible educational material?

b. No

16. If yes, what kind of it? None

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		Architectural barriers, sidewalks often with obstacles, shops without access ramps, no automatic doors.	Home automation (he designed his own).
Mobility with the means of transportation			
Communication with and services of the public and private sectors		Public offices usually accessible, but sometimes elevators or stairlifts are broken.	Device on the wheelchair that allows selecting the floor of the elevator.
Web accessibility		No problems.	
Digital accessible transformation			
E-commerce		No problems.	
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)		No problems.	
Digital customer communication		No problems.	
Digital Banking (including		Unable to use ATMs with the	

ATMs/cash points and Interactive Teller Machines inside a bank)	wheelchair): too high and/or no space for legs.	
Digital libraries and repositories	No problems.	
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	No problems.	
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	Use wheelchairs, but problems in outdoor routes in case of rains: very slippery.	
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology		Videorecording of lectures.
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	The ticketing service of the student services office is difficult to use.	
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)		

Accessibility in distance education/online learning		Online learning is very helpful.
Employment Accessibility	No experience (student).	
Spatial/Physical Accessibility in the work place		
Accessible Services in the work place (e.g. hiring processes, communication with different sectors)		
In-service training and career up-skilling		
Assistive Technology in the work place and accessible material		
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	The only problem is architectural barriers.	
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological		

sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art	Most museums are accessible.	
Tourism (including recreation and sports) Accessibility		
Accessibility in tourism Services		
Accessibility in accommodation (hotel units, camps, camping)	Depends on countries. Rules for hotels are not clear.	US hotel chains are generally better (they have to be compliant to the American Disability Act).
Accessibility in transportation	Airlines do not allow him to travel alone (and no discount for accompanying person). Wheelchairs cannot stay in cabin, risk of damages: wheelchairs are fragile and customized, big problems in case of damage.	
Accessibility in sports & recreational facilities		
Accessibility at beaches	Area for people with disability: discrimination. Assistance in some public beaches.	
Accessible shows (theaters, cinemas, concerts...) & accessible movies	In theaters: limit on the number of people with disabilities who can participate (small reserved area, often with limited view). In concerts: enclosed area for people with disability, felt as discriminatory.	Inform in advance about architectural barriers and let people decide where to stay.
Accessibility in Security		

and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)		
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)		
Accessibility of emergency information (Multiple channels)	Emergency rooms in hospitals often lack the expertise to handle certain types of disabilities.	Inform about the hospitals that have adequate emergency rooms.

Italy – Mobility impairments, no 2

Demographic data

1. **Gender:** Male

2. **The place (country) of residence:** Italy

3. **The type of your disability and the cause of it** (official clinical diagnosis): Degenerative disease, quadriplegia

4. **The age at onset of mobility impairments:** 15

5. **Age:** 44

6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree): high school graduation

7. **Your disability occurs** In your lower and upper extremities

8. **How would you most accurately describe the functionality of your hands?**

I can only handle selected (very specific) objects that are easy and only in adapted activities. Usually, I only perform parts of an entire activity with a lot of effort and with limited success. I need continuous support, assistance, and/or adapted equipment.

9. **You move alone or with the help of an attendant?** Sometimes alone and sometimes with help of an attendant

10. **How often do you move alone?** Some times

11. **How would you describe your commute?**

(Select only one of the following answers)

- a. In all cases and all places, I use a wheelchair. At best, I can use an electric wheelchair. I always need special support in my waist, torso, and head. I use many types of assistive devices for mobility impairments, but I still need the assistance of another person.

12. Do you use assistive technology?

- a. Yes

13. If yes, which means of assistive technology? Automatic dictation systems, speech recognition systems, eye pointer

14. What kind of educational material is more suitable for you? (you can choose more than one answer)

- d. Audio-visual (e.g., video)

15. Do you use any kind of accessible educational material?

- a. No

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces	Exterior architectural barriers entrance to premises, uneven sidewalks slide too steep or missing, or impediment vehicles	Barrier abatement, Stricter controls by authorities to use slides Availability of updated apps on the walkability of sidewalks and access to premises	
Mobility with the means of transportation	Conditioned by telephone verification of accessibility	App updated in real-time on accessibility conditions	
Communication with and services of the public and private sectors	Interpersonal communication difficulty	Facilitation in the use of email / PEC / and text messaging	
Web Accessibility	Motor difficulties in using mouse, keyboard, and touchscreen.	Facilitation in the use of accessibility tools built into operating systems. An app that allows and facilitates navigation even with voice for people with dysarthria	

Digital accessible transformation		
E-commerce	Motor difficulties in using digital tool input devices.	Facilitate the use of mouse accessibility tools for assistive tools for touchscreen interaction.
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	Motor difficulties in using digital tool input devices.	Facilitate the use of mouse accessibility tools for assistive tools for touchscreen interaction.
Digital customer communication	No problems.	
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	Architectural barriers as the devices are not accessible to wheelchair users.	Place the devices at an appropriate height
Digital libraries and repositories	Motor difficulties in using digital tool input devices.	Facilitate the use of mouse accessibility tools for assistive tools for touchscreen interaction. Assistive tools for touchscreen interaction.
Digital devices and their software/apps (e.g. mobile phones, smart TVs, home appliances)	Motor difficulties in using digital instrument input devices. Difficulties in using virtual assistants via voice commands.	Facilitating the use of mouse accessibility tools for assistive tools for touchscreen interaction. Availability of alternative virtual assistant interaction apps.
Educational Accessibility		
Spatial Accessibility in	Not applicable	

educational units (public and private education, primary, secondary and post-secondary education including tertiary)		
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	Motor difficulties in using digital tool input devices.	Facilitate the use of mouse accessibility tools for assistive tools for touchscreen interaction. Assistive tools for touchscreen interaction.
Accessibility to services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	Not applicable	
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	Motor difficulties in using digital tool input devices.	Facilitate the use of mouse accessibility tools for assistive tools for touchscreen interaction. Assistive tools for touchscreen interaction.
Accessibility in distance education/online learning	Not applicable	
Employment Accessibility		
Spatial/Physical Accessibility in the Workplace	Need to have support in the workplace for daily activities and to have a companion	Provide laws that facilitate job inclusion Telecommuting regulations for companies that hire
Accessible Services in the workplace (e.g. hiring processes, communication		Having someone available at all times to drive me to my place of work

with different sectors)		Having economic benefits given the burden of the expense
In-service training and career up-skilling	Not applicable	
Assistive Technology in the workplace and accessible material	Not applicable	
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards the main entrance)	Possible barriers	Have useful information about accessibility Have a companion Eliminate barriers where possible Have timely and quality information Have input
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	The same considerations as above apply to the physical aspects	
Accessibility to museum exhibits and works of art	The same considerations as above apply to the physical aspects	
Tourism (including recreation and sports) Accessibility		
Accessibility in Tourism	Difficulty in finding information	Quality of information that may

Services		not be true Ease of finding useful information Improving the truthfulness of information
Accessibility to accommodation (hotel units, camps, camping)	Quality of information that may not be true Unavailability of using the facility due to lack of appropriate aids Improve veracity of information	Availability of aids appropriate for physical disability
Accessibility in transportation	Absence of information related to the previous	See previous solutions
Accessibility in sports & recreational facilities	Not applicable	
Accessibility at beaches	Possible lack of adequate walkways and non-availability of appropriate aids	Availability of aids appropriate for physical disability
Accessible shows (theaters, cinemas, concerts...) & accessible movies	Not applicable	
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	Lack of adequate facilities for people in wheelchairs Non-circulation of evacuation aids Adapt facilities	Increased dissemination
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	Lack of adequate facilities for people in wheelchairs Non-circulation of evacuation aids Adapt facilities	Increased dissemination

Accessibility of emergency information (Multiple channels)	Lack of adequate facilities for people in wheelchairs Non-circulation of evacuation aids Adapt facilities	Increased dissemination
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Italy – Mobility impairments, no 3

Demographic data

1. **Gender:** Male
2. **The place (country) of residence:** Italy
3. **The type of your disability and the cause of it** (official clinical diagnosis): Complete paraplegia AIS at the neurological level D5, with neurogenic bowel and bladder, as a result of a traffic accident
4. **The age at onset of mobility impairments:** 16
5. **Age:** 24
6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree): Higher secondary school
7. **Your disability occurs** In your lower extremities (including chest)
8. **How would you most accurately describe the functionality of your hands?**
 - a. I handle all objects easily and successfully. I may have some difficulties in activities that require great speed or/and accuracy. However, these difficulties do not restrict my independence in my daily activities at all.
9. **You move alone or with the help of an attendant?** Alone
10. **How often do you move alone?** Always
11. **How would you describe your commute?**
 - c. Most of the time, I need walking aids to be able to walk anywhere. Usually, I need the assistance of another person or I need specialized equipment to get up from the floor, from the bed, or from the chair. When climbing stairs, I usually need assistance or at least supervision from someone else. I need a wheelchair for outdoor environments.
12. **Do you use assistive technology?** Yes
13. **If yes, which means of assistive technology?** Car, three-wheeled wheelchair.
14. **What kind of educational material is more suitable for you?** Audio-visual (e.g., video)
15. **Do you use any kind of accessible educational material?** No
16. **If yes, what kind of it?** None

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		Few problems in daily life. Sometimes places are technically accessible but discriminatory (e.g., stairlifts). There are non-accessible places (restaurants, museums). Accessible elevators and restrooms are not always marked on maps.	
Mobility with the means of transportation		Public transport, buses, and urban buses are fine, trams not so much. Metro is very good (if elevators work). Good support for traveling by train.	
Communication with and services of the public and private sectors		Public offices usually accessible, but sometimes elevators or stairlifts are broken.	
Web accessibility		Public services are not always accessible (e.g. police station in his town), but they help find a solution.	
Digital accessible transformation			
E-commerce		He/she likes to but in shops, but trying on clothes is not easy, so e-commerce is better.	
Digital documents and		No problems.	

services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)		
Digital customer communication	No problems.	
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	Can use ATMs.	
Digital libraries and repositories	No problems.	
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	No problems.	The Google Maps function "prefer accessible routes" is very useful (shows steps, differences in elevation, accessible transportation).
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	The university is very accessible. Newer classrooms are better. Some do not have suitable desk, but people help to find solutions. Elevators are always an issue.	
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	No problems.	

Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	No problems with services.	
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	Professors are generally accommodating.	
Accessibility in distance education/online learning	No problems.	
Employment Accessibility	No experience (student).	
Spatial/Physical Accessibility in the work place		
Accessible Services in the work place (e.g. hiring processes, communication with different sectors)		
In-service training and career up-skilling		
Assistive Technology in the work place and accessible material		
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments	Accessibility level depends on the country. In Italy, it's not always good (e.g., a ramp with a	

(museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	step in front of it); Austria and Germany are better.	
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	Historical buildings are more problematic.	
Accessibility in museum exhibits and works of art	Often, 30% of a museum is not accessible	He/she checks in advance.
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in tourism Services		
Accessibility in accommodation (hotel units, camps, camping)	Problems only in case of groups of people with wheelchairs.	
Accessibility in transportation	Trains in Italy are fine, but traveling from Italy to France in train is problematic. Traveling alone on Interrail would be a problem. He/she travels with friends. Paris public transportation is not very accessible. Planes are okay, airlines provide assistance, rest areas in airports; he/she can travel alone.	He/she needs to plan in advance to get tickets and request assistance.

Accessibility in sports & recreational facilities	<p>He/she practices sports: paracycling, gym, basketball.</p> <p>Wheelchair sports are great for meeting other people with disabilities (but it's difficult to move in a group due to hotel and facility limitations).</p> <p>His/her gym accessible with an old stairlift, but the staff helps: discomfort in new places.</p>	
Accessibility at beaches	<p>Beaches require a walkway to the sea, and there are only a few or poorly maintained ones; it's one of the places where he/she feels most uncomfortable and not independent.</p> <p>Liguria: few accessible beaches; in Calabria, all beaches are accessible.</p>	Thicker wheels, someone carrying (but still uncomfortable).
Accessible shows (theaters, cinemas, concerts...) & accessible movies	Cinemas are okay, theaters less so (small reserved area, often with limited view).	
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	<p>To exit the university dormitory, an elevator is needed; in case of emergency, he/she would have to wait for help or be carried out.</p> <p>Being shorter than others (on a wheelchair), people don't see you, so there's a risk in tight spaces.</p>	
Accessibility in Evacuation	No problems.	

Planning (e.g. accessible evacuation plan)		
Accessibility of emergency information (Multiple channels)	No problems.	

Italy – Mild intellectual disability, no 1

Demographic data

1. **Gender:** Female

2. **The place (country) of residence:** Italy

3. **The type of your disability** (official clinical diagnosis): Cognitive developmental deficit

4. **Level of intelligence** IQ: 70-85

5. **Other difficulties/disabilities** (difficulties in hearing, vision, movement etc): difficulties in vision

6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree): Tertiary level of education

7. **Do you use assistive technology?** Yes

8. **If yes, which means of assistive technology?** Screenreader

Do you find it difficult communicating with others? Sometimes

10. **Do you leave alone?** No, I leave with my parents

11. **You move alone or with the help of an attendant?** Sometimes alone and sometimes with help of an attendant

12. **How often do you move alone?** Sometimes

13. **Do you use a personal computer?** Yes

14. **If yes, how often do you use a PC?** More than 1 hour a day

15. **What kind of educational material is more suitable for you? (you can choose more than one answers)**

a. Text

X Visual

X Audio

d. Audio-visual (e.g., video)

16. **Do you use any kind of accessible educational material?** No

17. **If yes, what kind of it?**

Accessibility Area - Sub-areas	Problems/difficulties	Solutions
Core Accessibility		
Physical/Spatial Accessibility of indoor and outdoor spaces	No problems	
Mobility with the means of transportation	No problems	
Communication with and services of the public and private sectors	Sometimes I have trouble understanding what others are saying	My parents help me
Web Accessibility	Sometimes I have trouble understanding the navigation of a site	My parents help me
Digital accessible transformation		
E-commerce	I often can't buy things online	It would be useful to have easier procedures
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	Sometimes I have trouble understanding the meaning of a document	It would be useful to have more understandable documents
Digital customer communication	Sometimes I have trouble understanding what others are saying	My parents help me
Digital Banking (including ATMs/cash points and Interactive Teller Machines)	Sometimes I have trouble counting money	My parents help me

inside a bank)		
Digital libraries and repositories	No problems	
Digital devices and their software/apps (e.g. mobile phones, smart TVs, home appliances)	I have difficulty if I can't enlarge the screen	I use the screenreader
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	No problems	
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	I have difficulty understanding written texts	I use the screenreader
Accessibility to services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	I have difficulty understanding written texts	I use the screenreader
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	No problems	
Accessibility in distance education/online learning	I have trouble understanding what people are saying	Clear and simple language

Employment Accessibility		
Spatial/Physical Accessibility in the Workplace	No problems	
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)	No problems	
In-service training and career up-skilling	No problems	
Assistive Technology in the workplace and accessible material	No problems	
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards the main entrance)	No problems	
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services	No problems	

(physical and digital)		
Accessibility to museum exhibits and works of art	No problems	
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in Tourism Services	No problems	
Accessibility to accommodation (hotel units, camps, camping)	No problems	
Accessibility in transportation	No problems	
Accessibility in sports & recreational facilities	No problems	
Accessibility at beaches	No problems	
Accessible shows (theaters, cinemas, concerts...) & accessible movies	No problems	
<i>Accessibility in Security and Evacuation Situations</i>		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	No problems	
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	No problems	
Accessibility of emergency information (Multiple channels)	No problems	

Italy – Mild intellectual disability, no 2

Demographic data

1. **Gender:** Male
2. **The place (country) of residence:** Italy
3. **The type of your disability** (official clinical diagnosis): Cognitive developmental deficit
4. **Level of intelligence** IQ: 70-85
5. **Other difficulties/disabilities** (difficulties in hearing, vision, movement etc): difficulties in vision
6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree): Tertiary level of education
7. **Do you use assistive technology?** Yes
8. **If yes, which means of assistive technology?** Screenreader
- Do you find it difficult communicating with others?** Sometimes
10. **Do you leave alone?** No, I leave with my family (wife and sons)
11. **You move alone or with the help of an attendant?** Sometimes alone and sometimes with help of an attendant
12. **How often do you move alone?** Sometimes
13. **Do you use a personal computer?** Yes
14. **If yes, how often do you use a PC?** More than 1 hour a day
15. **What kind of educational material is more suitable for you? (you can choose more than one answers)**
 - a. Text
 - X Visual
 - X Audio
 - d. Audio-visual (e.g., video)
16. **Do you use any kind of accessible educational material?** No
18. **If yes, what kind of it?**

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial		No problems	

Accessibility of indoor and outdoor spaces		
Mobility with the means of transportation	No problems	
Communication with and services of the public and private sectors	No problems	
Web Accessibility	Sometimes I have trouble understanding the navigation of a site	
Digital accessible transformation		
E-commerce	I often can't buy things online	It would be useful to have easier procedures
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	Sometimes I have trouble understanding the meaning of a document	It would be useful to have more understandable documents
Digital customer communication	Sometimes I have trouble understanding what others are saying	I can use the screenreader
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	Sometimes I have trouble counting money	My parents help me
Digital libraries and repositories	No problems	
Digital devices and their software/apps (e.g. mobile phones, smart TVs, home appliances)	No problems	

<i>Educational Accessibility</i>		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	No problems	
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	I have difficulty understanding written texts	I can use the screenreader
Accessibility to services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	I have difficulty understanding written texts	I can use the screenreader
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	No problems	
Accessibility in distance education/online learning	I have trouble understanding what people are saying	Clear and simple language
<i>Employment Accessibility</i>		
Spatial/Physical Accessibility in the Workplace	No problems	
Accessible Services in the workplace (e.g. hiring	No problems	

processes, communication with different sectors)		
In-service training and career up-skilling	No problems	
Assistive Technology in the workplace and accessible material	No problems	
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards the main entrance)	No problems	
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	No problems	
Accessibility to museum exhibits and works of art	No problems	
Tourism (including recreation and sports) Accessibility		
Accessibility in Tourism Services	No problems	

Accessibility to accommodation (hotel units, camps, camping)	No problems	
Accessibility in transportation	No problems	
Accessibility in sports & recreational facilities	No problems	
Accessibility at beaches	No problems	
Accessible shows (theaters, cinemas, concerts...) & accessible movies	No problems	
<i>Accessibility in Security and Evacuation Situations</i>		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	No problems	
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	No problems	
Accessibility of emergency information (Multiple channels)	No problems	

Italy – High functioning Asperger's syndrome, no 1

Demographic data

1. **Gender:** Female

2. **The place (country) of residence:** Italy

3. **The type of your disability and the cause of it** (official clinical diagnosis): Autism Spectrum Disorder Level 1, without cognitive impairment

4. **Level of intelligence** d. IQ>85
5. **Other difficulties/disabilities:** None
6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree):
B.S. in Media Engineering
7. **Do you use assistive technology?** No
8. **If yes, which means of assistive technology?** None
9. **Do you find it difficult communicating with others?** Few times
10. **Do you use any kind of communication aid?** No
11. **If yes, which one?** None
12. **Do you leave alone?** No
13. **You move alone or with the help of an attendant?** Alone
14. **How often do you move alone?** Always
15. **Do you use a personal computer?** Yes
16. **If yes, how often do you use a PC?** More than 1 hour a day
17. **What kind of educational material is more suitable for you? (you can choose more than one answers)**
 - a. Text
 - d. Audio-visual (e.g., video) – classroom are very noisy, video-lectures are better
18. **Do you use any kind of accessible educational material?** No
19. **If yes, what kind of it?** None

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		Very sensory-sensitive, most places lack decompression spaces. Noisy ventilation systems are unbearable. Cannot stay in places with neon lights, flickering, and noise (e.g., hospitals, bowling alley).	Uses headphones and sunglasses. Uses small earbuds in situations where headphones can't be used, e.g., at work.
Mobility with the means of			

transportation		
Communication with and services of the public and private sectors		
Web accessibility	No problems	
Digital accessible transformation		
E-commerce		
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	Everything that is digitized is fine. Anything that is not digitized is an issue; the person is too fast for it.	
Digital customer communication		
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)		
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	Problem: aggressive notifications (email, etc.) are distracting.	Customize the level of notifications, with the ability to filter them.
Educational Accessibility		
Spatial Accessibility in educational units (public and private education,	As a student without a special needs certification (one and a half years): could not access	

primary, secondary and post-secondary education including tertiary)	<p>study rooms due to neurological problems, 17 exam failures.</p> <p>After a special needs certification: much better experience.</p> <p>Classrooms: video projection and microphone are important, need for electrical outlets, necessity to sit in the front row.</p> <p>Bullying episodes by classmates (because she asks many questions during lectures).</p>	
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	Too much theory in courses, need to show more examples	Virtual reality closely matches how his/her mental structure works, (high spatial perception). Research on how to teach abstract concepts with VR and gamification.
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	Interaction with the special needs office very useful and helpful.	
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)		
Accessibility in distance education/online learning		
Employment Accessibility		
Spatial/Physical	Works as a freelancer.	

Accessibility in the work place	Accessibility depending on the workplace (had bad and good experience). Needs a quiet work place: no calls Terrible work experience in Saudi Arabia.	
Accessible Services in the work place (e.g. hiring processes, communication with different sectors)	Interaction with clients is easy when in a suitable environment (no crowded places, no misogyny).	
In-service training and career up-skilling	Self-training, no safety training.	
Assistive Technology in the work place and accessible material		
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	No major issues, except in chaotic environments. Uses headphones. Prefers audiovisual and interactive content (not interested in text). Audio guides work very well.	A multisensory museum would be great.
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services		

(physical and digital)		
Accessibility in museum exhibits and works of art		
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in tourism Services	Online booking platforms are very good.	
Accessibility in accommodation (hotel units, camps, camping)	Noise issues (in hotel rooms, ships). No problems in camping.	
Accessibility in transportation	On planes, there is not a quiet zone (it is very stressful). He/she avoids long trips or changes (moving from place to place is stressful). Quiet zones in airports are an excellent solution. There are no earphones in vending machines.	Headphones used in construction sites, blankets.
Accessibility in sports & recreational facilities	In the gym he/she always wears headphones, and if it's crowded it's a problem. Needs to wash often, paranoia issues.	
Accessibility at beaches	Avoids going to the beach in August, chooses uncrowded places. Bothered by saltwater.	
Accessible shows (theaters, cinemas, concerts...) & accessible movies	Cinema is a problem, had issues with overstimulation.	

Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	Good listening skills, knows how to react in emergency situations.	Graphical to-do list to follow in case of emergency
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)		
Accessibility of emergency information (Multiple channels)	If a safety alarm goes on, it takes hours to recover.	

Italy – High functioning Asperger's syndrome, no 2

Demographic data

1. **Gender:** Male
2. **The place (country) of residence:** Italy
3. **The type of your disability and the cause of it** (official clinical diagnosis): Autism Spectrum Disorder Level 1 (DSM-5; Asperger's Syndrome DSM-IV-TR)
4. **Level of intelligence** IQ>85
5. **Other difficulties/disabilities:** None
6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree):
B.S. in Architecture
7. **Do you use assistive technology?** No
8. **If yes, which means of assistive technology?** None
9. **Do you find it difficult communicating with others?** Sometimes
10. **Do you use any kind of communication aid?** No
11. **If yes, which one?** None
12. **Do you leave alone?** No
13. **You move alone or with the help of an attendant?** Alone
14. **How often do you move alone?** Always
15. **Do you use a personal computer?** Yes
16. **If yes, how often do you use a PC?** More than 1 hour a day
17. **What kind of educational material is more suitable for you? (you can choose more**

than one answers) Audio – records everything

18. Do you use any kind of accessible educational material? No

20. If yes, what kind of it? None

Accessibility Area - Sub-areas	Problems/difficulties	Solutions
Core Accessibility		
Physical/Spatial Accessibility of indoor and outdoor spaces	No problems.	
Mobility with the means of transportation	Metro is efficient. Issues with paying for parking when driving.	
Communication with and services of the public and private sectors		
Web accessibility		
Digital accessible transformation	Positive about everything that can be done online. Technology is okay if it speeds up processes rather than just replacing them.	
E-commerce	Okay with mobile payments. Prefers to go to shops so he/she doesn't have to wait for things to be delivered.	
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government	Finds using SPID (Public Digital Identity System) complicated. Finds it easier to use services in person rather than online.	

sites/applications)		
Digital customer communication		
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)		
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)		
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	<p>Never had accessibility issues with spaces, easy to orient himself/herself.</p> <p>Always attends in-person classes, no problem.</p>	
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	<p>He/she has a tutor.</p> <p>Prefers to use books rather than slides (too confusing) or others' notes (difficult to read).</p> <p>Listens audio from self-recorded lectures.</p> <p>Takes notes on a PC.</p> <p>Video lectures are redundant compared to audio lectures, unless there are many images.</p> <p>Finds slides difficult to understand (they result from the professor's mental processing, which is different from his/her).</p>	

Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	Can't find information on the university's website. The Teaching Portal is very well done, notifications are good. Okay with communication with the administration, including the ticketing service.	
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	Course descriptions are too verbose. More difficult to understand the course program and exam methods than following the course or learning: hard to grasp, needs to interact verbally with people. He/she is very shy, asks questions privately after class: no problems with professors.	
Accessibility in distance education/online learning		
Employment Accessibility		
Spatial/Physical Accessibility in the work place		
Accessible Services in the work place (e.g. hiring processes, communication with different sectors)		
In-service training and career up-skilling	Internship experience: difficult communication. He/she needs clear communication.	

Assistive Technology in the work place and accessible material		
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)		
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art	Audio-guides are okay if there's a fixed path. Doesn't like QR codes. When he leaves home, he doesn't want to look at his phone anymore: small screen.	
Tourism (including recreation and sports) Accessibility		
Accessibility in tourism Services		
Accessibility in	No issues.	

accommodation (hotel units, camps, camping)		
Accessibility in transportation	No issues, except for air travel (he needs help).	
Accessibility in sports & recreational facilities		
Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible movies	Okay with cinema.	
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)		
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	No direct experience. Thinks he would manage, no problem with maps.	
Accessibility of emergency information (Multiple channels)		

Italy – Older people, no 1

Demographic data

1. **Gender:** Male

2. **The place (country) of residence:** Italy

3. **Do you face any kind of difficulties/disabilities:** Visual, hearing

4. **Do you face any kind of other difficulties/disabilities:**

5. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree):
master degree
6. **Do you use assistive technology?** No
7. **If yes, which means of assistive technology?**
8. **Do you leave alone?** No, I live with my wife
9. **You move alone or with the help of an attendant?** Alone
10. **How often do you move alone?** Most of the time
11. **Do you use a personal computer?** Yes
12. **If yes, how often do you use a PC?** More than 1 hour a day

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		No problems	
Mobility with the means of transportation		No problems	
Communication with and services of the public and private sectors		No problems	
Web Accessibility		I have difficulty if I can't enlarge the screen	I can use video magnifiers or magnifying glasses
Digital accessible transformation			
E-commerce		No problems	
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)		No problems	

Digital customer communication	No problems	
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	No problems	
Digital libraries and repositories	No problems	
Digital devices and their software/apps (e.g. mobile phones, smart TVs, home appliances)	I have difficulty if I can't enlarge the screen	I can use video magnifiers or magnifying glasses
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	No problems	
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	No problems	
Accessibility to services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	I have difficulty if I can't enlarge the screen	I can use video magnifiers or magnifying glasses
Accessibility in courses –	No problems	

modifications in teaching practices and tools (devices, software/apps)		
Accessibility in distance education/online learning	YES	Need for software tools used for distance learning to be accessible
Employment Accessibility		
Spatial/Physical Accessibility in the Workplace	No problems	
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)	I have difficulty if I can't enlarge the screen	I can use video magnifiers or magnifying glasses
In-service training and career up-skilling	No problems	
Assistive Technology in the workplace and accessible material	No problems	
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards the main	No problems	

entrance)		
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	I have difficulty if I can't enlarge the screen	I can use video magnifiers or magnifying glasses
Accessibility to museum exhibits and works of art	No problems	
Tourism (including recreation and sports) Accessibility		
Accessibility in Tourism Services	No problems	
Accessibility to accommodation (hotel units, camps, camping)	No problems	
Accessibility in transportation	No problems	
Accessibility in sports & recreational facilities	No problems	
Accessibility at beaches	No problems	
Accessible shows (theaters, cinemas, concerts...) & accessible movies	No problems	
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security	No problems	

systems in case of fire, earthquake, etc.)		
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	No problems	
Accessibility of emergency information (Multiple channels)	No problems	

5.7. Summary of interviews from Spain - List of accessibility problem areas and solutions

a. Core accessibility

Physical/Spatial accessibility of indoor and outdoor spaces

- **Problems/Difficulties:**

- Insufficient Visual Signage: Lack of visual signage on how to navigate sites.
- Frequent Breakdowns: Accessibility features like escalators and lifts frequently break down.
- Steep Stairs: Steep stairs pose a problem, especially in crowded areas.
- Dangerous Configurations: Stair-mounting platforms are often installed in dangerous configurations.
- Weight Capacity Issues: Some ramp platforms do not support the weight of electric wheelchairs.
- Lack of Benches: Absence of benches for resting, especially in areas with many slopes.
- Crowded Spaces: Difficulty maintaining stability in crowded spaces.
- Inaccessible Underground Areas: Certain underground areas, like ruins, are not accessible.
- Inadequate Adaptations in Hotels: Many hotels have inadequate adaptations, such as inaccessible bathrooms and doors.
- Old Buildings: Churches and other old buildings have serious accessibility problems.
- Inaccessible Public Housing: Public housing is not accessible to those who already own a house.
- Maintenance Issues: Poor maintenance of ramps, vehicles, elevators, and escalators.

- **Solutions:**

- Improved Signage: Install more visual signs to aid navigation.
- Frequent Maintenance: Regular maintenance of escalators and lifts.
- Handrails and Lifts: Install more handrails and lifts to assist with steep stairs.
- Consultation with Disabled Persons: Seek consultancy from disabled persons when making adaptations to avoid wrong or dangerous modifications.

- Stronger Ramp Platforms: Ensure ramp platforms can support the weight of electric wheelchairs.
- Benches for Resting: Add benches in areas with many slopes for resting.
- Safety Elements in Facilities: Integrate safety elements in facilities for people with reduced mobility.
- Accessible Underground Areas: Consider adding ramps or other solutions to make underground areas accessible.
- Hotel Adaptations: Ensure hotel adaptations include accessible bathrooms and doors.
- Creative Solutions for Old Buildings: Use imaginative solutions to ensure accessibility without spoiling the environment or architecture.
- Accessible Public Housing: Make public housing accessible to those who already own a house.
- Regular Maintenance: Ensure regular maintenance of accessibility features like ramps, vehicles, elevators, and escalators.

Mobility with means of transportation

- **Problems/Difficulties:**

- Frequent Breakdowns: Accessibility features like escalators and lifts frequently break down, slowing down mobility.
- Audible Signals: The audible signals of the metro are announced very close to the arrival of the metro, not giving enough time to react.
- Safety in Crowded Metro: In the metro, safety is a concern due to the lack of safety facilities, especially when it is crowded.
- Standing on Escalators: In the Madrid metro, people are encouraged to stand on the right side of the escalators, which does not consider those with limited strength on the left side.
- Lack of Elevators: Not all stations have elevators, which is essential for those with leg difficulties.
- Adapted Taxis: There are too few adapted taxis (eurotaxis) where one can climb from the back with a wheelchair.
- Information Accessibility: Difficulty in getting information from signs and panels, such as at bus stations.
- Next Stop Information: Difficulty knowing the next stop or where the call button is to get out at the next station.

- Air Travel Policies: Lack of common policies among airlines regarding access times to check-in and boarding, and the adaptation of wheelchairs to company regulations.
- Bus Ramps: Bus ramps for wheelchairs often do not work.
- Equilibrium Problems: Some individuals experience equilibrium problems on buses.
- Accessible Seats in Trains: The number of accessible seats in trains is too limited compared to the growing number of persons with reduced mobility.

- **Solutions:**

- Frequent Maintenance: Regular maintenance of escalators and lifts to ensure they are operational.
- Improved Audible Signals: Announce metro arrivals earlier to give enough time to react.
- Safety Elements in Facilities: Integrate safety elements in metro facilities to provide safety for people with reduced mobility.
- Awareness for Standing on Escalators: Raise awareness that people can stand on the stairs in a place that guarantees their safety.
- Install More Elevators: Ensure all stations have elevators to assist those with leg difficulties.
- Increase Adapted Taxis: Increase the number of adapted taxis (eurotaxis) available.
- Clear Information on Signs: Improve the clarity of information on signs and panels at bus stations.
- Frequent Announcements: Make clearer auditory announcements for the next station, but some minutes in advance.
- Unified Air Travel Policies: Establish common policies among airlines regarding access times to check-in and boarding, and ensure wheelchairs are adapted to company regulations.
- Functional Bus Ramps: Ensure bus ramps for wheelchairs are functional.
- Equilibrium Support: Provide support for individuals with equilibrium problems on buses.
- Increase Accessible Seats in Trains: Increase the number of accessible seats in trains to meet the growing demand.

Communication with public and private sectors

- **Problems/Difficulties:**

- Dependence on Parents: Some individuals have always dealt with communication issues with the help of their parents.
- Misunderstanding Disabilities: People with disabilities are often misunderstood, being considered “distracted” or unwilling to listen.
- Hospital Communication: In hospitals, patients may miss their turn because they cannot hear loudspeaker announcements.
- Need for Assistance: Some individuals need their spouse or another person to help with communication, such as at the doctor’s office.
- Difficulty in Telephone Communication: Individuals with disabilities may have difficulty being understood over the phone.
- Lack of Personal Attention: In private management, there is often no personal attention for employees, and extended opening hours are needed.
- Crowded Public Transport: Difficulty interacting with people in crowded public transport, such as asking for a seat or space to hold onto poles.
- Web Accessibility: Many barriers exist, such as small font sizes and poor screen contrast, making it difficult to access information online.
- Timed Interactions: Institutions often time interactions, making it difficult for individuals to type responses on their phones.
- Lack of Accessible Signage: Insufficient visual signage and audio aids in public spaces.

- **Solutions:**

- Easier Language: Use simpler language to make communication easier.
- Visual Signs: Add more visual signs to aid understanding.
- Face-to-Face Assistance: Provide face-to-face assistance to make communication easier.
- Alternative Media: Use alternative media such as video conferencing and other computer applications.
- Extended Opening Hours: Extend opening hours to provide more personal attention in private management.
- Clearer Web Design: Improve web accessibility by increasing font sizes and enhancing screen contrast.
- Clear and Concise Information: Provide clear and concise information on services, especially in tourist services.
- Accessible Signage: Install more visual and audio signage in public spaces to facilitate navigation and understanding.

- Support for Timed Interactions: Allow more time for interactions with institutions, especially when using digital communication methods.

Web accessibility

- **Problems/Difficulties:**

- Inaccessible Web Pages: Many web pages are not accessible.
- Small Font Sizes: Font sizes on many websites are still very small.
- Poor Screen Contrast: Insufficient visual contrast on screens.
- Expensive Assistive Tools: Magnifying glasses and other assistive tools are quite expensive.
- Difficulty Blocking Inappropriate Content: Difficulty blocking inappropriate content on computers, such as dating or erotic pages.
- Lack of Subtitles: Regular TV does not have subtitles, and subtitles in movies and TV are sometimes missing.
- Difficulty with New Apps: New apps and app-based accessible solutions are difficult to use for elderly persons.
- Unnecessary Aids: The market tends to sell many aids that are not really needed.
- Orientation Issues: Difficulty knowing what to do and getting oriented online.
- Reliance on Helpers: Need to rely a lot on helpers, caregivers, friends, and family to teach how to use devices and support when they don't work.

