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Toward the Sustainability of a Healthy Citizenry: A Small-Sample, Qualitative, Exploratory Study of the Experiences of Male Students with Visual Impairment in Saudi Arabian Higher Education

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Abstract: Citizens of a sustainably healthy population have the right to an education, and this right must be extended to citizens with disabilities. Visual impairment presents challenges to such sustainability insofar as it can negatively impact the social and educational experiences of affected students. The present study explores the challenges that students with visual impairments face at higher education institutions in Saudi Arabia. The study examines the impacts of visual impairment on the social and academic domains of these students' lives which thereby threaten the sustainability of a healthy and well-functioning society. Exploring strategies and support mechanisms, the study's aim is to improve the Saudi educational environment in universities to better accommodate the needs of students with visual impairments. The study employs a qualitative methodology to investigate the experiences of eight male students with visual impairment enrolled in a Saudi Arabian university. The findings highlight challenges faced by these students and provide a foundation of recommendations for improving educational support and facilities so that students with visual impairment are more likely to succeed academically and to make meaningful contributions to the broader community. In consequence, such students are better positioned to contribute to the sustainability of a healthy and well-functioning Saudi society.

Keywords: sustainability of a healthy citizenry; higher education; visual impairment; challenges to national sustainability; university students' experiences; support mechanisms; Saudi Arabia



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1. Introduction

The phrase *persons with disabilities* references individuals who have mental or physical disabilities. This definition is advanced by the World Health Organization (WHO), which adds that these disabilities can be long-term or short-term [1]. A similar definition is advanced by the Persons with Disabilities Act (2008) of Malaysia, which states that people with disabilities are individuals with physical, mental, intellectual, or sensory deficiencies that can present impediments to effective and full participation in society [2]. Both these definitions imply that it would be difficult to ensure the rights of people with disabilities to participate effectively in society if their impediments were not recognized and addressed. This is an important point if one considers that people with disabilities often find that they do not have the same effective rights as people without disabilities, including access to healthcare, education, and employment. For example, before the 1990s, the number of people worldwide with disabilities attending tertiary institutions was relatively low. This is a reality acknowledged by several authors who note that since 1990, there has been a

global expansion of commitment to the inclusion of students with disabilities in higher education [3–6].

Based on the presumption that students with disabilities have a right to pursue education, both private and public institutions of higher learning should establish suitable environments for a diversity of society members who seek knowledge [6]. Apart from specific facilities suitable for their needs, students with disabilities also often require support services to facilitate their learning in higher education institutions [7]. For example, such students sometimes require unique support equipment, including software and computers to address their specific needs, particularly in libraries [8].

The phrase *visually impaired* denotes decreased visual function to the extent that it interferes with an individual's capacity to participate in daily activities, including watching television or driving. If one considers that an estimated 80% of educational material is presented in a visual manner, students with visual impairment face many challenges in the traditional educational context [9,10]. For this reason, many governments have enacted statutes to ensure the rights of students with visual impairment [4,11]. Consequently, colleges and universities bear the responsibility for making reasonable accommodations for such students attending institutions of higher education [4,12]. Notwithstanding these developments, students with disabilities, including those with visual impairment, are still often not receiving the required support in higher education [9].

2. Literature Review

One of the most important statutes in the United Kingdom (UK) regarding support systems for students with disabilities is the UK Equality Act [13]. This act seeks to eliminate the barriers faced by students with disabilities so that they do not experience unique disadvantages. Apart from the UK, many other countries have introduced statutes and policies intended to assist students with disabilities. Most of these policies have focused on inclusion based on acknowledgement of the rights of people with disabilities to access education within mainstream institutions. The aim of inclusive policies is to afford equal access to students with disabilities across all levels of education [14]. This issue also is addressed by the United Nations (UN) in the 1975 Declaration on the Rights of Disabled Persons [15]. In the United States (US), issues related to students with disabilities are addressed in the Americans with Disabilities Act [16]. Specifically, the legislation has a central focus on the role of institutions in ensuring inclusive education experiences for students with disabilities. The legislation stipulates that institutions of higher education must provide reasonable accommodations to students with disabilities [17,18].

The WHO estimates that 285 million people worldwide have visual impairment. A labor force survey conducted in the UK concluded that there are an estimated 15,000 people between 16 and 25 years who can be classified as long-term disabled with visual impairment [19]. A different analysis of government data showed that over 25,000 children and young people in England from birth to 17 years were receiving support and services for visual disability [20]. In the US, among people aged 16 to 75 years, nearly 7.7 million people were living with a disability in 2016 [21]. This constitutes about 2.5% of the country's population. Data provided by the 2018 National Health Interview Survey (NHIS) indicated that over 32 million adults (13% of the population) in the US face some visual challenges [22]. Figures show that the number of people who could be classified as functionally blind by 2015 in the US was 1.02 million [23]. Among these individuals, many have aspirations to attend college but discover that they face significant visual challenges.

