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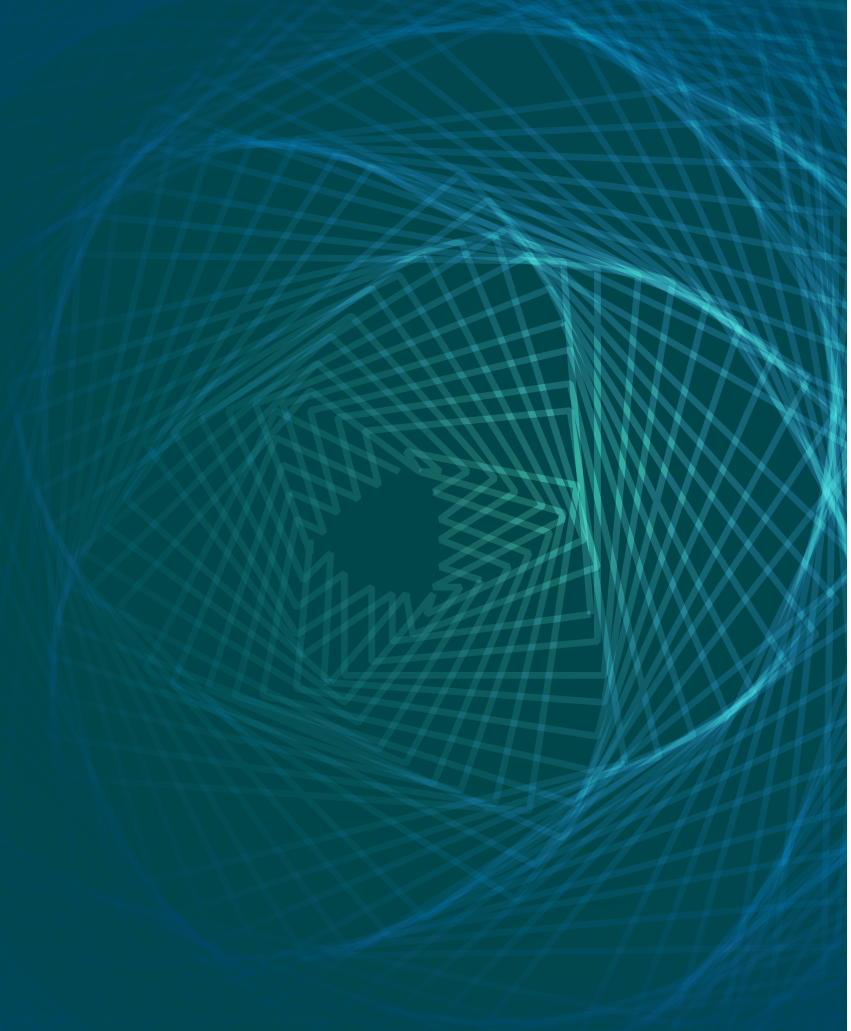

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Accessibility and Usage of Cultural Heritage by the Disabled Users: Understanding of Parents' Points of View

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Abstract

Background: Italian educational system express a growing attention toward the strategies utilized for improving the accessibility and participation for all individuals, but not always for the disabled users' needs, underestimating the value of inclusive education in various contexts of everyday life. *Method:* A preliminary study with 82 parents of children and preadolescents with intellectual disability, sensory impairments, and physical disability was carried out adopting the "inclusive research paradigm" to investigate parents' perceptions, levels of satisfaction, and attitudes toward obstacles/facilitators to accessibility and usage of cultural heritage sites in Sicilian context. *Results*: Using an online questionnaire, parental satisfaction degree with accessibility to cultural heritage sites by the disabled users is rather low, mainly in relation to elimination of architectural barriers and to the offered information by these sites to disabled people. Most parents of disabled users believe that these sites are partially or not at all accessible to people with physical disabilities and the same results are observed for users with sensory and intellectual disabilities. Additionally, they agree with the idea that guides and internal staff in places of cultural heritage are partially or not at all prepared to welcome people with disabilities, and haptic routes and audio guides are not at all suitable for sensory impaired users. *Conclusions*: Knowing the parents' attitudes might make possible the comprehension of obstacles and facilitators in accessing these cultural heritage sites and the creation of different opportunities for presenting information and other materials in an inclusive way.