- **Solutions:**

- Braille and Screen Readers: Use of Braille bars and screen readers on PC/Laptop (JAWS) and VoiceOver on iOS phones.
- Audio Support: Audio helps in understanding and maintaining attention.
- Improved Web Design: Increase font sizes and enhance screen contrast.
- Blocking Tools: Develop better tools to block inappropriate content on computers.
- Subtitles: Ensure regular TV and movies have subtitles.
- Simplified Apps: Create simpler, more user-friendly apps for elderly persons.
- Clear Guidance: Provide clear guidance and support for using new technologies.
- Accessible E-books: Increase the availability of e-books and e-book readers.
- Plain Language: Use plain language to make web content more accessible.
- Visual and Audio Support: Use videos and visual support to aid understanding.

b. Digital accessible transformation

Digital documents

- **Problems/Difficulties:**

- Conversion for Accessibility: Books had to be converted into PDF format to use screen readers or Braille.
- Lack of Adaptations: There is a need to increase the integration of persons with disabilities and recognize that they all require adaptations.
- Difficulty with Paper Documents: Many documents are still on paper, making them inaccessible for those who rely on digital formats.
- Understanding Forms: Difficulty in understanding and filling out forms without assistance.
- Non-Intuitive Programs: Programs used for work are not very intuitive, requiring frequent resets or help.
- Voice Recognition Issues: Voice systems like Alexa do not recognize certain voices, making them unusable for some individuals.

- **Solutions:**

- Screen Readers and Braille: Use screen readers and Braille lines to make digital documents accessible.
- Adaptations for Disabilities: Increase the integration of persons with disabilities and ensure all necessary adaptations are made.
- Digital Conversion: Convert paper documents into digital formats to make them accessible.
- Simplified Forms: Create easy-to-understand and fill-out forms with clear instructions.
- Intuitive Programs: Develop more intuitive programs and provide training to use them effectively.
- Voice System Improvements: Improve voice recognition systems to accommodate a wider range of voices.

Digital services

- **Problems/Difficulties:**

- Difficulty with Digital Customer Communication: Some individuals do not use digital customer communication services.

- Preference for In-Person Banking: Preference for visiting the bank in person rather than using digital banking services.
- Difficulty Using New Apps: New apps and app-based accessible solutions are difficult to use for elderly persons.
- Unnecessary Aids: The market tends to sell many aids that are not really needed.
- Orientation Issues: Difficulty knowing what to do and getting oriented online.
- Reliance on Helpers: Need to rely a lot on helpers, caregivers, friends, and family to teach how to use devices and support when they don't work.
- Voice Recognition Issues: Voice systems like Alexa do not recognize certain voices, making them unusable for some individuals.
- Difficulty with Digital Forms: Difficulty in understanding and filling out digital forms without assistance.
- Timed Interactions: Institutions often time interactions, making it difficult for individuals to type responses on their phones.
- Entrance Barriers: Entrance doors to banks can be obstacles for wheelchair users.

- **Solutions:**

- Simplified Apps: Create simpler, more user-friendly apps for elderly persons.
- Clear Guidance and Support: Provide clear guidance and support for using new technologies.
- Accessible E-books: Increase the availability of e-books and e-book readers.
- Voice System Improvements: Improve voice recognition systems to accommodate a wider range of voices.
- Simplified Forms: Create easy-to-understand and fill-out forms with clear instructions.
- Support for Timed Interactions: Allow more time for interactions with institutions, especially when using digital communication methods.
- Automatic Doors: Install automatic doors for bank entrances to facilitate access for wheelchair users.

E-commerce

- **Problems/Difficulties:**

- Lack of Confidence in E-commerce: Some individuals do not trust e-commerce and prefer traditional shopping methods, especially those who are old-fashioned and prefer to go to physical stores
- Many web pages are not accessible, which can hinder the e-commerce experience for individuals with disabilities.
- The letters on many e-commerce websites are so small that it is difficult for some users to read them, making the process lengthy and challenging.

- **Solutions:**

- Explain the safe steps to follow for e-commerce, ensuring that websites are secure and protected against external attacks.
- Verify that e-commerce websites are authorized and certified, ensuring they are secure against identity theft and financial fraud.
- Increase font sizes on e-commerce websites to make them more readable.
- Enhance the accessibility of e-commerce web pages to ensure they are usable by individuals with disabilities.
-

Digital customer communication

This sections problem areas and solutions overlaps and are covered in **Communication with public and private sectors**.

Digital banking and payment

- **Problems/Difficulties:**

- High ATMs: Some ATMs are too high for wheelchair users.
- Preference for In-Person Banking: Some individuals prefer to visit the bank in person rather than using digital banking services.
- Entrance Barriers: Entrance doors to banks can be obstacles for wheelchair users.
- Lack of Understanding: Some individuals are not very fluent in digital banking and rely on others to inform them about their accounts.
- Complexity of Digital Procedures: Digital banking procedures can be complex, leading to a preference for in-person services or paper forms.

- **Solutions:**

- Lower ATMs: Ensure ATMs are at a height accessible to wheelchair users.
- Automatic Doors: Install automatic doors for bank entrances to facilitate access for wheelchair users.
- Simplified Digital Procedures: Simplify digital banking procedures to make them more user-friendly.
- In-Person Service Options: Provide the option for in-person services or paper forms for those who find digital procedures too complex.
- Improved Accessibility: Consider making digital banking more accessible for people with disabilities, such as those with visual impairments.

c. Educational accessibility

Spatial accessibility in educational units

- **Problems/Difficulties:**

- Lack of Elevators: Not all schools have elevators, which is essential for individuals with difficulty in walking.
- Crowded Spaces: Crowded spaces can make it difficult for individuals with balance or stability issues to navigate.
- Insufficient Visual Signage: There is insufficient visual signage on how to get around educational sites.
- Lack of Consideration for Cognitive and Sensory Disabilities: Cognitive and sensory disabilities are not yet fully considered in educational units.
- Architectural Barriers: Some progress has been made, but architectural barriers still exist.

- **Solutions:**

- Install Elevators and Handrails: Ensure that all educational units have elevators and handrails to aid individuals with mobility issues.
- Improve Visual Signage: Increase the number of signs to help individuals navigate educational sites more easily.
- Extend Arrival Margins: Extend the arrival margin to allow individuals with reduced mobility more time to navigate spaces.
- Consult with Disabled Persons: When making adaptations, always seek consultancy from disabled persons to avoid insufficient or dangerous modifications.

Accessibility in services provided by educational units:

- **Problems/Difficulties:**

- Lack of Accessible Training Courses: After a certain age, there are no training courses available for individuals with disabilities.
- No Accommodations for Disabilities: Educational institutions often do not make accommodations for students with disabilities, even when they have a disability certificate.
- Lack of Accessible Communication: Communication with administrative services and announcements by teaching and administrative staff are not always accessible.
- No Accessible Means for Hearing Impairments: Schools are not prepared to follow deaf students, and there are no accessible means for people with hearing impairments.
- Lack of Training for Teachers: Teachers often do not understand the needs of students with disabilities and are not trained to provide the necessary support.
- No Curricular Adaptations: Curricular adaptations are not allowed or provided to meet the specific needs of students with disabilities.

- **Solutions:**

- Offer Accessible Training Courses: Ensure that training courses are available and accessible to individuals with disabilities, regardless of age.
- Increase Teacher Awareness: Invest in teacher awareness and training to better support students with disabilities.
- Provide Accessible Training: Ensure that accessible training programs are available and that they meet the specific needs of individuals with disabilities.
- Make Accommodations for Disabilities: Educational institutions should make necessary accommodations for students with disabilities, including extended time for exams and other supports.
- Improve Communication Accessibility: Enhance the accessibility of communication with administrative services and announcements by teaching and administrative staff.
- Prepare Schools for Hearing Impairments: Schools should be equipped to follow and support deaf students, including providing accessible means for communication.
- Train Teachers: Invest in training for teachers to understand and support the needs of students with disabilities.

- Allow Curricular Adaptations: Adapt curricula to meet the specific needs of students with disabilities.

Accessibility in educational material

- **Problems/Difficulties:**

- Lack of Accessible Educational Material: Educational materials are not always provided in accessible formats, such as easy-to-read formats or with necessary adaptations.
- Lack of Motivating Content: The contents could be more motivating to keep the attention of students.
- Lack of Illustrative Examples: There is a need for more illustrative examples, especially those representing people with disabilities.
- Difficulty in Taking Notes: Students with hearing impairments have difficulty taking notes in time and miss many sentences from the teacher.
- No Accessible Formats: Educational materials are not always provided in accessible formats, such as easy-to-read formats or with necessary adaptations.
- Lack of Visual Material: There is a need for more visual material to aid understanding.
- Conversion of Books: Students had to convert books into PDF to use screen readers or Braille.
- No Permission to Record Lectures: Students were not given permission to record lectures, which would have provided better access to information.
- Reliance on Friends for Notes: Students with hearing impairments had to rely on friends to get notes.

- **Solutions:**

- Motivating Content: Create content that is more motivating to keep students' attention.
- Add Illustrative Examples: Include more illustrative examples in educational materials, especially those representing people with disabilities.
- Provide Accessible Formats: Ensure that educational materials are available in accessible formats, such as easy-to-read formats and with necessary adaptations.
- Use Visual Material: Incorporate more visual material to aid understanding.

- Permission to Record Lectures: Allow students to record lectures to provide better access to information.
- Provide Notes: Teachers should provide lecture notes or ask students to hand over their notes for photocopying.
- Use Assistive Technology: Use recorders, videos, tablets, and computers to make educational materials more accessible.
- Transcribe Books into Audio: Organizations like ONCE can transcribe university books into audio formats.

d. Employment accessibility

Spatial/Physical accessibility in the workplace

- **Problem areas:**

- Posture-Related Complications: Work would be complicated due to pain, especially because of posture issues.
- COVID Masks: COVID masks created a big issue because individuals with hearing impairments couldn't read lips.
- Lack of Empathy from Co-workers: Co-workers do not understand that they need to speak louder and articulate better to be understood.
- Colleagues do not empathize and do not make much effort to communicate effectively.
- Adaptation of Workplace and Bathroom: The workplace and bathroom had to be adapted to meet accessibility needs.

- **Solutions:**

- Adapt Workstations: Adapt the desk, chair, and workstation to meet the specific needs of individuals with disabilities.
- Improve Communication: Train co-workers to understand the communication needs of colleagues with hearing impairments and encourage empathy and effort in communication.
- Adapt Bathrooms: Ensure that bathrooms in the workplace are adapted to meet accessibility needs.
- Awareness and Training: Conduct training sessions to inform co-workers on how to deal and collaborate with colleagues with disabilities.

Assistive technology in the workplace

- **Problems areas:**

- High Cost of Hearing Aids: Hearing aids are extremely expensive, making them inaccessible for some individuals.
- Lack of Intuitive Programs: Programs and software used for work are not very intuitive, requiring individuals to reset or ask for help frequently.
- Difficulty with PowerPoint Materials: PowerPoint materials are difficult or impossible to render vocally for visually impaired individuals.
- Documents Still on Paper: Many documents are still on paper, which poses a challenge for visually impaired individuals.
- Voice Recognition Issues: Voice systems like Alexa do not recognize the voices of some individuals, making them unusable.

Solutions:

- Financial Support for Hearing Aids: Offer financial support or subsidies to make hearing aids more affordable.
- Training and Support for Programs: Provide training and support to help individuals use work programs and software more effectively.
- Digital Conversion of Documents: Convert paper documents to digital formats to make them accessible for visually impaired individuals.
- Improve Voice Recognition Systems: Enhance voice recognition systems to better recognize and respond to the voices of individuals with disabilities.
- Clear Explanation of Functions: Ensure that the functions of assistive technology are explained clearly and that individuals understand how to use them.

Accessible services in the workplace

• Problems areas:

- Preconceptions About Work Capabilities: There are preconceptions about the types of work a visually impaired person can do.
- Lack of Personal Attention in Private Management: In private management, there is no personal attention for employees, and it would be necessary to extend the opening hours to the public.
- Difficulty in Online Communication: Online communication can be challenging, causing nervousness and difficulty in understanding the conversation.

• Solutions:

- Adaptation and Willingness: Both sides (employers and employees) should be willing to adapt and find suitable tasks that the person can perform.

- Use of Alternative Media: Use alternative media such as video conferencing and other computer applications to facilitate communication.
- Training and Awareness: Conduct training sessions to inform co-workers on how to deal and collaborate with colleagues with disabilities, encouraging empathy and effective communication.
- Clear Explanation of Information: Explain information and responsibilities very well, several times, and in written form to ensure understanding.

e. Tourism and recreation accessibility

Accessibility in sports & recreational facilities

- **Problems/Difficulties:**

- Lack of Adaptation in Facilities: Very few sports and recreational facilities are adapted for people with disabilities.
- Overcrowding at Festivals: It is often difficult at festivals due to overcrowding.
- Lack of Rest Areas at Festivals: When individuals get tired, there are few rest areas available.
- Placement of Reduced Mobility Individuals in Stadiums: In stadiums, people with reduced mobility are often put in a corner where they cannot see the show.

- **Solutions:**

- Fitting Handrails: Install handrails in sports and recreational facilities to improve accessibility.
- Create Areas at Festivals for People with Reduced Mobility: Create designated areas at festivals for people with reduced mobility to ensure they have a good view and access to rest areas.
- Improve Quality of Existing Areas: Enhance the quality of existing areas for people with reduced mobility at festivals to ensure they are of high quality and meet their needs.

Accessibility in tourism services

- **Problems areas:**

- General Poor Accessibility: In general, accessibility in Spain for touristic venues of all kinds is very poor.
- Lack of Adapted Public Toilets: There is a lack of adapted public toilets in cities.

- Inaccessible Touristic Sites: Many touristic sites were found to be inaccessible for people with reduced mobility.
- Difficulty in Buying Tickets Online: In some cases, tickets for disabled persons must be bought at the counter and cannot be bought online.
- Lack of Information on Accessibility: It is not easy to understand the degree of accessibility of the service without sufficient information.
- Interaction Challenges: On a personal level, the interaction person-to-person can be difficult because it is not easy to understand the individual's voice.

- **Solutions:**

- Provide Clear and Concise Information: Clear and concise information on tourist services should be provided.
- Add Extra Information Online: Adding extra information such as photos and specific information on accessibility in the web information provided for services.
- Raise Awareness Among Tourism Sector: Raise awareness of accessibility among tour operators, hotels, and the tourism sector.
- Improve Accessibility Information: Accessibility information for tourist areas can be made available online.
- Ensure Compliance with Regulations: Ensure that the private and public sector complies with accessibility regulations.
- Provide Recommendations Based on Experience: Travel agencies can recommend services based on years of experience from other clients who have done similar trips.

Accessibility in transportation for tourism

- **Problems areas:**

- Frequent Breakdowns of Elevators/Escalators: Many elevators and escalators are broken, making it difficult to move or plan routes.
- Lack of Common Policies in Air Travel: It is difficult for air travel not to have common policies in all airlines regarding access times to check-in and boarding.
- Inconsistent Wheelchair Regulations: Wheelchairs must be adapted to the company's regulations, not the other way around, leading to many claims for not allowing access to passengers with wheelchairs.
- Insufficient Accessible Seats in Trains: The number of accessible seats in trains is too limited compared to the growing number of persons with reduced mobility.

- Broken Bus Ramps: Bus ramps for wheelchairs often do not work.
- Lack of Adapted Taxis: There are too few adapted taxis (eurotaxis) where you can climb from the back with your wheelchair.
- Difficulty in Getting Information from Signs and Panels: It is difficult to get information from signs and panels, such as at a bus station.
- Announcements in Planes: Announcements in planes cannot be heard or understood.
- No Shuttles in Airports: In airports, there are no shuttles, and passengers arrive late at the gate due to slow movements or wheelchair paths.
- Digital Taxi Applications: A digital application for ordering a taxi does not have the option for ordering an adapted car.

- **Solutions:**

- Frequent Maintenance: Frequent maintenance of escalators and lifts to ensure they are operational.
- Clear and Agreed Information for Air Travel: Clear and agreed information about the requirements of the seats for flights should be provided by the companies, not depending on the arbitrariness of the commander.
- Increase Accessible Seats in Trains: Increase the number of accessible seats in trains to accommodate the growing number of persons with reduced mobility.
- Improve Bus Ramp Functionality: Ensure bus ramps for wheelchairs are functional and well-maintained.
- Increase Adapted Taxis: Increase the number of adapted taxis (eurotaxis) available.
- Improve Signage and Information Panels: Improve the clarity and accessibility of information from signs and panels at transportation hubs.
- Improve Plane Announcements: Make clearer auditory announcements for the next station or stop, but some minutes in advance.
- Provide Airport Shuttles: Provide shuttles in airports to assist passengers with reduced mobility.
- Update Digital Taxi Applications: Update digital applications for ordering taxis to include options for adapted cars.

Events and shows

- **Problems/Difficulties:**

- Placement of Reduced Mobility Individuals in Stadiums: In stadiums, people with reduced mobility are often put in a corner where they cannot see the show.
- Overcrowding at Festivals: It is often difficult at festivals due to overcrowding.
- Lack of Rest Areas at Festivals: When individuals get tired, there are few rest areas available.
- Accessibility in Nightclubs and Restaurants: Many nightclubs and restaurants with shows do not comply with accessibility regulations, making it difficult for people with disabilities to access these venues.
- Accessible Seating in Theaters and Cinemas: In theaters, the accessible sites are often in aisles, separated from their peers.
- In cinemas, accessible seating is often placed at the front, which may not be the preferred location for viewing.
- Auditory Accessibility in Theaters and Cinemas: Regular TV and movies often lack subtitles, making it difficult for people with hearing impairments to follow along.
- In theaters and cinemas, there is often no accessibility for hearing the dialogues, requiring individuals to ask friends for explanations.

- **Solutions:**

- Create Areas at Festivals for People with Reduced Mobility: Create designated areas at festivals for people with reduced mobility to ensure they have a good view and access to rest areas.
- Improve Quality of Existing Areas: Enhance the quality of existing areas for people with reduced mobility at festivals to ensure they are of high quality and meet their needs.
- Compliance with Accessibility Regulations: Ensure that nightclubs and restaurants comply with accessibility regulations to make them accessible for people with disabilities.
- Better Placement of Accessible Seating: In theaters and cinemas, provide accessible seating options in various locations, not just at the front or in aisles, to allow individuals to choose their preferred viewing spot.
- Provide Subtitles and Auditory Support: Regular TV and movies should include subtitles to improve accessibility for people with hearing impairments.
- In theaters and cinemas, provide auditory support such as hearing loops or captioning devices to help individuals follow the dialogues.

f. Cultural heritage accessibility

- **Problems/Difficulties:**

- Some places, such as churches, are very old and have serious accessibility problems.
- Not many museums have elevators.
- In heritage sites, accessibility is not guaranteed due to other heritage laws that do not allow modifications.
- In some museums, there are no Braille signs for people with visual disabilities.
- Many museums do not have signs, labels, subtitles, or pictograms, making it difficult for people with disabilities to understand the exhibits.
- Wheelchair users are often put in places with bad visibility or poor sound quality.
- Some underground areas in cultural centers cannot be accessed due to the nature of the site (e.g., ruins).
- People with disabilities often have to go with a companion because they are not provided with personal assistants from the museum itself.
- Many descriptions in cultural sites cannot be read, requiring a friend or family member to assist.
- Audio guides can be very long and not always helpful.

- **Solutions:**

- Install more elevators in museums and cultural heritage sites.
- Ensure that accessibility regulations are complied with in cultural heritage sites.
- Use virtual reality glasses to help people experience inaccessible areas.
- Provide scaled models that can be touched for a better understanding of the exhibits.
- Be more imaginative in solutions that ensure accessibility without spoiling the environment or architecture of the building.
- Museums should provide personal assistants to guide disabled visitors, allowing them to enjoy the exhibits independently.
- Use Braille signs and pictograms in museums to help people with visual disabilities.
- Ensure that audio guides are concise and helpful.
- Raise awareness and train the staff of cultural heritage sites to better assist visitors with disabilities.

g. Security and emergency situations

- **Problems/Difficulties:**

- Evacuation plans do not differentiate between people with reduced mobility and people with disabilities.
- In some places, there is no provision for how to get down the stairs in case of fire if you cannot use the lift.
- Normally, exit signs or guiding lines are a visual-only signal, which is not helpful for everyone.
- In Mexico, people with disabilities are told to stay until the last one by protocol so that others can leave first.
- In some places, the public address system does not work well during emergencies.
- There are many messages given in many contexts (e.g., sports), but very few in emergency situations (e.g., a fire in a soccer game).
- There is a lack of regulation and awareness regarding the needs of people with disabilities in emergency situations.
- People are not very willing to open doors or assist in emergencies, making evacuations complicated.
- Teachers and staff often do not know what to do with cases involving disabilities.
- People are not aware of the options for evacuation in case of fire.
- Emergency information is not always provided through multiple channels.
- In Spain, there is no phone number provided for emergencies that people with disabilities can call.

- **Solutions:**

- Emergency plans should address the cases of persons with disabilities and persons with reduced mobility separately.
- Ensure that evacuation plans include provisions for getting down the stairs in case of fire if the lift cannot be used.
- Use multiple channels to provide emergency information, ensuring it is accessible to everyone.
- Provide clear and concise information on how to evacuate in case of fire, especially for people with mobility difficulties who cannot use the lift.
- Conduct education and awareness campaigns to ensure people grow up with an understanding of absolute inclusion.
- Train staff and people related to services on how to assist individuals with disabilities during emergencies.

- Invest in constant training of all situations with all kinds of disabled persons to ensure preparedness.
- Ensure that public address systems work well during emergencies.
- Provide emergency information through multiple channels to reach everyone.
- In the workplace, provide detailed explanations and templates on how to handle emergencies.

5.8. Interviews (Spain)

Spain – Specific learning disabilities no 1

Demographic data

1. **Gender:** Male
2. **The place (country) of residence:** España
3. **The type of learning disabilities** ADD.
4. **Do you face other difficulties apart from the SLD per se?**
Asperger's Syndrome
5. **The age of diagnosis of learning disabilities.** 40
6. **Age.** 42
7. **Educational level** (e.g., lower secondary school). Higher vocational training course.
8. **Do you use assistive technology?** No
9. **If yes, which means of assistive technology?** None
10. **What kind of educational material is more suitable for you? (you can choose more than one answers):** Audio-visual (e.g., video)
11. **Do you use any kind of accessible educational material?** No
12. **If yes, what kind of it?**

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		No problems	Not applicable
Mobility with the means of transportation		No problems	Not applicable
Communication with and services of the public and private sectors		Maybe yes, probably yes. Because I've always dealt with these issues with my parents	I know there is, because there is a solution for everything, but right now I don't. Easier language make communication easier.
Web accessibility		No problem.	Videos and visual support

	He is concerned about the financial side of accessing the internet because he is not financially independent.	
Digital accessible transformation		
E-commerce	E-commerce doesn't give me confidence. I'm not a fan of e-commerce, it's just that I'm old-fashioned, I like to go to stores and stuff. I would have to really need something that I might not be able to find here in town, to use e-commerce	Not applicable
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	No problem	Not applicable
Digital customer communication	I do not use it	Not applicable
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	I do have it, the thing is that as I told you I'm also kind of... I'm old-fashioned and I prefer to go to the office	
Digital libraries and repositories	I do not use it	
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	No problems, I use the mobile phone, then we also have digital TV	Not applicable

<i>Educational Accessibility</i>		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	No problem	I do not use it
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	The contents could be more motivating to keep my attention.	I would need more illustrative examples and in those examples people with disabilities are represented.
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	Accessible material available. I think... it's not enough, but it covers the needs that they think are necessary to meet the objectives of the course we are taking. He has been offered job search services	Maybe add more illustrative examples
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	I am the only boy in the class and... and, before I remember that in these courses, I was the quietest and now, I make jokes and they laugh at what I do... and so on... and that, with the course I am taking now I am calm, my classmates treat me well, the teacher too, with that	Maybe add more illustrative examples
Accessibility in distance education/online learning	No problems, but I found it cold because I'm used to doing it face-to-face, online when you're alone or in a room with	Maybe add more illustrative examples. Using the mobile phone

	<p>other people and that, well, it seems to me like what I've told you, a bit cold, a bit boring.</p> <p>He does not have a computer suitable for accessing online training.</p>	
Employment Accessibility	Used a job placement agency for internship	
Spatial/Physical Accessibility in the work place	No problem	Not applicable
Accessible Services in the work place (e.g. hiring processes, communication with different sectors)	<p>It hasn't been difficult for me because I am registered with several job agencies and all that, if it's not in one, they send me offers in another.</p> <p>Online interviews make you nervous. In online communication he goes blank and finds it difficult to understand the conversation.</p>	They should explain the information and responsibilities to me very well, several times, and in written form
In-service training and career up-skilling	Yes, continuous training is good	I would need job training aligned with the current offerings.
Assistive Technology in the work place and accessible material	He needs to have its functions explained clearly and be able to understand it.	Support person
Cultural Heritage Accessibility	No problems	

Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	No problem	Maybe virtual reality glasses could help. Promoting playful activities in heritage is easier for him to understand.
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	It is not interesting to him	
Accessibility in museum exhibits and works of art	It is not interesting to him	
<i>Tourism (including recreation and sports) Accessibility</i>	The more information he can access, the more interesting the tourist services are to him.	
Accessibility in tourism Services	The more information and explanations I have to use tourist services, the easier it is for me. I prefer to go to the travel agency because they can recommend me so much based on the years of experience, they have from other clients who have done the trip I want to do	The accessibility of services for people with disabilities should be improved. Clear and concise information on tourist services should be provided.

Accessibility in accommodation (hotel units, camps, camping)	<p>very beautiful, but maybe they are not prepared for people with disabilities, especially for people with reduced mobility who use wheelchairs.</p> <p>it has actually been difficult for me to understand the instructions even though they were clear and simple</p>	Clearer and more specific information
Accessibility in transportation	No problems	Not applicable
Accessibility in sports & recreational facilities	No problem	Not applicable
Accessibility at beaches	No problem	Not applicable
Accessible shows (theaters, cinemas, concerts...) & accessible movies	<p>It's not that I go very often. I would like to go more, especially to the cinema because there are certain movies, certain genres of movies that I do like, but between the fact that I'm bad at organizing myself, because I'm really bad at organizing my schedule and all that, and many times because I can't get together with friends or family...</p>	The content has to motivate attention and use content that is easy to attend to.
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	In some places I try to know them, especially when I go out with friends for nightlife.	Not applicable

Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	they have explained it to me several times and all that, the thing is that... as you don't practice it in a way... you don't do drills or anything, so I'm afraid that the day something happens, there will be confusion in the groups, in the crowd of people, the exits will be blocked... and a misfortune will happen even knowing the... the protocol of... what to do	Not applicable
Accessibility of emergency information (Multiple channels)	We have never had to experience it as a drill, nor in real life.	Not applicable

Spain – Specific learning disabilities, no 2

Demographic data

1. **Gender:** Male

2. **The place (country) of residence:** Spain

3. **The type of learning disabilities** Hyperactivity and attention deficit

4. **Do you face other difficulties apart from the SLD per se?** Social skills , Klinefelter syndrome.

5. **The age of diagnosis of learning disabilities.** 14 years old

6. **Age.** 39

7. **Educational level** (e.g., lower secondary school). Master's degree.

8. **Do you use assistive technology?** No

9. **If yes, which means of assistive technology?**

10. **What kind of educational material is more suitable for you? (you can choose more than one answers):** Visual

11. **Do you use any kind of accessible educational material?** No

12. **If yes, what kind of it?**

Accessibility	Area	Problems/difficulties	Solutions
- Sub-areas			

Core Accessibility		
Physical/Spatial Accessibility of indoor and outdoor spaces	No problems	Visual and audio signals would facilitate their access.
Mobility with the means of transportation	No problems	Not applicable
Communication with and services of the public and private sectors	No problems	Not applicable
Web accessibility	No problems	Audio helps with understanding and attention retention
Digital accessible transformation		
E-commerce	No problems	
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)		
Digital customer communication		
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)		
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV,		

home appliances)		
<i>Educational Accessibility</i>		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	No problems	
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology		
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	Personally, I have no problems	Programs adapted to people with disabilities and their specific needs.

Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	<p>Problems: The way of evaluation, the type of courses, the interaction you have with my classmates.</p> <p>The teachers have been unsympathetic in my school days. And... I suffered bullying for fourteen years in school. Now it is true that that has improved. That we are in a different time, okay? But in my time, which was thirty-something years ago, it was not even close to what it is now. And that has been something I have suffered a lot from.</p> <p>I have a master because I studied it in Switzerland. And Switzerland has nothing to do with us, with Spain. They are worlds apart.</p>	More visual material
Accessibility in distance education/online learning		
Employment Accessibility		
Spatial/Physical Accessibility in the work place		
Accessible Services in the work place (e.g. hiring processes, communication with different sectors)	<p>I am ok, but I'm not the example for this. I mean, I'm the president of the association, okay? But I'm one of many, okay? That's not the reality. I mean, I come and speak for the generality. In Klinefelter</p>	<p>More tax deductions for hiring people with disabilities. Expand the quotas for people with disabilities that currently exist.</p>

	syndrome, employment is almost nil. I mean, I've been very lucky to be born into the family I was born into and into what is the reality.	
In-service training and career up-skilling		
Assistive Technology in the work place and accessible material		
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	No problem	
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art		

<i>Tourism (including recreation and sports) Accessibility</i>	When you have a disability above 60 or 70%, they don't let you get your driver's license. I have a lot of people in the association whose dream is to drive a car, because we are men and you have to understand us.	
Accessibility in tourism Services		
Accessibility in accommodation (hotel units, camps, camping)		
Accessibility in transportation		
Accessibility in sports & recreational facilities		
Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible movies	There's a big problem there, in partying. That is, there are many nightclubs and restaurants with shows that do not comply, and we all know it, right? They do not comply with regulations, for whatever reason. But many people can't. I have disabled friends who couldn't get into many nightclubs in Spain. Because they were either downstairs or upstairs and there was no elevator.	
<i>Accessibility in Security and Evacuation Situations</i>		

Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	No problems	
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)		
Accessibility of emergency information (Multiple channels)		

Spain – Visual impairments, no 1

Demographic data

1. **Gender:** Male
2. **The place (country) of residence:** Spain
3. **The type of your disability and the cause of it** (official clinical diagnosis): total blindness due to being born premature at six months
4. **The age at onset of visual impairments:** Since born
5. **Age:** 36
6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree): Degree in Law
7. **Severity of disability** Blindness
8. **What means do you use to read?** Braille or screen reader
9. **Visual acuity of the left eye** Total blindness, loss of light perception
10. **Visual acuity of the right eye** Total blindness, loss of light perception
11. **Visual field** No visual field
12. **You move alone or with the help of an attendant?** Alone
Depending on the situation, but in general I move around on my own. I use a mobility aid, in this case a cane, which is what I use. I am not a guide dog user, but I usually manage quite well.
13. **How often do you move alone?** Most of the time
13. **Do you use assistive technology?** Yes
14. **If yes, which means of assistive technology?** VoiceOver, Google maps (mainstream technology)

15. **What kind of educational material is more suitable for you? (*you can choose more than one answer*)**

Audio

Braille

16. **Do you use any kind of accessible educational material? Yes**

17. **If yes, what kind of it?** Especially when I was a child, I learned Braille. I read in Braille and today, for example, you can use what is called a Braille line, which is a device that connects to the computer and also transforms what appears on the monitor into Braille, you can also use it. But I mainly use auditory, through the screen reader.

A computer, a laptop and the screen reader, which is what ultimately helps me both on the laptop and on the phone. On the laptop, the screen reader I use is iOS and, on the phone, which is iOS, the operating system it uses, what is called VoiceOver, which is a program that iOS already has installed as such and that reads the screen to you, verbalizes everything that appears on the screen.

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces			
Mobility with the means of transportation			
Communication with and services of the public and private sectors			
Web Accessibility		Many web pages are not accessible	Braille bar Screen reader on PC/Laptop (JAWS) VoiceOver on iOS phone
Digital accessible transformation			
E-commerce		Many web pages are not accessible	

Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)		
Digital customer communication		
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)		
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phones, smart TVs, home appliances)		Increase of availability of e-books and e-book readers
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)		
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	Had to convert the books in PDF to use screen reader or Braille	Need to increase the integration of persons with disability and recognize that they all require “adaptations”

Accessibility to services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)		
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	Inability to see the blackboard, or visual content (e.g. formulas) non explained in a way that it can be understood	In School, Support of an additional teacher, thanks to the membership in ONCE. In University, often agreed to take oral exams. ONCE was also able to transcribe university books into Audio.
Accessibility in distance education/online learning		
Employment Accessibility		
Spatial/Physical Accessibility in the Workplace		
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)	Some pre-conceptions about the kind of works a visually impaired person can do	Willingness by both sides to adapt and find what the person can do
In-service training and career up-skilling		

Assistive Technology in the workplace and accessible material	PowerPoint materials are difficult or impossible to render vocally Many documents are still on paper.	After installing a screen reader, he could perform his work normally
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards the main entrance)		
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	Most sites do not offer an accessible option	Sometimes they have "Navi Lens" Sometimes scaled models that can be touched
Accessibility to museum exhibits and works of art		
Tourism (including recreation and sports) Accessibility		
Accessibility in Tourism Services	Many cities do not have auditory traffic lights	

Accessibility to accommodation (hotel units, camps, camping)		
Accessibility in transportation	<p>Difficult to get information from signs and panels (e.g. at a bus station).</p> <p>Difficult to know what is the next stop, or where is the call button to get out at next station.</p>	<p>Uses a cane.</p> <p>Many improvements currently in transportation services (e.g. in trains there are people who accompany you to the tracks or to the desired exit).</p>
Accessibility in sports & recreational facilities		
Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible movies		Streaming platforms include an audio track describing the situation
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)		
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	Normally very poor. Exit signs or guiding lines are a visual-only signal.	Needs training, exercise drills, since the school times.
Accessibility of emergency information (Multiple channels)		

Spain – Visual impairments, no 2

Demographic data

1. **Gender:** Female
2. **The place (country) of residence:** Spain
3. **The type of your disability and the cause of it** (official clinical diagnosis): My disability is mainly motor, visual and cognitive problems, Dual vision, astigmatism, and myopia
4. **The age at onset of visual impairments:** 9 years
5. **Age:** 24
6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree): Studying at the university (primary education degree)
7. **Severity of disability** Moderate visual impairments
8. **What means do you use to read?** Large prints or magnifiers
9. **Visual acuity of the left eye** (not replied)
10. **Visual acuity of the right eye** (not replied)
11. **Visual field** (not replied)
12. **You move alone or with the help of an attendant?** (not replied)
13. **How often do you move alone?** (not replied)
13. **Do you use assistive technology?** Yes
14. **If yes, which means of assistive technology?** To read I use auditory support, that is, a program that reads me what is written to support the reading that I am doing at the same time, because I have the problem of double vision and apart from that I always ask for the letters of everything to be enlarged, the texts and everything, and if possible, with double spacing.
15. **What kind of educational material is more suitable for you? (you can choose more than one answer)**

Text

Audio

Audio-visual (e.g., video)

16. **Do you use any kind of accessible educational material?** Yes
17. **If yes, what kind of it?** Now many people at university take their notes on computers and that makes it much easier, but the ideal would be for the teachers to give you the notes in some way, at university you have these Moodle-type platforms where they can upload their notes and explanations. Sometimes they have also let me record the classes in audio or video when they have been online classes and then I can watch them again and take my own notes, pausing the class whenever I see fit, but I don't know what else to say.