In Saudi Arabia, a survey conducted recently concluded that 2.9% of the country's population lives with disabilities [24]. According to a government online resource dedicated to providing information about people with disabilities, more than 811,000 people live with visual impairment in Saudi Arabia [25]. Although there is no information on the number of Saudi students in colleges and universities with visual impairment, many higher education institutions in the country make available a specific number of spaces for students with visual impairment [26].

Education has a special role in the development of prospects and skills. Therefore, individuals, including those with disabilities, typically seek higher education opportunities so that they can reach their full potential. Orsini-Jones (p. 28) conducted research at a university in the UK to determine “whether a robust local infrastructure supporting the experience of disabled students would be sufficient to cater for the needs of visually impaired and blind students reading languages” [27]. The same author concluded that although having a strong infrastructure to support students with disabilities did help students with visual impairment, it was possible for the university to provide additional supportive services [27].

Many scholars, including the authors of [28], note that students with visual impairment are not looking for sympathy but instead equal access to opportunities. This view is supported by the authors of [12], who note that students with disabilities can attain academic success as long as they can access appropriate tools to deal with the challenges they face [29]. Some of these challenges include difficulty in accessing learning materials, teaching methods that are inaccessible, and negative attitudes from peers [30–34]. Students with disabilities also confront stigma and negative perceptions of society. According to [2], the lack of information about the challenges faced by people with disabilities exacerbates negative perceptions of them held by society. The study conducted in [35] reported that, although there is acceptance of higher education students with disabilities, the level of knowledge about students with disabilities and the challenges they face is still at an unacceptably low level.

3. Methods

3.1. Research Design

The present study employed a qualitative research methodology. According to [36], qualitative research facilitates extracting information by noticing how people make sense of their surroundings and address their problems, in order to better understand their lived experiences. In this study, the specific method used to collect data is the semi-structured interview. This methodology makes it possible for participants to share their experiences in narrative detail. The questions answered by the participants included inclusivity within the setting of an informal conversation. The researchers considered several outcome variables, events, and phenomena of interest through the perspectives of participants. The working assumption is that interviewees may affect the issues investigated. Therefore, how participants view the scenario in their natural environment is of paramount importance because participants’ actions and opinions can affect the status quo. Thus, capturing the participant’s perspective is important [37]. This point is particularly important in the context of investigating students with visual impairment in Saudi Arabia to better understand the experiences of the participants. This methodology helps identify which contexts cause problems and which contexts contribute to solutions to problems. In the context of this study, this refers to the contexts and factors that drive exclusion and those that enable students with visual impairment to successfully access education [37].

Each interview lasted an average of 35 min. Each interview was audio-recorded and then transcribed verbatim. The transcriptions were shared with participants, who were asked to provide comments, clarify issues, or correct mistakes. The qualitative methodology was specifically selected with the aim of securing detailed, personal, and rich narrative responses. In short, the aim of the interview questions was to explore the experiences of students with visual impairment in Saudi Arabia’s higher education institutions.

3.2. Research Questions

The questions that guided data collection in the present study were as follows: (1) What are the challenges faced by students with visual impairment in Saudi higher education? (2) How do the challenges faced by students with visual impairment in Saudi higher education impact their social and academic lives? (3) What support mechanisms can be

implemented to improve the experiences of students with visual impairment in Saudi higher education?

3.3. Participants

The present study's small sample included eight significantly visually challenged (i.e., legally blind) male university students attending a Saudi Arabian university, five from the bachelors level and three from the masters level. The method employed in selecting the participants was convenience sampling and word-of-mouth or snowball sampling. The available demographic details of the participants are presented in Table 1. The participants ranged in age between 20 and 30 years. The researcher did not offer participants any reward for participation. Although the participants were informed that they could withdraw from the study at any time without giving a reason, none did so.

Table 1. Available demographics of (visually impaired) participants interviewed about their experiences in Saudi Arabian higher education.

Participant	Gender	Age (years)	Level of Education
Participant 1	Male	20	Bachelors
Participant 2	Male	21	Bachelors
Participant 3	Male	23	Bachelors
Participant 4	Male	24	Bachelors
Participant 5	Male	25	Bachelors
Participant 6	Male	27	Masters
Participant 7	Male	29	Masters
Participant 8	Male	30	Masters

3.4. Materials and Processes

Ethical approval for the research was obtained from the Scientific Research Ethics Committee of King Abdulaziz University (protocol 4527929, date of approval: 3/10/2023). The researcher requested formal consent from each participant before beginning data collection. Each participant was provided with a formal consent form, which they signed. At every stage of the study, the privacy and confidentiality of each participant was assured. A digital device was used to audio-record the interviews with the participants before being transcribed verbatim and translated into English by a locally sourced translator. The data analysis process comprised a mixed descriptive and inductive approach that has been successfully used by the current research team in previous studies [38].