Keywords: cultural heritage, design for all, parents, inclusive education, disability

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Introduction

The United Nations Convention on the Rights of Persons with Disabilities (2006), the Council of European Union (2009), and the European Agency for Development in Special Needs Education (2011; 2012) highlighted the inclusive education as one the most significant perspectives for the highly qualitative development and growth of all learners. According to this perspective, the participation in social life is recognized as an essential human right underlining the necessity to rethink the idea of accessibility and usage of cultural heritage sites (such as museums, historical palaces, churches, and castles). Cultural heritage sites make accessible to all people past and present culture, and become one of the most important tools of inclusive education for disabled people. A range of assistive devices and technologies for disabled people, such as audio guides, Braille captions, and tactile replicas of monuments (as reported in Tactile Museum of Catania,

Sicily), is largely used in Italian cultural heritage sites today, but not for at all places. These solutions must follow the inclusive principles of Universal Design (UD), elaborated by Ronald L. Mace and his colleagues (1998) in the North Carolina State University and every effort must be made to accommodate the different kinds of disability. As reported by several sources, the principal rationale of the Universal Design's point of view coincides with the need for increasing people's opportunities to actively live in society due to the design of products, services, methods of communication, and spaces accessible to most people. By applying the principles of UD to cultural heritage sites, it is possible to create functional solutions for all people and not only to implement specific solutions for special groups, underlining equal opportunities for all people. It is barrier-free. As reported by Sheryl Burgstahler (2015) into the DO-IT Programs and Resources, a group of architects, product and environmental designers, and engineers defined 7 principles to provide guidance in the design of products and environments practicable by all. We think that these guide-principles can be applied also to Italian cultural heritage sites (such as museums, ancient theatres, churches, and castles):

- *Equitable Use*. The design must be useful and marketable to people with various abilities, and to avoid exclusion for any users providing the same or equivalent means for all people. A good example of this principle is represented by the website of museum or ancient theater, designed to be accessible to everyone, including blind people who use the screen reader.
- *Flexibility in Use*. The product must be able to accommodate a large variety of individual abilities, providing different types of use. The typical example of flexibility is provided by the possibility to choose the option to listen or read the description of the contents of a display case concerning a museum or historical palaces.
- *Perceptible Information*. The design must communicate necessary information to the user, regardless of environmental conditions or the user's sensory abilities, and maximize the "legibility" of essential information.
- *Simple and Intuitive Use*. The product must be easy to understand, not considering the user's past experience, knowledge, language skills, or level of concentration. It must eliminate the unnecessary complexity and provide effective feedback during the task completion. The presence of clear and intuitive control buttons for science lab equipment can be a valid example of this principle.
- *Tolerance for Error*. The design must minimize the adverse consequences of accidental or unintended actions. The software applications that provide guidance when the users make an inappropriate selection represent a typical example of this principle.
- *LowPphysical Effort*. The product must be used proficiently, comfortably, and with a limited personal fatigue, also by disabled users. For example, doors of museums that open automatically for people with a large range of physical characteristics or motor disability constitute the adequate application of this principle.
- *Size and Space for Approach and Use*. Appropriate size and spaces are provided for approach, reach, manipulation, and use not considering the user's body characteristics or mobility. A flexible work area designed for use by users who are left- or right-handed is an example of applying this principle.

In Italy, recently, several workshops about "Universal Design Week 2020" have been organized to sensitize the entire social community toward the "Design for All" in an inclusive perspective.

The most part of projects is focused on the structural interventions to remove physical barriers to favor full accessibility and to provide adequate services and safety such as evacuation plans for people with motor or physical disabilities; special interventions to insert tactile devices, video panels with information presented both in Italian Signs Language (or LIS in Italy) and subtitles or audio content are though for a more easy identification of the reception desk with specialized staff in cultural heritage sites. Additionally, the "European standard for easy-to-read" guidelines are used for simplifying both digital and analogical contents to improve textual accessibility for museums or other cultural heritages places. However, the selection of simplified texts is not an easy question and the empirical psycho-pedagogical research in this field is needed to analyze the comprehensibility and accessibility for the disabled users. This important topic is very relevant in the case of users with intellectual disabilities or blindness who should be directly involved (see Van der Geest & Velleman, 2014; Mastrogiuseppe, Span, & Bortolotti, 2021). As Mastrogiuseppe et alii said (2021), knowing point of view of the disabled users might enable to reach a full and wide comprehension of barriers and facilitators in accessing textual contents in order to create different opportunities for presenting contents in an accessible way and making more accessible any sites.