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		There is insufficient visual signage on how to get around the sites.	Putting up more signs
Mobility with the means of transportation		Despite the accessibility in my city, frequent breakdowns slow down mobility. The audible signals of the metro are said very close to the arrival of the metro and do not give time to react.	Frequent maintenance of escalators and lifts. Signal train and metro departures more frequently.
Communication with and services of the public and private sectors			
Web Accessibility			Screen reader Magnifying glass (quite expensive)
Digital accessible transformation			
E-commerce			
Digital documents and services of the public and private sectors (e.g. e- forms, informational material, tax or government sites/applications)			
Digital customer communication			
Digital Banking (including ATMs/cash points and Interactive Teller			

Machines inside a bank)		
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phones, smart TVs, home appliances)		
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	No problem detected	Not specified
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	They have not allowed her to make curricular adaptations adapted to her needs.	Adapting curricula to the specific needs of persons with disabilities
Accessibility to services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)		

Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	Difficulty with teachers to understand her needs	Require teachers to give lecture notes, or asking students to hand over they notes and photocopy them (now with computers it's much easier). Recording lectures and listening to study.
Accessibility in distance education/online learning		
Employment Accessibility		
Spatial/Physical Accessibility in the Workplace	She has not worked, she does not know this field well.	
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)	She has not worked, she does not know this field well.	
In-service training and career up-skilling	She has not worked, she does not know this field well.	
Assistive Technology in the workplace and accessible material	She has not worked, she does not know this field well.	
Cultural Heritage Accessibility		

Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards the main entrance)	No problem. In Madrid is very good	Need some chairs/benches to rest in museums or cultural places
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	Many descriptions cannot be read (need friend or family to read for her)	Audio guides may help, but sometimes are very long
Accessibility to museum exhibits and works of art	It is not easy to read the posters on the wall.	Faithful audio guides
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in Tourism Services	It is not easy to understand the degree of accessibility of the service without sufficient information.	Adding extra information such as photos, and specific information on accessibility, in the web information provided for services
Accessibility to accommodation (hotel units, camps, camping)		

Accessibility in transportation	Generally well accessible in Madrid	<p>Many elevators/escalators are broken, difficult to move or to plan your route</p> <p>Increase the sign on board of the train to tell the direction and the next station.</p> <p>Make clearer auditory announcements for the next station, but some minutes in advance.</p>
Accessibility in sports & recreational facilities	Very few are adapted	Fitting handrails
Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible movies	Cannot go unaided into dark places	
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	<p>There are improvements, but they are not always taken into account.</p> <p>Not aware of the options for evacuation in case of fire.</p>	Information on how to evacuate in case of fire, for people with mobility difficulties who cannot use the lift.
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)		
Accessibility of emergency information (Multiple channels)		

Spain – Deaf/hard of hearing, no 1

Demographic data

1. **Gender:** Female
2. **The place (country) of residence:** Spain
3. **The type of your hearing loss and the cause of it** (official clinical diagnosis): Congenital and atrophy of the auditory nerve in the right ear since birth
4. **The age at onset of hearing loss:** Right ear since birth, left ear progressive since 13 years of age
5. **Age:** 46
6. **Educational level** (e.g., lower secondary school, tertiary level of education): University Psychology (Specialty H.R) and MBA People Analytics and Digital Management Human Resources (IA)
7. **Do you have bilateral hearing loss?** Yes
8. **Degrees of hearing loss in left ear** Slight hearing loss (25-40 dB)
9. **Degrees of hearing loss in right ear** No hearing
10. **Level of difficulty in understanding the oral language (through lip reading)** Easy. Lip reading
11. **Do you read and understand the written form of the official language of your country?** Yes
12. **Level of difficulty in reading and understanding the written language** Very Easy
13. **Do you know sign language?** No
14. **Do you use assistive technology?** Yes
15. **If yes, which means of assistive technology?** Hearing aid
16. **What kind of educational material is more suitable for you? (you can choose more than one answers)** Audio-visual (e.g., video)
17. **Do you use any kind of accessible educational material?** No
18. **If yes, what kind of it?**

Accessibility	Area	Problems/difficulties	Solutions
- Sub-areas			
Core Accessibility			

Physical/Spatial Accessibility of indoor and outdoor spaces	<p>Hearing with only one hear prevents you from understanding the direction the sound are coming from.</p> <p>For many years she didn't wear a hearing aid.</p> <p>Many people are not wearing aids or implants because they are expensive.</p>	At the age of 17 she got a hearing aid, and daily life got much better.
Mobility with the means of transportation		
Communication with and services of the public and private sectors	<p>She was considered "distracted", or she didn't want to listen, because they didn't understand her disability.</p> <p>In Hospitals, they call you at the loudspeaker, and you may miss your turn.</p>	<p>Hearing aid.</p> <p>Add more visual signs.</p>
Web Accessibility		
Digital accessible transformation		
E-commerce		
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)		
Digital customer communication		

Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)		
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phones, smart TVs, home appliances)	<p>New apps and app-based accessible solutions are difficult to use for elderly persons.</p> <p>The market tends to sell you many things or aids that you don't really need.</p> <p>It's very difficult for people to know what to do and to get oriented.</p>	Need to rely a lot on helpers, caregivers, friend and family to teach how to use devices, and also to support when they don't work for some reason.
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	When teachers turn around, she can't lip read.	Needs to sit in the front row to be able to read lips
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	Couldn't take notes in time, she missed many sentences from the teacher	She relied on getting notes from her friends

Accessibility to services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	Children are also impaired; they go to public school	Rely on cochlear implants for hearing in class
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	There are no accessible means for people with hearing impairments, in school	
Accessibility in distance education/online learning		
Employment Accessibility		
Spatial/Physical Accessibility in the Workplace		
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)		
In-service training and career up-skilling		
Assistive Technology in the workplace and accessible material		
Cultural Heritage Accessibility		

Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards the main entrance)		She relied of reading lips of people around her for understanding.
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	Many museums don't have signs, labels, subtitles, pictograms.	Must go with a friend who can read.
Accessibility to museum exhibits and works of art		
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in Tourism Services	<p>In general, very poor accessibility in Spain for touristic venues of all kinds.</p> <p>When traveling and getting sick, it's very important to avoid "ototoxic" medications.</p>	
Accessibility to accommodation (hotel units, camps, camping)		

Accessibility in transportation	<p>Very little problems because traveling is full of signs and visuals.</p> <p>No problems in driving a car.</p> <p>Announcements in the plane cannot be heard or understood.</p>	
Accessibility in sports & recreational facilities	No particular problems with sports, apart from the lack of signs in many locations.	
Accessibility at beaches	No problems	
Accessible shows (theaters, cinemas, concerts...) & accessible movies	No accessibility, she didn't hear the dialogue	Had to ask to a friend what happened and what they said in the movie
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	In emergencies, the public address system doesn't work well	
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	There are many messages given in many contexts (ex. Sports), but very little in emergency situations (e.g. A fire in a soccer game)	
Accessibility of emergency information (Multiple channels)		

Spain – Deaf/hard of hearing, no 2

Demographic data

1. **Gender:** Female
2. **The place (country) of residence:** Spain
3. **The type of your hearing loss and the cause of it** (official clinical diagnosis): Sensory hearing disability
4. **The age at onset of hearing loss:** not specified
5. **Age:** 39
6. **Educational level** (e.g., lower secondary school, tertiary level of education): Secondary School
7. **Do you have bilateral hearing loss?** Yes
8. **Degrees of hearing loss in left ear** Mild hearing loss (41-55 dB)
9. **Degrees of hearing loss in right ear** Severe hearing loss (71-90 dB)
10. **Level of difficulty in understanding the oral language (through lip reading)** Neutral. Lip reading
11. **Do you read and understand the written form of the official language of your country?** Yes
12. **Level of difficulty in reading and understanding the written language** Neutral
13. **Do you know sign language?** No
14. **Do you use assistive technology?** Yes, only on one ear
15. **If yes, which means of assistive technology?** Hearing aid
16. **What kind of educational material is more suitable for you? (*you can choose more than one answers*)**
Text
Visual
17. **Do you use any kind of accessible educational material?** No
19. **If yes, what kind of it?**

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces			

Mobility with the means of transportation		
Communication with and services of the public and private sectors	Need to have her husband to help with communication, e.g. at the doctor.	
Web Accessibility		
Digital accessible transformation		
E-commerce		
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)		
Digital customer communication		
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)		
Digital libraries and repositories	Regular TV doesn't have subtitles	Subtitles in movies and TV (sometimes)
Digital devices and their software/apps (e.g. mobile phones, smart TVs, home appliances)		
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and		

post-secondary education including tertiary)		
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology		
Accessibility to services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)		
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	<p>Schools are not prepared at all to follow deaf students.</p> <p>Teachers not facing the student (turning back)</p> <p>Problems with dictation exams</p>	Better in written exams
Accessibility in distance education/online learning		
Employment Accessibility		
Spatial/Physical Accessibility in the Workplace	<p>There was a big issue with COVID masks because you can't read lips</p> <p>Co-workers don't understand</p>	

	that they have to speak louder, and articulate better, to be understood. Colleagues don't empathize and don't make much effort.	
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)		
In-service training and career up-skilling		
Assistive Technology in the workplace and accessible material	Hearing aid are Extremely Expensive	
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards the main entrance)		
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services		

(physical and digital)		
Accessibility to museum exhibits and works of art		
Tourism (including recreation and sports) Accessibility		
Accessibility in Tourism Services		
Accessibility to accommodation (hotel units, camps, camping)		
Accessibility in transportation		
Accessibility in sports & recreational facilities		
Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible movies	The sound is what it is, and you don't hear, and the theater neglects the problem.	
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)		
Accessibility in Evacuation Planning (e.g. accessible evacuation		

plan)		
Accessibility of emergency information (Multiple channels)		

Spain – Mobility impairments, no 1

Demographic data

1. **Gender:** Male

2. **The place (country) of residence:** Spain

3. **The type of your disability and the cause of it** Disability due to depression, fibromyalgia, and since July 2023 I have chondromalacia.

4. **The age at onset of mobility impairments.** 29 years old.

5. **Age.** 54

6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree).

University degree. Social Integration

7. **Your disability occurs** Other: All over the body

8. **How would you most accurately describe the functionality of your hands?**

(Select only one of the following answers)

- b. I handle all objects easily and successfully. I may have some difficulties in activities that require great speed or/and accuracy. However, these difficulties do not restrict my independence in my daily activities at all.

10. **How often do you move alone?** Some times

11. **How would you describe your commute?**

(Select only one of the following answers)

- a. Almost everywhere, I use a wheelchair on my own (either electric or manual wheelchair). However, almost always, I need the assistance of another person. Usually, I need special support on my torso (e.g., waist) and/or my head. I can walk at home for a while but only with the assistance of another person.

12. **Do you use assistive technology?** Yes

13. **If yes, which means of assistive technology?** Manual wheelchair and walking sticks.

14. **What kind of educational material is more suitable for you? (*you can choose more than one answers*)** Audio-visual (e.g., video)

15. **Do you use any kind of accessible educational material?** No

16. **If yes, what kind of it?**

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces	Difficulty		
Mobility with the means of transportation	Difficulty		
Communication with and services of the public and private sectors	Difficulty		
Web accessibility			
Digital accessible transformation	More difficulty in everything that has to do with paperwork, because in the end they do require either someone's help or going to the office.		
E-commerce			
Digital documents and services of the public and private sectors (e.g. e- forms, informational material, tax or government sites/applications)			
Digital customer communication			
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)			
Digital libraries and repositories			

Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)		
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	Problems	
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology		
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)		
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)		
Accessibility in distance education/online learning	Because of the transportation issue I had to do in private and online because I had no other option.	

Employment Accessibility		
Spatial/Physical Accessibility in the work place	In the workplace, with the pain I have, work would be complicated. Especially because of the posture.	
Accessible Services in the work place (e.g. hiring processes, communication with different sectors)		
In-service training and career up-skilling		
Assistive Technology in the work place and accessible material	But it is true that at the level of programs and things like that, to do work, it progresses very quickly and there I have had to reset or ask for help because the programs that are there to work with them are not very intuitive.	
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	I have just visited the Hortensia Herrero Cultural Center, I don't know if you are familiar with it. The Modern Art Cultural Center that Hortensia Herrero has opened in Valencia. Everything is adapted very well. Also, wide elevators. They have done it very well. But there is an underground area that	

	cannot be accessed because it is in ruins. Maybe I understand that they put a ramp there or they couldn't... there was only one space that could not be visited. But they have taken into account all the regulations.	
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art		
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in tourism Services		
Accessibility in accommodation (hotel units, camps, camping)	On the trips I take, there is a ramp adapted, but you can't open the door or the bathroom is not there. I mean, I haven't found anything 100% adapted.	
Accessibility in transportation		
Accessibility in sports & recreational facilities		
Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible		

movies		
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)		
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	And seeing what I have seen in the environments I have been to, bad, because if the spaces are not even accessible, the evacuations can be terrible. And neither are people very willing, not even in an emergency, that is, to open a door, so it would be complicated.	Since I have been working on the issue of disability for many years, what I do see is that the first thing that would have to be done is education, and through education, awareness campaigns so that people grow up in absolute inclusion, which is not what is happening. Then, do a lot with what there is not, with respect to all these situations, because if there are accessibility regulations, why are they not being complied with? Training for staff, because as much as regulations are put in place, I find it even in education, because I also have a child with a disability and I see it. That is, the teachers tell you, I don't know what to do with this case.

Accessibility of emergency information (Multiple channels)	Where I worked was a protected building, they couldn't put in an elevator and every time a student broke a leg, all the classrooms in an entire university had to be changed to get to that ground floor.	
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Spain – Mobility impairments, no 2

Demographic data

1. **Gender:** Male
2. **The place (country) of residence:** Spain
3. **The type of your disability and the cause of it** (official clinical diagnosis). Spastic paraparesis secondary to infantile cerebral palsy.
4. **The age at onset of mobility impairments.** From birth
5. **Age.** 55
6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree). Master Degree, Accessibility.
7. **Your disability occurs**
 - a. In your lower extremities
 - b. In your upper extremities
 - c. Other: Lenguaje
8. **How would you most accurately describe the functionality of your hands?**
B I handle all objects with somewhat reduced quality (accuracy) or/and speed. Certain activities need to be done in alternative ways. Usually, these difficulties do not restrict my independence in my daily activities.
9. **You move alone or with the help of an attendant?** Alone
10. **How often do you move alone?** Always
11. **How would you describe your commute?**
 (Select only one of the following answers)
 - b. I walk on any place without restrictions and assistance. I may have balance, speed or motor-coordination difficulties.
12. **Do you use assistive technology?** No
13. **If yes, which means of assistive technology?**
14. **What kind of educational material is more suitable for you? (you can choose more**

than one answers)

- a. Text
- b. Visual
- c. Audio
- d. Audio-visual (e.g., video)

15. Do you use any kind of accessible educational material? No

16. If yes, what kind of it?

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility		Let's see, in the 80's I was not aware of what accessibility is. I started to be aware of accessibility when, in college, I joined a disability organization, of which I ended up being President	
Physical/Spatial Accessibility of indoor and outdoor spaces		In building it has no difficulty. Steep stairs can be a problem. When it is very crowded it is difficult to maintain stability.	Installing more handrails and lifts
Mobility with the means of transportation		In the metro with many people, he does not feel safe because of the lack of safety facilities, In the Madrid metro they have encouraged people to stand on the right side of the escalators, and they do not take into consideration that people who have little strength on the left have limitations and do not feel safe on that side of the escalator.	Integrate elements of the facilities that provide safety for people with reduced mobility. Underground should allow and raise awareness of the fact that people can stand on the stairs in a place that guarantees their safety.
Communication with and services of the public and		In telephone communication he has a lot of difficulty to be	Use alternative media, video conferencing, and other

private sectors	understood. Face-to-face assistance makes it easier for him to be understood.	computer apps. In private management there is no personal attention for the people who work, and it would be necessary to extend the opening hours to the public.
Web accessibility	No difficulty	Not applicable
Digital accessible transformation		
E-commerce	He has no difficulty, and considers it a great help.	Not applicable
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	It has no difficulty, and is easy to handle.	Online access is a help.
Digital customer communication	It is easier because it is adapted to your needs and you have solved the access to the service. And if there is access, making it accessible is easier.	Accessibility must comply with regulations.
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	No problem. And it gives him easy access.	It considers that it can be more accessible for other people with disabilities, for example for people with visual impairment.
Digital libraries and repositories	It has no accessibility problem. And it makes great use of these services.	Considers that accessibility has been improved

Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)	<p>He doesn't use voice systems because they don't recognize his voice.</p> <p>For example, Alexa does not recognise his voice. And it would be useful for his daily life.</p>	Cannot find a solution to this problem
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	He has not had any accessibility problems.	The arrival marginal was extended to allow him to get to class on time, his reduced mobility requires him more time to navigate the spaces.
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	<p>He was not provided with notes by the teaching staff. But he was helped by his classmates.</p> <p>He did not get permission to record the lectures. Recordings would have given him better access to information in the long term, as he could not take notes.</p>	<p>Use recorders, videos and tablets so that students can feel part of the class.</p> <p>Also the computer.</p>
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	He has no difficulty	More digital media can be used to gain access. For example, a video conference.
Accessibility in courses – modifications in teaching practices and tools	He has no difficulty	Not applicable

(devices, software/apps)		
Accessibility in distance education/online learning	He has no difficulty	Not applicable
Employment Accessibility		
Spatial/Physical Accessibility in the work place	He has no problem, because his workplace is accessible. He works at the Spanish Confederation of people with physical and organic disabilities.	Not applicable
Accessible Services in the work place (e.g. hiring processes, communication with different sectors)	Not applicable	Not applicable
In-service training and career up-skilling	Not applicable	Not applicable
Assistive Technology in the work place and accessible material	Not applicable	Not applicable
Cultural Heritage Accessibility	His work is related to inclusive tourism and leisure, so he brings his personal and professional point of view.	
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the	In cultural spaces there is no difficulty. In heritage sites, accessibility is not guaranteed, because there are other heritage laws that do	As a user, he needs heritage sites to be accessible, as a professional he understands that it is not possible to change the regulations, but it is possible to offer

indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	not allow accessibility. For example, in the Sagrada Familia he could not go up because the stairs did not comply with accessibility conditions.	experiences that allow the enjoyment of the services. Such as; interpretation centers, virtual reality glasses.
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	No difficulty in his personal case. It is mostly not accessible for blind people. The main problem he detects is that the regulations are not complied upon.	Ensure that the private and public sector complies with the regulations. Raise awareness, train the staff of the sites. It understands that in order to comply with the regulations, prior awareness must be raised among staff and people related to the services across the board.
Accessibility in museum exhibits and works of art	No difficulty. If it is not overcrowded.	Not applicable
Tourism (including recreation and sports) Accessibility	His work is related to inclusive tourism and leisure, so he brings his personal and professional point of view.	
Accessibility in tourism Services	On a personal level the interaction person - person because it is not easy to understand his voice. At the professional level there is no accessible tourism, but islands. There is no access to information about the	Accessibility information for tourist areas can be made available online. Raise awareness of accessibility among tour operators, hotels, and the tourism sector. Consider that the lack of

	accessibility of tourist areas.	accessibility is largely due to a lack of information about the importance of complying with the regulations.
Accessibility in accommodation (hotel units, camps, camping)	Slippery floors in hotel swimming pools, pool areas usually do not have handrails. Slippery floors in bathing rooms.	As discussed in the previous section
Accessibility in transportation	<p>In general, there is accessibility. Especially in long-distance transport.</p> <p>It is difficult for air travel not to have common policies in all airlines. The access times to the check-in and the entrance to the plane. Use the support services.</p> <p>In transporting the suitcase.</p> <p>Although he doesn't need it, wheelchairs must be adapted to the company's regulations and not the other way round.</p> <p>There are companies that have many claims for not allowing access to passengers with wheelchairs.</p>	<p>It is a very complicated issue. But the information should be clear and agreed by the companies regarding access to the characteristics of the chairs. And not depend on the arbitrariness of the commander.</p> <p>The passenger should have specific information about the requirements of the seats for the flights.</p>
Accessibility in sports & recreational facilities	He does not do much sport.	Has used specific classes for people with disabilities
Accessibility at beaches	<p>He has to choose the beaches he visits because not all beaches are easy for him and he does not feel safe.</p> <p>He always goes to the same beaches where he feels safe,</p>	Accessible spaces on beaches with handrail systems and boundaries for people with disabilities. Such models already exist, but there could be more.

	so he doesn't usually go to new places.	
Accessible shows (theaters, cinemas, concerts...) & accessible movies	It is often difficult at festivals, because of the overcrowding. Also, because when he gets tired there are few rest areas.	Create areas at festivals for people with reduced mobility. Those that already exist are not yet of high quality.
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)	<p>In his case, it is very difficult to move around in crowds, and the emergency systems do not currently provide for reduced mobility.</p> <p>Evacuation plans do not differentiate between people with reduced mobility and people with disabilities.</p> <p>In your flat, which is on the seventh floor, there is no provision for how to get down the stairs in case of fire if you cannot get down the lift.</p>	That emergency plans should address the cases of persons with disabilities and persons with reduced mobility separately.
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	<p>Lack of regulation</p> <p>Lack of awareness</p>	They are beginning to work on it. Up to now, accessibility has been discussed in terms of how to get in, but now it is starting to be discussed how to get out in case of an emergency. But it is still very much in its beginnings.
Accessibility of emergency information (Multiple channels)	Same answer as above.	

Spain – Mild intellectual disability, no 1

Demographic data

1. **Gender:** Female
2. **The place (country) of residence:** España
3. **The type of your disability** (official clinical diagnosis):.....
4. **Level of intelligence IQ>85**
5. **Other difficulties/disabilities** (difficulties in hearing, vision, movement etc): Vision, movement
6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree). Master Degree
7. **Do you use assistive technology?** No
8. **If yes, which means of assistive technology?**
9. **Do you find it difficult communicating with others?** Few times
10. **Do you leave alone?** I almost always am alone
11. **You move alone or with the help of an attendant?** Sometimes alone and sometimes with help of an attendant
12. **How often do you move alone?** Most of the time
13. **Do you use a personal computer?** Yes I use a personal computer
14. **If yes, how often do you use a PC?** More than 1 hour a day
15. **What kind of educational material is more suitable for you? (you can choose more than one answers)**
 - b. Visual
 - c. Audio
 - d. Audio-visual (e.g., video)
16. **Do you use any kind of accessible educational material?** No
17. **If yes, what kind of it?**

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces			

Mobility with the means of transportation	Not all stations have an elevator. So, although I have difficulty with my legs, not all of them also have handrails, which is essential for me to have.	
Communication with and services of the public and private sectors	Interacting with people, many times when I want to get on the metro, people don't move until I tell them to please move because I need to hold onto the metro poles or when the whole metro is full, I'm the one who has to say "can you give me the seat so I can sit down?"	
Web accessibility	Many barriers because, for example, the font size is still very small, and for the contrast of the screens	
Digital accessible transformation		
E-commerce	Many times, the letters are so small that it is difficult for me to read them. So, it takes me a long time to read and the whole process that I have to do	
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)		

Digital customer communication	Another barrier is that when you talk to these types of institutions, they time you. And many times, I can't type on my phone what they are asking for.	
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)		
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)		
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)		
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	For example, I asked that a teacher would give me the content in an easy-to-read format so that I could get rid of the fluff and all that. And they told me no, that since it's a private institution, I couldn't get that.	

Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	Significant barrier because I have attended, I think, five educational institutions. They gave me a 20% scholarship for showing that I already had a disability certificate at that time, but they didn't make any kind of accommodations for me. More time for exams.	
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	No support. I took the same exams as all my classmates. And they told me that until I showed a psychoeducational evaluation that said I had learning difficulties, they would not make the accommodations I requested, that the only thing they could do for me was to extend my time (on exams) because I had the certificate, which said that I had a motor disability, but not a cognitive difficulty.	
Accessibility in distance education/online learning	I do university online. I also do it online in order to avoid having to move from home.	
Employment Accessibility		
Spatial/Physical Accessibility in the work place		
Accessible Services in the work place (e.g. hiring processes,		

communication with different sectors)		
In-service training and career up-skilling		
Assistive Technology in the work place and accessible material		
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)	<p>In terms of accessibility, not many museums have elevators.</p> <p>And, well, there are many economic discounts, but you always have to go with a companion because you are disabled.</p> <p>I feel that dependence continues to be generated there, not autonomy.</p>	<p>I think it would be great if there was a personal assistant from the museum itself who can take the disabled person on a guided tour of what they want to see or something like that so that they can also go on their own and not have to depend on their close context, for example, a cousin, a friend, or their partner.</p>
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	<p>I think there is still a long way to go before people with disabilities can really enjoy leisure activities like any other person. In terms of, for example, cognitive aspects, I have never seen pictograms in any museum where they help you to see how... in other words, there are no pictograms in a museum where they can help people to understand what is there.</p>	

	In very few museums I have also seen Braille signage so that people with visual disabilities can read it.	
Accessibility in museum exhibits and works of art		
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in tourism Services		
Accessibility in accommodation (hotel units, camps, camping)	In hotels there are very few, hotels, hostels, there are very few that are accessible. Signage is not accessible.	
Accessibility in transportation		
Accessibility in sports & recreational facilities		
Accessibility at beaches		

<p>Accessible shows (theaters, cinemas, concerts...) & accessible movies</p>	<p>In concerts, there are already areas for people with reduced mobility. I don't want to sound like a complainer, but they always put you in the corner where you can't see the stage. And you're like, well, if I came to the concert to enjoy myself and they put me in the corner where I can't see anything, well, my companion either, I mean, my friend, my girlfriend, or simply my personal assistant, it won't be so much fun going to the concert with you either, because I already have an assigned seat where you can't see everything.</p> <p>can't see the stage. And you're like, well, if I came to the concert to enjoy myself and in cinemas, which is also a part of leisure, I find it super absurd that they always put you up front. So, I mean, why are you putting me up front? Just because there is a space for the wheelchair there, but there should also be spaces in other rows so that I can choose.</p>	
<p><i>Accessibility in Security and Evacuation Situations</i></p>		

Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)		
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	<p>In Mexico they have told me that people with disabilities stay until the last one by protocol so that the others can leave.</p> <p>In the United States, when I went to study in Hawaii, something, never in my life had they done that to me. They called me to ask me if there was an earthquake or whatever, how I would react and what they had to do with me. That had never happened to me. And the truth is that it gave me peace of mind because it was like "I'm not going to die, they are going to get me out, they are going to think of me".</p>	
Accessibility of emergency information (Multiple channels)	Here in Spain, they never gave me a phone number of, if something happens you can call here	

Spain – Mild intellectual disability, no 2

Demographic data

1. **Gender:** Female
2. **The place (country) of residence:** Spain
3. **The type of your disability** (official clinical diagnosis): Intellectual disability
4. **Level of intelligence:** IQ: 50-69
5. **Other difficulties/disabilities** (difficulties in hearing, vision, movement etc.): None
6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree).

Secondary

7. **Do you use assistive technology?** No

8. **If yes, which means of assistive technology?**

9. **Do you find it difficult communicating with others?** Sometimes. Depends on the content

10. **Do you leave alone?** No, with parents

11. **You move alone or with the help of an attendant?** With help of an attendant

12. **How often do you move alone?** Never

13. **Do you use a personal computer?** Yes

14. **If yes, how often do you use a PC?**

a. Once a week

b. 2-3 time a week

c. 1h a day

d. More than 1 hour a day

15. **What kind of educational material is more suitable for you? (you can choose more than one answers)**

a. Text

b. visual

16. **Do you use any kind of accessible educational material?** Yes

17. **If yes, what kind of it?**

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		No physical problems. When we go somewhere she doesn't know, she doesn't leave my side because she's afraid of getting lost.	
Mobility with the means of transportation		Here in Coimbra, it's very small, and there is very little public transport. We live in the center, so we move around on foot, we barely use the car here. She's going with four other kids on the public bus, but they don't	She would need someone on the bus to teach her or on the transport, to say, "you need to get off here,"

	go alone, they go together. First, a monitor took them, a person taught them, and now they go and come back together.	
Communication with and services of the public and private sectors	Of course, she doesn't go alone. She needs to go with someone, plus she gets lost.	
Web accessibility	Well, the computer issue is very bad because I bought her a computer and had to take it away because she accessed pages she shouldn't. And I've had a lot of difficulty because there was no one to tell me how I could block those pages so she wouldn't see them. I'm talking about dating pages, erotic pages, there's no way to block those on her computer, I had to take it away because it was too much. Not because she sees something erotic, that's not a problem, the problem is meeting people.	
Digital accessible transformation		
E-commerce		

Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	She doesn't know how to do those things.	I don't know what to tell you because when filling out a form, she starts and asks you questions while filling it out. I think she could do it, but it has to be very easy and explained. She needs someone to help her, tell her to put here, go here, where you live, here, this. And she could fill it out, but alone, I don't think she can.
Digital customer communication	No, I don't see her doing that.	
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	She doesn't understand money, she doesn't get it. The money she has, she doesn't know, she has a lot of difficulty with that, and she doesn't have digital banking. I handle all that.	
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)		
Educational Accessibility	She's currently receiving private education	
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	No problem	

<p>Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology</p>	<p>They gave her photocopies and things like that because they didn't give her books like the other students. They said they couldn't take them away, and I fought a lot to get them but they didn't want to give them, they only wanted to give her worksheets and such.</p>	
<p>Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)</p>	<p>No, they're not accessible. There's no training. I've signed her up for everything that's come out, but accredited training, nothing. She's not currently receiving any education.</p> <p>Well, yes, I'm taking her to a psychologist. I've been with this last professional for eight or nine years. And she also sends her math worksheets, a bit of language.</p> <p>So, she's autonomous in doing them and every two weeks she goes and the psychologist corrects them, so she's at least doing something and doesn't forget because the problem is that if she stops, she forgets everything.</p>	

Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	<p>From 21, she has no rights, not even to an institute because she had a hard time leaving the institute because she wanted to continue, but after 21, there are no training courses for her.</p> <p>She's not currently receiving any education.</p> <p>Well, yes, I'm taking her to a psychologist. I've been with this last professional for eight or nine years. And she also sends her math worksheets, a bit of language.</p> <p>So, she's autonomous in doing them and every two weeks she goes and the psychologist corrects them, so she's at least doing something and doesn't forget because the problem is that if she stops, she forgets everything.</p> <p>She participated in a bakery course. But that's through the association, and the association doesn't have accredited qualifications.</p>	
Accessibility in distance education/online learning		
Employment Accessibility		
Spatial/Physical Accessibility in the work place	No problems	

Accessible Services in the work place (e.g. hiring processes, communication with different sectors)	She did internships, packing pickles and olives and such. She also worked for six months as a gardener for the municipality.	
In-service training and career up-skilling	For her to do things, you either have to teach her to do it automatically or have someone telling her what to do, step by step. Once she learns, she does it, but she needs encouragement and reminders.	
Assistive Technology in the work place and accessible material	In her case, support technology would be a support person.	
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)		
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services		

(physical and digital)		
Accessibility in museum exhibits and works of art		
Tourism (including recreation and sports) Accessibility		
Accessibility in tourism Services	I let Marina attend activities if there's someone guaranteeing supervision. I've sent her to activities knowing a trusted person was there.	
Accessibility in accommodation (hotel units, camps, camping)		
Accessibility in transportation		
Accessibility in sports & recreational facilities		
Accessibility at beaches	She can go to a beach; it's not a physical disability.	
Accessible shows (theaters, cinemas, concerts...) & accessible movies	Yes, she has accessibility.	
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security	I don't think so. She wouldn't know how to act.	

systems in case of fire, earthquake, etc.)		
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)		
Accessibility of emergency information (Multiple channels)		

Spain – High functioning autism, no 1

Demographic data

1. **Gender:** Female
2. **The place (country) of residence:** Spain
3. **The type of your disability** (official clinical diagnosis). level 1 autism spectrum disorder
4. **Level of intelligence** She doesn't know it
5. **Other difficulties/disabilities:** None
6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree).

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility		Not asked in interview	
Physical/Spatial Accessibility of indoor and outdoor spaces			
Mobility with the means of transportation			
Communication with and services of the public and private sectors			
Web accessibility			

Digital accessible transformation	I can handle technology very well. Use computers and applications such as AutoCAD, CYPE, Presto., and Word.	
E-commerce		
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)		
Digital customer communication		
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)		
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)		
Educational Accessibility	Schools are not prepared to assist, help and support disabled people	
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)		

Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology		
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)		
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	Teachers do not know about autism, and not able to adapt teaching. Adaptation only means lowering the level, which is not good. And that about groups, for me, group work didn't work.	understanding and the way of evaluating is different, but it doesn't mean that people don't understand or don't get it, but they have another way of seeing things, another way of processing that data and what is needed is to adapt to that.
Accessibility in distance education/online learning		
Employment Accessibility	I got jobs because I live in a town and people know me, so of course, if I had lived in a city, I think I wouldn't have had work so easily, because facing an interview is very difficult.	
Spatial/Physical Accessibility in the work place		

Accessible Services in the work place (e.g. hiring processes, communication with different sectors)		
In-service training and career up-skilling		
Assistive Technology in the work place and accessible material		
Cultural Heritage Accessibility	Not asked in interview	
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards main entrance)		
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art		

<i>Tourism (including recreation and sports) Accessibility</i>	Not asked in interview	
Accessibility in tourism Services		
Accessibility in accommodation (hotel units, camps, camping)		
Accessibility in transportation		
Accessibility in sports & recreational facilities		
Accessibility at beaches		
Accessible shows (theaters, cinemas, concerts...) & accessible movies		
<i>Accessibility in Security and Evacuation Situations</i>	Never experienced directly.	
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)		
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	And when it comes to building design, now there are regulations and such, but I still see places where it is not met. And during evacuation, of course, they are not taken into account. I don't know if the Fire Department has a protocol. They never said what to do in	People should follow the rules and regulations, literally.

	drills, never.	
Accessibility of emergency information (Multiple channels)		

Spain – High functioning autism, no 2

Demographic data

1. **Gender:** Male
2. **The place (country) of residence:** Spain
3. **The type of your disability** (official clinical diagnosis). Asperger's syndrome
4. **Level of intelligence** IQ>85
5. **Other difficulties/disabilities:**
6. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree).
University degree
7. **Do you use assistive technology?** No
8. **If yes, which means of assistive technology?**
9. **Do you find it difficult communicating with others?** Sometimes
10. **Do you use any kind of communication aid?** No
11. **If yes, which one?**
12. **Do you leave alone?** No
13. **You move alone or with the help of an attendant?** Alone
14. **How often do you move alone?** Always
15. **Do you use a personal computer?** Yes
16. **If yes, how often do you use a PC?** More than 1 hour a day
17. **What kind of educational material is more suitable for you? (you can choose more than one answers)** Text
18. **Do you use any kind of accessible educational material?** No
19. **If yes, what kind of it?**

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		I don't have any problems	
Mobility with the means of transportation		I can manage well in that aspect	
Communication with and services of the public and private sectors		Well, I do well there, but it's true that sometimes if I talk to someone new or someone I don't know at all, I can get nervous, I don't know how to interact, I can get blocked, but it's in some cases, but if the situation requires it I can go ahead	If you see that the person is nervous or something, ask them what they need.
Web accessibility		I don't have any problems. Audiovisual makes it more understandable and accessible	Plain language would make web accessibility easier for me
Digital accessible transformation			
E-commerce		If they said it was safe, that it was protected, then ok	you have to explain the safe steps to follow, that you verify that what is being said is safe, that it is authorized and certified, that they are secure websites and that they are protected against external attacks, that they do not steal your identity, for example, or that they do not take money

		from you anywhere.
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)		
Digital customer communication	I don't have experience in that aspect.	
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	I'm not very fluent in that aspect. It's good that I have already opened a bank account, but I'm not very informed about it. Well, my parents know what I have, they tell me what's there and such.	
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phone, smart TV, home appliances)		
Educational Accessibility		

Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	sometimes places can go unnoticed or that they are not well indicated	visible and understandable places
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology		
Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)	There are emails in the university that do explain.	
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	<p>All right. It's true that at the beginning of each course of each semester I have talked to the teacher to explain that I had Asperger's syndrome because this condition is not very visible in many aspects.</p> <p>My need is that sometimes I can get distracted in class and they have to pay attention to me or at least tell me that I have to say this and I tried to sit in the front row so as not to get distracted.</p>	
Accessibility in distance	I have never had online	

education/online learning	training.	
Employment Accessibility		
Spatial/Physical Accessibility in the work place	No problems	
Accessible Services in the work place (e.g. hiring processes, communication with different sectors)	Help from a janitor at the Cultural Center of my town who told me about this type of work and I have made the application and it has progressed and he has informed me of what I had to do, what the interview was going to be like and how.	
In-service training and career up-skilling	Continuing to study there. In the jobs I have had so far, I have done some courses	
Assistive Technology in the work place and accessible material	No, I have performed like everyone else	
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance	In the museums I have been to, I have never had any difficulty. I can always find out what they are explaining and what is happening around me and I have never had any problem in that aspect.	

towards main entrance)		
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)		
Accessibility in museum exhibits and works of art	Plaques that put what the author was, why he did it and how helps you to understand, to better understand the work	
Tourism (including recreation and sports) Accessibility		
Accessibility in tourism Services	No problems.	
Accessibility in accommodation (hotel units, camps, camping)	Need to be in a place where there is not so much noise or that is as quiet as possible	Provide headphones
Accessibility in transportation	I can manage well without any problem.	
Accessibility in sports & recreational facilities	I am not a very sporty person, but what is recreational, leisure, well, I have not had problems. Attend a soccer game or a basketball game: I have not had any problem with that. But, again, the noise issue can also be too much for that person when they need to go out to clear their head or something to mitigate the noise.	
Accessibility at beaches	I don't think there's any problem there	

Accessible shows (theaters, cinemas, concerts...) & accessible movies	I don't have any problems there	
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)		
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)	In the workplace that has been explained to me in detail. In fact, just a while ago we did a drill of what we have to do in case of fire.	The best thing would be for them to tell you or for there to be a template that tells you how to do it
Accessibility of emergency information (Multiple channels)		

Spain – Older people, no 1

Demographic data

1. **Gender:** Female (age 71)
2. **The place (country) of residence:** Spain
3. **Do you face any kind of difficulties/disabilities:** hearing, vision
4. **Do you face any kind of other difficulties/disabilities:** (n.a.)
5. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree):
Secondary and Vocational training business management.
6. **Do you use assistive technology?** Yes
7. **If yes, which means of assistive technology?** Glasses
8. **Do you leave alone?** Yes
9. **You move alone or with the help of an attendant?** Alone
10. **How often do you move alone?** Always

11. Do you use a personal computer? Yes

12. If yes, how often do you use a PC? More than 1 hour a day

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces		<p>Many slopes, gets tired easily, there are no benches to rest.</p> <p>Accessibility is implemented by following the regulations and not taking into account expert advice... the result does not work and must be re-done.</p> <p>Many persons in the older parts of the city cannot leave their house. Public houses (accessible) cannot be given because they already own a house.</p> <p>Some ramp platforms do not carry the weight of an electric wheelchair.</p> <p>Stair-mounting platforms are often mounted in dangerous configuration (when you enter or exit the stair)</p>	<p>Maintenance of ramps, vehicles, elevators, escalators, etc etc is essential</p> <p>The existence of voluntary associations may help persons to overcome difficulties and to prepare beforehand.</p> <p>When making some adaptations, always seek consultancy from disabled persons, to avoid doing wrong, insufficient or dangerous modifications.</p>
Mobility with the means of transportation			
Communication with and services of the public and private sectors		Even if you file a lot of complaints, they don't listen and nothing happens	

Web Accessibility	Some websites are not accessible at all (also search engines do not give the desired results). Insufficient visual contrast.	
Digital accessible transformation		
E-commerce	No issues	
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)	No issues	Must adapt the language to be more accessible. Some elderly people are not familiar with digital technologies.
Digital customer communication	It's a barrier because it's difficult to find contact information, and also response times are too long.	
Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	No issues ATMs require some time to understand how they work (there are many different types)	The use of digital banking is increasing because they close many bank offices. There is the possibility of going in person if the digital procedure is too complex, in-person service or paper forms would be preferable.
Digital libraries and repositories	Not used	
Digital devices and their software/apps (e.g. mobile phones, smart	No issues	

TVs, home appliances)		
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)	Cognitive and sensory disabilities are not considered yet.	Some progress has been made on the architectural barriers.
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology	No information	Should produce accessible material
Accessibility to services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)		Adapting syllabi and exams to persons with difficulties
Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)	Many children cannot attend many classes because	Should invest in teacher awareness
Accessibility in distance education/online learning	Many children cannot participate unless the teacher has particular care for their special needs.	