4. Results

The questions the present study aimed to answer are presented above, in the section "Research Questions." Participants all studied at the university level following the national curriculum. The qualitative method used in the present study is concerned with identifying and describing phenomena as they are perceived by participants. The method depends on collecting, classifying, and analyzing data, as well as inferential linking to reach tentative conclusions about the lived experience of participants [38]. A thematic analysis was conducted collaboratively by the two senior authors and lead researchers, each of which has many years of experience in disability studies in the Saudi Arabian higher educational context. The resulting themes guide the presentation of the results, with each theme serving as a heading in the subsequent sections of the Results Section.

4.1. Challenges Faced by Saudi Higher Education Students with Visual Impairment

From the interviews, all participants reported that they faced significant challenges associated with visual impairment, including the use of assistive technology (e.g., screen readers), participation in activities, teaching methods, access to educational materials, lack of support and guidance, and difficulties with registration and admission processes. Other challenges included classroom integration, dealing with others, transportation, movement,

infrastructure, examinations, and assessments, for each of which they needed academic or social support.

4.2. Admissions, Registration, and Lack of Support and Guidance

Participants reported that they faced challenges with admission and registration procedures. They noted that the paperwork was often complex, and the websites where the applications were completed were usually not user-friendly. They also reported that the website's design did not facilitate access for people with visual impairments. For example, Participant 5 said, "When going through the admission process, I was not clear about what to do. This was a scary time. My idea had been that someone from the administrative staff would assist me, but that was not the case." In the same vein, Participant 1 said, "Generally, many visually impaired students at the university face a lack of guidance and counselling in the initial stages. This results in challenges, leading to simple processes taking longer than they should." To this observation, Participant 3 added, "The unavailability of consideration and attention for my special condition during the acceptance phase left me feeling marginalized and with a sense of being unwelcome".

4.3. Access to Educational Materials

All participants reported that the library did not have sufficient reading materials and books in a format they could use. They also noted many challenges related to accessing the curriculum. They provided many examples of the challenges they faced securing digital textbooks available in Braille or in a format that supported text magnification. For instance, Participant 7 said there were "challenges in reading because materials and books are not always available in readable formats." In agreement, Participant 4 noted, "The unavailability of academic material is a huge hurdle. Where the material is available, it takes a long time to access it because it is difficult to access audio recordings of lessons and lectures. This presents challenges for us when it comes to following the study materials." Participant 3 shared the same views: "All our efforts are used in attempting to access study materials, leaving us with very limited energy to study the material once we have got it".

4.4. Lectures, Teaching Method, and Participating in Activities

There was agreement among participants that many lecturers are not trained to teach students with visual impairment, giving them a sense that instructors view them as a burden. Participants reported feeling as if some instructors believe that teaching students with visual impairment is not their responsibility because they were not trained to teach them. However, participants also reported that there are a limited number of specialized lecturers who can teach visually impaired students. Some participants shared the belief that universities do not make sufficient effort to meet the classroom needs of students with disabilities, including visual impairment. These participants noted that some lecturers are overly reliant on multimedia and seem not to be concerned whether this has a negative effect on students with visual impairment. In this regard, Participant 2 said, "I do not think the university staff have received adequate training to deal with disabled students. I see teachers using multimedia a lot, and in such cases, I can't see the graphs and shapes. This leaves me feeling very uncomfortable. I believe there is a need to make lecturers and teachers more aware of how they should present educational material in a manner that meets our needs." Participant 1 agreed and noted, "I think that it is quite challenging for them to understand us, apart from very few of them who make an effort to understand your problem if you talk to them".

Participants also reported a lack of interaction between them and their lecturers. They added that when there was interaction, it focused on academic discussions and matters, and participants reported feeling as if the instructors did not want to address or were uncomfortable addressing students' visual impairments. In this regard, Participants 6, 7, and 8 noted that even though people with disabilities typically ask their lecturers to treat them in the same manner as they treat their non-disabled counterparts, lecturers typically

fail to include them in classroom activities. In this regard, Participant 3 said, “During class discussions, I have always felt excluded. It almost feels as if the lecturer doubts that we know anything. We find ourselves having to constantly ask the teachers to treat us like our able-bodied counterparts.” Participant 4 shared his perception that, although he was confident of his ability to participate in activities and represent his class, lecturers hesitated to assign responsibilities to him as a result of his visual impairment. He added that this led to instructors excluding him from class discussions, perhaps assuming that he would not know much. In Participant 7’s words, “The moment lecturers discover that teaching visually impaired students will be a challenge, we, as students with disabilities, find ourselves at risk of hating education and considering dropping out of school, which destroys our future”.