Literature Review

Italian educational system reported a growing attention to the strategies useful to improve the accessibility and participation for all individuals, but not always for the disabled users' needs, underestimating the value of inclusive education in various contexts of everyday life (see Mastrogiuseppe, Span, & Bortolotti, 2021) as well as in other countries (see CAST, 2011; Argyropoulos & Kanari, 2015; Correia, Seabra-Santos, Campos Pinto, & Brown, 2017; Gray, Gould, & Bickenbach, 2003; Marie Lid & Solvang, 2016). For example, Mastrogiuseppe and colleagues (2021) studied perceptions and ideas of obstacles/facilitators to knowledge accessibility in a group of individuals with intellectual disabilities (ID), with a particular focus on the readability and comprehensibility of the textual resources existing in two cultural heritage tours across the archeological sites of Aquileia (Italy). The choice of inclusion of people with intellectual disabilities allowed researchers not only to assess the disabled individuals' point of view but also to create an easy-to-read questionnaire. The authors valued by means of a simple questionnaire for the ID users four principal themes: 1) the perception and physical interaction with content resources, 2) the language and symbols, 3) the content comprehension, and 4) the engagement with knowledge. This study obtained very interesting results; for each theme, the group of participants provided not only personal judgments referred to the barriers and obstacles encountered during the tour, but also useful and precious suggestions on the ideation of an inclusive transformation of the visited sites. Undoubtedly, it is possible to underline that the presence of physical and sensory obstacles or barriers often discourages the approach with textual contents, reducing the access to knowledge. Textual contents should be presented in a easily decoded and calibrated format for the users with disabilities; in addition, the guides and sources of information are frequently not appropriate for age and intellectual ability of the users with special needs. These findings are connected to those reported by Aquario, Pais, and Ghedin (2017) in relation to the general idea that "increasing accessibility means increasing participation and promoting flexibility in the identification of multiple ways for knowledge access" (2017, 93). Little information about parents' point of view are collected and for this reason this paper could be considered as an original contribution in this field of inclusive education (see McEvoy & Keenan, 2014).

Methods

We realized a preliminary study with a group of parents of disabled children and preadolescents in order to investigate parents' perceptions, levels of satisfaction, and attitudes toward obstacles/facilitators to accessibility and usage of cultural heritage sites present in Sicilian context. Particular attention has been given to readability and clarity of the offered information, to professional education of tourist guides, and to accessibility by the disabled users in cultural heritage sites. This preliminary study is part of PIACERI Project entitled "Vis.In.Mus.A" (***Vis****ibile e* ***In****visibile: Percorsi Interdisciplinari per una fruibilità diffusa dei beni* ***Mus****eali. Ricerca-****A****zione per una didattica inclusiva*), University of Catania.

Sample

A group of 82 Sicilian parents of disabled children and preadolescents (mainly with intellectual disability, sensory impairments, and physical disability) participated to this investigation. The 78% of mothers (n=64) and 22% of fathers (n=18) provided their informed consent to participate to this study. The majority of parents has an only child (87,8%), while the remaining part has more than one child (12,2%). Disabled children and preadolescents attending primary (14,6%), secondary (9,8%), and high Public Schools (75,6%) in Sicilian provinces (South of Italy). The 34,1% of participants have never visited cultural heritage sites, 14,6% more than once a month, and 51,2% more than once a year.

Data Collection

The choice to involve parents of disabled users allowed us to know their point of view about cultural heritage sites, through an online and anonymous questionnaire (Modules Google App) divided in the following questions:

- *Degree of satisfaction with accessibility of cultural heritage sites by the disabled users:* three items valuable using a five-point Likert-type scale are included in this area (How satisfied are you with the accessibility of cultural heritage places by your child? How satisfied are you with the elimination or reduction of architectural barriers for your child to use these places of cultural heritage? How satisfied are you with the offered information in these sites (i.e., explanations, language) to people with disabilities?);
- *Usage of cultural heritage sites by the disabled users*: three items valuable using a three-point Likert-type scale are inserted in this area (Do you believe that these places of cultural heritage are really accessible to children and young people with psychical or motor disabilities (e.g., with a wheelchair)? Do you believe that these places of cultural heritage are really accessible to children and young people with sensory disabilities (e.g., deaf or blind)? Do you believe that these places of cultural heritage are really usable by children and young people with intellectual disabilities?);
- Adequacy of guides concerning professional education about the special needs of the disabled users (Do you believe that the guides and internal staff in these places of cultural heritage are prepared to welcome children and young people with disabilities?) (three-point Likert-type scale);

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- Validity of haptic routes and audio guides for sensory impaired users (Do you believe that the haptic routes or audio guides in these places of cultural heritage are suitable for children and young people with disabilities?) (three-point Likert-type scale);
- The use of App or interactive multimedia tools (Have you ever used apps or other multimedia products to get your child to visit places of cultural heritage in your city?);
- The reasons of reduced accessibility and limited usage of cultural heritage sites by the disabled users (In your opinion, what is the main reason that makes places of cultural heritage inaccessible and unusable by children with disabilities?).

Data Source

Google Form has been used as data source with Google sheets and, subsequently, dealt with IBM SPSS 20 version to analyze statistical differences for chosen variables.