	Online classes are difficult for children with chronic fatigue (or other)	
Employment Accessibility		
Spatial/Physical Accessibility in the Workplace	She had to leave her job, because it was incompatible with her disability (real estate job on land development)	
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)	She goes only on locations that are accessible (as a volunteer).	
In-service training and career up-skilling		Training to the co-workers to inform how to deal and collaborate with colleagues with disabilities
Assistive Technology in the workplace and accessible material		The desk, chair and workstation were adapted.
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and	Some places still don't have an elevator.	They have improved a lot.

proximity areas (e.g. parking space, guidance towards the main entrance)		
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	Most archeological sites are not accessible.	Some speleology activities are accessible with special chairs
Accessibility to museum exhibits and works of art		
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in Tourism Services	<p>Many touristic sites were found to be inaccessible for people with reduced mobility.</p> <p>In some cases, tickets for disabled persons must be bought at the counter and cannot be bought online.</p>	
Accessibility to accommodation (hotel units, camps, camping)	<p>Many structures are not prepared, you must always ask and check before.</p> <p>Even if restaurants are accessible, in many cases bathrooms are not.</p> <p>The majority of hotels do not have adapted rooms</p>	

Accessibility in transportation	<p>Some equilibrium problems on buses</p> <p>Bus ramps (for wheelchairs) often don't work</p> <p>In airports there are no shuttles, and you arrive late at the gate due to slow movements or wheelchair paths</p> <p>A digital application for ordering a taxi does not have the option for ordering an adapted car.</p> <p>The number of accessible seats in trains is too limited (compared to the growing number of persons with reduced mobility)</p>	<p>Need to sit. If the bus is very full, take the next one or take a taxi.</p> <p>Structures (trains, metro) are accessible, but maintenance is a problem: if something (elevator, ramp, ...) breaks, they become inaccessible.</p>
Accessibility in sports & recreational facilities	In stadiums, reduced mobility people are often put in a corner, and they cannot see the show.	
Accessibility at beaches	Very few beaches are adapted to be able to reach the water.	
Accessible shows (theaters, cinemas, concerts...) & accessible movies	In theaters the accessible sites are often in aisles, separated from their peers.	
Accessibility in Security and Evacuation Situations		

Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)		Courses and information with the Civil Protection help defining how to treat people with disabilities in emergency situations. Constant training of all situation with all kinds of disabled persons is a necessity
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)		
Accessibility of emergency information (Multiple channels)	No issue related to her disabilities, there may be problems with cognitive or sensory disabilities.	

Spain – Older people, no 2

Demographic data

1. **Gender:** Male
2. **The place (country) of residence:** Spain
3. **Do you face any kind of difficulties/disabilities:** hearing
4. **Do you face any kind of other difficulties/disabilities:** Yes, I am a paraplegic with a D7 dorsal (spinal cord injury) since 1981, over 40 years ago. Reduced mobility.
5. **Educational level** (e.g., lower secondary school, tertiary level of education, master degree): University degree. Business administration
6. **Do you use assistive technology?** Yes
7. **If yes, which means of assistive technology?** Wheelchair. Support for moving from wheelchair to bed and to car.
8. **Do you leave alone?** Yes
9. **You move alone or with the help of an attendant?** Sometimes alone and sometimes with help of an attendant
10. **How often do you move alone?** Most of the time
11. **Do you use a personal computer?** Yes

12. If yes, how often do you use a PC? More than 1 hour a day

Accessibility - Sub-areas	Area	Problems/difficulties	Solutions
Core Accessibility			
Physical/Spatial Accessibility of indoor and outdoor spaces			Eliminate architectural barriers.
Mobility with the means of transportation		Too few adapted taxis (Eurotaxi, where you can climb from the back with your wheelchair)	All public transport in Palma is already adapted.
Communication with and services of the public and private sectors			
Web Accessibility			
Digital accessible transformation			
E-commerce			
Digital documents and services of the public and private sectors (e.g. e-forms, informational material, tax or government sites/applications)			Making documents easier to understand
Digital customer communication			

Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)	Some ATM are too high for wheelchair users. Entrance doors to the bank are an obstacle.	Automatic doors for bank entrance
Digital libraries and repositories		
Digital devices and their software/apps (e.g. mobile phones, smart TVs, home appliances)		
Educational Accessibility		
Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)		
Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology		
Accessibility to services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)		

Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)		
Accessibility in distance education/online learning		
Employment Accessibility		
Spatial/Physical Accessibility in the Workplace	His workplace and bathroom had to be adapted.	
Accessible Services in the workplace (e.g. hiring processes, communication with different sectors)		
In-service training and career up-skilling		
Assistive Technology in the workplace and accessible material		
Cultural Heritage Accessibility		
Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance	Churches are very old and have serious accessibility problems.	Museums are generally well adapted. Being more imaginative in solutions that ensure accessibility without spoiling the environment or the architecture of the building.

towards the main entrance)		
Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)	<p>Wheelchair users are often put in a place where the visibility is bad, or the sound quality is not good.</p> <p>Sometimes they are put onto an elevated platform (that is good), but that platform tends to be filled by other persons because they have a better view.</p>	
Accessibility to museum exhibits and works of art		Museums are generally very accessible.
<i>Tourism (including recreation and sports) Accessibility</i>		
Accessibility in Tourism Services	Lack of adapted public toilets in cities.	
Accessibility to accommodation (hotel units, camps, camping)	<p>Many “adapted” or “accessible” rooms are not really accessible, especially the bathroom.</p> <p>Common spaces in hotels often have steps or other barriers.</p>	<p>Shower instead of bathtub.</p> <p>Shower should be open and flush (no step to enter)</p> <p>Bathroom door should be wide enough to enter with wheelchair</p> <p>The universal accessibility law should be followed by the</p>

		hotel industry, and local administration should be more rigorous.
Accessibility in transportation		
Accessibility in sports & recreational facilities		
Accessibility at beaches	Only a few beaches are fully equipped to let you enter and reach the sea.	
Accessible shows (theaters, cinemas, concerts...) & accessible movies		
Accessibility in Security and Evacuation Situations		
Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)		
Accessibility in Evacuation Planning (e.g. accessible evacuation plan)		Quite good, since the places for wheelchair users are already flush with the street level.
Accessibility of emergency information (Multiple channels)		

Quantitative research

1. Introduction

The present study focuses on investigating and defining user requirements. The research on the user requirements of end-users was carried out in two stages. The first stage was presented in detail in the previous chapter of this report, titled "Qualitative Research." This chapter introduces the quantitative research and its findings, involving end-users as participants. A questionnaire was employed in the study, which was developed taking into account the results derived from the first stage of the research (interviews). The methodology followed for the development of the questionnaire used in this study is described in the "Instruments" section below.

2. Objective

The objective of the present study is to document the accessibility challenges and difficulties faced by individuals with disabilities and older people, as well as the extent of these challenges/ difficulties concerning all areas of expertise on accessibility:

1. Core Accessibility,
2. Digital accessible transformation,
3. Educational Accessibility,
4. Employment Accessibility,
5. Cultural Heritage Accessibility,
6. Tourism Accessibility, and
7. Accessibility in Security and Evacuation Situations.

3. Participants

The research participants will be recruited from seven (7) different groups of individuals:

- 1) individuals with learning disabilities,
- 2) individuals with visual impairments,
- 3) individuals with hearing impairments,
- 4) individuals with physical disabilities/ mobility impairments,
- 5) individuals with mild intellectual disability,
- 6) individuals with high functioning autism,
- and 7) older people.

The objective of the researchers was to recruit a sample consisting of five (5) participants

from each Programme Country (Greece, Italy, Spain, and Sweden) for each of the seven (7) different groups of individuals. Therefore, 20 participants with learning disabilities, 20 with visual impairments (blindness or low vision), 20 with hearing impairments, 20 with mobility impairments, 20 with mild intellectual disabilities, 20 participants with high-functioning autism, and 20 older people were intended to participate in the assessment. However, the research sample comes from three countries (Greece, Spain, and Italy), with 92% of the participants primarily drawn from two countries, Greece and Spain. This occurred due to challenges faced by the project team and delays related to the approval of the research by the ethics committees in each country.

A total of 174 individuals, 84 females, 89 males and 1 other participated in the research. The age of participants ranged from 15 to 93 years old with mean age 45.9 years (SD 16.9). The total number of answers from Greece was 71, while 88 participated from Spain and 15 from Italy. Additionally, the number of participants from each target group was: 18 individuals with visual impairments, 77 individuals with physical disabilities/ mobility impairments, 19 deaf individuals/with hearing impairments, 17 individuals with specific learning disabilities, 9 individuals with Autism (High Functioning / Asperger's Syndrome), 13 with mild intellectual disability and 21 older people.

More specifically, as for the severity of visual impairments, 7 participants were individuals with blindness, 4 with severe visual impairments, 2 with moderate visual impairments, and 5 participants were individuals with low vision. Among them, 11 moved independently, while 7 moved sometimes alone and sometimes with the help of an attendant. In the group of people with mobility impairments, 28 subjects mentioned that their disability occurred in their lower and upper extremities, 20 in their lower extremities, 7 in their upper extremities, 8 on one side of their body, 1 only in one of their extremities and 13 other areas affected. In total, 60 people with mobility impairments reported moving alone, 11 moved sometimes alone and sometimes with the help of an attendant, and 6 only with the help of an attendant.

Regarding the educational level, 13 individuals had not completed school education, 49 were secondary school graduates, 32 held a vocational school diploma, 51 were undergraduate degree holders, 28 were postgraduate degree holders and 1 was PhD holder. Concerning assistive technology use, 108 participants did not use assistive technology means, while 66 used. The means of assistive technology mentioned by survey participants are presented below, although some of them do not formally belong to assistive technology, but are part of mainstream technology. However, these means are presented here in order to faithfully reflect the participants' responses:

- Accensors
- Computer (PC or laptop)
- Tablet

- Smartphone
- Keyboard and mouse
- Smartphone accessibility services
- Audio applications (software)
- Audio processing apps
- Accessible keyboard
- Accessible screen
- Text to speech
- Screen reader
- Smartphone with VoiceOver
- Eye gaze control
- Wheelchair
- Stand up wheelchair
- Lifting wheelchair
- Electric wheelchair
- Walker
- Canes
- Crutches
- Hearing aids
- Cochlear implant
- App to communicate by subtitles
- White cane
- Braille technology
- Magnifying lenses
- CCTV
- Screen magnifiers
- Accessible bathrooms
- Shower chair
- Grab handles
- In-vehicle driving brake
- Can opener
- Mixer taps

Concerning the use of accessible materials, 156 participants stated that they do not use any accessible materials, while 18 participants reported that they do. Specifically, the kinds of accessible material mentioned were: accessible digital material, online programs and courses, accessible digital documents, large prints, enlarged texts (digital material), accessible books,

audiobooks, material with subtitles, braille texts, and tactile maps.

4. Instruments

After transcribing the interviews described in the previous chapter, an analysis was performed to identify the challenges and barriers participants faced regarding accessibility. Key difficulties were summarized to create a set of questions for each accessibility field, designed to be as responsive as possible to all target groups (disability groups or older people). Questions were formulated to avoid being overly specialized or too simplistic, allowing researchers to identify relevant difficulties across multiple questions without causing participant fatigue. To address any areas or challenges not covered in the interviews, additional questions were included or combined with the existing ones based on a review of relevant literature and the researchers' expertise. Specifically, 61 questions were derived directly from the interviews, 23 from a combination of interview insights and relevant literature (Alsalem & Doush 2018; Bezyak et.al. 2017; Clemente et.al., 2022; Eusébio et al., 2021; Goodman, 2002; Gray et al., 2012; Gudlavalleti et.al., 2014; Johansson et al., 2021; Jonsson et al., 2023; Kruczek et.al., 2023; Mastroguseppe et al., 2021; Pettersson et al., 2023; Woolfson, 2007; Woolfson, et al., 2007), 14 solely from literature (Alsalem & Doush, 2018; Bezyak et.al. 2017; Clemente K. et.al., 2022; Goodman et al, 2002; Gray et al., 2012; Johansson et al., 2021; Kim & Chang, 2018; Kruczek et.al., 2023; Pochstein, 2022; Wan, 2022), and 2 were based on researchers' expertise. The final questionnaire created in English, was then translated into Greek, Swedish, Italian, and Spanish.

The resulting questionnaire comprised 100 questions across seven accessibility areas, with the number of questions in each category presented below:

- General Accessibility (n=30)

- Physical Accessibility (n=11)

- Digital Accessibility (n=18)

- Employment Accessibility (n=8)

- Cultural Heritage Accessibility (n=9)

- Tourism Accessibility (including recreation and sports) (n=19)

- Accessibility in Security and Evacuation Situations (n=5)

Participants were asked to respond to each question using a Likert scale, with options ranging from 0 (totally disagree) to 5 (totally agree). Two additional options—"I don't know" and "Not relevant to my disability"—were provided for questions that might not apply to all participants. The full questionnaire can be found below.

Additionally, the participants answered to questions concerning their demographic/individual

characteristics. These questions, answered at the beginning of the questionnaire, concerning the participant's gender, age, educational level and use of assistive technology and accessible materials, including naming specific means used. Participants were also asked to select one of the 7 target groups to which they belong, as well as information on the severity of visual impairments, the type/cause of hearing impairment or motor disability. Moreover, questions were included about the ability of participants with visual or motor impairments to move independently. Specific disability-related questions appeared only to participants who indicated the corresponding target group.

“General Accessibility”

- **Physical accessibility:**

Outdoor places:

1. I find it difficult to walk in outdoor spaces due to their poor structure (e.g., damaged or narrow sidewalks, obstacles, lack of ramps) and lack of pedestrian maintenance.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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2. It is difficult for me to navigate external spaces without someone to accompany me due to a lack of signage.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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3. Insufficient lighting in external spaces is challenging for me.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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4. I have difficulty finding accessible parking spaces.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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Indoor places:

5. It isn't easy for me to navigate internal spaces, such as hospitals, due to a lack of indicators and signage.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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6. I have difficulty navigating indoor spaces with stairs and no ramps or elevators.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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7. I find difficulty in indoor places (such as schools, gyms, bars, and restaurants) due to the lack or misuse of toilets for people with disabilities.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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8. Indoor places are challenging for me when there are not standardized lighting levels.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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9. Overcrowded and noisy internal spaces are frustrating for me.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to
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- **Mobility with the means of transportation:**

10. I find it difficult to get on the bus (e.g., due to narrow spaces or lack of ramps or due to the height of the doorstep).

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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11. It is difficult for me to find the correct bus stop to get on/off the bus or the correct bus at the bus station due to a lack of signage and announcements.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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12. When public transportation is overcrowded and noisy, it is difficult for me to cope with.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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13. I find it challenging to access bus stops due to the inaccessible routes leading to them.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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14. I frequently have difficulty communicating with bus drivers, or they are unwilling to help.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to
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- **Communication with and services of the public and private sectors:**

15. There are no accessible facilities in public and private sector services, or the existing ones lack maintenance.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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16. My disability card is not always taken into account to be granted priority and I find it difficult to wait in lines for a long time.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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17. The staff in services (such as hospital personnel) are not properly educated on how to treat and communicate with people with disabilities, or they are not willing to help.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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18. I cannot communicate and understand the information explained to me in public services without assistance.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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19. Information and services (e.g., booking an appointment) on health portals and websites are not accessible to me.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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20. Monitors for clients (e.g., in banks or hospitals) are not accessible to people with disabilities.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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21. Communication is challenging for me in public or private services where glass barriers are used, or people wear face masks.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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22. There is a lack of accessible information in public services (e.g. tactile maps, Braille labels, audible information, easy-to-read texts etc.).

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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23. I encounter difficulties in health care services due to organizational and transport barriers.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- **Web accessibility:**

24. I have difficulty navigating unfamiliar websites and locating important information (e.g., contact details) due to their overly complex and inaccessible design.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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25. I find difficulty with internet services and websites, especially when they are not up to date and incompatible with assistive technology (e.g., not accessible with screen recognition)

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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26. I find it difficult to understand information in digital interfaces due to too much complex content involved.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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27. I have difficulty using chat windows or digital bots on websites.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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28. Navigation paths and searching on websites are too complicated for me.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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29. Using passwords on digital platforms or apps is challenging for me.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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30. I struggle with access to social media (e.g. blogging and Facebook).

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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“Digital accessible transformation”

- **E-commerce**

31. Due to inaccessible e-commerce platforms, I find navigating product information and detailed descriptions challenging (e.g., not compatible with screen recognition programs).

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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32. E-commerce is challenging because I worry about online shopping security.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- **Digital documents and services of the public and private sectors (e.g.-forms, informational material, tax or government sites/applications)**

33. Due to poor accessibility, I find it difficult to access, fill in, and save digital documents (such as declarations from CSIS) on my own, especially when they require personal information.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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34. I encounter difficulty with digital service documents that require me to fill in or understand instructions with unfamiliar terminology, such as legal, banking, or administrative vocabulary.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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35. The formats in digital documents and online services are inaccessible (e.g., small/large fonts or artistic ones, lack of speech-to-text technology and multiple interaction methods, such as voice commands).

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- **Digital customer communication**

36. I find communicating with technical assistance services challenging and hesitate to ask for help.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- **Digital Banking (including ATMs/cash points and Interactive Teller Machines inside a bank)**

37. Navigating through bank websites and i-banking to check my bank account and transfer money is difficult due to accessibility issues.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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38. It is challenging for me to make digital payments and manage my finances.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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39. ATMs are challenging for me due to the lack of specific accessibility features.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- **Digital libraries and repositories**

40. I find navigating and searching certain things in digital libraries difficult due to poor accessibility.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- **Digital devices and their software/apps (e.g. mobile phones, smart TV, home appliances)**

41. I have difficulty keeping up with updates in operating systems, digital formats of information, and device and software updates.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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“Educational Accessibility”

- **Spatial Accessibility in educational units (public and private education, primary, secondary and post-secondary education including tertiary)**

42. I have difficulty reaching my educational unit or navigating into it due to the inappropriate building structure (e.g. narrow spaces and obstacles).

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to
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43. I have difficulty reaching my educational unit or navigating into it due to lack of facilities (e.g., ramps, elevators, signage).

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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44. It is difficult for me to attend a course in a crowded educational environment.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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45. I find it difficult to attend the lesson when I am not close to the teacher and the board in the classroom.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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46. I find it difficult when lecture locations change.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- **Accessibility in educational material (documents – text & images/maps and graphs, video, presentations, VR & AR) and assistive technology**

47. I find it difficult to access educational material when it is not given in an accessible text form (e.g., easy-to-read texts, accessible texts in Word or Pdf form).

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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48. I have difficulties in accessing educational material due to the lack of accessible forms and multimedia (e.g., accessible presentations, accessible videos).

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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49. There is not accessible educational material with the use of VR/AR technology.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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50. There is a lack of information about useful tools for teachers and students.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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51. There are no available devices or educational tools compatible with assistive technology to support me in the courses that I attend (e.g., screen readers).

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- **Accessibility in services provided by the educational units (e.g. communication with the administrative services, announcements by the teaching and the administrative staff)**

52. Communication with the administrative services is inadequate, and I don't have the chance to express my needs.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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53. Announcements by the teaching and administrative staff are not always accessible to me or presented understandably.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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54. The library in the educational institution I attend is not equipped appropriately (e.g., assistive technology, devices, etc.) to support students with disabilities.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- **Accessibility in courses – modifications in teaching practices and tools (devices, software/apps)**

55. The teacher's lack of qualification to use accessibility methods (e.g., technological and e-learning tools) and lack of proper training in supporting students with disabilities led to significant gaps in my learning, making it difficult to catch up.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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56. Teachers do not take into account the special needs of students with disabilities during the physical or online examination process (e.g., time, exam difficulty, examination form and directions)

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to
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57. I find it difficult to work in a group because of the lack of disability awareness among my fellow students.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- **Accessibility in distance education/online learning**

58. I face difficulties accessing online courses and material due to inaccessibility in digital educational material and resources.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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59. I cannot keep up with online courses as they are too fast, and I do not have time to take notes and digest information.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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“Employment Accessibility”

- **Spatial/Physical Accessibility in the workplace**

60. I cannot reach my workplace easily due to poor structure in external spaces.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to
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61. At my workplace, in internal spaces there are accessibility issues concerning spatial accessibility (e.g. there are no ramps and elevators, facilities, toilets, or narrow spaces).

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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62. Noise and unstructured environment in the workplace cause me stress.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- **Accessible services in the workplace (e.g., hiring processes, communication with different sectors)**

63. I find it difficult to apply for a job, follow a hiring process, or make requests in my workplace due to the inaccessibility of documents and websites.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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64. I need assistance from others in my workplace because of inaccessibility, which is not always given (e.g., instructions and modifications from employers).

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- **In-service training and career up-skilling**

65. I find it difficult to master new digital tools effectively at my workplace due to accessibility barriers, such as complex interfaces and a lack of assistive technology support.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- **Assistive Technology in the workplace and accessible material**

66. At my job, no assistive technology or special equipment is available to support me.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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67. The machines I have to use in my job are not accessible.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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“Cultural Heritage Accessibility”

- **Physical accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites, religious sites) as for the indoor environment and proximity areas (e.g. parking space, guidance towards the main entrance)**

68. At museums, art galleries, and archaeological sites, external spaces lack proper infrastructure and indicators to help visitors understand where the parking spots and entrances are or how to get there.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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69. At museums, exhibits, and works of art, internal spaces lack accessible infrastructure

(unstable glass floor, obstacles, lack of stairs with handrails) and indicators to help visitors reach the points of interest.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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70. I find it difficult to navigate in museums or cultural heritage sites when they are crowded.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- **Accessibility in cultural heritage sites/environments (museums, art galleries, archaeological sites) as for the services (physical and digital)**

71. There are no trained staff members who can support me in archaeological and cultural sites and museums.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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72. Many cultural heritage sites lack permeable and functional websites (e.g., virtual tours).

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- **Accessibility in museum exhibits and works of art**

73. Most places of cultural heritage don't have tour guides available for people with disabilities.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to
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74. A tour guide is not always enough for me to have access to cultural heritage environments.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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75. I struggle to comprehend the information in the museum because of the vocabulary, syntax and ambiguity of the words and symbols.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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76. It is difficult for me to have access to information, as there is a lack of tactile material, audio descriptions (e.g. QR codes for audio information) for museum exhibits or text information is unreadable.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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“Tourism (including recreation and sports) Accessibility”

- **Accessibility in Tourism Services**

77. I find it difficult to plan a trip (e.g., activities) due to inaccessible websites of travel agencies.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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78. There is no tourist signage for the direction of tourist attractions and service facilities.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- **Accessibility in accommodation (hotel units, camps, camping)**

79. Booking a room in a hotel is difficult for me as I do not have access to the information needed (e.g. pictures).

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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80. I cannot book tickets and accommodation without assistance due to hard-to-read websites.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- **Accessibility in transportation**

81. Transportation means (e.g., airplanes, ships, buses, trains) are not properly designed to serve people with disabilities.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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82. I do not have access to the announcements provided by transportation means (e.g., airplanes, buses, ships).

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to
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83. Staff in transportation means are not well trained to serve people with disabilities.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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84. I find it difficult to book a ticket online due to the inaccessible websites .

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- Accessibility in sports & recreational facilities**

85. Sports equipment (e.g. exercise machines) in sports centers is inaccessible to people with disabilities.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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86. Sports facilities are inaccessible in terms of physical accessibility (entrances, indoor spaces, etc.).

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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87. There is no consideration for safety measures in sports facilities regarding people with disabilities.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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88. Sports clubs have no available and qualified staff to support people with disabilities and create programs adapted to them.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- **Accessibility at beaches**

89. Beach ramps are not available on the beach, or they are not functional.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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90. I find it difficult to locate my belongings when leaving the water.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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91. On the beach, no assistance is provided by the beach bar owners for people with disabilities.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- **Accessible shows (theaters, cinemas, concerts...) & accessible movies**

92. There is no provision for appropriate staff training for people with disabilities in theaters,

cinemas, and concerts.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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93. I have difficulty accessing TV programs (e.g. news broadcasts) or videos due to lack of accessibility (e.g. lack of interpretation or subtitles, difficult-unknown terminology).

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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94. In a theater or a cinema, there is no provision for people with disabilities regarding facilities and seating arrangements.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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95. It is challenging for me to book a ticket for a movie, a theater, or a concert due to inaccessible websites (e.g., through a screen reader)

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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“Accessibility in Security and Evacuation Situations”

- **Accessibility in Security Systems (e.g. the evacuation and security systems in case of fire, earthquake, etc.)**

96. Evacuation and security systems lack specific provisions for people with disabilities (e.g., alerts that are not accessible to everyone).

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- **Accessibility in Evacuation Planning (e.g. accessible evacuation plan)**

97. There is no provision for inclusive planning for people with disabilities in security evacuation situations.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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98. There is no training for handling emergency situations involving people with disabilities.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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- **Accessibility of emergency information (Multiple channels)**

99. Applications that have the services of the fire department, hospital, and police are not accessible enough.

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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100. I find it hard to understand critical information due to the lack of accessible formats of information (e.g., understandable vocabulary, easy-to-read texts, accessible texts or other accessible formats).

1. Totally disagree	2. Disagree	3. Neutral	4. Agree	5. Totally agree	6. I don't know	7. Not relevant to my disability
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5. Procedures

A Google Form link to the questionnaire was sent to individuals willing to participate in the research. At the beginning of the questionnaire, participants were briefly informed about the project, the responsible parties, the research aims, and the anonymous and voluntary nature of participation. Participants were asked to provide consent before answering the questions, fill in some personal demographic information, and then proceed to answer the 100 questions of the questionnaire.

6. Results

Table 1 presents the results of the descriptive statistics regarding the responses of the total sample of study participants, sorted by the mean (of the score) from highest to lowest value. This sorting highlights the accessibility problems that appear as most common, which

appear in the first rows of the table. For example, item 98 of the questionnaire (*There is no training for handling emergency situations involving people with disabilities*) shows the highest value (mean = 3.09) meaning that more participants agree with this statement (what item 98 describes), compared to the other statements (other items) that follow in the order. To further link the means to the level of agreement of the participants, the 5-points Likert scale used for the responses should be considered. According to this, a value of 0 corresponds to the total disagreement (totally disagree) with the statement of the person answering the questionnaire, while a value of 4 corresponds to the total agreement of the person answering the questionnaire. A value of 1 means disagree with the item, a value of 2 means neither agree nor disagree (neutral), and a value of 3 means agree with the item. For example, a value of 2.8 means that the person almost agrees with the item.

Table 1

Mean, median, and standard deviation of participants' responses to each item of the questionnaire. The value of N corresponds to the number of participants who responded to what extent they agreed with the item. This number is different for each item and is less than 174, which corresponds to the total number of participants in the survey. The difference between the N-value and 174 is due to the "I don't know" or "Not relevant to my disability" responses given by some participants. These responses were included in the possible response options, in addition to the 5-point Likert scale options.

	N	Mean	Median	SD
98. There is no training for handling emergency situations involving people with disabilities.	115	3.09	3	1.03
97. There is no provision for inclusive planning for people with disabilities in security evacuation situations.	111	2.99	3	1.14
96. Evacuation and security systems lack specific provisions for people with disabilities (e.g., alerts that are not accessible to everyone).	112	2.96	3	1.10
22. There is a lack of accessible information in public services (e.g., tactile maps, Braille labels, audible information, easy-to-read texts, etc.)	111	2.91	3	1.20
1. I find it difficult to walk in outdoor spaces due to their poor structure (e.g., damaged or narrow sidewalks, obstacles,	124	2.90	3	1.19

lack of ramps) and lack of pedestrian maintenance.

88. Sports clubs have no available and qualified staff to support people with disabilities and create programs adapted to them.	103	2.86	3	1.06
50. There is a lack of information about useful tools for teachers and students.	109	2.80	3	1.13
85. Sports equipment (e.g. exercise machines) in sports centers is inaccessible to people with disabilities.	103	2.80	3	1.12
9. Overcrowded and noisy internal spaces are frustrating for me.	138	2.78	3.00	1.23
15. There are no accessible facilities in public and private sector services, or the existing ones lack maintenance.	130	2.77	3.00	1.09
73. Most places of cultural heritage don't have tour guides available for people with disabilities.	104	2.77	3.00	1.17
89. Beach ramps are not available on the beach, or they are not functional.	108	2.77	3.00	1.07
92. There is no provision for appropriate staff training for people with disabilities in theaters, cinemas, and concerts.	110	2.77	3.00	1.07
87. There is no consideration for safety measures in sports facilities regarding people with disabilities.	100	2.76	3.00	1.09
4. I have difficulty finding accessible parking spaces.	93	2.75	3	1.27
12. When public transportation is overcrowded and noisy, it is difficult for me to cope with.	134	2.75	3.00	1.17
81. Transportation means (e.g., airplanes, ships, buses, trains) are not properly designed to serve people with disabilities.	128	2.72	3.00	1.22
7. I find difficulty in indoor places (such as schools, gyms, bars, and restaurants) due to the lack or misuse of toilets for	105	2.70	3	1.39

people with disabilities.

10. I find it difficult to get on the bus (e.g., due to narrow spaces or lack of ramps or due to the height of the doorstep).	117	2.70	3	1.30
99. Applications that have the services of the fire department, hospital, and police are not accessible enough.	97	2.66	3	1.10
8. Indoor places are challenging for me when there are not standardized lighting levels.	107	2.65	3	1.24
70. I find it difficult to navigate in museums or cultural heritage sites when they are crowded.	131	2.65	3	1.12
83. Staff in transportation means are not well trained to serve people with disabilities.	125	2.65	3	1.08
86. Sports facilities are inaccessible in terms of physical accessibility (entrances, indoor spaces, etc.).	98	2.64	3	1.07
6. I have difficulty navigating indoor spaces with stairs and no ramps or elevators.	114	2.63	3	1.40
94. In a theater or a cinema, there is no provision for people with disabilities regarding facilities and seating arrangements.	118	2.62	3	1.16
16. My disability card is not always taken into account to be granted priority and I find it difficult to wait in lines for a long time.	107	2.60	3	1.30
69. At museums, exhibits, and works of art, internal spaces lack accessible infrastructure (unstable glass floor, obstacles, lack of stairs with handrails) and indicators to help visitors reach the points of interest.	118	2.60	3	1.10
3. Insufficient lighting in external spaces is challenging for me.	115	2.59	3	1.22

34. I encounter difficulty with digital service documents that require me to fill in or understand instructions with unfamiliar terminology, such as legal, banking, or administrative vocabulary.	136	2.59	3	1.15
91. On the beach, no assistance is provided by the beach bar owners for people with disabilities.	104	2.59	3	1.20
47. I find it difficult to access educational material when it is not given in an accessible text form (e.g., easy-to-read texts, accessible texts in Word or Pdf form).	110	2.58	3	1.22
68. At museums, art galleries, and archaeological sites, external spaces lack proper infrastructure and indicators to help visitors understand where the parking spots and entrances are or how to get there.	120	2.58	3	1.08
62. Noise and an unstructured environment in the workplace cause me stress.	117	2.57	3	1.12
72. Many cultural heritage sites lack permeable and functional websites (e.g., virtual tours).	106	2.54	3	1.12
23. I encounter difficulties in health care services due to organizational and transport barriers.	111	2.53	3	1.15
32. E-commerce is challenging because I worry about online shopping security.	136	2.48	3	1.24
51. There are no available devices or educational tools compatible with assistive technology to support me in the courses that I attend (e.g., screen readers).	83	2.48	3	1.28
49. There is not accessible educational material with the use of VR/AR technology.	71	2.46	3	1.26
44. It is difficult for me to attend a course in a crowded educational environment.	119	2.45	3	1.33
74. A tour guide is not always enough for me to have	110	2.44	3	1.17

access to cultural heritage environments.

17. The staff in services (such as hospital personnel) are not properly educated on how to treat and communicate with people with disabilities, or they are not willing to help.	134	2.42	3	1.15
5. It isn't easy for me to navigate internal spaces, such as hospitals, due to a lack of indicators and signage.	115	2.41	3	1.30
71. There are no trained staff members who can support me in archaeological and cultural sites and museums.	115	2.41	3	1.08
20. Monitors for clients (e.g., in banks or hospitals) are inaccessible to people with disabilities.	118	2.39	2.50	1.31
55. The teacher's lack of qualification to use accessibility methods (e.g., technological and e-learning tools) and lack of proper training in supporting students with disabilities led to significant gaps in my learning, making it difficult to catch up.	104	2.38	3	1.32
78. There is no tourist signage for the direction of tourist attractions and service facilities.	104	2.38	3	1.07
45. I find it difficult to attend the lesson when I am not close to the teacher and the board in the classroom.	117	2.37	3	1.32
48. I have difficulties in accessing educational material due to the lack of accessible forms and multimedia (e.g., accessible presentations and accessible videos).	110	2.37	3	1.33
13. I find it challenging to access bus stops due to the inaccessible routes leading to them.	116	2.36	2	1.19
46. I find it difficult when lecture locations change.	119	2.36	3	1.27
53. Announcements by the teaching and administrative staff are not always accessible to me or presented understandably.	107	2.36	2	1.22

21. Communication is challenging for me in public or private services where glass barriers are used or people wear face masks.	119	2.34	3	1.30
33. Due to poor accessibility, I find it difficult to access, fill in, and save digital documents (such as declarations from CSIS) on my own, especially when they require personal information.	122	2.34	3	1.26
56. Teachers do not take into account the special needs of students with disabilities during the physical or online examination process (e.g., time, exam difficulty, examination form and directions).	116	2.34	3	1.41
25. I find difficulty with internet services and websites, especially when they are not up to date and incompatible with assistive technology (e.g., not accessible with screen recognition).	105	2.33	2	1.28
26. I find it difficult to understand information in digital interfaces due to too much complex content involved.	124	2.33	3	1.29
11. It is difficult for me to find the correct bus stop to get on/off the bus or the correct bus at the bus station due to a lack of signage and announcements.	124	2.31	3	1.28
35. The formats in digital documents and online services are inaccessible (e.g., small/large fonts or artistic ones, lack of speech-to-text technology and multiple interaction methods, such as voice commands)	113	2.29	2	1.22
36. I find communicating with technical assistance services challenging and hesitate to ask for help.	126	2.27	2.50	1.34
52. Communication with the administrative services is inadequate, and I don't have the chance to express my needs.	115	2.27	2	1.26
76. It is difficult for me to have access to information, as there is a lack of tactile material, audio descriptions (e.g. QR	95	2.27	3	1.17

codes for audio information) for museum exhibits or text information is unreadable.