4.5. Use of Assistive Technology

All participants noted how important technology is in assisting them. However, they also noted that they are prevented from using it because they are intimidated by the fact that they may sometimes not be able to master it. They reported that their lack of confidence comes from a lack of support and training from teachers in using technology at the university, even though computer programs to assist students with disabilities are available. They also reported that staff at the computer lab sometimes do not know how to use the specific software packages (e.g., screen reading software). Many participants indicated that the university lacked adequate assistive equipment and devices. Participants reported that students sometimes had to share equipment that was designed for one person to use. They noted that this can result in delays, either in accessing materials or in completing assignments. Participants also reported that there is often inadequate equipment available to address their needs and that what is available is either inappropriate or does not work as expected.

4.6. Examinations and Evaluations

Most participants reported that they were confident in their abilities and performance in academic settings. Nonetheless, they noted that their performance was often negatively affected by obstacles related to their visual impairment. However, several participants also reported that they sometimes doubt their abilities. For instance, several participants reported that they sometimes depend on student volunteers and librarians to locate and access reference materials that have not been translated into Braille or recorded on an audio recorder. They noted that this is a time-consuming process, which requires careful management as they are typically not given preferential treatment when it comes to evaluation. These participants added that this sometimes results in them performing poorly on examinations or delays in assignment completion. They lament that this poor performance cannot be attributed to the fact that they are visually impaired, but rather that they do not have sufficient study materials, including textbooks and lecture notes published in accessible formats such as Braille or audio-recorded materials. They reported that this results in them spending more time and effort studying than their able-bodied counterparts. For example, Participant 2 commented, “How are we expected to perform well compared to our counterparts without visual impairment when we do not have access to many resources that they have, and we lack the required training and support, and we are supposed to perform like anyone else? We need justice and objectivity.”

To this observation, Participant 5 added, “We, as students with visual impairments, require more time to complete assessments, increased examination time, or need to be provided with assistance. There are times when some lecturers permit more time, but this is not always the case.” Participant 8 said, “Usually, I turn in my assignments late, and this can be discouraging because of the shame associated with continuously asking for extensions, and you are afraid that lecturers will start to think that you are lazy.”

4.7. Infrastructure, Movement, and Transportation

All participants commented on the need to design buildings that ensure easy access for students with visual disabilities so that they do not face impediments when moving around the campus or using its facilities. In relation to this, Participant 5 said, "University infrastructure is not sufficiently equipped to address the needs of students with visual impairment." Participant 6 agreed and added, "While I like moving around campus, my poor eyesight makes it a challenge to go to the main library or other departments as a result of challenges with movement and the lack of appropriate elevators that allow students with disabilities to move more freely".

The participants indicated that their university did provide students with transport facilities. Nonetheless, participants said that university buses were usually full, making it challenging for them to find seats. They noted that, regarding transport in and around campus, few special considerations were provided for students with disabilities. The participants said that while the front seats were, in certain cases, reserved for students with disabilities, these seats were often occupied by students who did not have disabilities. They noted that in these environments, it is challenging for students who are visually impaired to use buses comfortably.

4.8. Integration and Dealing with Others

Even though all participants agreed that there is integration of people with disabilities to a certain level in society, they also reported varying perceptions of the level and success of this integration. Some reported that they were fully integrated into society, whereas others said their level of integration needed to be improved. For instance, Participant 7 said, "I study with students who do not have a visual impairment, and I believe this is desirable because I feel included. This also means that we are fully integrated into the university community and have the same rights as everyone else. When we ask for certain services, they assist us, and sometimes, we help them. We assist each other where we can. I have never experienced any challenges at all." Participant 8 added, "We are integrated with our non-disabled colleagues, and sometimes they assist us in our studies when we do not yet have our notes. They do this by reading their notes to us so that we have a general idea of the content covered in the different subjects we study. This makes me feel completely included."

Among the participants who indicated that they were not satisfied with the level of integration, they said that behavioral issues and bias impeded their integration. They also mentioned other barriers, including that many people did not understand disabilities, generally, or visual impairment, specifically. This is coupled with negative attitudes relating to disability. Participants also reported the belief that communities often fail to understand the principles of inclusion. For example, Participant 1 said, "Visual impairment results in restrictions on the quality and level of interaction between the individual with a visual disability and the one who does not." To this, Participant 2 added, "I think some students believe that to be able to speak to someone, a person needs eye contact. So, when they talk to someone who does not see them, I think there is not much stimulation, which makes integration challenging."