Findings

The descriptive analyses show that the parental satisfaction degree with accessibility to cultural heritage sites by the disabled users is rather low (range 1-5), mainly in relation to elimination or reduction of architectural barriers and to the offered information by these sites to disabled people (Table 1). Concerning to the usage of cultural heritage sites (Table 2), most parents of disabled children and young people believe that these sites are partially (54,9%) or not at all accessible (40,2%) to people with physical or motor disabilities. For the usage of cultural heritage sites (Table 2), most parents of disabled children and young people judge that these sites are not at all (54,9%) or partially accessible (32,9%) to people with sensory disabilities (deafness or blindness). About the accessibility of these sites (Table 2), most parents think that the cultural heritage places are not at all (45,1%) or partially usable (43,9%) to people with intellectual disabilities. Referring to the adequacy of guides (Table 3), most parents express totally negative responses (61%), followed by a reduced percentage of parents who believe that the guides and internal staff in places of cultural heritage are partially prepared to welcome people with disabilities (34,1%). In relation to the validity of haptic routes and audio guides present in the cultural heritage sites (Tab.4), the majority part of parents judges these tools as not at all suitable for sensory impaired users (64,6%), and the remaining part considers them as partially appropriate for these people (30,5%). About the use of App or interactive multimedia tools referred to these cultural heritage sites, the highest percentage of parents report to have not use these tools because they don't know that these tools exist (74,4%). At last, in an almost balanced percentage (between 41,5% and 36,6%), parents indicate that "lack of planning in compliance to current legislation" and "poor attention to special need of people with disability" are the main reasons of reduced accessibility and limited usage of cultural heritage sites by the disabled users (Table 5).

Table 1. Degree of Satisfaction With Accessibility of Cultural Heritage Sites by the Users

Questions (a)	*M*	*SD*
How satisfied are you with the accessibility of cultural heritage places by your child?	2.90	1.04
How satisfied are you with the elimination or reduction of architectural barriers for your child to use these places of cultural heritage?	2.22	1.12
How satisfied are you with the offered information in these sites (i.e., explanations, language) to people with disabilities?	2.37	.94

Table 2. Usage of Cultural Heritage Sites by the Users

Question (b)		Frequency	%	Chi-Square	Sig.
Do you believe that these places of cultural heritage are really accessible to children and young people with motor disabilities (e.g., with a wheelchair)?	Partially	45	54.9	32.512	.000
	No	33	40.2		
	Yes	4	4.9		
	Total	82	100		
Do you believe that these places of cultural heritage are really accessible to children and young people with sensory disabilities (e.g., deaf or blind)?	Partially	27	32.9	22.415	.000
	No	45	54.9		
	Yes	10	12.2		
	Total	82	100		
Do you believe that these places of cultural heritage are really usable by children and young people with intellectual disabilities?	Partially	36	43.9	18.463	.000
	No	37	45.1		
	Yes	9	11.0		
	Total	82	100		

Table 3. Adequacy of Guides Concerning Professional Education About the Special Needs of the Users

Question (c)		Frequency	%	Chi-Square	Sig.
Do you believe that the guides and internal staff in these places of cultural heritage are prepared to welcome children and young people with disabilities?	Partially	28	34.1	38.732	.000
	No	50	61.0		
	Yes	4	4.9		
	Total	82	100		

Table 4. Validity of Haptic Routes and Audio Guides for Sensory Impaired Users

Question (d)		Frequency	%	Chi-Square	Sig.
Do you believe that the haptic routes or audio guides in these places of cultural heritage are suitable for children and young people with disabilities?	Partially	25	30.5	44.220	.000
	No	53	64.6		
	Yes	4	4.9		
	Total	82	100		

Table 5. The Reasons of Reduced Accessibility and Limited Usage of Cultural Heritage Sites by the Users

Question (f)		Frequency	%	Chi-Square	Sig.
What is the main reason that makes places of cultural heritage inaccessible and usable by children with disabilities?	Inadequate economic resources to invest in this field	18	22.0	5.073	.079
	Lack of planning in compliance to current legislation (i.e., law on architectural barriers)	34	41.5		
	Reduced attention to special need of people with disability	30	36.6		
	Total	82	100		

Conclusions

This study confirm the discouraged attitudes toward the accessibility and usage of cultural heritage places by disabled people in Sicilian context, expressed by parents of these users with special needs. Giving the voice to these parents allow us to understand the often unexpressed special needs of disabled users, even if these data don't be considered as representative of the entire population of caregivers. We believe that the questionnaire may be useful to understand the improvements to adopt in our cultural heritage sites to better host the disabled users and positively account for their knowledge needs. The contribution of special and inclusive pedagogy

in this research field reveals the requirement to deep the understanding and knowledge of the disabled' special needs and the transformations to do in order to guarantee equal opportunities for all. Knowing the parents' attitudes, as privileged spokespersons, might make possible the adequate comprehension of obstacles and facilitators in accessing this cultural heritage sites and subsequently to create multiple opportunities for showing contents, information, video, and other materials in an accessible and more inclusive way.

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