59. I cannot keep up with online courses as they are too fast, and I do not have time to take notes and digest information.	107	2.25	2	1.28
43. I have difficulty reaching my educational unit or navigating into it due to lack of facilities (e.g., ramps, elevators, signage).	89	2.24	2	1.34
54. The library in the educational institution I attend is not equipped appropriately (e.g., assistive technology, devices, etc.) to support students with disabilities.	90	2.23	2	1.18
60. I cannot reach my workplace easily due to poor structure in external spaces.	93	2.23	2	1.33
24. I have difficulty navigating unfamiliar websites and locating important information (e.g., contact details) due to their overly complex and inaccessible design.	130	2.22	2.50	1.32
41. I have difficulty keeping up with updates in operating systems, digital formats of information, and device and software updates.	124	2.21	2	1.33
100. I find it hard to understand critical information due to the lack of accessible formats of information (e.g., understandable vocabulary, easy-to-read texts, accessible texts or other accessible formats).	112	2.20	2	1.18
66. At my job, no assistive technology or special equipment is available to support me.	74	2.19	2	1.30
77. I find it difficult to plan a trip (e.g., activities) due to inaccessible websites of travel agencies.	124	2.17	2	1.24
64. I need assistance from others in my workplace because of inaccessibility, which is not always given (e.g., instructions and modifications from employers).	91	2.16	2	1.21

31. Due to inaccessible e-commerce platforms, I find navigating product information and detailed descriptions challenging (e.g., not compatible with screen recognition programs).	106	2.14	2	1.27
39. ATMs are challenging for me due to the lack of specific accessibility features.	116	2.14	2	1.41
38. It is challenging for me to make digital payments and manage my finances.	132	2.10	2	1.38
40. I find navigating and searching certain things in digital libraries difficult due to poor accessibility.	105	2.10	2	1.29
61. At my workplace, in internal spaces, there are accessibility issues concerning spatial accessibility (e.g., there are no ramps and elevators, facilities, toilets, or narrow spaces).	86	2.08	2	1.33
84. I find it difficult to book a ticket online due to the inaccessible websites.	122	2.08	2	1.20
14. I frequently have difficulty communicating with bus drivers, or they are unwilling to help.	124	2.06	2	1.17
42. I have difficulty reaching my educational unit or navigating into it due to the inappropriate building structure (e.g. narrow spaces and obstacles).	84	2.05	2	1.29
29. Using passwords on digital platforms or apps is challenging for me.	134	2.04	2	1.35
58. I face difficulties accessing online courses and material due to inaccessibility in digital educational material and resources.	103	2.02	2	1.31
65. I find it difficult to master new digital tools effectively at my workplace due to accessibility barriers, such as complex interfaces and a lack of assistive technology support.	89	2.02	2	1.29

67. The machines I have to use in my job are not accessible.	82	2.01	2	1.24
27. I have difficulty using chat windows or digital bots on websites.	123	2.00	2	1.31
57. I find it difficult to work in a group because of the lack of disability awareness among my fellow students.	119	2.00	2	1.41
63. I find it difficult to apply for a job, follow a hiring process, or make requests in my workplace due to the inaccessibility of documents and websites.	105	1.99	2	1.16
93. I have difficulty accessing TV programs (e.g. news broadcasts) or videos due to lack of accessibility (e.g. lack of interpretation or subtitles, difficult-unknown terminology).	96	1.99	2	1.28
79. Booking a room in a hotel is difficult for me as I do not have access to the necessary information (e.g., pictures).	133	1.98	2	1.24
90. I find it difficult to locate my belongings when leaving the water.	102	1.97	2	1.25
80. I cannot book tickets and accommodation without assistance due to hard-to-read websites.	121	1.96	2	1.23
82. I do not have access to the announcements provided by transportation means (e.g., airplanes, buses, ships).	112	1.96	2	1.21
19. Information and services (e.g., booking an appointment) on health portals and websites are not accessible to me.	126	1.95	2	1.29
28. Navigation paths and searching on websites are too complicated for me.	135	1.91	2	1.29
2. It is difficult to navigate external spaces without someone to accompany me due to a lack of signage.	106	1.88	2	1.26
95. It is challenging for me to book a ticket for a movie, a theater, or a concert due to inaccessible websites (e.g.,	108	1.88	2	1.20

through a screen reader)

18. I cannot communicate and understand the information explained to me in public services without assistance.	127	1.87	2	1.26
37. Navigating through bank websites and i-banking to check my bank account and transfer money is difficult due to accessibility issues.	123	1.82	1	1.31
75. I struggle to comprehend the information in the museum because of the vocabulary, syntax and ambiguity of the words and symbols.	117	1.80	2	1.23
30. I struggle with access to social media (e.g., blogging and Facebook).	66	1.32	1	1.20

Table 2 below presents the results of the descriptive statistics regarding the responses of the total sample of study participants, comparing each of the seven categories of participants: 1) Visual Impairments, 2) Physical/Mobility Impairments, 3) Deaf-Hard of hearing, 4) Specific Learning Disabilities, 5) Autism (High Functioning/ Asperger's Syndrome), 6) Mild Intellectual disability, and 7) Older people.

Table 2

Mean, and standard deviation of participants' responses to each item of the questionnaire. The value of N corresponds to the number of participants who responded to what extent they agreed with the item. This number is different for each item and is less than number of participants belonging to each of the seven categories. The difference between the N-value and the number of participants belonging to each category is due to the "I don't know" or "Not relevant to my disability" responses given by some participants. These responses were included in the possible response options, in addition to the 5-point Likert scale options.

	Category	N	Mean	SD
1. I find it difficult to walk in outdoor spaces due to their poor structure (e.g., damaged or narrow sidewalks,	Visual Impairments	18	2.667	1.188
	Physical/Mobility Impairments	63	3.127	1.198
	Deaf-Hard of hearing	9	2.556	1.333

	Category	N	Mean	SD
obstacles, lack of ramps) and lack of pedestrian maintenance.	Specific Learning Disabilities	2	4.000	0.000
	Autism (High Functioning/Asperger's Syndrome)	4	2.250	0.957
	Mild Intellectual disability	9	2.222	1.394
	Older people	19	2.842	0.958
2. It is difficult to navigate external spaces without someone to accompany me due to a lack of signage.	Visual Impairments	18	2.056	1.305
	Physical/Mobility Impairments	49	2.245	1.199
	Deaf-Hard of hearing	7	1.857	1.464
	Specific Learning Disabilities	2	1.000	1.414
	Autism (High Functioning/Asperger's Syndrome)	4	1.000	0.000
	Mild Intellectual disability	10	1.200	1.398
	Older people	16	1.313	1.014
3. Insufficient lighting in external spaces is challenging for me.	Visual Impairments	16	2.563	1.365
	Physical/Mobility Impairments	48	2.583	1.235
	Deaf-Hard of hearing	14	2.714	1.326
	Specific Learning Disabilities	2	4.000	0.000
	Autism (High Functioning/Asperger's Syndrome)	6	2.000	0.894
	Mild Intellectual disability	9	2.444	1.590
	Older people	20	2.650	0.933
4. I have difficulty finding accessible parking spaces.	Visual Impairments	6	2.333	1.211
	Physical/Mobility Impairments	54	3.000	1.289
	Deaf-Hard of hearing	11	2.091	1.221
	Specific Learning Disabilities	2	3.000	1.414
	Autism (High Functioning/Asperger's Syndrome)	4	2.500	1.291
	Mild Intellectual disability	7	2.000	0.816

	Category	N	Mean	SD
	Older people	9	3.000	1.323
5. It isn't easy for me to navigate internal spaces, such as hospitals, due to a lack of indicators and signage.	Visual Impairments	17	2.706	1.404
	Physical/Mobility Impairments	53	2.302	1.381
	Deaf-Hard of hearing	11	2.636	1.027
	Specific Learning Disabilities	4	3.250	0.500
	Autism (High Functioning/Asperger's Syndrome)	5	2.800	0.837
	Mild Intellectual disability	8	2.000	1.512
	Older people	17	2.176	1.185
6. I have difficulty navigating indoor spaces with stairs and no ramps or elevators.	Visual Impairments	14	1.643	1.598
	Physical/Mobility Impairments	61	3.262	1.109
	Deaf-Hard of hearing	7	1.571	1.718
	Specific Learning Disabilities	2	3.500	0.707
	Autism (High Functioning/Asperger's Syndrome)	4	1.250	0.500
	Mild Intellectual disability	9	1.333	0.866
	Older people	17	2.529	1.125
7. I find difficulty in indoor places (such as schools, gyms, bars, and restaurants) due to the lack or misuse of toilets for people with disabilities.	Visual Impairments	13	1.923	1.605
	Physical/Mobility Impairments	61	3.213	1.156
	Deaf-Hard of hearing	8	2.000	1.690
	Specific Learning Disabilities	2	2.500	2.121
	Autism (High Functioning/Asperger's Syndrome)	4	1.750	0.957
	Mild Intellectual disability	7	2.429	1.134
	Older people	10	1.800	1.317
8. Indoor places are challenging for me when there are not standardized lighting levels.	Visual Impairments	16	2.438	1.504
	Physical/Mobility Impairments	46	2.761	1.251
	Deaf-Hard of hearing	11	3.091	1.136

	Category	N	Mean	SD
9. Overcrowded and noisy internal spaces are frustrating for me.	Specific Learning Disabilities	2	4.000	0.000
	Autism (High Functioning/Asperger's Syndrome)	5	3.200	0.447
	Mild Intellectual disability	9	2.222	1.093
	Older people	18	2.222	1.114
	Visual Impairments	15	2.267	1.335
	Physical/Mobility Impairments	60	2.883	1.250
	Deaf-Hard of hearing	16	2.875	1.088
	Specific Learning Disabilities	6	3.667	0.516
10. I find it difficult to get on the bus (e.g., due to narrow spaces or lack of ramps or due to the height of the doorstep).	Autism (High Functioning/Asperger's Syndrome)	9	3.333	0.707
	Mild Intellectual disability	12	2.000	1.348
	Older people	20	2.700	1.218
	Visual Impairments	10	1.500	1.354
	Physical/Mobility Impairments	67	3.179	1.086
	Deaf-Hard of hearing	8	2.125	1.458
	Specific Learning Disabilities	2	3.000	1.414
	Autism (High Functioning/Asperger's Syndrome)	4	2.000	0.816
11. It is difficult for me to find the correct bus stop to get on/off the bus or the correct bus at the bus station due to a lack of signage and announcements.	Mild Intellectual disability	8	2.250	1.488
	Older people	18	2.167	1.249
	Visual Impairments	18	2.500	1.425
	Physical/Mobility Impairments	53	2.396	1.291
	Deaf-Hard of hearing	14	2.857	0.949
	Specific Learning Disabilities	5	2.800	1.095
	Autism (High Functioning/Asperger's Syndrome)	7	2.000	1.000
	Mild Intellectual disability	10	1.600	1.350

	Category	N	Mean	SD
	Older people	17	1.824	1.286
12. When public transportation is overcrowded and noisy, it is difficult for me to cope with.	Visual Impairments	15	2.467	1.187
	Physical/Mobility Impairments	60	2.883	1.136
	Deaf-Hard of hearing	14	2.714	1.139
	Specific Learning Disabilities	5	3.800	0.447
	Autism (High Functioning/Asperger's Syndrome)	9	2.778	1.302
	Mild Intellectual disability	11	2.000	1.000
	Older people	20	2.700	1.261
13. I find it challenging to access bus stops due to the inaccessible routes leading to them.	Visual Impairments	18	1.944	1.211
	Physical/Mobility Impairments	59	2.712	1.068
	Deaf-Hard of hearing	8	2.125	1.642
	Specific Learning Disabilities	2	3.000	1.414
	Autism (High Functioning/Asperger's Syndrome)	4	1.500	0.577
	Mild Intellectual disability	8	2.000	0.926
	Older people	17	2.000	1.275
14. I frequently have difficulty communicating with bus drivers, or they are unwilling to help.	Visual Impairments	17	1.882	1.219
	Physical/Mobility Impairments	59	2.102	1.269
	Deaf-Hard of hearing	14	2.643	0.929
	Specific Learning Disabilities	2	2.500	0.707
	Autism (High Functioning/Asperger's Syndrome)	5	1.400	0.894
	Mild Intellectual disability	10	1.700	1.252
	Older people	17	2.000	0.866
15. There are no accessible facilities in public and private sector services, or the existing ones lack maintenance.	Visual Impairments	18	3.056	0.938
	Physical/Mobility Impairments	63	2.683	1.216
	Deaf-Hard of hearing	14	3.143	0.663

	Category	N	Mean	SD
	Specific Learning Disabilities	5	3.200	0.447
	Autism (High Functioning/ Asperger's Syndrome)	4	2.000	0.816
	Mild Intellectual disability	8	2.250	1.282
	Older people	18	2.778	1.003
16. My disability card is not always taken into account to be granted priority and I find it difficult to wait in lines for a long time.	Visual Impairments	15	2.000	1.414
	Physical/Mobility Impairments	63	2.873	1.198
	Deaf-Hard of hearing	10	2.100	1.197
	Specific Learning Disabilities	2	3.000	1.414
	Autism (High Functioning/ Asperger's Syndrome)	4	2.250	1.258
	Mild Intellectual disability	8	2.500	1.512
	Older people	5	2.200	1.789
17. The staff in services (such as hospital personnel) are not properly educated on how to treat and communicate with people with disabilities, or they are not willing to help.	Visual Impairments	17	2.353	1.222
	Physical/Mobility Impairments	66	2.333	1.086
	Deaf-Hard of hearing	17	2.765	1.300
	Specific Learning Disabilities	5	3.000	0.707
	Autism (High Functioning/ Asperger's Syndrome)	5	3.000	1.000
	Mild Intellectual disability	11	2.000	1.483
	Older people	13	2.385	1.044
18. I cannot communicate and understand the information explained to me in public services without assistance.	Visual Impairments	15	1.667	1.234
	Physical/Mobility Impairments	51	1.647	1.293
	Deaf-Hard of hearing	15	2.733	1.280
	Specific Learning Disabilities	9	2.000	1.323
	Autism (High Functioning/ Asperger's Syndrome)	9	1.556	1.014
	Mild Intellectual disability	10	1.800	1.135

	Category	N	Mean	SD
	Older people	18	2.056	1.162
19. Information and services (e.g., booking an appointment) on health portals and websites are not accessible to me.	Visual Impairments	17	2.353	1.115
	Physical/Mobility Impairments	54	1.556	1.223
	Deaf-Hard of hearing	16	2.250	1.238
	Specific Learning Disabilities	7	2.286	1.604
	Autism (High Functioning/Asperger's Syndrome)	5	1.400	0.894
	Mild Intellectual disability	9	1.889	1.453
	Older people	18	2.556	1.294
20. Monitors for clients (e.g., in banks or hospitals) are inaccessible to people with disabilities.	Visual Impairments	16	3.000	1.211
	Physical/Mobility Impairments	61	2.197	1.400
	Deaf-Hard of hearing	13	2.308	1.316
	Specific Learning Disabilities	5	2.800	0.447
	Autism (High Functioning/Asperger's Syndrome)	5	2.000	0.707
	Mild Intellectual disability	8	2.750	1.035
	Older people	10	2.400	1.430
21. Communication is challenging for me in public or private services where glass barriers are used or people wear face masks.	Visual Impairments	15	2.400	1.404
	Physical/Mobility Impairments	50	2.200	1.340
	Deaf-Hard of hearing	18	3.111	1.278
	Specific Learning Disabilities	4	3.000	0.000
	Autism (High Functioning/Asperger's Syndrome)	6	2.333	1.211
	Mild Intellectual disability	10	1.900	0.994
	Older people	16	1.938	1.237
22. There is a lack of accessible information in public services (e.g., tactile maps, Braille labels, audible	Visual Impairments	17	3.412	1.064
	Physical/Mobility Impairments	51	2.843	1.239
	Deaf-Hard of hearing	14	2.929	1.385

	Category	N	Mean	SD
information, easy-to-read texts, etc.)	Specific Learning Disabilities	6	2.667	1.366
	Autism (High Functioning/ Asperger's Syndrome)	4	2.500	0.577
	Mild Intellectual disability	6	2.667	1.366
	Older people	13	2.846	1.068
23. I encounter difficulties in health care services due to organizational and transport barriers.	Visual Impairments	15	2.333	1.234
	Physical/Mobility Impairments	59	2.644	1.200
	Deaf-Hard of hearing	11	2.455	1.214
	Specific Learning Disabilities	3	2.333	1.528
	Autism (High Functioning/ Asperger's Syndrome)	3	2.333	0.577
	Mild Intellectual disability	7	2.429	0.976
	Older people	13	2.462	1.050
24. I have difficulty navigating unfamiliar websites and locating important information (e.g., contact details) due to their overly complex and inaccessible design.	Visual Impairments	18	2.444	1.423
	Physical/Mobility Impairments	51	1.941	1.333
	Deaf-Hard of hearing	14	2.000	1.240
	Specific Learning Disabilities	11	2.818	1.250
	Autism (High Functioning/ Asperger's Syndrome)	7	1.714	1.113
	Mild Intellectual disability	9	1.667	1.225
	Older people	20	3.000	1.026
25. I find difficulty with internet services and websites, especially when they are not up to date and incompatible with assistive technology (e.g., not accessible with screen recognition).	Visual Impairments	17	2.882	1.219
	Physical/Mobility Impairments	45	2.133	1.375
	Deaf-Hard of hearing	12	2.333	1.073
	Specific Learning Disabilities	6	2.167	0.983
	Autism (High Functioning/ Asperger's Syndrome)	5	1.400	0.894
	Mild Intellectual disability	10	2.500	1.269

	Category	N	Mean	SD
	Older people	10	2.700	1.337
26. I find it difficult to understand information in digital interfaces due to too much complex content involved.	Visual Impairments	16	1.938	1.181
	Physical/Mobility Impairments	51	2.216	1.404
	Deaf-Hard of hearing	14	2.357	1.447
	Specific Learning Disabilities	10	3.100	0.876
	Autism (High Functioning/Asperger's Syndrome)	8	1.625	1.061
	Mild Intellectual disability	9	2.556	1.130
	Older people	16	2.813	1.047
27. I have difficulty using chat windows or digital bots on websites.	Visual Impairments	16	1.750	1.183
	Physical/Mobility Impairments	50	2.060	1.376
	Deaf-Hard of hearing	13	1.615	1.193
	Specific Learning Disabilities	10	1.900	1.197
	Autism (High Functioning/Asperger's Syndrome)	7	0.857	0.690
	Mild Intellectual disability	10	2.100	1.370
	Older people	17	2.824	1.185
28. Navigation paths and searching on websites are too complicated for me.	Visual Impairments	18	1.611	1.092
	Physical/Mobility Impairments	51	2.000	1.281
	Deaf-Hard of hearing	15	1.733	1.280
	Specific Learning Disabilities	13	1.615	1.446
	Autism (High Functioning/Asperger's Syndrome)	8	1.000	0.926
	Mild Intellectual disability	11	1.818	1.250
	Older people	19	2.737	1.240
29. Using passwords on digital platforms or apps is challenging for me.	Visual Impairments	17	1.882	0.993
	Physical/Mobility Impairments	52	2.115	1.381
	Deaf-Hard of hearing	15	1.600	1.242

	Category	N	Mean	SD
30. I struggle with access to social media (e.g., blogging and Facebook).	Specific Learning Disabilities	13	1.462	1.450
	Autism (High Functioning/Asperger's Syndrome)	7	1.571	1.718
	Mild Intellectual disability	11	2.182	1.168
	Older people	19	2.789	1.273
	Visual Impairments	15	0.800	0.941
	Physical/Mobility Impairments	11	1.455	1.214
	Deaf-Hard of hearing	11	1.000	0.775
	Specific Learning Disabilities	9	0.667	0.500
	Autism (High Functioning/Asperger's Syndrome)	6	1.000	1.265
31. Due to inaccessible e-commerce platforms, I find navigating product information and detailed descriptions challenging (e.g., not compatible with screen recognition programs).	Mild Intellectual disability	3	1.000	0.000
	Older people	11	3.000	1.000
	Visual Impairments	17	2.588	1.004
	Physical/Mobility Impairments	45	2.000	1.314
	Deaf-Hard of hearing	13	1.846	1.281
	Specific Learning Disabilities	9	2.111	1.453
	Autism (High Functioning/Asperger's Syndrome)	5	1.600	1.140
	Mild Intellectual disability	7	2.286	1.380
	Older people	10	2.600	1.265
32. E-commerce is challenging because I worry about online shopping security.	Visual Impairments	15	2.133	1.060
	Physical/Mobility Impairments	57	2.368	1.318
	Deaf-Hard of hearing	16	2.625	1.310
	Specific Learning Disabilities	13	2.154	1.214
	Autism (High Functioning/Asperger's Syndrome)	9	2.444	1.014
	Mild Intellectual disability	8	2.625	1.408

	Category	N	Mean	SD
	Older people	18	3.167	0.985
33. Due to poor accessibility, I find it difficult to access, fill in, and save digital documents (such as declarations from CSIS) on my own, especially when they require personal information.	Visual Impairments	17	2.000	1.225
	Physical/Mobility Impairments	49	2.429	1.291
	Deaf-Hard of hearing	13	2.231	1.235
	Specific Learning Disabilities	10	2.300	1.160
	Autism (High Functioning/Asperger's Syndrome)	8	1.250	1.035
	Mild Intellectual disability	8	3.000	0.535
	Older people	17	2.706	1.359
34. I encounter difficulty with digital service documents that require me to fill in or understand instructions with unfamiliar terminology, such as legal, banking, or administrative vocabulary.	Visual Impairments	15	2.200	1.207
	Physical/Mobility Impairments	53	2.604	1.230
	Deaf-Hard of hearing	17	2.471	1.281
	Specific Learning Disabilities	13	2.769	1.013
	Autism (High Functioning/Asperger's Syndrome)	9	2.444	1.236
	Mild Intellectual disability	10	2.600	0.966
	Older people	19	2.895	0.937
35. The formats in digital documents and online services are inaccessible (e.g., small/large fonts or artistic ones, lack of speech-to-text technology and multiple interaction methods, such as voice commands).	Visual Impairments	17	2.882	1.054
	Physical/Mobility Impairments	49	2.367	1.253
	Deaf-Hard of hearing	13	1.692	1.032
	Specific Learning Disabilities	8	1.875	1.126
	Autism (High Functioning/Asperger's Syndrome)	4	2.250	1.258
	Mild Intellectual disability	8	1.750	1.488
	Older people	14	2.429	1.089
36. I find communicating with technical assistance services challenging and hesitate to ask for help.	Visual Impairments	13	2.154	1.281
	Physical/Mobility Impairments	48	2.229	1.462
	Deaf-Hard of hearing	17	2.824	1.237

	Category	N	Mean	SD
	Specific Learning Disabilities	12	2.583	0.900
	Autism (High Functioning/ Asperger's Syndrome)	8	2.125	1.126
	Mild Intellectual disability	11	1.636	1.433
	Older people	17	2.176	1.334
37. Navigating through bank websites and i-banking to check my bank account and transfer money is difficult due to accessibility issues.	Visual Impairments	18	1.944	1.259
	Physical/Mobility Impairments	49	1.796	1.414
	Deaf-Hard of hearing	18	1.889	1.132
	Specific Learning Disabilities	10	1.700	1.337
	Autism (High Functioning/ Asperger's Syndrome)	7	1.000	1.000
	Mild Intellectual disability	8	1.750	1.488
	Older people	13	2.231	1.235
38. It is challenging for me to make digital payments and manage my finances.	Visual Impairments	17	2.353	1.367
	Physical/Mobility Impairments	52	2.096	1.390
	Deaf-Hard of hearing	16	1.875	1.310
	Specific Learning Disabilities	13	1.462	1.561
	Autism (High Functioning/ Asperger's Syndrome)	8	1.500	1.512
	Mild Intellectual disability	8	2.375	1.302
	Older people	18	2.667	1.138
39. ATMs are challenging for me due to the lack of specific accessibility features.	Visual Impairments	18	2.889	1.367
	Physical/Mobility Impairments	56	2.321	1.441
	Deaf-Hard of hearing	13	1.692	1.182
	Specific Learning Disabilities	6	1.333	1.033
	Autism (High Functioning/ Asperger's Syndrome)	5	1.000	1.225
	Mild Intellectual disability	8	1.750	1.488

	Category	N	Mean	SD
	Older people	10	1.700	1.160
40. I find navigating and searching certain things in digital libraries difficult due to poor accessibility.	Visual Impairments	17	2.706	1.105
	Physical/Mobility Impairments	42	1.976	1.370
	Deaf-Hard of hearing	11	2.273	1.191
	Specific Learning Disabilities	10	2.000	1.247
	Autism (High Functioning/Asperger's Syndrome)	5	1.200	1.304
	Mild Intellectual disability	8	1.875	1.126
	Older people	12	2.167	1.403
41. I have difficulty keeping up with updates in operating systems, digital formats of information, and device and software updates.	Visual Impairments	16	1.813	1.167
	Physical/Mobility Impairments	52	2.462	1.335
	Deaf-Hard of hearing	15	2.200	1.320
	Specific Learning Disabilities	11	2.091	1.300
	Autism (High Functioning/Asperger's Syndrome)	7	0.571	0.787
	Mild Intellectual disability	8	2.000	1.069
	Older people	15	2.733	1.335
42. I have difficulty reaching my educational unit or navigating into it due to the inappropriate building structure (e.g. narrow spaces and obstacles).	Visual Impairments	13	1.692	1.182
	Physical/Mobility Impairments	44	2.318	1.427
	Deaf-Hard of hearing	8	2.000	1.069
	Specific Learning Disabilities	3	1.667	1.155
	Autism (High Functioning/Asperger's Syndrome)	3	1.667	1.155
	Mild Intellectual disability	8	1.875	0.991
	Older people	5	1.400	1.140
43. I have difficulty reaching my educational unit or navigating into it due to lack of facilities (e.g., ramps,	Visual Impairments	14	1.786	1.251
	Physical/Mobility Impairments	50	2.580	1.341
	Deaf-Hard of hearing	8	1.750	1.035

	Category	N	Mean	SD
elevators, signage).	Specific Learning Disabilities	3	3.000	1.732
	Autism (High Functioning/ Asperger's Syndrome)	2	1.000	0.000
	Mild Intellectual disability	7	1.571	0.976
	Older people	5	1.800	1.643
44. It is difficult for me to attend a course in a crowded educational environment.	Visual Impairments	13	1.846	1.463
	Physical/Mobility Impairments	48	2.542	1.368
	Deaf-Hard of hearing	16	3.313	0.793
	Specific Learning Disabilities	16	2.563	1.094
	Autism (High Functioning/ Asperger's Syndrome)	9	2.333	1.414
	Mild Intellectual disability	11	1.818	1.328
	Older people	6	1.667	1.211
45. I find it difficult to attend the lesson when I am not close to the teacher and the board in the classroom.	Visual Impairments	15	2.800	1.014
	Physical/Mobility Impairments	42	2.310	1.370
	Deaf-Hard of hearing	17	3.235	1.033
	Specific Learning Disabilities	15	1.933	1.280
	Autism (High Functioning/ Asperger's Syndrome)	9	2.222	1.716
	Mild Intellectual disability	12	1.583	1.084
	Older people	7	2.143	1.215
46. I find it difficult when lecture locations change.	Visual Impairments	17	2.706	1.312
	Physical/Mobility Impairments	48	2.500	1.272
	Deaf-Hard of hearing	15	2.533	1.187
	Specific Learning Disabilities	13	1.538	1.050
	Autism (High Functioning/ Asperger's Syndrome)	9	2.444	1.333
	Mild Intellectual disability	9	2.000	1.323

	Category	N	Mean	SD
	Older people	8	2.125	1.246
47. I find it difficult to access educational material when it is not given in an accessible text form (e.g., easy-to-read texts, accessible texts in Word or Pdf form).	Visual Impairments	17	3.353	0.862
	Physical/Mobility Impairments	42	2.333	1.300
	Deaf-Hard of hearing	15	2.800	1.207
	Specific Learning Disabilities	13	2.615	1.261
	Autism (High Functioning/Asperger's Syndrome)	7	2.857	0.378
	Mild Intellectual disability	8	1.750	1.165
	Older people	8	2.375	1.302
48. I have difficulties in accessing educational material due to the lack of accessible forms and multimedia (e.g., accessible presentations and accessible videos).	Visual Impairments	17	3.353	0.862
	Physical/Mobility Impairments	40	2.050	1.413
	Deaf-Hard of hearing	16	2.625	1.310
	Specific Learning Disabilities	13	2.538	1.266
	Autism (High Functioning/Asperger's Syndrome)	7	2.571	0.787
	Mild Intellectual disability	9	1.333	1.323
	Older people	8	2.125	1.126
49. There is not accessible educational material with the use of VR/AR technology.	Visual Impairments	10	2.500	1.434
	Physical/Mobility Impairments	37	2.568	1.324
	Deaf-Hard of hearing	6	2.500	1.378
	Specific Learning Disabilities	6	2.000	1.265
	Autism (High Functioning/Asperger's Syndrome)	2	3.000	1.414
	Mild Intellectual disability	7	2.571	0.535
	Older people	3	1.333	1.155
50. There is a lack of information about useful tools for teachers and students.	Visual Impairments	17	3.000	1.061
	Physical/Mobility Impairments	44	2.750	1.241
	Deaf-Hard of hearing	11	3.182	0.982

	Category	N	Mean	SD
	Specific Learning Disabilities	14	3.071	0.829
	Autism (High Functioning/ Asperger's Syndrome)	7	2.857	1.069
	Mild Intellectual disability	10	2.200	1.135
	Older people	6	2.167	1.169
51. There are no available devices or educational tools compatible with assistive technology to support me in the courses that I attend (e.g., screen readers).	Visual Impairments	15	2.533	1.246
	Physical/Mobility Impairments	35	2.371	1.416
	Deaf-Hard of hearing	13	3.077	1.115
	Specific Learning Disabilities	5	2.600	0.894
	Autism (High Functioning/ Asperger's Syndrome)	3	3.000	1.000
	Mild Intellectual disability	8	2.125	1.246
	Older people	4	1.500	1.000
52. Communication with the administrative services is inadequate, and I don't have the chance to express my needs.	Visual Impairments	16	2.438	1.094
	Physical/Mobility Impairments	49	2.327	1.329
	Deaf-Hard of hearing	16	2.375	1.360
	Specific Learning Disabilities	13	2.000	1.354
	Autism (High Functioning/ Asperger's Syndrome)	7	2.143	1.215
	Mild Intellectual disability	7	2.286	1.113
	Older people	7	1.857	1.215
53. Announcements by the teaching and administrative staff are not always accessible to me or presented understandably.	Visual Impairments	14	2.286	1.139
	Physical/Mobility Impairments	44	2.159	1.256
	Deaf-Hard of hearing	16	2.688	1.138
	Specific Learning Disabilities	11	2.182	1.401
	Autism (High Functioning/ Asperger's Syndrome)	7	2.571	1.272
	Mild Intellectual disability	8	3.000	0.756

	Category	N	Mean	SD
	Older people	7	2.286	1.380
54. The library in the educational institution I attend is not equipped appropriately (e.g., assistive technology, devices, etc.) to support students with disabilities.	Visual Impairments	17	2.471	1.125
	Physical/Mobility Impairments	38	2.000	1.252
	Deaf-Hard of hearing	13	2.692	0.855
	Specific Learning Disabilities	7	2.571	1.134
	Autism (High Functioning/Asperger's Syndrome)	3	2.333	1.528
	Mild Intellectual disability	8	2.375	1.188
	Older people	4	1.000	0.816
55. The teacher's lack of qualification to use accessibility methods (e.g., technological and e-learning tools) and lack of proper training in supporting students with disabilities led to significant gaps in my learning, making it difficult to catch up.	Visual Impairments	17	2.647	1.057
	Physical/Mobility Impairments	42	2.238	1.445
	Deaf-Hard of hearing	15	2.733	1.387
	Specific Learning Disabilities	11	2.727	1.272
	Autism (High Functioning/Asperger's Syndrome)	8	2.500	1.414
	Mild Intellectual disability	7	1.714	0.756
	Older people	4	1.250	0.957
56. Teachers do not take into account the special needs of students with disabilities during the physical or online examination process (e.g., time, exam difficulty, examination form and directions).	Visual Impairments	17	2.471	0.943
	Physical/Mobility Impairments	51	2.255	1.481
	Deaf-Hard of hearing	16	2.688	1.448
	Specific Learning Disabilities	13	2.615	1.387
	Autism (High Functioning/Asperger's Syndrome)	7	2.714	1.380
	Mild Intellectual disability	9	1.333	1.500
	Older people	3	2.000	2.000
57. I find it difficult to work in a group because of the lack of disability awareness among my fellow students.	Visual Impairments	17	2.059	1.249
	Physical/Mobility Impairments	51	1.922	1.468
	Deaf-Hard of hearing	15	2.667	1.291

	Category	N	Mean	SD
	Specific Learning Disabilities	12	1.833	1.403
	Autism (High Functioning/ Asperger's Syndrome)	8	2.125	1.808
	Mild Intellectual disability	12	1.417	1.165
	Older people	4	2.250	1.500
58. I face difficulties accessing online courses and material due to inaccessibility in digital educational material and resources.	Visual Impairments	17	2.118	1.317
	Physical/Mobility Impairments	39	1.795	1.321
	Deaf-Hard of hearing	15	2.533	1.246
	Specific Learning Disabilities	12	2.417	1.165
	Autism (High Functioning/ Asperger's Syndrome)	5	2.400	1.140
	Mild Intellectual disability	10	1.300	1.337
	Older people	5	2.000	1.581
59. I cannot keep up with online courses as they are too fast, and I do not have time to take notes and digest information.	Visual Impairments	17	2.059	1.298
	Physical/Mobility Impairments	43	2.233	1.250
	Deaf-Hard of hearing	14	3.071	1.141
	Specific Learning Disabilities	10	2.400	1.350
	Autism (High Functioning/ Asperger's Syndrome)	9	2.333	1.500
	Mild Intellectual disability	10	1.400	0.843
	Older people	4	2.000	1.414
60. I cannot reach my workplace easily due to poor structure in external spaces.	Visual Impairments	13	2.154	1.214
	Physical/Mobility Impairments	54	2.500	1.342
	Deaf-Hard of hearing	9	1.333	1.118
	Specific Learning Disabilities	2	2.500	2.121
	Autism (High Functioning/ Asperger's Syndrome)	2	2.000	1.414
	Mild Intellectual disability	6	1.833	1.472

	Category	N	Mean	SD
	Older people	7	1.714	1.113
61. At my workplace, in internal spaces, there are accessibility issues concerning spatial accessibility (e.g., there are no ramps and elevators, facilities, toilets, or narrow spaces).	Visual Impairments	11	2.000	1.095
	Physical/Mobility Impairments	50	2.300	1.460
	Deaf-Hard of hearing	7	1.429	0.976
	Specific Learning Disabilities	4	2.250	1.500
	Autism (High Functioning/Asperger's Syndrome)	2	1.500	0.707
	Mild Intellectual disability	6	1.833	1.169
	Older people	6	1.500	1.049
62. Noise and an unstructured environment in the workplace cause me stress.	Visual Impairments	15	2.200	1.207
	Physical/Mobility Impairments	51	2.588	1.283
	Deaf-Hard of hearing	14	2.500	0.941
	Specific Learning Disabilities	13	2.538	0.967
	Autism (High Functioning/Asperger's Syndrome)	7	3.143	0.690
	Mild Intellectual disability	9	3.000	0.707
	Older people	8	2.375	1.061
63. I find it difficult to apply for a job, follow a hiring process, or make requests in my workplace due to the inaccessibility of documents and websites.	Visual Impairments	17	2.353	1.222
	Physical/Mobility Impairments	45	1.889	1.247
	Deaf-Hard of hearing	17	2.118	0.928
	Specific Learning Disabilities	8	2.000	1.309
	Autism (High Functioning/Asperger's Syndrome)	6	2.500	0.837
	Mild Intellectual disability	7	1.429	0.976
	Older people	5	1.400	1.140
64. I need assistance from others in my workplace because of inaccessibility, which is not always	Visual Impairments	15	2.067	1.223
	Physical/Mobility Impairments	43	2.140	1.302
	Deaf-Hard of hearing	14	2.071	1.072