Participants provided examples of situations in which they had not been accepted by fellow students and lecturers. The participants also mentioned that it is rare for a student with visual impairment to be elected to a position of leadership, such as on the Student Representative Council, except if the position is to be the representative of students with disabilities. Other participants agreed and noted that they were often treated as if they were different or inferior to others. In this regard, Participant 3 said he is more comfortable when dealing with other visually impaired students compared to those who are not. Participant 4 agreed and added, "When in the company of another visually impaired individual, I feel free. We are comfortable to discuss and share everything. However, when in the presence of sighted people, I do not feel free. This is the reason why I never talk that much with fully-sighted people. I am very influenced by the community of visually impaired

individuals.” Participant 6 added, “The university community is becoming progressively inclusive over time. This is because people are gradually becoming used to the presence of students with visual impairments at universities”.

4.9. Challenges to Students’ Social and Academic Lives

All participants agreed that the absence or loss of vision had an impact on their lives. Nonetheless, the majority highlighted the fact that the impact was not necessarily caused by visual impairment but by the types of behavioral, social, and other barriers faced by people with visual impairment. This resulted in some participants viewing disability as a shameful trait that makes them less important compared to their peers who do not have visual impairment. They said this sometimes leads them to isolate themselves socially from other students, especially students without disabilities. Regarding their academic lives, participants reported that visual impairment impacted their ability to read, write, and conduct research. To mitigate these challenges, they noted that they developed alternative skills and used assistive technologies where available. Participants reported that they need support to participate in class and follow lectures together with assistive technology, including software that can convert text into sound (i.e., screen reading software). Another technology participants addressed is Braille writing techniques to develop creativity and resilience skills and to boost their abilities to adapt to the surrounding environment so that they can attain their personal and academic ambitions. This is an especially pertinent observation if one considers that these students often struggle to participate in cultural and social activities because of environmental obstacles in communication and transportation. In this regard, Participant 4 said, “Every time I see signs that one of my lecturers is indifferent regarding my work, I tend to start neglecting my work and that lecturer because I am worried he will say bad things about me if I make him angry—that there may be problems because he is my lecturer. This makes me so careful what I say to the extent that I give up some of my rights so that I do not trigger a clash that may lead to challenges with him”.

Participant 3 reported, “I often face challenges when dealing with the behavior of others while studying, which leaves me feeling marginalized. This is an undesirable feeling that negatively impacts my psychology and results in me selecting to isolate.” Participants 1 and 2 indicated that they do not appreciate it when classmates show sympathy towards them. They added that they are sometimes bothered by the questions that classmates and teachers ask regarding their disability, which sometimes reduce their feelings of dignity.

Some participants said that there were times when they felt that they were either receiving negative attention or being looked down upon. In this regard, Participant 5 said, “When I talk, others in class think it is unusual and clap their hands. For example, when I had just got here, they would clap their hands every time I answered a question. Some would congratulate me when we leave the class following a lecture. However, this surprises me because able-bodied people have answered questions in class but never get congratulated. I find this very frustrating.” Participant 4 added, “A lot needs to change in our society before people with visual impairment can achieve their full potential”.

Just as the participants indicated that there were negative effects of learning with visual impairment in Saudi Arabian universities, they also noted a number of positive effects. Generally, the participants expressed confidence in themselves and in their abilities. They acknowledged that there were limitations to what they could achieve as a result of the interaction between their disabilities and the social barriers they encountered. However, they emphasized that if they were provided with a fair chance, they could achieve what everyone else could. An example of the positive effects was mentioned by Participant 7, who said, “I got a chance to learn new skills and things.” Asked to give an example, he talked about his ability to use a computer. In the same vein, Participant 8 said, “I believe in myself and my abilities, and I have always known that I can accomplish good results.” He also spoke about the role of assistive technologies and how they helped improve his ability to multitask, which, in the process, improved his performance. Participants indicated

that when fellow students and lecturers saw them performing well academically and being able to independently move around the campus, participating in day-to-day things that everyone else does, their attitude towards them changed and became more positive. Several participants also noted that they appreciated the social groups around them and were proud of their ability to establish robust connections.

4.10. Support Mechanisms

With regard to support mechanisms that can be implemented to improve the experiences of students with visual impairment, participants reported that as people living with this condition, they face challenges related to independence when going to and coming back from lectures. They noted that one way of improving this is to provide detailed timetables so that students have adequate time to plan their mobility and ensure that the environment is as accessible as possible. In relation to this, Participant 8 suggested that it is important to train lecturers in how to interact with students with visual impairment so that they can provide such students with the support they need, which can go a long way toward ensuring that such students can be as independent as possible and use assistive technology where the need arises. Participants 6, 7, and 8 added that universities should have permanent lecturers able to instruct and support students with visual impairment. They also emphasized the fact that students with disabilities are not looking for pity but rather assistance and support. Participant 4 highlighted this opinion, "We are looking for materials and tools to make it more comfortable when interacting and attending lectures." Participant 7 and 8 agreed that their friends helped them a lot by reading books and notes to them or recording these for later use.

Generally, participants agreed that even though they face difficulties, there are many efforts to ensure that their educational experience is positive. They also added that there seems to be a willingness by the university to assist them in achieving their goals. Participants added that there are several ways in which the university's educational environment can be improved to be more suitable for students with visual impairment. They agreed that students with visual impairment can benefit from assistive technology, spaces designed in a manner that permits free movement, making suitable study materials available, and providing training to teachers on how they can more effectively interact with students with visual impairment, both inside and outside the classroom. Participants in the present study emphasized the importance of help in adapting to the university environment and achieving their personal and academic goals, encouraging a culture of inclusion and solidarity, where diversity is appreciated and every individual's rights are respected, including those of students with visual impairment. Finally, the participants noted that it is important to listen to their needs and to communicate with them to effectively improve the educational environment.

5. Discussion

5.1. How Saudi Higher Education Challenges Impact Students with Visual Impairment

Students with visual impairment in higher education institutions face numerous social barriers and academic challenges. These force them to develop methods, strategies, and skills to adjust to the university, which they sometimes experience as a disabling environment. Studies by Tinti [39,40] concluded that the experiences and success of students at college depend on the degree to which they are academically and socially integrated. A similar study in [27] at a university in the UK investigated whether a robust local infrastructure supporting the experiences of students with disabilities was sufficient to meet the needs of visually impaired students. Orsini-Jones concluded that although a robust infrastructure to support students with disabilities had a positive impact on the students with visual impairment, more could be accomplished to support them. The same study also found that students with visual impairment often avoided attracting attention to themselves and their disability, leading them to forgo some of their rights. Such an attitude resulted in friction between these students and their teachers, who advanced the

view that these students were failing to fully leverage opportunities available to them to improve their marks. Orsini-Jones recommended that individualized educational plans should be considered following consultation with the students affected. She added that measures should be in place to address unanticipated incidents, such as the failure of assistive technologies, and that staff should work to create a suitable and safe environment for students with disabilities.

With regard to providing pity as opposed to assistance and support, Ref. [41] concluded that the reason many peers tend to be overly helpful to students with disabilities is that they perceive them as inferior, incapable, and helpless. The same scholar adds that such perceptions of incapability can have a negative impact on the future of the students. Several scholars have noted that many visually impaired students escape from this perspective by attaining a tertiary qualification [42]. From their study, [2] concluded that the dearth of reliable information in relation to people with disabilities leads to a proliferation of varying perceptions, many of them negative, towards people with disabilities. This view is corroborated by a study found in [35], which concluded that although acceptance of people with disabilities among higher education students is high, such students often do not have adequate knowledge about people with disabilities.

For students with disabilities, academic integration includes their experiences with the university's general academic system. Both academic and social support are essential to fully integrate students into higher education settings. Visual impairment affects the individuals' social status and, far too often, results in social isolation [2]. In addition, due to difficulties completing admission and registration procedures, the disability center staff must assist students with adding and deleting courses. These impediments affect students' ability to complete academic tasks like accessing course materials, obtaining accommodations, and navigating the university environment. Visual impairment detaches the individual from their environment as they cannot navigate the academic, social, and physical environment without support. Without consistent support, their academic performance and social experiences can be jeopardized. Lack of integration of students with visual impairment or other disabilities into the social system of the university is likely to impact the students' psychological development (e.g., self-determination and self-esteem), which could lead them to become disengaged both academically and socially, facilitating their withdrawal from the university [39].

The idea of social integration denotes the interface between the students and the university's social systems, including relationships with peers with and without visual impairment, administrators and faculty, and opportunities to be included in extramural activities. Students with visual impairment with independent movement skills enjoy psychologically positive effects on their relationships and social activities by having enhanced access to the educational process [43]. Such an observation goes against the generally accepted view that students with disabilities have a limited circle of friends, have a feeling of isolation in class, and enjoy only modest acceptance among peers in class [44,45]. The primary reason for this contrast could be the sense of responsibility that students without disabilities develop as they encounter peers with visual impairment or other disabilities. For instance, they may become more willing to see people who are visually impaired as students whose needs are different. However, in Saudi Arabia, this also could be attributed to the close cultural and religious bonds among people. The present study revealed that disability staff support is important to students' sense of belonging. The results of this study are consistent with a previous study that focused on college students with sensory and cognitive disabilities [44]. This previous study found that a majority of students valued the assistance they received from the disability center [45]. While other scholars have found that positive interactions with university staff and faculty increase social interaction and integration for general education students [39], the students who participated in this study noted that the support they received from different individuals had a positive impact on them, as it helped them overcome academic and social barriers.