	Category	N	Mean	SD
given (e.g., instructions and modifications from employers).	Specific Learning Disabilities	4	3.250	0.957
	Autism (High Functioning/Asperger's Syndrome)	3	2.333	1.528
	Mild Intellectual disability	7	2.429	0.976
	Older people	5	1.600	1.140
65. I find it difficult to master new digital tools effectively at my workplace due to accessibility barriers, such as complex interfaces and a lack of assistive technology support.	Visual Impairments	15	1.667	1.113
	Physical/Mobility Impairments	38	2.000	1.375
	Deaf-Hard of hearing	14	2.286	1.437
	Specific Learning Disabilities	7	2.571	1.134
	Autism (High Functioning/Asperger's Syndrome)	3	2.000	1.000
	Mild Intellectual disability	6	2.000	1.414
	Older people	6	1.833	1.169
66. At my job, no assistive technology or special equipment is available to support me.	Visual Impairments	11	2.273	1.679
	Physical/Mobility Impairments	38	2.211	1.277
	Deaf-Hard of hearing	10	2.600	1.075
	Specific Learning Disabilities	4	3.000	1.155
	Autism (High Functioning/Asperger's Syndrome)	2	1.500	0.707
	Mild Intellectual disability	5	1.400	1.140
	Older people	4	1.250	0.957
67. The machines I have to use in my job are not accessible.	Visual Impairments	12	2.333	1.371
	Physical/Mobility Impairments	40	2.000	1.240
	Deaf-Hard of hearing	11	2.182	1.168
	Specific Learning Disabilities	4	2.000	1.414
	Autism (High Functioning/Asperger's Syndrome)	5	1.600	1.517
	Mild Intellectual disability	6	2.000	1.265

	Category	N	Mean	SD
	Older people	4	1.250	0.957
68. At museums, art galleries, and archaeological sites, external spaces lack proper infrastructure and indicators to help visitors understand where the parking spots and entrances are or how to get there.	Visual Impairments	15	3.133	0.640
	Physical/Mobility Impairments	58	2.569	1.186
	Deaf-Hard of hearing	9	2.778	0.833
	Specific Learning Disabilities	7	2.714	0.951
	Autism (High Functioning/Asperger's Syndrome)	5	2.000	1.581
	Mild Intellectual disability	9	2.333	1.118
	Older people	17	2.294	0.920
69. At museums, exhibits, and works of art, internal spaces lack accessible infrastructure (unstable glass floor, obstacles, lack of stairs with handrails) and indicators to help visitors reach the points of interest.	Visual Impairments	14	3.071	0.730
	Physical/Mobility Impairments	60	2.517	1.255
	Deaf-Hard of hearing	8	2.250	0.886
	Specific Learning Disabilities	9	2.778	1.202
	Autism (High Functioning/Asperger's Syndrome)	4	2.250	0.500
	Mild Intellectual disability	7	3.143	0.690
	Older people	16	2.438	0.964
70. I find it difficult to navigate in museums or cultural heritage sites when they are crowded.	Visual Impairments	16	2.563	1.153
	Physical/Mobility Impairments	58	2.828	1.110
	Deaf-Hard of hearing	12	2.667	0.888
	Specific Learning Disabilities	9	2.222	1.394
	Autism (High Functioning/Asperger's Syndrome)	9	2.556	1.333
	Mild Intellectual disability	8	1.750	0.886
	Older people	19	2.789	1.032
71. There are no trained staff members who can support me in archaeological and cultural sites and	Visual Impairments	17	2.529	0.943
	Physical/Mobility Impairments	53	2.472	1.154
	Deaf-Hard of hearing	12	2.583	1.165

	Category	N	Mean	SD
museums.	Specific Learning Disabilities	9	2.556	1.014
	Autism (High Functioning/ Asperger's Syndrome)	2	1.500	0.707
	Mild Intellectual disability	7	1.571	0.976
	Older people	15	2.333	0.976
72. Many cultural heritage sites lack permeable and functional websites (e.g., virtual tours).	Visual Impairments	16	2.813	0.834
	Physical/Mobility Impairments	49	2.490	1.227
	Deaf-Hard of hearing	11	2.636	0.809
	Specific Learning Disabilities	10	2.700	1.252
	Autism (High Functioning/ Asperger's Syndrome)	5	2.400	0.894
	Mild Intellectual disability	5	1.800	1.483
	Older people	10	2.500	1.179
73. Most places of cultural heritage don't have tour guides available for people with disabilities.	Visual Impairments	18	3.278	0.895
	Physical/Mobility Impairments	50	2.640	1.156
	Deaf-Hard of hearing	12	3.167	1.193
	Specific Learning Disabilities	7	2.571	1.512
	Autism (High Functioning/ Asperger's Syndrome)	3	2.667	0.577
	Mild Intellectual disability	8	2.250	1.165
	Older people	6	2.500	1.517
74. A tour guide is not always enough for me to have access to cultural heritage environments.	Visual Impairments	17	2.235	1.033
	Physical/Mobility Impairments	51	2.549	1.137
	Deaf-Hard of hearing	11	3.182	0.982
	Specific Learning Disabilities	9	2.333	1.414
	Autism (High Functioning/ Asperger's Syndrome)	2	1.500	0.707
	Mild Intellectual disability	6	2.000	0.894

	Category	N	Mean	SD
	Older people	14	2.071	1.385
75. I struggle to comprehend the information in the museum because of the vocabulary, syntax and ambiguity of the words and symbols.	Visual Impairments	13	1.308	1.032
	Physical/Mobility Impairments	44	1.909	1.235
	Deaf-Hard of hearing	14	2.143	1.406
	Specific Learning Disabilities	12	1.583	1.240
	Autism (High Functioning/Asperger's Syndrome)	8	2.125	1.246
	Mild Intellectual disability	9	1.889	1.364
	Older people	17	1.588	1.121
76. It is difficult for me to have access to information, as there is a lack of tactile material, audio descriptions (e.g. QR codes for audio information) for museum exhibits or text information is unreadable.	Visual Impairments	17	2.882	0.928
	Physical/Mobility Impairments	38	2.000	1.208
	Deaf-Hard of hearing	10	2.700	1.059
	Specific Learning Disabilities	8	2.000	1.690
	Autism (High Functioning/Asperger's Syndrome)	4	2.250	0.957
	Mild Intellectual disability	8	2.000	0.756
	Older people	10	2.300	1.160
77. I find it difficult to plan a trip (e.g., activities) due to inaccessible websites of travel agencies.	Visual Impairments	18	2.222	1.215
	Physical/Mobility Impairments	53	2.057	1.277
	Deaf-Hard of hearing	16	2.125	1.258
	Specific Learning Disabilities	12	1.917	1.240
	Autism (High Functioning/Asperger's Syndrome)	4	1.750	0.957
	Mild Intellectual disability	7	2.286	1.254
	Older people	14	2.857	1.167
78. There is no tourist signage for the direction of tourist attractions and service facilities.	Visual Impairments	13	3.000	0.577
	Physical/Mobility Impairments	47	2.553	1.194
	Deaf-Hard of hearing	12	1.833	0.937

	Category	N	Mean	SD
	Specific Learning Disabilities	12	2.167	0.937
	Autism (High Functioning/ Asperger's Syndrome)	3	2.000	1.000
	Mild Intellectual disability	5	1.800	0.837
	Older people	12	2.167	1.030
79. Booking a room in a hotel is difficult for me as I do not have access to the necessary information (e.g., pictures).	Visual Impairments	18	1.889	1.231
	Physical/Mobility Impairments	58	1.948	1.382
	Deaf-Hard of hearing	16	2.188	1.328
	Specific Learning Disabilities	10	1.900	1.101
	Autism (High Functioning/ Asperger's Syndrome)	7	2.286	0.951
	Mild Intellectual disability	9	1.556	0.882
	Older people	15	2.200	1.082
80. I cannot book tickets and accommodation without assistance due to hard-to-read websites.	Visual Impairments	18	2.167	1.383
	Physical/Mobility Impairments	47	1.617	1.208
	Deaf-Hard of hearing	15	2.333	1.291
	Specific Learning Disabilities	12	1.917	1.084
	Autism (High Functioning/ Asperger's Syndrome)	4	2.000	0.816
	Mild Intellectual disability	9	1.667	1.225
	Older people	16	2.563	1.031
81. Transportation means (e.g., airplanes, ships, buses, trains) are not properly designed to serve people with disabilities.	Visual Impairments	17	2.412	1.326
	Physical/Mobility Impairments	64	2.797	1.287
	Deaf-Hard of hearing	14	3.000	1.177
	Specific Learning Disabilities	6	3.333	0.516
	Autism (High Functioning/ Asperger's Syndrome)	4	1.750	0.957
	Mild Intellectual disability	7	2.000	1.155

	Category	N	Mean	SD
	Older people	16	2.813	0.911
82. I do not have access to the announcements provided by transportation means (e.g., airplanes, buses, ships).	Visual Impairments	17	1.882	1.219
	Physical/Mobility Impairments	44	1.818	1.244
	Deaf-Hard of hearing	16	2.938	1.124
	Specific Learning Disabilities	6	1.667	1.033
	Autism (High Functioning/Asperger's Syndrome)	5	2.000	1.000
	Mild Intellectual disability	9	1.556	1.014
	Older people	15	1.733	1.100
83. Staff in transportation means are not well trained to serve people with disabilities.	Visual Impairments	18	2.444	1.149
	Physical/Mobility Impairments	60	2.700	1.124
	Deaf-Hard of hearing	13	3.154	0.899
	Specific Learning Disabilities	7	2.857	0.690
	Autism (High Functioning/Asperger's Syndrome)	3	1.667	0.577
	Mild Intellectual disability	9	2.222	1.302
	Older people	15	2.600	0.910
84. I find it difficult to book a ticket online due to the inaccessible websites.	Visual Impairments	18	2.389	1.290
	Physical/Mobility Impairments	49	1.776	1.141
	Deaf-Hard of hearing	15	2.400	1.183
	Specific Learning Disabilities	11	2.091	1.136
	Autism (High Functioning/Asperger's Syndrome)	4	1.250	0.957
	Mild Intellectual disability	8	1.625	1.061
	Older people	17	2.765	1.091
85. Sports equipment (e.g. exercise machines) in sports centers is inaccessible to people with disabilities.	Visual Impairments	16	2.375	1.025
	Physical/Mobility Impairments	56	2.911	1.180
	Deaf-Hard of hearing	8	3.125	1.126

	Category	N	Mean	SD
	Specific Learning Disabilities	8	3.250	0.463
	Autism (High Functioning/ Asperger's Syndrome)	1	2.000	NaN
	Mild Intellectual disability	6	2.167	0.753
	Older people	8	2.625	1.408
86. Sports facilities are inaccessible in terms of physical accessibility (entrances, indoor spaces, etc.).	Visual Impairments	13	2.462	1.050
	Physical/Mobility Impairments	58	2.724	1.136
	Deaf-Hard of hearing	3	3.333	0.577
	Specific Learning Disabilities	6	3.167	0.408
	Autism (High Functioning/ Asperger's Syndrome)	1	2.000	NaN
	Mild Intellectual disability	8	2.250	0.886
	Older people	9	2.222	1.093
87. There is no consideration for safety measures in sports facilities regarding people with disabilities.	Visual Impairments	13	2.692	0.947
	Physical/Mobility Impairments	58	2.828	1.142
	Deaf-Hard of hearing	8	3.125	0.991
	Specific Learning Disabilities	5	3.400	0.548
	Autism (High Functioning/ Asperger's Syndrome)	1	2.000	NaN
	Mild Intellectual disability	7	1.857	0.900
	Older people	8	2.500	1.195
88. Sports clubs have no available and qualified staff to support people with disabilities and create programs adapted to them.	Visual Impairments	14	2.857	1.027
	Physical/Mobility Impairments	57	2.807	1.125
	Deaf-Hard of hearing	10	3.300	0.675
	Specific Learning Disabilities	5	3.400	0.548
	Autism (High Functioning/ Asperger's Syndrome)	2	2.500	0.707
	Mild Intellectual disability	7	2.714	1.113

	Category	N	Mean	SD
	Older people	8	2.625	1.302
89. Beach ramps are not available on the beach, or they are not functional.	Visual Impairments	11	2.818	0.751
	Physical/Mobility Impairments	60	2.733	1.247
	Deaf-Hard of hearing	6	3.333	0.516
	Specific Learning Disabilities	5	3.400	0.548
	Autism (High Functioning/Asperger's Syndrome)	3	2.333	0.577
	Mild Intellectual disability	7	2.143	0.900
	Older people	16	2.813	0.834
90. I find it difficult to locate my belongings when leaving the water.	Visual Impairments	18	3.222	0.808
	Physical/Mobility Impairments	46	1.870	1.204
	Deaf-Hard of hearing	7	1.429	0.976
	Specific Learning Disabilities	8	1.500	1.604
	Autism (High Functioning/Asperger's Syndrome)	5	1.800	0.837
	Mild Intellectual disability	9	1.444	1.014
	Older people	9	1.444	1.130
91. On the beach, no assistance is provided by the beach bar owners for people with disabilities.	Visual Impairments	17	2.353	1.169
	Physical/Mobility Impairments	56	2.643	1.313
	Deaf-Hard of hearing	9	2.889	1.054
	Specific Learning Disabilities	5	3.000	0.707
	Autism (High Functioning/Asperger's Syndrome)	3	2.000	1.000
	Mild Intellectual disability	6	2.333	0.816
	Older people	8	2.500	1.195
92. There is no provision for appropriate staff training for people with disabilities in theaters, cinemas,	Visual Impairments	17	2.824	0.951
	Physical/Mobility Impairments	57	2.719	1.146
	Deaf-Hard of hearing	12	3.083	0.996

	Category	N	Mean	SD
and concerts.	Specific Learning Disabilities	7	3.286	0.488
	Autism (High Functioning/ Asperger's Syndrome)	2	1.500	0.707
	Mild Intellectual disability	6	2.500	1.049
	Older people	9	2.667	1.225
93. I have difficulty accessing TV programs (e.g. news broadcasts) or videos due to lack of accessibility (e.g. lack of interpretation or subtitles, difficult-unknown terminology).	Visual Impairments	13	2.154	1.463
	Physical/Mobility Impairments	38	1.711	1.088
	Deaf-Hard of hearing	17	3.000	1.061
	Specific Learning Disabilities	3	2.333	2.082
	Autism (High Functioning/ Asperger's Syndrome)	4	2.250	1.258
	Mild Intellectual disability	8	1.250	1.035
	Older people	13	1.615	1.261
94. In a theater or a cinema, there is no provision for people with disabilities regarding facilities and seating arrangements.	Visual Impairments	16	2.625	0.885
	Physical/Mobility Impairments	64	2.578	1.245
	Deaf-Hard of hearing	9	3.222	0.972
	Specific Learning Disabilities	7	3.286	0.756
	Autism (High Functioning/ Asperger's Syndrome)	4	2.000	1.414
	Mild Intellectual disability	8	2.000	0.756
	Older people	10	2.600	1.350
95. It is challenging for me to book a ticket for a movie, a theater, or a concert due to inaccessible websites (e.g., through a screen reader).	Visual Impairments	18	2.167	1.295
	Physical/Mobility Impairments	44	1.818	1.225
	Deaf-Hard of hearing	10	2.400	1.265
	Specific Learning Disabilities	9	1.222	1.093
	Autism (High Functioning/ Asperger's Syndrome)	5	1.200	0.447
	Mild Intellectual disability	10	1.700	0.949

	Category	N	Mean	SD
	Older people	12	2.167	1.193
96. Evacuation and security systems lack specific provisions for people with disabilities (e.g., alerts that are not accessible to everyone).	Visual Impairments	15	3.467	0.640
	Physical/Mobility Impairments	56	2.875	1.222
	Deaf-Hard of hearing	13	3.308	0.751
	Specific Learning Disabilities	7	3.286	0.488
	Autism (High Functioning/Asperger's Syndrome)	3	2.333	1.528
	Mild Intellectual disability	9	2.556	1.236
	Older people	9	2.556	1.130
97. There is no provision for inclusive planning for people with disabilities in security evacuation situations.	Visual Impairments	14	3.214	0.975
	Physical/Mobility Impairments	57	2.965	1.195
	Deaf-Hard of hearing	12	3.250	0.965
	Specific Learning Disabilities	7	3.571	0.535
	Autism (High Functioning/Asperger's Syndrome)	3	2.667	1.528
	Mild Intellectual disability	9	2.444	1.333
	Older people	9	2.667	1.225
98. There is no training for handling emergency situations involving people with disabilities.	Visual Impairments	13	3.154	0.899
	Physical/Mobility Impairments	58	3.052	1.067
	Deaf-Hard of hearing	13	3.538	0.660
	Specific Learning Disabilities	9	3.667	0.500
	Autism (High Functioning/Asperger's Syndrome)	4	2.750	1.500
	Mild Intellectual disability	9	2.556	1.014
	Older people	9	2.667	1.323
99. Applications that have the services of the fire department, hospital, and police are not accessible enough.	Visual Impairments	13	2.615	1.044
	Physical/Mobility Impairments	47	2.574	1.156
	Deaf-Hard of hearing	10	3.400	0.699

	Category	N	Mean	SD
	Specific Learning Disabilities	5	3.400	0.548
	Autism (High Functioning/ Asperger's Syndrome)	4	2.250	1.258
	Mild Intellectual disability	6	2.167	1.169
	Older people	12	2.500	1.087
100. I find it hard to understand critical information due to the lack of accessible formats of information (e.g., understandable vocabulary, easy-to-read texts, accessible texts or other accessible formats).	Visual Impairments	14	2.429	1.016
	Physical/Mobility Impairments	41	2.073	1.170
	Deaf-Hard of hearing	16	2.813	0.981
	Specific Learning Disabilities	11	1.818	1.537
	Autism (High Functioning/ Asperger's Syndrome)	5	2.200	1.304
	Mild Intellectual disability	8	2.125	1.356
	Older people	17	2.000	1.118

Tables 3-9 below present the results of the descriptive statistics regarding the responses of each category of participants: 1) Visual Impairments, 2) Physical/Mobility Impairments, 3) Deaf-Hard of hearing, 4) Specific Learning Disabilities, 5) Autism (High Functioning/ Asperger's Syndrome), 6) Mild Intellectual disability, and 7) Older people. The list of items is sorted by the mean (of the score) from highest to lowest value. This sorting highlights the accessibility problems that appear as most common, which appear in the first rows of the table.

Table 3

Mean and standard deviation of responses of participants with visual impairments to each item of the questionnaire. The value of N corresponds to the number of participants with visual impairments who responded to what extent they agreed with the item. This number is different for each item and is less than the total number of participants with visual impairments. The difference between the N-value and the total number of participants with visual impairments is due to the "I don't know" or "Not relevant to my disability" responses given by some participants with visual impairments. These responses were included in the possible response options, in addition to the 5-point Likert scale options.

Visual Impairments	N	Mean	SD
96. Evacuation and security systems lack specific provisions for people with disabilities (e.g., alerts that are not accessible to everyone).	15	3.467	0.640
22. There is a lack of accessible information in public services (e.g., tactile maps, Braille labels, audible information, easy-to-read texts, etc.)	17	3.412	1.064
47. I find it difficult to access educational material when it is not given in an accessible text form (e.g., easy-to-read texts, accessible texts in Word or Pdf form).	17	3.353	0.862
48. I have difficulties in accessing educational material due to the lack of accessible forms and multimedia (e.g., accessible presentations and accessible videos).	17	3.353	0.862
73. Most places of cultural heritage don't have tour guides available for people with disabilities.	18	3.278	0.895
90. I find it difficult to locate my belongings when leaving the water.	18	3.222	0.808
97. There is no provision for inclusive planning for people with disabilities in security evacuation situations.	14	3.214	0.975
98. There is no training for handling emergency situations involving people with disabilities.	13	3.154	0.899
68. At museums, art galleries, and archaeological sites, external spaces lack proper infrastructure and indicators to help visitors understand where the parking spots and entrances are or how to get there.	15	3.133	0.640
69. At museums, exhibits, and works of art, internal spaces lack accessible infrastructure (unstable glass floor, obstacles, lack of stairs with handrails) and indicators to help visitors reach the points of interest.	14	3.071	0.730
15. There are no accessible facilities in public and private sector	18	3.056	0.938

services, or the existing ones lack maintenance.

20. Monitors for clients (e.g., in banks or hospitals) are inaccessible to people with disabilities.	16	3.000	1.211
50. There is a lack of information about useful tools for teachers and students.	17	3.000	1.061
78. There is no tourist signage for the direction of tourist attractions and service facilities.	13	3.000	0.577
39. ATMs are challenging for me due to the lack of specific accessibility features.	18	2.889	1.367
25. I find difficulty with internet services and websites, especially when they are not up to date and incompatible with assistive technology (e.g., not accessible with screen recognition).	17	2.882	1.219
35. The formats in digital documents and online services are inaccessible (e.g., small/large fonts or artistic ones, lack of speech-to-text technology and multiple interaction methods, such as voice commands)	17	2.882	1.054
76. It is difficult for me to have access to information, as there is a lack of tactile material, audio descriptions (e.g. QR codes for audio information) for museum exhibits or text information is unreadable.	17	2.882	0.928
88. Sports clubs have no available and qualified staff to support people with disabilities and create programs adapted to them.	14	2.857	1.027
92. There is no provision for appropriate staff training for people with disabilities in theaters, cinemas, and concerts.	17	2.824	0.951
89. Beach ramps are not available on the beach, or they are not functional.	11	2.818	0.751
72. Many cultural heritage sites lack permeable and functional websites (e.g., virtual tours).	16	2.813	0.834
45. I find it difficult to attend the lesson when I am not close to the	15	2.800	1.014

teacher and the board in the classroom.

5. It isn't easy for me to navigate internal spaces, such as hospitals, due to a lack of indicators and signage.	17	2.706	1.404
40. I find navigating and searching certain things in digital libraries difficult due to poor accessibility.	17	2.706	1.105
46. I find it difficult when lecture locations change.	17	2.706	1.312
87. There is no consideration for safety measures in sports facilities regarding people with disabilities.	13	2.692	0.947
1. I find it difficult to walk in outdoor spaces due to their poor structure (e.g., damaged or narrow sidewalks, obstacles, lack of ramps) and lack of pedestrian maintenance.	18	2.667	1.188
55. The teacher's lack of qualification to use accessibility methods (e.g., technological and e-learning tools) and lack of proper training in supporting students with disabilities led to significant gaps in my learning, making it difficult to catch up.	17	2.647	1.057
94. In a theater or a cinema, there is no provision for people with disabilities regarding facilities and seating arrangements.	16	2.625	0.885
99. Applications that have the services of the fire department, hospital, and police are not accessible enough.	13	2.615	1.044
31. Due to inaccessible e-commerce platforms, I find navigating product information and detailed descriptions challenging (e.g., not compatible with screen recognition programs).	17	2.588	1.004
3. Insufficient lighting in external spaces is challenging for me.	16	2.563	1.365
70. I find it difficult to navigate in museums or cultural heritage sites when they are crowded.	16	2.563	1.153
51. There are no available devices or educational tools compatible with assistive technology to support me in the courses that I attend (e.g., screen readers).	15	2.533	1.246

71. There are no trained staff members who can support me in archaeological and cultural sites and museums.	17	2.529	0.943
11. It is difficult for me to find the correct bus stop to get on/off the bus or the correct bus at the bus station due to a lack of signage and announcements.	18	2.500	1.425
49. There is not accessible educational material with the use of VR/AR technology.	10	2.500	1.434
54. The library in the educational institution I attend is not equipped appropriately (e.g., assistive technology, devices, etc.) to support students with disabilities.	17	2.471	1.125
56. Teachers do not take into account the special needs of students with disabilities during the physical or online examination process (e.g., time, exam difficulty, examination form and directions).	17	2.471	0.943
12. When public transportation is overcrowded and noisy, it is difficult for me to cope with.	15	2.467	1.187
86. Sports facilities are inaccessible in terms of physical accessibility (entrances, indoor spaces, etc.).	13	2.462	1.050
24. I have difficulty navigating unfamiliar websites and locating important information (e.g., contact details) due to their overly complex and inaccessible design.	18	2.444	1.423
83. Staff in transportation means are not well trained to serve people with disabilities.	18	2.444	1.149
8. Indoor places are challenging for me when there are not standardized lighting levels.	16	2.438	1.504
52. Communication with the administrative services is inadequate, and I don't have the chance to express my needs.	16	2.438	1.094
100. I find it hard to understand critical information due to the lack of accessible formats of information (e.g., understandable vocabulary, easy-to-read texts, accessible texts or other accessible formats).	14	2.429	1.016

81. Transportation means (e.g., airplanes, ships, buses, trains) are not properly designed to serve people with disabilities.	17	2.412	1.326
21. Communication is challenging for me in public or private services where glass barriers are used or people wear face masks.	15	2.400	1.404
84. I find it difficult to book a ticket online due to the inaccessible websites.	18	2.389	1.290
85. Sports equipment (e.g. exercise machines) in sports centers is inaccessible to people with disabilities.	16	2.375	1.025
17. The staff in services (such as hospital personnel) are not properly educated on how to treat and communicate with people with disabilities, or they are not willing to help.	17	2.353	1.222
19. Information and services (e.g., booking an appointment) on health portals and websites are not accessible to me.	17	2.353	1.115
38. It is challenging for me to make digital payments and manage my finances.	17	2.353	1.367
63. I find it difficult to apply for a job, follow a hiring process, or make requests in my workplace due to the inaccessibility of documents and websites.	17	2.353	1.222
91. On the beach, no assistance is provided by the beach bar owners for people with disabilities.	17	2.353	1.169
4. I have difficulty finding accessible parking spaces.	6	2.333	1.211
23. I encounter difficulties in health care services due to organizational and transport barriers.	15	2.333	1.234
67. The machines I have to use in my job are not accessible.	12	2.333	1.371
53. Announcements by the teaching and administrative staff are not always accessible to me or presented understandably.	14	2.286	1.139
66. At my job, no assistive technology or special equipment is available to support me.	11	2.273	1.679

9. Overcrowded and noisy internal spaces are frustrating for me.	15	2.267	1.335
74. A tour guide is not always enough for me to have access to cultural heritage environments.	17	2.235	1.033
77. I find it difficult to plan a trip (e.g., activities) due to inaccessible websites of travel agencies.	18	2.222	1.215
34. I encounter difficulty with digital service documents that require me to fill in or understand instructions with unfamiliar terminology, such as legal, banking, or administrative vocabulary.	15	2.200	1.207
62. Noise and an unstructured environment in the workplace cause me stress.	15	2.200	1.207
80. I cannot book tickets and accommodation without assistance due to hard-to-read websites.	18	2.167	1.383
95. It is challenging for me to book a ticket for a movie, a theater, or a concert due to inaccessible websites (e.g., through a screen reader)	18	2.167	1.295
36. I find communicating with technical assistance services challenging and hesitate to ask for help.	13	2.154	1.281
60. I cannot reach my workplace easily due to poor structure in external spaces.	13	2.154	1.214
93. I have difficulty accessing TV programs (e.g. news broadcasts) or videos due to lack of accessibility (e.g. lack of interpretation or subtitles, difficult-unknown terminology).	13	2.154	1.463
32. E-commerce is challenging because I worry about online shopping security.	15	2.133	1.060
58. I face difficulties accessing online courses and material due to inaccessibility in digital educational material and resources.	17	2.118	1.317
64. I need assistance from others in my workplace because of inaccessibility, which is not always given (e.g., instructions and modifications from employers).	15	2.067	1.223

57. I find it difficult to work in a group because of the lack of disability awareness among my fellow students.	17	2.059	1.249
59. I cannot keep up with online courses as they are too fast, and I do not have time to take notes and digest information.	17	2.059	1.298
2. It is difficult to navigate external spaces without someone to accompany me due to a lack of signage.	18	2.056	1.305
16. My disability card is not always taken into account to be granted priority and I find it difficult to wait in lines for a long time.	15	2.000	1.414
33. Due to poor accessibility, I find it difficult to access, fill in, and save digital documents (such as declarations from CSIS) on my own, especially when they require personal information.	17	2.000	1.225
61. At my workplace, in internal spaces, there are accessibility issues concerning spatial accessibility (e.g., there are no ramps and elevators, facilities, toilets, or narrow spaces).	11	2.000	1.095
13. I find it challenging to access bus stops due to the inaccessible routes leading to them.	18	1.944	1.211
37. Navigating through bank websites and i-banking to check my bank account and transfer money is difficult due to accessibility issues.	18	1.944	1.259
26. I find it difficult to understand information in digital interfaces due to too much complex content involved.	16	1.938	1.181
7. I find difficulty in indoor places (such as schools, gyms, bars, and restaurants) due to the lack or misuse of toilets for people with disabilities.	13	1.923	1.605
79. Booking a room in a hotel is difficult for me as I do not have access to the necessary information (e.g., pictures).	18	1.889	1.231
14. I frequently have difficulty communicating with bus drivers, or they are unwilling to help.	17	1.882	1.219
29. Using passwords on digital platforms or apps is challenging for	17	1.882	0.993

me.

82. I do not have access to the announcements provided by transportation means (e.g., airplanes, buses, ships).	17	1.882	1.219
44. It is difficult for me to attend a course in a crowded educational environment.	13	1.846	1.463
41. I have difficulty keeping up with updates in operating systems, digital formats of information, and device and software updates.	16	1.813	1.167
43. I have difficulty reaching my educational unit or navigating into it due to lack of facilities (e.g., ramps, elevators, signage).	14	1.786	1.251
27. I have difficulty using chat windows or digital bots on websites.	16	1.750	1.183
42. I have difficulty reaching my educational unit or navigating into it due to the inappropriate building structure (e.g. narrow spaces and obstacles).	13	1.692	1.182
18. I cannot communicate and understand the information explained to me in public services without assistance.	15	1.667	1.234
65. I find it difficult to master new digital tools effectively at my workplace due to accessibility barriers, such as complex interfaces and a lack of assistive technology support.	15	1.667	1.113
6. I have difficulty navigating indoor spaces with stairs and no ramps or elevators.	14	1.643	1.598
28. Navigation paths and searching on websites are too complicated for me.	18	1.611	1.092
10. I find it difficult to get on the bus (e.g., due to narrow spaces or lack of ramps or due to the height of the doorstep).	10	1.500	1.354
75. I struggle to comprehend the information in the museum because of the vocabulary, syntax and ambiguity of the words and symbols.	13	1.308	1.032
30. I struggle with access to social media (e.g., blogging and Facebook).	15	0.800	0.941

Table 4

Mean and standard deviation of responses of participants with physical/mobility impairments to each item of the questionnaire. The value of N corresponds to the number of participants with physical/mobility impairments who responded to what extent they agreed with the item. This number is different for each item and is less than the total number of participants with physical/mobility impairments. The difference between the N-value and the total number of participants with physical/mobility impairments is due to the "I don't know" or "Not relevant to my disability" responses given by some participants with physical/mobility impairments. These responses were included in the possible response options, in addition to the 5-point Likert scale options.

Physical/Mobility Impairments	N	Mean	SD
6. I have difficulty navigating indoor spaces with stairs and no ramps or elevators.	61	3.26	1.11
7. I find difficulty in indoor places (such as schools, gyms, bars, and restaurants) due to the lack or misuse of toilets for people with disabilities.	61	3.21	1.16
10. I find it difficult to get on the bus (e.g., due to narrow spaces or lack of ramps or due to the height of the doorstep).	67	3.18	1.09
1. I find it difficult to walk in outdoor spaces due to their poor structure (e.g., damaged or narrow sidewalks, obstacles, lack of ramps) and lack of pedestrian maintenance.	63	3.13	1.20
98. There is no training for handling emergency situations involving people with disabilities.	58	3.05	1.07
4. I have difficulty finding accessible parking spaces.	54	3.00	1.29
97. There is no provision for inclusive planning for people with disabilities in security evacuation situations.	57	2.96	1.19
85. Sports equipment (e.g. exercise machines) in sports centers is inaccessible to people with disabilities.	56	2.91	1.18

9. Overcrowded and noisy internal spaces are frustrating for me.	60	2.88	1.25
12. When public transportation is overcrowded and noisy, it is difficult for me to cope with.	60	2.88	1.14
96. Evacuation and security systems lack specific provisions for people with disabilities (e.g., alerts that are not accessible to everyone).	56	2.88	1.22
16. My disability card is not always taken into account to be granted priority and I find it difficult to wait in lines for a long time.	63	2.87	1.20
22. There is a lack of accessible information in public services (e.g., tactile maps, Braille labels, audible information, easy-to-read texts, etc.)	51	2.84	1.24
70. I find it difficult to navigate in museums or cultural heritage sites when they are crowded.	58	2.83	1.11
87. There is no consideration for safety measures in sports facilities regarding people with disabilities.	58	2.83	1.14
88. Sports clubs have no available and qualified staff to support people with disabilities and create programs adapted to them.	57	2.81	1.13
81. Transportation means (e.g., airplanes, ships, buses, trains) are not properly designed to serve people with disabilities.	64	2.80	1.29
8. Indoor places are challenging for me when there are not standardized lighting levels.	46	2.76	1.25
50. There is a lack of information about useful tools for teachers and students.	44	2.75	1.24
89. Beach ramps are not available on the beach, or they are not functional.	60	2.73	1.25
86. Sports facilities are inaccessible in terms of physical accessibility (entrances, indoor spaces, etc.).	58	2.72	1.14
92. There is no provision for appropriate staff training for people with disabilities in theaters, cinemas, and concerts.	57	2.72	1.15

13. I find it challenging to access bus stops due to the inaccessible routes leading to them.	59	2.71	1.07
83. Staff in transportation means are not well trained to serve people with disabilities.	60	2.70	1.12
15. There are no accessible facilities in public and private sector services, or the existing ones lack maintenance.	63	2.68	1.22
23. I encounter difficulties in health care services due to organizational and transport barriers.	59	2.64	1.20
73. Most places of cultural heritage don't have tour guides available for people with disabilities.	50	2.64	1.16
91. On the beach, no assistance is provided by the beach bar owners for people with disabilities.	56	2.64	1.31
34. I encounter difficulty with digital service documents that require me to fill in or understand instructions with unfamiliar terminology, such as legal, banking, or administrative vocabulary.	53	2.60	1.23
62. Noise and an unstructured environment in the workplace cause me stress.	51	2.59	1.28
3. Insufficient lighting in external spaces is challenging for me.	48	2.58	1.23
43. I have difficulty reaching my educational unit or navigating into it due to lack of facilities (e.g., ramps, elevators, signage).	50	2.58	1.34
94. In a theater or a cinema, there is no provision for people with disabilities regarding facilities and seating arrangements.	64	2.58	1.24
49. There is not accessible educational material with the use of VR/AR technology.	37	2.57	1.32
68. At museums, art galleries, and archaeological sites, external spaces lack proper infrastructure and indicators to help visitors understand where the parking spots and entrances are or how to get there.	58	2.57	1.19

99. Applications that have the services of the fire department, hospital, and police are not accessible enough.	47	2.57	1.16
74. A tour guide is not always enough for me to have access to cultural heritage environments.	51	2.55	1.14
78. There is no tourist signage for the direction of tourist attractions and service facilities.	47	2.55	1.19
44. It is difficult for me to attend a course in a crowded educational environment.	48	2.54	1.37
69. At museums, exhibits, and works of art, internal spaces lack accessible infrastructure (unstable glass floor, obstacles, lack of stairs with handrails) and indicators to help visitors reach the points of interest.	60	2.52	1.26
46. I find it difficult when lecture locations change.	48	2.50	1.27
60. I cannot reach my workplace easily due to poor structure in external spaces.	54	2.50	1.34
72. Many cultural heritage sites lack permeable and functional websites (e.g., virtual tours).	49	2.49	1.23
71. There are no trained staff members who can support me in archaeological and cultural sites and museums.	53	2.47	1.15
41. I have difficulty keeping up with updates in operating systems, digital formats of information, and device and software updates.	52	2.46	1.34
33. Due to poor accessibility, I find it difficult to access, fill in, and save digital documents (such as declarations from CSIS) on my own, especially when they require personal information.	49	2.43	1.29
11. It is difficult for me to find the correct bus stop to get on/off the bus or the correct bus at the bus station due to a lack of signage and announcements.	53	2.40	1.29
32. E-commerce is challenging because I worry about online shopping	57	2.37	1.32

security.