5.2. Supporting and Improving the University Educational Environment

Following the literature reviewed in the Introduction, it can be concluded that any measures taken and decisions made to provide customized educational plans for supporting students with visual impairment must be taken following consultation with the affected students. Scholars generally agree on the importance of putting measures in place to deal with unanticipated events like equipment malfunctions. They also indicate that stakeholders need to collaborate to create a safe environment for students with disabilities. It was also noted that the shortage of professional staff impacts the psychosocial conditions, access and utilization of materials, and evaluation of assignments and examinations of students with disabilities.

It is common for students with visual impairment to not have background information and preparation for their study. The study by [46] notes that this can have a negative effect on their academic experience. These students may also face challenges related to attitudes of members of the faculty who often approach students with disabilities with erroneous perceptions about their needs, abilities, and skills [47]. The results of the current study are consistent with [39,40]'s research, which found that positive student interactions with faculty increases their sense of belonging and social integration.

It has been noted in the literature reviewed in the Introduction that education plays an important role in the development of prospects and skills. The same applies to students with visual impairment, who deserve equal access to opportunities [28]. This requires appropriate resources, infrastructure, materials, and technology. Education is an important pathway for students with visual impairment to participate in the labor market, allows them to learn skills, and enhances their integration into mainstream society [28]. Their ability to contribute to society may help reduce the social stigmatization they experience. Friends also play an important role in providing assistance, support, and companionship to students with visual impairment, making it easier for them to cope with academic challenges and social interactions. Such support is important in boosting feelings of social belonging and quality of life for students with visual impairment and can facilitate academic success [12].

From the views shared in the interviews, participants believe that higher education institutions in Saudi Arabia present challenges to students with disabilities in participating fully in social and academic activities. The views of the participants show that a balanced approach is needed for students with visual impairment to make it possible for them to function as independent learners. In tandem with numerous models supporting students with disabilities, the UK government [13] acknowledges the need to balance anticipatory adjustments made available through wide-ranging educational practices parallel to adjustments to meet the needs of individuals. For instance, students with visual impairment require unique support equipment, including software and computers for the visually impaired in libraries [8]. For those completely unable to see, Braille readings must be provided. This indicates that the facilities required by students with visual impairment differ from those required by their counterparts without visual impairment [8]. To accommodate students with visual impairment, facilities, including elevators and parking, need to be updated.

Participants in the current study agree that members of the faculty need to receive training in relation to working with students with visual impairment. Participants also suggest that lecturers must be informed when students with visual impairment are enrolled in their classes. It is also recommended that the regulation systems of the education sector should be designed with the characteristics of the visually impaired in mind and in coordination with them. In Saudi Arabia, as in many other countries with comparable educational systems, institutions of education must make available suitable support for students with disabilities to ensure that the educational opportunities accessed by these students are the same as those accessed by their able-bodied counterparts [38]. Taking into account the views of people with disabilities, it seems prudent to ensure that they are actively included on university campuses [48]. Documenting and understanding their daily lives will make it possible to find ways of designing a world where they can function

better. Taking the characteristics of students with disabilities into account and designing and developing appropriate communication systems for them can facilitate their access to technology and libraries. In short, technology development presents important educational opportunities for visually impaired students.

6. Conclusions, Limitations, and Recommendations

As in the West, Saudi Arabia has mandated inclusive higher education practices that provide equal opportunities for students with disabilities, including visual impairments [49,50]. A specific “disability code” was enacted by the Saudi government in 2000 to ensure that persons with disabilities have access to free medical, educational, psychological, rehabilitation, and social services provided by public institutions [49,50].

Such policy directives require that persons with disabilities have equal rights as well as free access to meaningful education as defined in the *Teacher’s Guide for Learning Disabilities* [50]. Although it has been many years since the enactment of these policy directives, they have not yet been fully implemented, especially in the context of university students with disabilities. As a consequence, there remains a lack of special needs education services for students with disabilities, including students with visual impairments [51]. Barriers to the implementation of special services include faculty misunderstanding or a lack of support for accommodations for students with disabilities [52]. It is also plausible that many faculty members have not had students with disabilities in their classrooms, and they, for this reason, have not had to be informed about the provision of appropriate services and accommodations [53].

The present study explored challenges faced by students with visual impairment attending university in Saudi Arabia. From the results, it can be seen that apart from physical access, there are barriers represented by the attitudes of various role players. The students noted that living with disability was a challenge because it negatively impacted their integration into university life. The results suggest that universities may not be adequately addressing the needs of students with disabilities, as can be shown by the lack of staff training, unsuitable physical environment, and the linked issues reported by students.