35. The formats in digital documents and online services are inaccessible (e.g., small/large fonts or artistic ones, lack of speech-to-text technology and multiple interaction methods, such as voice commands)	49	2.37	1.25
51. There are no available devices or educational tools compatible with assistive technology to support me in the courses that I attend (e.g., screen readers).	35	2.37	1.42
17. The staff in services (such as hospital personnel) are not properly educated on how to treat and communicate with people with disabilities, or they are not willing to help.	66	2.33	1.09
47. I find it difficult to access educational material when it is not given in an accessible text form (e.g., easy-to-read texts, accessible texts in Word or Pdf form).	42	2.33	1.30
52. Communication with the administrative services is inadequate, and I don't have the chance to express my needs.	49	2.33	1.33
39. ATMs are challenging for me due to the lack of specific accessibility features.	56	2.32	1.44
42. I have difficulty reaching my educational unit or navigating into it due to the inappropriate building structure (e.g. narrow spaces and obstacles).	44	2.32	1.43
45. I find it difficult to attend the lesson when I am not close to the teacher and the board in the classroom.	42	2.31	1.37
5. It isn't easy for me to navigate internal spaces, such as hospitals, due to a lack of indicators and signage.	53	2.30	1.38
61. At my workplace, in internal spaces, there are accessibility issues concerning spatial accessibility (e.g., there are no ramps and elevators, facilities, toilets, or narrow spaces).	50	2.30	1.46
56. Teachers do not take into account the special needs of students	51	2.25	1.48

with disabilities during the physical or online examination process (e.g., time, exam difficulty, examination form and directions).

2. It is difficult to navigate external spaces without someone to accompany me due to a lack of signage.	49	2.24	1.20
55. The teacher's lack of qualification to use accessibility methods (e.g., technological and e-learning tools) and lack of proper training in supporting students with disabilities led to significant gaps in my learning, making it difficult to catch up.	42	2.24	1.45
36. I find communicating with technical assistance services challenging and hesitate to ask for help.	48	2.23	1.46
59. I cannot keep up with online courses as they are too fast, and I do not have time to take notes and digest information.	43	2.23	1.25
26. I find it difficult to understand information in digital interfaces due to too much complex content involved.	51	2.22	1.40
66. At my job, no assistive technology or special equipment is available to support me.	38	2.21	1.28
20. Monitors for clients (e.g., in banks or hospitals) are inaccessible to people with disabilities.	61	2.20	1.40
21. Communication is challenging for me in public or private services where glass barriers are used or people wear face masks.	50	2.20	1.34
53. Announcements by the teaching and administrative staff are not always accessible to me or presented understandably.	44	2.16	1.26
64. I need assistance from others in my workplace because of inaccessibility, which is not always given (e.g., instructions and modifications from employers).	43	2.14	1.30
25. I find difficulty with internet services and websites, especially when they are not up to date and incompatible with assistive technology (e.g., not accessible with screen recognition).	45	2.13	1.38
29. Using passwords on digital platforms or apps is challenging for me.	52	2.12	1.38

14. I frequently have difficulty communicating with bus drivers, or they are unwilling to help.	59	2.10	1.27
38. It is challenging for me to make digital payments and manage my finances.	52	2.10	1.39
100. I find it hard to understand critical information due to the lack of accessible formats of information (e.g., understandable vocabulary, easy-to-read texts, accessible texts or other accessible formats).	41	2.07	1.17
27. I have difficulty using chat windows or digital bots on websites.	50	2.06	1.38
77. I find it difficult to plan a trip (e.g., activities) due to inaccessible websites of travel agencies.	53	2.06	1.28
48. I have difficulties in accessing educational material due to the lack of accessible forms and multimedia (e.g., accessible presentations and accessible videos).	40	2.05	1.41
28. Navigation paths and searching on websites are too complicated for me.	51	2.00	1.28
31. Due to inaccessible e-commerce platforms, I find navigating product information and detailed descriptions challenging (e.g., not compatible with screen recognition programs).	45	2.00	1.31
54. The library in the educational institution I attend is not equipped appropriately (e.g., assistive technology, devices, etc.) to support students with disabilities.	38	2.00	1.25
65. I find it difficult to master new digital tools effectively at my workplace due to accessibility barriers, such as complex interfaces and a lack of assistive technology support.	38	2.00	1.38
67. The machines I have to use in my job are not accessible.	40	2.00	1.24
76. It is difficult for me to have access to information, as there is a lack of tactile material, audio descriptions (e.g. QR codes for audio information) for museum exhibits or text information is unreadable.	38	2.00	1.21

40. I find navigating and searching certain things in digital libraries difficult due to poor accessibility.	42	1.98	1.37
79. Booking a room in a hotel is difficult for me as I do not have access to the necessary information (e.g., pictures).	58	1.95	1.38
24. I have difficulty navigating unfamiliar websites and locating important information (e.g., contact details) due to their overly complex and inaccessible design.	51	1.94	1.33
57. I find it difficult to work in a group because of the lack of disability awareness among my fellow students.	51	1.92	1.47
75. I struggle to comprehend the information in the museum because of the vocabulary, syntax and ambiguity of the words and symbols.	44	1.91	1.24
63. I find it difficult to apply for a job, follow a hiring process, or make requests in my workplace due to the inaccessibility of documents and websites.	45	1.89	1.25
90. I find it difficult to locate my belongings when leaving the water.	46	1.87	1.20
82. I do not have access to the announcements provided by transportation means (e.g., airplanes, buses, ships).	44	1.82	1.24
95. It is challenging for me to book a ticket for a movie, a theater, or a concert due to inaccessible websites (e.g., through a screen reader)	44	1.82	1.23
37. Navigating through bank websites and i-banking to check my bank account and transfer money is difficult due to accessibility issues.	49	1.80	1.41
58. I face difficulties accessing online courses and material due to inaccessibility in digital educational material and resources.	39	1.79	1.32
84. I find it difficult to book a ticket online due to the inaccessible websites.	49	1.78	1.14
93. I have difficulty accessing TV programs (e.g. news broadcasts) or videos due to lack of accessibility (e.g. lack of interpretation or subtitles, difficult-unknown terminology).	38	1.71	1.09

18. I cannot communicate and understand the information explained to me in public services without assistance.	51	1.65	1.29
80. I cannot book tickets and accommodation without assistance due to hard-to-read websites.	47	1.62	1.21
19. Information and services (e.g., booking an appointment) on health portals and websites are not accessible to me.	54	1.56	1.22
30. I struggle with access to social media (e.g., blogging and Facebook).	11	1.45	1.21

Table 5

Mean and standard deviation of responses of participants with hearing impairments (deaf-hard of hearing) to each item of the questionnaire. The value of N corresponds to the number of participants with hearing impairments who responded to what extent they agreed with the item. This number is different for each item and is less than the total number of participants with hearing impairments. The difference between the N-value and the total number of participants with hearing impairments is due to the "I don't know" or "Not relevant to my disability" responses given by some participants with hearing impairments. These responses were included in the possible response options, in addition to the 5-point Likert scale options.

Hearing Impairments	N	Mean	SD
98. There is no training for handling emergency situations involving people with disabilities.	13	3.54	0.660
99. Applications that have the services of the fire department, hospital, and police are not accessible enough.	10	3.40	0.699
86. Sports facilities are inaccessible in terms of physical accessibility (entrances, indoor spaces, etc.).	3	3.33	0.577
89. Beach ramps are not available on the beach, or they are not functional.	6	3.33	0.516
44. It is difficult for me to attend a course in a crowded educational environment.	16	3.31	0.793

96. Evacuation and security systems lack specific provisions for people with disabilities (e.g., alerts that are not accessible to everyone).	13	3.31	0.751
88. Sports clubs have no available and qualified staff to support people with disabilities and create programs adapted to them.	10	3.30	0.675
97. There is no provision for inclusive planning for people with disabilities in security evacuation situations.	12	3.25	0.965
45. I find it difficult to attend the lesson when I am not close to the teacher and the board in the classroom.	17	3.24	1.033
94. In a theater or a cinema, there is no provision for people with disabilities regarding facilities and seating arrangements.	9	3.22	0.972
50. There is a lack of information about useful tools for teachers and students.	11	3.18	0.982
74. A tour guide is not always enough for me to have access to cultural heritage environments.	11	3.18	0.982
73. Most places of cultural heritage don't have tour guides available for people with disabilities.	12	3.17	1.193
83. Staff in transportation means are not well trained to serve people with disabilities.	13	3.15	0.899
15. There are no accessible facilities in public and private sector services, or the existing ones lack maintenance.	14	3.14	0.663
85. Sports equipment (e.g. exercise machines) in sports centers is inaccessible to people with disabilities.	8	3.13	1.126
87. There is no consideration for safety measures in sports facilities regarding people with disabilities.	8	3.13	0.991
21. Communication is challenging for me in public or private services where glass barriers are used or people wear face masks.	18	3.11	1.278
8. Indoor places are challenging for me when there are not	11	3.09	1.136

standardized lighting levels.

51. There are no available devices or educational tools compatible with assistive technology to support me in the courses that I attend (e.g., screen readers).	13	3.08	1.115
92. There is no provision for appropriate staff training for people with disabilities in theaters, cinemas, and concerts.	12	3.08	0.996
59. I cannot keep up with online courses as they are too fast, and I do not have time to take notes and digest information.	14	3.07	1.141
81. Transportation means (e.g., airplanes, ships, buses, trains) are not properly designed to serve people with disabilities.	14	3.00	1.177
93. I have difficulty accessing TV programs (e.g. news broadcasts) or videos due to lack of accessibility (e.g. lack of interpretation or subtitles, difficult-unknown terminology).	17	3.00	1.061
82. I do not have access to the announcements provided by transportation means (e.g., airplanes, buses, ships).	16	2.94	1.124
22. There is a lack of accessible information in public services (e.g., tactile maps, Braille labels, audible information, easy-to-read texts, etc.)	14	2.93	1.385
91. On the beach, no assistance is provided by the beach bar owners for people with disabilities.	9	2.89	1.054
9. Overcrowded and noisy internal spaces are frustrating for me.	16	2.88	1.088
11. It is difficult for me to find the correct bus stop to get on/off the bus or the correct bus at the bus station due to a lack of signage and announcements.	14	2.86	0.949
36. I find communicating with technical assistance services challenging and hesitate to ask for help.	17	2.82	1.237
100. I find it hard to understand critical information due to the lack of accessible formats of information (e.g., understandable vocabulary,	16	2.81	0.981

easy-to-read texts, accessible texts or other accessible formats).

47. I find it difficult to access educational material when it is not given in an accessible text form (e.g., easy-to-read texts, accessible texts in Word or Pdf form).	15	2.80	1.207
68. At museums, art galleries, and archaeological sites, external spaces lack proper infrastructure and indicators to help visitors understand where the parking spots and entrances are or how to get there.	9	2.78	0.833
17. The staff in services (such as hospital personnel) are not properly educated on how to treat and communicate with people with disabilities, or they are not willing to help.	17	2.76	1.300
18. I cannot communicate and understand the information explained to me in public services without assistance.	15	2.73	1.280
55. The teacher's lack of qualification to use accessibility methods (e.g., technological and e-learning tools) and lack of proper training in supporting students with disabilities led to significant gaps in my learning, making it difficult to catch up.	15	2.73	1.387
3. Insufficient lighting in external spaces is challenging for me.	14	2.71	1.326
12. When public transportation is overcrowded and noisy, it is difficult for me to cope with.	14	2.71	1.139
76. It is difficult for me to have access to information, as there is a lack of tactile material, audio descriptions (e.g. QR codes for audio information) for museum exhibits or text information is unreadable.	10	2.70	1.059
53. Announcements by the teaching and administrative staff are not always accessible to me or presented understandably.	16	2.69	1.138
54. The library in the educational institution I attend is not equipped appropriately (e.g., assistive technology, devices, etc.) to support students with disabilities.	13	2.69	0.855
56. Teachers do not take into account the special needs of students	16	2.69	1.448

with disabilities during the physical or online examination process (e.g., time, exam difficulty, examination form and directions).

57. I find it difficult to work in a group because of the lack of disability awareness among my fellow students.	15	2.67	1.291
70. I find it difficult to navigate in museums or cultural heritage sites when they are crowded.	12	2.67	0.888
5. It isn't easy for me to navigate internal spaces, such as hospitals, due to a lack of indicators and signage.	11	2.64	1.027
14. I frequently have difficulty communicating with bus drivers, or they are unwilling to help.	14	2.64	0.929
72. Many cultural heritage sites lack permeable and functional websites (e.g., virtual tours).	11	2.64	0.809
32. E-commerce is challenging because I worry about online shopping security.	16	2.63	1.310
48. I have difficulties in accessing educational material due to the lack of accessible forms and multimedia (e.g., accessible presentations and accessible videos).	16	2.63	1.310
66. At my job, no assistive technology or special equipment is available to support me.	10	2.60	1.075
71. There are no trained staff members who can support me in archaeological and cultural sites and museums.	12	2.58	1.165
1. I find it difficult to walk in outdoor spaces due to their poor structure (e.g., damaged or narrow sidewalks, obstacles, lack of ramps) and lack of pedestrian maintenance.	9	2.56	1.333
46. I find it difficult when lecture locations change.	15	2.53	1.187
58. I face difficulties accessing online courses and material due to inaccessibility in digital educational material and resources.	15	2.53	1.246
49. There is not accessible educational material with the use of	6	2.50	1.378

VR/AR technology.

62. Noise and an unstructured environment in the workplace cause me stress.	14	2.50	0.941
34. I encounter difficulty with digital service documents that require me to fill in or understand instructions with unfamiliar terminology, such as legal, banking, or administrative vocabulary.	17	2.47	1.281
23. I encounter difficulties in health care services due to organizational and transport barriers.	11	2.45	1.214
84. I find it difficult to book a ticket online due to the inaccessible websites.	15	2.40	1.183
95. It is challenging for me to book a ticket for a movie, a theater, or a concert due to inaccessible websites (e.g., through a screen reader)	10	2.40	1.265
52. Communication with the administrative services is inadequate, and I don't have the chance to express my needs.	16	2.38	1.360
26. I find it difficult to understand information in digital interfaces due to too much complex content involved.	14	2.36	1.447
25. I find difficulty with internet services and websites, especially when they are not up to date and incompatible with assistive technology (e.g., not accessible with screen recognition).	12	2.33	1.073
80. I cannot book tickets and accommodation without assistance due to hard-to-read websites.	15	2.33	1.291
20. Monitors for clients (e.g., in banks or hospitals) are inaccessible to people with disabilities.	13	2.31	1.316
65. I find it difficult to master new digital tools effectively at my workplace due to accessibility barriers, such as complex interfaces and a lack of assistive technology support.	14	2.29	1.437
40. I find navigating and searching certain things in digital libraries difficult due to poor accessibility.	11	2.27	1.191

19. Information and services (e.g., booking an appointment) on health portals and websites are not accessible to me.	16	2.25	1.238
69. At museums, exhibits, and works of art, internal spaces lack accessible infrastructure (unstable glass floor, obstacles, lack of stairs with handrails) and indicators to help visitors reach the points of interest.	8	2.25	0.886
33. Due to poor accessibility, I find it difficult to access, fill in, and save digital documents (such as declarations from CSIS) on my own, especially when they require personal information.	13	2.23	1.235
41. I have difficulty keeping up with updates in operating systems, digital formats of information, and device and software updates.	15	2.20	1.320
79. Booking a room in a hotel is difficult for me as I do not have access to the necessary information (e.g., pictures).	16	2.19	1.328
67. The machines I have to use in my job are not accessible.	11	2.18	1.168
75. I struggle to comprehend the information in the museum because of the vocabulary, syntax and ambiguity of the words and symbols.	14	2.14	1.406
10. I find it difficult to get on the bus (e.g., due to narrow spaces or lack of ramps or due to the height of the doorstep).	8	2.13	1.458
13. I find it challenging to access bus stops due to the inaccessible routes leading to them.	8	2.13	1.642
77. I find it difficult to plan a trip (e.g., activities) due to inaccessible websites of travel agencies.	16	2.13	1.258
63. I find it difficult to apply for a job, follow a hiring process, or make requests in my workplace due to the inaccessibility of documents and websites.	17	2.12	0.928
16. My disability card is not always taken into account to be granted priority and I find it difficult to wait in lines for a long time.	10	2.10	1.197
4. I have difficulty finding accessible parking spaces.	11	2.09	1.221

64. I need assistance from others in my workplace because of inaccessibility, which is not always given (e.g., instructions and modifications from employers).	14	2.07	1.072
7. I find difficulty in indoor places (such as schools, gyms, bars, and restaurants) due to the lack or misuse of toilets for people with disabilities.	8	2.00	1.690
24. I have difficulty navigating unfamiliar websites and locating important information (e.g., contact details) due to their overly complex and inaccessible design.	14	2.00	1.240
42. I have difficulty reaching my educational unit or navigating into it due to the inappropriate building structure (e.g. narrow spaces and obstacles).	8	2.00	1.069
37. Navigating through bank websites and i-banking to check my bank account and transfer money is difficult due to accessibility issues.	18	1.89	1.132
38. It is challenging for me to make digital payments and manage my finances.	16	1.88	1.310
2. It is difficult to navigate external spaces without someone to accompany me due to a lack of signage.	7	1.86	1.464
31. Due to inaccessible e-commerce platforms, I find navigating product information and detailed descriptions challenging (e.g., not compatible with screen recognition programs).	13	1.85	1.281
78. There is no tourist signage for the direction of tourist attractions and service facilities.	12	1.83	0.937
43. I have difficulty reaching my educational unit or navigating into it due to lack of facilities (e.g., ramps, elevators, signage).	8	1.75	1.035
28. Navigation paths and searching on websites are too complicated for me.	15	1.73	1.280
35. The formats in digital documents and online services are inaccessible (e.g., small/large fonts or artistic ones, lack of speech-to-	13	1.69	1.032

text technology and multiple interaction methods, such as voice commands)

39. ATMs are challenging for me due to the lack of specific accessibility features.	13	1.69	1.182
27. I have difficulty using chat windows or digital bots on websites.	13	1.62	1.193
29. Using passwords on digital platforms or apps is challenging for me.	15	1.60	1.242
6. I have difficulty navigating indoor spaces with stairs and no ramps or elevators.	7	1.57	1.718
61. At my workplace, in internal spaces, there are accessibility issues concerning spatial accessibility (e.g., there are no ramps and elevators, facilities, toilets, or narrow spaces).	7	1.43	0.976
90. I find it difficult to locate my belongings when leaving the water.	7	1.43	0.976
60. I cannot reach my workplace easily due to poor structure in external spaces.	9	1.33	1.118
30. I struggle with access to social media (e.g., blogging and Facebook).	11	1.00	0.775

Table 6

Mean and standard deviation of responses of participants with specific learning disabilities to each item of the questionnaire. The value of N corresponds to the number of participants with specific learning disabilities who responded to what extent they agreed with the item. This number is different for each item and is less than the total number of participants with specific learning disabilities. The difference between the N-value and the total number of participants with specific learning disabilities is due to the "I don't know" or "Not relevant to my disability" responses given by some participants with specific learning disabilities. These responses were included in the possible response options, in addition to the 5-point Likert scale options.

Specific Learning Disabilities	N	Mean	SD
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1. I find it difficult to walk in outdoor spaces due to their poor structure (e.g., damaged or narrow sidewalks, obstacles, lack of ramps) and lack of pedestrian maintenance.	2	4.000	0.000
3. Insufficient lighting in external spaces is challenging for me.	2	4.000	0.000
8. Indoor places are challenging for me when there are not standardized lighting levels.	2	4.000	0.000
12. When public transportation is overcrowded and noisy, it is difficult for me to cope with.	5	3.800	0.447
9. Overcrowded and noisy internal spaces are frustrating for me.	6	3.667	0.516
98. There is no training for handling emergency situations involving people with disabilities.	9	3.667	0.500
97. There is no provision for inclusive planning for people with disabilities in security evacuation situations.	7	3.571	0.535
6. I have difficulty navigating indoor spaces with stairs and no ramps or elevators.	2	3.500	0.707
87. There is no consideration for safety measures in sports facilities regarding people with disabilities.	5	3.400	0.548
88. Sports clubs have no available and qualified staff to support people with disabilities and create programs adapted to them.	5	3.400	0.548
89. Beach ramps are not available on the beach, or they are not functional.	5	3.400	0.548
99. Applications that have the services of the fire department, hospital, and police are not accessible enough.	5	3.400	0.548
81. Transportation means (e.g., airplanes, ships, buses, trains) are not properly designed to serve people with disabilities.	6	3.333	0.516
92. There is no provision for appropriate staff training for people with disabilities in theaters, cinemas, and concerts.	7	3.286	0.488

94. In a theater or a cinema, there is no provision for people with disabilities regarding facilities and seating arrangements.	7	3.286	0.756
96. Evacuation and security systems lack specific provisions for people with disabilities (e.g., alerts that are not accessible to everyone).	7	3.286	0.488
5. It isn't easy for me to navigate internal spaces, such as hospitals, due to a lack of indicators and signage.	4	3.250	0.500
64. I need assistance from others in my workplace because of inaccessibility, which is not always given (e.g., instructions and modifications from employers).	4	3.250	0.957
85. Sports equipment (e.g. exercise machines) in sports centers is inaccessible to people with disabilities.	8	3.250	0.463
15. There are no accessible facilities in public and private sector services, or the existing ones lack maintenance.	5	3.200	0.447
86. Sports facilities are inaccessible in terms of physical accessibility (entrances, indoor spaces, etc.).	6	3.167	0.408
26. I find it difficult to understand information in digital interfaces due to too much complex content involved.	10	3.100	0.876
50. There is a lack of information about useful tools for teachers and students.	14	3.071	0.829
4. I have difficulty finding accessible parking spaces.	2	3.000	1.414
10. I find it difficult to get on the bus (e.g., due to narrow spaces or lack of ramps or due to the height of the doorstep).	2	3.000	1.414
13. I find it challenging to access bus stops due to the inaccessible routes leading to them.	2	3.000	1.414
16. My disability card is not always taken into account to be granted priority and I find it difficult to wait in lines for a long time.	2	3.000	1.414
17. The staff in services (such as hospital personnel) are not properly	5	3.000	0.707

educated on how to treat and communicate with people with disabilities, or they are not willing to help.

21. Communication is challenging for me in public or private services where glass barriers are used or people wear face masks.	4	3.000	0.000
43. I have difficulty reaching my educational unit or navigating into it due to lack of facilities (e.g., ramps, elevators, signage).	3	3.000	1.732
66. At my job, no assistive technology or special equipment is available to support me.	4	3.000	1.155
91. On the beach, no assistance is provided by the beach bar owners for people with disabilities.	5	3.000	0.707
83. Staff in transportation means are not well trained to serve people with disabilities.	7	2.857	0.690
24. I have difficulty navigating unfamiliar websites and locating important information (e.g., contact details) due to their overly complex and inaccessible design.	11	2.818	1.250
11. It is difficult for me to find the correct bus stop to get on/off the bus or the correct bus at the bus station due to a lack of signage and announcements.	5	2.800	1.095
20. Monitors for clients (e.g., in banks or hospitals) are inaccessible to people with disabilities.	5	2.800	0.447
69. At museums, exhibits, and works of art, internal spaces lack accessible infrastructure (unstable glass floor, obstacles, lack of stairs with handrails) and indicators to help visitors reach the points of interest.	9	2.778	1.202
34. I encounter difficulty with digital service documents that require me to fill in or understand instructions with unfamiliar terminology, such as legal, banking, or administrative vocabulary.	13	2.769	1.013
55. The teacher's lack of qualification to use accessibility methods (e.g., technological and e-learning tools) and lack of proper training in supporting students with disabilities led to significant gaps in my	11	2.727	1.272

learning, making it difficult to catch up.

68. At museums, art galleries, and archaeological sites, external spaces lack proper infrastructure and indicators to help visitors understand where the parking spots and entrances are or how to get there.	7	2.714	0.951
72. Many cultural heritage sites lack permeable and functional websites (e.g., virtual tours).	10	2.700	1.252
22. There is a lack of accessible information in public services (e.g., tactile maps, Braille labels, audible information, easy-to-read texts, etc.)	6	2.667	1.366
47. I find it difficult to access educational material when it is not given in an accessible text form (e.g., easy-to-read texts, accessible texts in Word or Pdf form).	13	2.615	1.261
56. Teachers do not take into account the special needs of students with disabilities during the physical or online examination process (e.g., time, exam difficulty, examination form and directions).	13	2.615	1.387
51. There are no available devices or educational tools compatible with assistive technology to support me in the courses that I attend (e.g., screen readers).	5	2.600	0.894
36. I find communicating with technical assistance services challenging and hesitate to ask for help.	12	2.583	0.900
54. The library in the educational institution I attend is not equipped appropriately (e.g., assistive technology, devices, etc.) to support students with disabilities.	7	2.571	1.134
65. I find it difficult to master new digital tools effectively at my workplace due to accessibility barriers, such as complex interfaces and a lack of assistive technology support.	7	2.571	1.134
73. Most places of cultural heritage don't have tour guides available for people with disabilities.	7	2.571	1.512

44. It is difficult for me to attend a course in a crowded educational environment.	16	2.563	1.094
71. There are no trained staff members who can support me in archaeological and cultural sites and museums.	9	2.556	1.014
48. I have difficulties in accessing educational material due to the lack of accessible forms and multimedia (e.g., accessible presentations and accessible videos).	13	2.538	1.266
62. Noise and an unstructured environment in the workplace cause me stress.	13	2.538	0.967
7. I find difficulty in indoor places (such as schools, gyms, bars, and restaurants) due to the lack or misuse of toilets for people with disabilities.	2	2.500	2.121
14. I frequently have difficulty communicating with bus drivers, or they are unwilling to help.	2	2.500	0.707
60. I cannot reach my workplace easily due to poor structure in external spaces.	2	2.500	2.121
58. I face difficulties accessing online courses and material due to inaccessibility in digital educational material and resources.	12	2.417	1.165
59. I cannot keep up with online courses as they are too fast, and I do not have time to take notes and digest information.	10	2.400	1.350
23. I encounter difficulties in health care services due to organizational and transport barriers.	3	2.333	1.528
74. A tour guide is not always enough for me to have access to cultural heritage environments.	9	2.333	1.414
93. I have difficulty accessing TV programs (e.g. news broadcasts) or videos due to lack of accessibility (e.g. lack of interpretation or subtitles, difficult-unknown terminology).	3	2.333	2.082
33. Due to poor accessibility, I find it difficult to access, fill in, and save digital documents (such as declarations from CSIS) on my own,	10	2.300	1.160

especially when they require personal information.

19. Information and services (e.g., booking an appointment) on health portals and websites are not accessible to me.	7	2.286	1.604
61. At my workplace, in internal spaces, there are accessibility issues concerning spatial accessibility (e.g., there are no ramps and elevators, facilities, toilets, or narrow spaces).	4	2.250	1.500
70. I find it difficult to navigate in museums or cultural heritage sites when they are crowded.	9	2.222	1.394
53. Announcements by the teaching and administrative staff are not always accessible to me or presented understandably.	11	2.182	1.401
25. I find difficulty with internet services and websites, especially when they are not up to date and incompatible with assistive technology (e.g., not accessible with screen recognition).	6	2.167	0.983
78. There is no tourist signage for the direction of tourist attractions and service facilities.	12	2.167	0.937
32. E-commerce is challenging because I worry about online shopping security.	13	2.154	1.214
31. Due to inaccessible e-commerce platforms, I find navigating product information and detailed descriptions challenging (e.g., not compatible with screen recognition programs).	9	2.111	1.453
41. I have difficulty keeping up with updates in operating systems, digital formats of information, and device and software updates.	11	2.091	1.300
84. I find it difficult to book a ticket online due to the inaccessible websites.	11	2.091	1.136
18. I cannot communicate and understand the information explained to me in public services without assistance.	9	2.000	1.323
40. I find navigating and searching certain things in digital libraries difficult due to poor accessibility.	10	2.000	1.247

49. There is not accessible educational material with the use of VR/AR technology.	6	2.000	1.265
52. Communication with the administrative services is inadequate, and I don't have the chance to express my needs.	13	2.000	1.354
63. I find it difficult to apply for a job, follow a hiring process, or make requests in my workplace due to the inaccessibility of documents and websites.	8	2.000	1.309
67. The machines I have to use in my job are not accessible.	4	2.000	1.414
76. It is difficult for me to have access to information, as there is a lack of tactile material, audio descriptions (e.g. QR codes for audio information) for museum exhibits or text information is unreadable.	8	2.000	1.690
45. I find it difficult to attend the lesson when I am not close to the teacher and the board in the classroom.	15	1.933	1.280
77. I find it difficult to plan a trip (e.g., activities) due to inaccessible websites of travel agencies.	12	1.917	1.240
80. I cannot book tickets and accommodation without assistance due to hard-to-read websites.	12	1.917	1.084
27. I have difficulty using chat windows or digital bots on websites.	10	1.900	1.197
79. Booking a room in a hotel is difficult for me as I do not have access to the necessary information (e.g., pictures).	10	1.900	1.101
35. The formats in digital documents and online services are inaccessible (e.g., small/large fonts or artistic ones, lack of speech-to-text technology and multiple interaction methods, such as voice commands)	8	1.875	1.126
57. I find it difficult to work in a group because of the lack of disability awareness among my fellow students.	12	1.833	1.403
100. I find it hard to understand critical information due to the lack of accessible formats of information (e.g., understandable vocabulary,	11	1.818	1.537

easy-to-read texts, accessible texts or other accessible formats).

37. Navigating through bank websites and i-banking to check my bank account and transfer money is difficult due to accessibility issues.	10	1.700	1.337
42. I have difficulty reaching my educational unit or navigating into it due to the inappropriate building structure (e.g. narrow spaces and obstacles).	3	1.667	1.155
82. I do not have access to the announcements provided by transportation means (e.g., airplanes, buses, ships).	6	1.667	1.033
28. Navigation paths and searching on websites are too complicated for me.	13	1.615	1.446
75. I struggle to comprehend the information in the museum because of the vocabulary, syntax and ambiguity of the words and symbols.	12	1.583	1.240
46. I find it difficult when lecture locations change.	13	1.538	1.050
90. I find it difficult to locate my belongings when leaving the water.	8	1.500	1.604
29. Using passwords on digital platforms or apps is challenging for me.	13	1.462	1.450
38. It is challenging for me to make digital payments and manage my finances.	13	1.462	1.561
39. ATMs are challenging for me due to the lack of specific accessibility features.	6	1.333	1.033
95. It is challenging for me to book a ticket for a movie, a theater, or a concert due to inaccessible websites (e.g., through a screen reader)	9	1.222	1.093
2. It is difficult to navigate external spaces without someone to accompany me due to a lack of signage.	2	1.000	1.414
30. I struggle with access to social media (e.g., blogging and Facebook).	9	0.667	0.500

Table 7

Mean and standard deviation of responses of participants with autism (high functioning/ Asperger's syndrome) to each item of the questionnaire. The value of N corresponds to the number of participants with autism who responded to what extent they agreed with the item. This number is different for each item and is less than the total number of participants with autism. The difference between the N-value and the total number of participants with autism is due to the "I don't know" or "Not relevant to my disability" responses given by some participants with autism. These responses were included in the possible response options, in addition to the 5-point Likert scale options.

Autism (high functioning/ Asperger's syndrome)	N	Mean	SD
9. Overcrowded and noisy internal spaces are frustrating for me.	9	3.333	0.707
8. Indoor places are challenging for me when there are not standardized lighting levels.	5	3.200	0.447
62. Noise and an unstructured environment in the workplace cause me stress.	7	3.143	0.690
17. The staff in services (such as hospital personnel) are not properly educated on how to treat and communicate with people with disabilities, or they are not willing to help.	5	3.000	1.000
49. There is not accessible educational material with the use of VR/AR technology.	2	3.000	1.414
51. There are no available devices or educational tools compatible with assistive technology to support me in the courses that I attend (e.g., screen readers).	3	3.000	1.000
47. I find it difficult to access educational material when it is not given in an accessible text form (e.g., easy-to-read texts, accessible texts in Word or Pdf form).	7	2.857	0.378
50. There is a lack of information about useful tools for teachers and students.	7	2.857	1.069
5. It isn't easy for me to navigate internal spaces, such as hospitals, due to a lack of indicators and signage.	5	2.800	0.837

12. When public transportation is overcrowded and noisy, it is difficult for me to cope with.	9	2.778	1.302
98. There is no training for handling emergency situations involving people with disabilities.	4	2.750	1.500
56. Teachers do not take into account the special needs of students with disabilities during the physical or online examination process (e.g., time, exam difficulty, examination form and directions).	7	2.714	1.380
73. Most places of cultural heritage don't have tour guides available for people with disabilities.	3	2.667	0.577
97. There is no provision for inclusive planning for people with disabilities in security evacuation situations.	3	2.667	1.528
48. I have difficulties in accessing educational material due to the lack of accessible forms and multimedia (e.g., accessible presentations and accessible videos).	7	2.571	0.787
53. Announcements by the teaching and administrative staff are not always accessible to me or presented understandably.	7	2.571	1.272
70. I find it difficult to navigate in museums or cultural heritage sites when they are crowded.	9	2.556	1.333
4. I have difficulty finding accessible parking spaces.	4	2.500	1.291
22. There is a lack of accessible information in public services (e.g., tactile maps, Braille labels, audible information, easy-to-read texts, etc.)	4	2.500	0.577
55. The teacher's lack of qualification to use accessibility methods (e.g., technological and e-learning tools) and lack of proper training in supporting students with disabilities led to significant gaps in my learning, making it difficult to catch up.	8	2.500	1.414
63. I find it difficult to apply for a job, follow a hiring process, or make requests in my workplace due to the inaccessibility of documents and websites.	6	2.500	0.837

88. Sports clubs have no available and qualified staff to support people with disabilities and create programs adapted to them.	2	2.500	0.707
32. E-commerce is challenging because I worry about online shopping security.	9	2.444	1.014
34. I encounter difficulty with digital service documents that require me to fill in or understand instructions with unfamiliar terminology, such as legal, banking, or administrative vocabulary.	9	2.444	1.236
46. I find it difficult when lecture locations change.	9	2.444	1.333
58. I face difficulties accessing online courses and material due to inaccessibility in digital educational material and resources.	5	2.400	1.140
72. Many cultural heritage sites lack permeable and functional websites (e.g., virtual tours).	5	2.400	0.894
21. Communication is challenging for me in public or private services where glass barriers are used or people wear face masks.	6	2.333	1.211
23. I encounter difficulties in health care services due to organizational and transport barriers.	3	2.333	0.577
44. It is difficult for me to attend a course in a crowded educational environment.	9	2.333	1.414
54. The library in the educational institution I attend is not equipped appropriately (e.g., assistive technology, devices, etc.) to support students with disabilities.	3	2.333	1.528
59. I cannot keep up with online courses as they are too fast, and I do not have time to take notes and digest information.	9	2.333	1.500
64. I need assistance from others in my workplace because of inaccessibility, which is not always given (e.g., instructions and modifications from employers).	3	2.333	1.528
89. Beach ramps are not available on the beach, or they are not functional.	3	2.333	0.577

96. Evacuation and security systems lack specific provisions for people with disabilities (e.g., alerts that are not accessible to everyone).	3	2.333	1.528
79. Booking a room in a hotel is difficult for me as I do not have access to the necessary information (e.g., pictures).	7	2.286	0.951
1. I find it difficult to walk in outdoor spaces due to their poor structure (e.g., damaged or narrow sidewalks, obstacles, lack of ramps) and lack of pedestrian maintenance.	4	2.250	0.957
16. My disability card is not always taken into account to be granted priority and I find it difficult to wait in lines for a long time.	4	2.250	1.258
35. The formats in digital documents and online services are inaccessible (e.g., small/large fonts or artistic ones, lack of speech-to-text technology and multiple interaction methods, such as voice commands)	4	2.250	1.258
69. At museums, exhibits, and works of art, internal spaces lack accessible infrastructure (unstable glass floor, obstacles, lack of stairs with handrails) and indicators to help visitors reach the points of interest.	4	2.250	0.500
76. It is difficult for me to have access to information, as there is a lack of tactile material, audio descriptions (e.g. QR codes for audio information) for museum exhibits or text information is unreadable.	4	2.250	0.957
93. I have difficulty accessing TV programs (e.g. news broadcasts) or videos due to lack of accessibility (e.g. lack of interpretation or subtitles, difficult-unknown terminology).	4	2.250	1.258
99. Applications that have the services of the fire department, hospital, and police are not accessible enough.	4	2.250	1.258
45. I find it difficult to attend the lesson when I am not close to the teacher and the board in the classroom.	9	2.222	1.716
100. I find it hard to understand critical information due to the lack of accessible formats of information (e.g., understandable vocabulary, easy-to-read texts, accessible texts or other accessible formats).	5	2.200	1.304

52. Communication with the administrative services is inadequate, and I don't have the chance to express my needs.	7	2.143	1.215
36. I find communicating with technical assistance services challenging and hesitate to ask for help.	8	2.125	1.126
57. I find it difficult to work in a group because of the lack of disability awareness among my fellow students.	8	2.125	1.808
75. I struggle to comprehend the information in the museum because of the vocabulary, syntax and ambiguity of the words and symbols.	8	2.125	1.246
3. Insufficient lighting in external spaces is challenging for me.	6	2.000	0.894
10. I find it difficult to get on the bus (e.g., due to narrow spaces or lack of ramps or due to the height of the doorstep).	4	2.000	0.816
11. It is difficult for me to find the correct bus stop to get on/off the bus or the correct bus at the bus station due to a lack of signage and announcements.	7	2.000	1.000
15. There are no accessible facilities in public and private sector services, or the existing ones lack maintenance.	4	2.000	0.816
20. Monitors for clients (e.g., in banks or hospitals) are inaccessible to people with disabilities.	5	2.000	0.707
60. I cannot reach my workplace easily due to poor structure in external spaces.	2	2.000	1.414
65. I find it difficult to master new digital tools effectively at my workplace due to accessibility barriers, such as complex interfaces and a lack of assistive technology support.	3	2.000	1.000
68. At museums, art galleries, and archaeological sites, external spaces lack proper infrastructure and indicators to help visitors understand where the parking spots and entrances are or how to get there.	5	2.000	1.581
78. There is no tourist signage for the direction of tourist attractions	3	2.000	1.000

and service facilities.

80. I cannot book tickets and accommodation without assistance due to hard-to-read websites.	4	2.000	0.816
82. I do not have access to the announcements provided by transportation means (e.g., airplanes, buses, ships).	5	2.000	1.000
85. Sports equipment (e.g. exercise machines) in sports centers is inaccessible to people with disabilities.	1	2.000	NaN
86. Sports facilities are inaccessible in terms of physical accessibility (entrances, indoor spaces, etc.).	1	2.000	NaN
87. There is no consideration for safety measures in sports facilities regarding people with disabilities.	1	2.000	NaN
91. On the beach, no assistance is provided by the beach bar owners for people with disabilities.	3	2.000	1.000
94. In a theater or a cinema, there is no provision for people with disabilities regarding facilities and seating arrangements.	4	2.000	1.414
90. I find it difficult to locate my belongings when leaving the water.	5	1.800	0.837
7. I find difficulty in indoor places (such as schools, gyms, bars, and restaurants) due to the lack or misuse of toilets for people with disabilities.	4	1.750	0.957
77. I find it difficult to plan a trip (e.g., activities) due to inaccessible websites of travel agencies.	4	1.750	0.957
81. Transportation means (e.g., airplanes, ships, buses, trains) are not properly designed to serve people with disabilities.	4	1.750	0.957
24. I have difficulty navigating unfamiliar websites and locating important information (e.g., contact details) due to their overly complex and inaccessible design.	7	1.714	1.113
42. I have difficulty reaching my educational unit or navigating into it due to the inappropriate building structure (e.g. narrow spaces and	3	1.667	1.155

obstacles).

83. Staff in transportation means are not well trained to serve people with disabilities.	3	1.667	0.577
26. I find it difficult to understand information in digital interfaces due to too much complex content involved.	8	1.625	1.061
31. Due to inaccessible e-commerce platforms, I find navigating product information and detailed descriptions challenging (e.g., not compatible with screen recognition programs).	5	1.600	1.140
67. The machines I have to use in my job are not accessible.	5	1.600	1.517
29. Using passwords on digital platforms or apps is challenging for me.	7	1.571	1.718
18. I cannot communicate and understand the information explained to me in public services without assistance.	9	1.556	1.014
13. I find it challenging to access bus stops due to the inaccessible routes leading to them.	4	1.500	0.577
38. It is challenging for me to make digital payments and manage my finances.	8	1.500	1.512
61. At my workplace, in internal spaces, there are accessibility issues concerning spatial accessibility (e.g., there are no ramps and elevators, facilities, toilets, or narrow spaces).	2	1.500	0.707
66. At my job, no assistive technology or special equipment is available to support me.	2	1.500	0.707
71. There are no trained staff members who can support me in archaeological and cultural sites and museums.	2	1.500	0.707
74. A tour guide is not always enough for me to have access to cultural heritage environments.	2	1.500	0.707
92. There is no provision for appropriate staff training for people with disabilities in theaters, cinemas, and concerts.	2	1.500	0.707

14. I frequently have difficulty communicating with bus drivers, or they are unwilling to help.	5	1.400	0.894
19. Information and services (e.g., booking an appointment) on health portals and websites are not accessible to me.	5	1.400	0.894
25. I find difficulty with internet services and websites, especially when they are not up to date and incompatible with assistive technology (e.g., not accessible with screen recognition).	5	1.400	0.894
6. I have difficulty navigating indoor spaces with stairs and no ramps or elevators.	4	1.250	0.500
33. Due to poor accessibility, I find it difficult to access, fill in, and save digital documents (such as declarations from CSIS) on my own, especially when they require personal information.	8	1.250	1.035
84. I find it difficult to book a ticket online due to the inaccessible websites.	4	1.250	0.957
40. I find navigating and searching certain things in digital libraries difficult due to poor accessibility.	5	1.200	1.304
95. It is challenging for me to book a ticket for a movie, a theater, or a concert due to inaccessible websites (e.g., through a screen reader)	5	1.200	0.447
2. It is difficult to navigate external spaces without someone to accompany me due to a lack of signage.	4	1.000	0.000
28. Navigation paths and searching on websites are too complicated for me.	8	1.000	0.926
30. I struggle with access to social media (e.g., blogging and Facebook).	6	1.000	1.265
37. Navigating through bank websites and i-banking to check my bank account and transfer money is difficult due to accessibility issues.	7	1.000	1.000
39. ATMs are challenging for me due to the lack of specific accessibility features.	5	1.000	1.225

43. I have difficulty reaching my educational unit or navigating into it due to lack of facilities (e.g., ramps, elevators, signage).	2	1.000	0.000
27. I have difficulty using chat windows or digital bots on websites.	7	0.857	0.690
41. I have difficulty keeping up with updates in operating systems, digital formats of information, and device and software updates.	7	0.571	0.787

Table 8

Mean and standard deviation of responses of participants with mild intellectual disability to each item of the questionnaire. The value of N corresponds to the number of participants with mild intellectual disability who responded to what extent they agreed with the item. This number is different for each item and is less than the total number of participants with mild intellectual disability. The difference between the N-value and the total number of participants with mild intellectual disability is due to the "I don't know" or "Not relevant to my disability" responses given by some participants with mild intellectual disability. These responses were included in the possible response options, in addition to the 5-point Likert scale options.

Mild Intellectual Disability	N	Mean	SD
69. At museums, exhibits, and works of art, internal spaces lack accessible infrastructure (unstable glass floor, obstacles, lack of stairs with handrails) and indicators to help visitors reach the points of interest.	7	3.14	0.690
33. Due to poor accessibility, I find it difficult to access, fill in, and save digital documents (such as declarations from CSIS) on my own, especially when they require personal information.	8	3.00	0.535
53. Announcements by the teaching and administrative staff are not always accessible to me or presented understandably.	8	3.00	0.756
62. Noise and an unstructured environment in the workplace cause me stress.	9	3.00	0.707
20. Monitors for clients (e.g., in banks or hospitals) are inaccessible to people with disabilities.	8	2.75	1.035

88. Sports clubs have no available and qualified staff to support people with disabilities and create programs adapted to them.	7	2.71	1.113
22. There is a lack of accessible information in public services (e.g., tactile maps, Braille labels, audible information, easy-to-read texts, etc.)	6	2.67	1.366
32. E-commerce is challenging because I worry about online shopping security.	8	2.63	1.408
34. I encounter difficulty with digital service documents that require me to fill in or understand instructions with unfamiliar terminology, such as legal, banking, or administrative vocabulary.	10	2.60	0.966
49. There is not accessible educational material with the use of VR/AR technology.	7	2.57	0.535
26. I find it difficult to understand information in digital interfaces due to too much complex content involved.	9	2.56	1.130
96. Evacuation and security systems lack specific provisions for people with disabilities (e.g., alerts that are not accessible to everyone).	9	2.56	1.236
98. There is no training for handling emergency situations involving people with disabilities.	9	2.56	1.014
16. My disability card is not always taken into account to be granted priority and I find it difficult to wait in lines for a long time.	8	2.50	1.512
25. I find difficulty with internet services and websites, especially when they are not up to date and incompatible with assistive technology (e.g., not accessible with screen recognition).	10	2.50	1.269
92. There is no provision for appropriate staff training for people with disabilities in theaters, cinemas, and concerts.	6	2.50	1.049
3. Insufficient lighting in external spaces is challenging for me.	9	2.44	1.590
97. There is no provision for inclusive planning for people with	9	2.44	1.333

disabilities in security evacuation situations.

7. I find difficulty in indoor places (such as schools, gyms, bars, and restaurants) due to the lack or misuse of toilets for people with disabilities.	7	2.43	1.134
23. I encounter difficulties in health care services due to organizational and transport barriers.	7	2.43	0.976
64. I need assistance from others in my workplace because of inaccessibility, which is not always given (e.g., instructions and modifications from employers).	7	2.43	0.976
38. It is challenging for me to make digital payments and manage my finances.	8	2.38	1.302
54. The library in the educational institution I attend is not equipped appropriately (e.g., assistive technology, devices, etc.) to support students with disabilities.	8	2.38	1.188
68. At museums, art galleries, and archaeological sites, external spaces lack proper infrastructure and indicators to help visitors understand where the parking spots and entrances are or how to get there.	9	2.33	1.118
91. On the beach, no assistance is provided by the beach bar owners for people with disabilities.	6	2.33	0.816
31. Due to inaccessible e-commerce platforms, I find navigating product information and detailed descriptions challenging (e.g., not compatible with screen recognition programs).	7	2.29	1.380
52. Communication with the administrative services is inadequate, and I don't have the chance to express my needs.	7	2.29	1.113
77. I find it difficult to plan a trip (e.g., activities) due to inaccessible websites of travel agencies.	7	2.29	1.254
10. I find it difficult to get on the bus (e.g., due to narrow spaces or lack of ramps or due to the height of the doorstep).	8	2.25	1.488

15. There are no accessible facilities in public and private sector services, or the existing ones lack maintenance.	8	2.25	1.282
73. Most places of cultural heritage don't have tour guides available for people with disabilities.	8	2.25	1.165
86. Sports facilities are inaccessible in terms of physical accessibility (entrances, indoor spaces, etc.).	8	2.25	0.886
1. I find it difficult to walk in outdoor spaces due to their poor structure (e.g., damaged or narrow sidewalks, obstacles, lack of ramps) and lack of pedestrian maintenance.	9	2.22	1.394
8. Indoor places are challenging for me when there are not standardized lighting levels.	9	2.22	1.093
83. Staff in transportation means are not well trained to serve people with disabilities.	9	2.22	1.302
50. There is a lack of information about useful tools for teachers and students.	10	2.20	1.135
29. Using passwords on digital platforms or apps is challenging for me.	11	2.18	1.168
85. Sports equipment (e.g. exercise machines) in sports centers is inaccessible to people with disabilities.	6	2.17	0.753
99. Applications that have the services of the fire department, hospital, and police are not accessible enough.	6	2.17	1.169
89. Beach ramps are not available on the beach, or they are not functional.	7	2.14	0.900
51. There are no available devices or educational tools compatible with assistive technology to support me in the courses that I attend (e.g., screen readers).	8	2.13	1.246
100. I find it hard to understand critical information due to the lack of accessible formats of information (e.g., understandable vocabulary,	8	2.13	1.356

easy-to-read texts, accessible texts or other accessible formats).

27. I have difficulty using chat windows or digital bots on websites.	10	2.10	1.370
4. I have difficulty finding accessible parking spaces.	7	2.00	0.816
5. It isn't easy for me to navigate internal spaces, such as hospitals, due to a lack of indicators and signage.	8	2.00	1.512
9. Overcrowded and noisy internal spaces are frustrating for me.	12	2.00	1.348
12. When public transportation is overcrowded and noisy, it is difficult for me to cope with.	11	2.00	1.000
13. I find it challenging to access bus stops due to the inaccessible routes leading to them.	8	2.00	0.926
17. The staff in services (such as hospital personnel) are not properly educated on how to treat and communicate with people with disabilities, or they are not willing to help.	11	2.00	1.483
41. I have difficulty keeping up with updates in operating systems, digital formats of information, and device and software updates.	8	2.00	1.069
46. I find it difficult when lecture locations change.	9	2.00	1.323
65. I find it difficult to master new digital tools effectively at my workplace due to accessibility barriers, such as complex interfaces and a lack of assistive technology support.	6	2.00	1.414
67. The machines I have to use in my job are not accessible.	6	2.00	1.265
74. A tour guide is not always enough for me to have access to cultural heritage environments.	6	2.00	0.894
76. It is difficult for me to have access to information, as there is a lack of tactile material, audio descriptions (e.g. QR codes for audio information) for museum exhibits or text information is unreadable.	8	2.00	0.756
81. Transportation means (e.g., airplanes, ships, buses, trains) are not properly designed to serve people with disabilities.	7	2.00	1.155

94. In a theater or a cinema, there is no provision for people with disabilities regarding facilities and seating arrangements.	8	2.00	0.756
21. Communication is challenging for me in public or private services where glass barriers are used or people wear face masks.	10	1.90	0.994
19. Information and services (e.g., booking an appointment) on health portals and websites are not accessible to me.	9	1.89	1.453
75. I struggle to comprehend the information in the museum because of the vocabulary, syntax and ambiguity of the words and symbols.	9	1.89	1.364
40. I find navigating and searching certain things in digital libraries difficult due to poor accessibility.	8	1.88	1.126
42. I have difficulty reaching my educational unit or navigating into it due to the inappropriate building structure (e.g. narrow spaces and obstacles).	8	1.88	0.991
87. There is no consideration for safety measures in sports facilities regarding people with disabilities.	7	1.86	0.900
60. I cannot reach my workplace easily due to poor structure in external spaces.	6	1.83	1.472
61. At my workplace, in internal spaces, there are accessibility issues concerning spatial accessibility (e.g., there are no ramps and elevators, facilities, toilets, or narrow spaces).	6	1.83	1.169
28. Navigation paths and searching on websites are too complicated for me.	11	1.82	1.250
44. It is difficult for me to attend a course in a crowded educational environment.	11	1.82	1.328
18. I cannot communicate and understand the information explained to me in public services without assistance.	10	1.80	1.135
72. Many cultural heritage sites lack permeable and functional websites (e.g., virtual tours).	5	1.80	1.483

78. There is no tourist signage for the direction of tourist attractions and service facilities.	5	1.80	0.837
35. The formats in digital documents and online services are inaccessible (e.g., small/large fonts or artistic ones, lack of speech-to-text technology and multiple interaction methods, such as voice commands)	8	1.75	1.488
37. Navigating through bank websites and i-banking to check my bank account and transfer money is difficult due to accessibility issues.	8	1.75	1.488
39. ATMs are challenging for me due to the lack of specific accessibility features.	8	1.75	1.488
47. I find it difficult to access educational material when it is not given in an accessible text form (e.g., easy-to-read texts, accessible texts in Word or Pdf form).	8	1.75	1.165
70. I find it difficult to navigate in museums or cultural heritage sites when they are crowded.	8	1.75	0.886
55. The teacher's lack of qualification to use accessibility methods (e.g., technological and e-learning tools) and lack of proper training in supporting students with disabilities led to significant gaps in my learning, making it difficult to catch up.	7	1.71	0.756
14. I frequently have difficulty communicating with bus drivers, or they are unwilling to help.	10	1.70	1.252
95. It is challenging for me to book a ticket for a movie, a theater, or a concert due to inaccessible websites (e.g., through a screen reader)	10	1.70	0.949
24. I have difficulty navigating unfamiliar websites and locating important information (e.g., contact details) due to their overly complex and inaccessible design.	9	1.67	1.225
80. I cannot book tickets and accommodation without assistance due to hard-to-read websites.	9	1.67	1.225
36. I find communicating with technical assistance services	11	1.64	1.433

challenging and hesitate to ask for help.

84. I find it difficult to book a ticket online due to the inaccessible websites.	8	1.63	1.061
11. It is difficult for me to find the correct bus stop to get on/off the bus or the correct bus at the bus station due to a lack of signage and announcements.	10	1.60	1.350
45. I find it difficult to attend the lesson when I am not close to the teacher and the board in the classroom.	12	1.58	1.084
43. I have difficulty reaching my educational unit or navigating into it due to lack of facilities (e.g., ramps, elevators, signage).	7	1.57	0.976
71. There are no trained staff members who can support me in archaeological and cultural sites and museums.	7	1.57	0.976
79. Booking a room in a hotel is difficult for me as I do not have access to the necessary information (e.g., pictures).	9	1.56	0.882
82. I do not have access to the announcements provided by transportation means (e.g., airplanes, buses, ships).	9	1.56	1.014
90. I find it difficult to locate my belongings when leaving the water.	9	1.44	1.014
63. I find it difficult to apply for a job, follow a hiring process, or make requests in my workplace due to the inaccessibility of documents and websites.	7	1.43	0.976
57. I find it difficult to work in a group because of the lack of disability awareness among my fellow students.	12	1.42	1.165
59. I cannot keep up with online courses as they are too fast, and I do not have time to take notes and digest information.	10	1.40	0.843
66. At my job, no assistive technology or special equipment is available to support me.	5	1.40	1.140
6. I have difficulty navigating indoor spaces with stairs and no ramps or elevators.	9	1.33	0.866

48. I have difficulties in accessing educational material due to the lack of accessible forms and multimedia (e.g., accessible presentations and accessible videos).	9	1.33	1.323
56. Teachers do not take into account the special needs of students with disabilities during the physical or online examination process (e.g., time, exam difficulty, examination form and directions).	9	1.33	1.500
58. I face difficulties accessing online courses and material due to inaccessibility in digital educational material and resources.	10	1.30	1.337
93. I have difficulty accessing TV programs (e.g. news broadcasts) or videos due to lack of accessibility (e.g. lack of interpretation or subtitles, difficult-unknown terminology).	8	1.25	1.035
2. It is difficult to navigate external spaces without someone to accompany me due to a lack of signage.	10	1.20	1.398
30. I struggle with access to social media (e.g., blogging and Facebook).	3	1.00	0.000

Table 9

Mean and standard deviation of responses of older people to each item of the questionnaire. The value of N corresponds to the number of older people who responded to what extent they agreed with the item. This number is different for each item and is less than the total number of older people who participated in the study. The difference between the N-value and the total number of older people is due to the "I don't know" or "Not relevant to my disability" responses given by some of the older people who participated in the study. These responses were included in the possible response options, in addition to the 5-point Likert scale options.

Older People	N	Mean	SD
32. E-commerce is challenging because I worry about online shopping security.	18	3.17	0.985
4. I have difficulty finding accessible parking spaces.	9	3.00	1.323
24. I have difficulty navigating unfamiliar websites and locating	20	3.00	1.026

important information (e.g., contact details) due to their overly complex and inaccessible design.

30. I struggle with access to social media (e.g., blogging and Facebook).	11	3.00	1.000
34. I encounter difficulty with digital service documents that require me to fill in or understand instructions with unfamiliar terminology, such as legal, banking, or administrative vocabulary.	19	2.89	0.937
77. I find it difficult to plan a trip (e.g., activities) due to inaccessible websites of travel agencies.	14	2.86	1.167
22. There is a lack of accessible information in public services (e.g., tactile maps, Braille labels, audible information, easy-to-read texts, etc.)	13	2.85	1.068
1. I find it difficult to walk in outdoor spaces due to their poor structure (e.g., damaged or narrow sidewalks, obstacles, lack of ramps) and lack of pedestrian maintenance.	19	2.84	0.958
27. I have difficulty using chat windows or digital bots on websites.	17	2.82	1.185
26. I find it difficult to understand information in digital interfaces due to too much complex content involved.	16	2.81	1.047
81. Transportation means (e.g., airplanes, ships, buses, trains) are not properly designed to serve people with disabilities.	16	2.81	0.911
89. Beach ramps are not available on the beach, or they are not functional.	16	2.81	0.834
29. Using passwords on digital platforms or apps is challenging for me.	19	2.79	1.273
70. I find it difficult to navigate in museums or cultural heritage sites when they are crowded.	19	2.79	1.032
15. There are no accessible facilities in public and private sector services, or the existing ones lack maintenance.	18	2.78	1.003

84. I find it difficult to book a ticket online due to the inaccessible websites.	17	2.76	1.091
28. Navigation paths and searching on websites are too complicated for me.	19	2.74	1.240
41. I have difficulty keeping up with updates in operating systems, digital formats of information, and device and software updates.	15	2.73	1.335
33. Due to poor accessibility, I find it difficult to access, fill in, and save digital documents (such as declarations from CSIS) on my own, especially when they require personal information.	17	2.71	1.359
9. Overcrowded and noisy internal spaces are frustrating for me.	20	2.70	1.218
12. When public transportation is overcrowded and noisy, it is difficult for me to cope with.	20	2.70	1.261
25. I find difficulty with internet services and websites, especially when they are not up to date and incompatible with assistive technology (e.g., not accessible with screen recognition).	10	2.70	1.337
38. It is challenging for me to make digital payments and manage my finances.	18	2.67	1.138
92. There is no provision for appropriate staff training for people with disabilities in theaters, cinemas, and concerts.	9	2.67	1.225
97. There is no provision for inclusive planning for people with disabilities in security evacuation situations.	9	2.67	1.225
98. There is no training for handling emergency situations involving people with disabilities.	9	2.67	1.323
3. Insufficient lighting in external spaces is challenging for me.	20	2.65	0.933
85. Sports equipment (e.g. exercise machines) in sports centers is inaccessible to people with disabilities.	8	2.63	1.408
88. Sports clubs have no available and qualified staff to support people with disabilities and create programs adapted to them.	8	2.63	1.302

31. Due to inaccessible e-commerce platforms, I find navigating product information and detailed descriptions challenging (e.g., not compatible with screen recognition programs).	10	2.60	1.265
83. Staff in transportation means are not well trained to serve people with disabilities.	15	2.60	0.910
94. In a theater or a cinema, there is no provision for people with disabilities regarding facilities and seating arrangements.	10	2.60	1.350
19. Information and services (e.g., booking an appointment) on health portals and websites are not accessible to me.	18	2.56	1.294
80. I cannot book tickets and accommodation without assistance due to hard-to-read websites.	16	2.56	1.031
96. Evacuation and security systems lack specific provisions for people with disabilities (e.g., alerts that are not accessible to everyone).	9	2.56	1.130
6. I have difficulty navigating indoor spaces with stairs and no ramps or elevators.	17	2.53	1.125
72. Many cultural heritage sites lack permeable and functional websites (e.g., virtual tours).	10	2.50	1.179
73. Most places of cultural heritage don't have tour guides available for people with disabilities.	6	2.50	1.517
87. There is no consideration for safety measures in sports facilities regarding people with disabilities.	8	2.50	1.195
91. On the beach, no assistance is provided by the beach bar owners for people with disabilities.	8	2.50	1.195
99. Applications that have the services of the fire department, hospital, and police are not accessible enough.	12	2.50	1.087
23. I encounter difficulties in health care services due to organizational and transport barriers.	13	2.46	1.050

69. At museums, exhibits, and works of art, internal spaces lack accessible infrastructure (unstable glass floor, obstacles, lack of stairs with handrails) and indicators to help visitors reach the points of interest.	16	2.44	0.964
35. The formats in digital documents and online services are inaccessible (e.g., small/large fonts or artistic ones, lack of speech-to-text technology and multiple interaction methods, such as voice commands)	14	2.43	1.089
20. Monitors for clients (e.g., in banks or hospitals) are inaccessible to people with disabilities.	10	2.40	1.430
17. The staff in services (such as hospital personnel) are not properly educated on how to treat and communicate with people with disabilities, or they are not willing to help.	13	2.38	1.044
47. I find it difficult to access educational material when it is not given in an accessible text form (e.g., easy-to-read texts, accessible texts in Word or Pdf form).	8	2.38	1.302
62. Noise and an unstructured environment in the workplace cause me stress.	8	2.38	1.061
71. There are no trained staff members who can support me in archaeological and cultural sites and museums.	15	2.33	0.976
76. It is difficult for me to have access to information, as there is a lack of tactile material, audio descriptions (e.g. QR codes for audio information) for museum exhibits or text information is unreadable.	10	2.30	1.160
53. Announcements by the teaching and administrative staff are not always accessible to me or presented understandably.	7	2.29	1.380
68. At museums, art galleries, and archaeological sites, external spaces lack proper infrastructure and indicators to help visitors understand where the parking spots and entrances are or how to get there.	17	2.29	0.920
57. I find it difficult to work in a group because of the lack of disability	4	2.25	1.500

awareness among my fellow students.

37. Navigating through bank websites and i-banking to check my bank account and transfer money is difficult due to accessibility issues.	13	2.23	1.235
8. Indoor places are challenging for me when there are not standardized lighting levels.	18	2.22	1.114
86. Sports facilities are inaccessible in terms of physical accessibility (entrances, indoor spaces, etc.).	9	2.22	1.093
16. My disability card is not always taken into account to be granted priority and I find it difficult to wait in lines for a long time.	5	2.20	1.789
79. Booking a room in a hotel is difficult for me as I do not have access to the necessary information (e.g., pictures).	15	2.20	1.082
5. It isn't easy for me to navigate internal spaces, such as hospitals, due to a lack of indicators and signage.	17	2.18	1.185
36. I find communicating with technical assistance services challenging and hesitate to ask for help.	17	2.18	1.334
10. I find it difficult to get on the bus (e.g., due to narrow spaces or lack of ramps or due to the height of the doorstep).	18	2.17	1.249
40. I find navigating and searching certain things in digital libraries difficult due to poor accessibility.	12	2.17	1.403
50. There is a lack of information about useful tools for teachers and students.	6	2.17	1.169
78. There is no tourist signage for the direction of tourist attractions and service facilities.	12	2.17	1.030
95. It is challenging for me to book a ticket for a movie, a theater, or a concert due to inaccessible websites (e.g., through a screen reader)	12	2.17	1.193
45. I find it difficult to attend the lesson when I am not close to the teacher and the board in the classroom.	7	2.14	1.215

46. I find it difficult when lecture locations change.	8	2.13	1.246
48. I have difficulties in accessing educational material due to the lack of accessible forms and multimedia (e.g., accessible presentations and accessible videos).	8	2.13	1.126
74. A tour guide is not always enough for me to have access to cultural heritage environments.	14	2.07	1.385
18. I cannot communicate and understand the information explained to me in public services without assistance.	18	2.06	1.162
13. I find it challenging to access bus stops due to the inaccessible routes leading to them.	17	2.00	1.275
14. I frequently have difficulty communicating with bus drivers, or they are unwilling to help.	17	2.00	0.866
56. Teachers do not take into account the special needs of students with disabilities during the physical or online examination process (e.g., time, exam difficulty, examination form and directions).	3	2.00	2.000
58. I face difficulties accessing online courses and material due to inaccessibility in digital educational material and resources.	5	2.00	1.581
59. I cannot keep up with online courses as they are too fast, and I do not have time to take notes and digest information.	4	2.00	1.414
100. I find it hard to understand critical information due to the lack of accessible formats of information (e.g., understandable vocabulary, easy-to-read texts, accessible texts or other accessible formats).	17	2.00	1.118
21. Communication is challenging for me in public or private services where glass barriers are used or people wear face masks.	16	1.94	1.237
52. Communication with the administrative services is inadequate, and I don't have the chance to express my needs.	7	1.86	1.215
65. I find it difficult to master new digital tools effectively at my workplace due to accessibility barriers, such as complex interfaces	6	1.83	1.169

and a lack of assistive technology support.

11. It is difficult for me to find the correct bus stop to get on/off the bus or the correct bus at the bus station due to a lack of signage and announcements.	17	1.82	1.286
7. I find difficulty in indoor places (such as schools, gyms, bars, and restaurants) due to the lack or misuse of toilets for people with disabilities.	10	1.80	1.317
43. I have difficulty reaching my educational unit or navigating into it due to lack of facilities (e.g., ramps, elevators, signage).	5	1.80	1.643
82. I do not have access to the announcements provided by transportation means (e.g., airplanes, buses, ships).	15	1.73	1.100
60. I cannot reach my workplace easily due to poor structure in external spaces.	7	1.71	1.113
39. ATMs are challenging for me due to the lack of specific accessibility features.	10	1.70	1.160
44. It is difficult for me to attend a course in a crowded educational environment.	6	1.67	1.211
93. I have difficulty accessing TV programs (e.g. news broadcasts) or videos due to lack of accessibility (e.g. lack of interpretation or subtitles, difficult-unknown terminology).	13	1.62	1.261
64. I need assistance from others in my workplace because of inaccessibility, which is not always given (e.g., instructions and modifications from employers).	5	1.60	1.140
75. I struggle to comprehend the information in the museum because of the vocabulary, syntax and ambiguity of the words and symbols.	17	1.59	1.121
51. There are no available devices or educational tools compatible with assistive technology to support me in the courses that I attend (e.g., screen readers).	4	1.50	1.000

61. At my workplace, in internal spaces, there are accessibility issues concerning spatial accessibility (e.g., there are no ramps and elevators, facilities, toilets, or narrow spaces).	6	1.50	1.049
90. I find it difficult to locate my belongings when leaving the water.	9	1.44	1.130
42. I have difficulty reaching my educational unit or navigating into it due to the inappropriate building structure (e.g. narrow spaces and obstacles).	5	1.40	1.140
63. I find it difficult to apply for a job, follow a hiring process, or make requests in my workplace due to the inaccessibility of documents and websites.	5	1.40	1.140
49. There is not accessible educational material with the use of VR/AR technology.	3	1.33	1.155
2. It is difficult to navigate external spaces without someone to accompany me due to a lack of signage.	16	1.31	1.014
55. The teacher's lack of qualification to use accessibility methods (e.g., technological and e-learning tools) and lack of proper training in supporting students with disabilities led to significant gaps in my learning, making it difficult to catch up.	4	1.25	0.957
66. At my job, no assistive technology or special equipment is available to support me.	4	1.25	0.957
67. The machines I have to use in my job are not accessible.	4	1.25	0.957
54. The library in the educational institution I attend is not equipped appropriately (e.g., assistive technology, devices, etc.) to support students with disabilities.	4	1.00	0.816

Table 10 presents the results of the descriptive statistics regarding the responses of the total sample of study participants, sorted by the mean from highest to lowest mean score, in the 7 accessibility areas investigated. This sorting highlights the accessibility areas that show the greatest difficulties. For example, the area "Accessibility in Security and Evacuation Situations" shows the highest value (mean = 2.71) meaning that more participants agree with the

statements (items 96-100) relating to this area, compared to the statements included in the accessibility areas that follow in the order. The items included in each accessibility area are described above, in the Instruments section.

Table 10

Mean, median, and standard deviation of participants' responses to each accessibility area of the questionnaire. The value of N corresponds to the number of participants who responded to what extent they agreed with the items included in each accessibility area. This number is less than 174, which corresponds to the total number of participants in the survey. The difference between the N-value and 174 is due to the "I don't know" or "Not relevant to my disability" responses given by some participants. These responses were included in the possible response options in addition to the 5-point Likert scale options.

	N	Mean	Median	SD
Accessibility in Security and Evacuation Situations	147	2.71	3.00	0.974
Cultural Heritage Accessibility	152	2.40	2.59	0.971
Tourism (including recreation and sports) Accessibility	158	2.36	2.38	0.866
General Accessibility	164	2.35	2.40	0.830
Educational accessibility	146	2.33	2.33	0.934
Digital accessible transformation	155	2.30	2.33	0.951
Employment Accessibility	143	2.27	2.25	0.961

Table 11 presents the results of the descriptive statistics regarding the responses in the 7 accessibility areas investigated, comparing each of the seven categories of participants: 1) Visual Impairments, 2) Physical/Mobility Impairments, 3) Deaf-Hard of hearing, 4) Specific Learning Disabilities, 5) Autism (High Functioning/ Asperger's Syndrome), 6) Mild Intellectual disability, and 7) Older people.

Table 11

Mean, and standard deviation of participants' responses to each accessibility area of the questionnaire. The value of N corresponds to the number of participants who responded to

what extent they agreed with the items included in each accessibility area. This number is less than number of participants belonging to each of the seven categories. The difference between the N-value and the number of participants belonging to each category is due to the "I don't know" or "Not relevant to my disability" responses given by some participants. These responses were included in the possible response options, in addition to the 5-point Likert scale options.

	Category	N	Mean	SD
General Accessibility	Visual Impairments	18	2.26	0.793
	Physical/Mobility Impairments	73	2.48	0.845
	Deaf-Hard of hearing	19	2.45	0.662
	Specific Learning Disabilities	13	2.09	1.029
	Autism (High Functioning/ Asperger's Syndrome)	9	2.00	0.809
	Mild Intellectual disability	12	1.95	0.730
	Older people	20	2.47	0.822
Digital accessible transformation	Visual Impairments	18	2.36	0.738
	Physical/Mobility Impairments	64	2.37	1.057
	Deaf-Hard of hearing	19	2.20	0.861
	Specific Learning Disabilities	14	2.05	0.876
	Autism (High Functioning/ Asperger's Syndrome)	9	1.71	0.934
	Mild Intellectual disability	11	2.14	0.675
	Older people	20	2.67	0.956
Educational accessibility	Visual Impairments	18	2.49	0.842
	Physical/Mobility Impairments	64	2.29	1.016
	Deaf-Hard of hearing	18	2.76	0.854
	Specific Learning Disabilities	16	2.30	0.758
	Autism (High Functioning/ Asperger's Syndrome)	9	2.37	0.905
	Mild Intellectual disability	12	1.76	0.739

	Category	N	Mean	SD
Employment Accessibility	Older people	9	2.26	0.995
	Visual Impairments	18	2.21	0.914
	Physical/Mobility Impairments	64	2.30	1.079
	Deaf-Hard of hearing	18	2.25	0.859
	Specific Learning Disabilities	15	2.40	0.911
	Autism (High Functioning/ Asperger's Syndrome)	8	2.47	0.817
	Mild Intellectual disability	10	2.10	0.797
	Older people	10	2.07	0.917
Cultural Heritage Accessibility	Visual Impairments	18	2.68	0.617
	Physical/Mobility Impairments	66	2.40	1.082
	Deaf-Hard of hearing	16	2.70	0.931
	Specific Learning Disabilities	13	2.25	1.116
	Autism (High Functioning/ Asperger's Syndrome)	9	2.19	1.003
	Mild Intellectual disability	10	2.02	0.806
	Older people	20	2.28	0.812
Tourism (including recreation and sports) Accessibility	Visual Impairments	18	2.47	0.769
	Physical/Mobility Impairments	70	2.40	0.955
	Deaf-Hard of hearing	18	2.60	0.906
	Specific Learning Disabilities	14	2.22	0.745
	Autism (High Functioning/ Asperger's Syndrome)	8	1.90	0.526
	Mild Intellectual disability	10	1.84	0.600
	Older people	20	2.43	0.805
Accessibility in Security and Evacuation Situations	Visual Impairments	17	2.91	0.827

Category	N	Mean	SD
Physical/Mobility Impairments	66	2.72	1.023
Deaf-Hard of hearing	18	3.05	0.795
Specific Learning Disabilities	13	2.79	1.085
Autism (High Functioning/ Asperger's Syndrome)	5	2.51	1.103
Mild Intellectual disability	10	2.44	0.807
Older people	18	2.29	0.998