The data collected through the interviews show that students face many challenges in their initial days at the university. However, it can also be noted that students believe that as they become more familiar with the systems, policies, and environment of the university, it will be easier to deal with the challenges they face, including communication, interaction, and the behavior of teachers, among others. The present study brings to the fore the need to become familiar with the environment to make the situation better. The study has also presented the lived experiences of students with visual impairment and gives voice to their suggestions for changes in higher education that may establish a more supportive and inclusive environment for students with visual impairment. One area of note is access to existing and improved technology, including assistive technology for students with visual impairment.

One of the present study’s limitations is that the views expressed by the participants may be limited by their unique challenges and experiences as individuals. This limitation emanates from the reality that the sample size is small. The sample also is limited in that it includes only males, which makes it a challenge to generalize the conclusions to the broader population of students. Also, it is possible that participants may have been reluctant to disclose personal information for a number of reasons, which could have resulted in them selectively sharing certain information while withholding other information.

Even though students generally accept that they have access to the higher education system because of some degree of inclusion, they also suggest that there is a continuing need to improve parity and equity in higher education. Nonetheless, the results of the present study can be employed to suggest recommendations for the development of policies associated with students with visual impairment, including the following: (1) universities should have written policies for students with disabilities that must consider their special

needs; (2) staff training should be included to address the needs of students with visual impairment, and special services should be made available to those students at the moment of admission to make the admission process simpler and more flexible; (3) review and restructure classes with the aim of increasing opportunities for students with visual impairment to interact in higher education and allocate additional time for such students during tests, assessments, and assignments; (4) enhance campus features to ensure accessibility for students with visual impairments, including digital resources and physical infrastructure, and make assistive technology more accessible; (5) establish programs during orientation with the aim of familiarizing students with visual impairment with campus layouts and making support and guidance available for these students; (6) raise campus awareness in relation to people with disabilities to promote access to social activities on campus.

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References

1. World Health Organization (WHO); World Bank. World Report on Disability. 2011. Available online: <https://www.who.int/teams/noncommunicable-diseases/sensory-functions-disability-and-rehabilitation/world-report-on-disability> (accessed on 16 March 2016).
2. Hazlin, F.R.; Amizah, W.M.; Haizan, M. Realiti dan kesamarataan hak orang kelainan upaya (OKU) Malaysia. In Proceedings of the International Conference Mention 2015 UNITEN, Selangor, Malaysia, 14 October 2015.
3. Fuller, M.; Riddell, S.; Weedon, E. Introduction. In *Improving Disabled Students' Learning*; Fuller, M., Georgeson, J., Healey, M., Kelly, A.H., Riddell, K.S., Roberts, H., Weedon, E., Eds.; Routledge: London, UK, 2009; pp. 3–19.
4. Hadjikakou, K.; Hartas, D. Higher education provision for students with disabilities in Cyprus. *Higher Education. Int. J. High. Educ.* **2008**, *55*, 103–119.
5. Suubi, P. A Comparative Study of the Inclusion of Students with Visual and Hearing Impairment in Rwandan Universities. Ph.D. Thesis, University of the Witwatersrand, Johannesburg, South Africa, 2014.
6. Manisah, A.; Zaleha, S. Perspectives on Readiness and Acceptance of Lecturers in Supporting Students with Special Needs in Higher Education: A Case Study. *Procedia Soc.* **2010**, *7*, 661–664.
7. Alias, R.; Alias, N.A.; Ibrahim, A.B.; Attan, H.; Kadir, A.L. What do the disable students need? A study on the need of the special educations needs (SEN) learners in Malaysian public Universities. *Eur. J. Soc. Behav. Sci.* **2013**, *3*, 602–623.
8. Hasnah, T.; Hanif, M.Y.; Mokhtar, M.T.; Norasuzaini, S. Sokongan dan halangan yang dihadapi oleh pelajar-pelajar kurang upaya di sebuah institusi pengajian tinggi di Malaysia. *AJTLHE* **2009**, *1*, 18–29.
9. Permvattana, R.; Murray, L.; Hollier, S. Innovations in tertiary online for students who are blind or vision impaired. In Proceedings of the 7th International Conference on Information Technology Based Higher Education and Training, Ultimo, Australia, 10–13 July 2006.
10. Richardson, J.; Roy, A. The representation and attainment of students with a visual impairment in higher education. *Br. J. Vis. Impair.* **2002**, *20*, 37–48. [[CrossRef](#)]
11. Sivanesan, N. The journey of a visually impaired student becoming an occupational therapist. *Br. J. Occup. Ther.* **2003**, *66*, 568–570. [[CrossRef](#)]
12. Fichten, C.S.; Olenik-Shemesh, D.; Asuncion, J.; Jorgensen, M.; Colwell, C. Higher education, information and communication technologies and students with disabilities: An overview of the current situation. In *Improving Accessible Digital Practices in Higher Education: Challenges and New Practices for Inclusion*; Palgrave Pivot: Cham, Switzerland, 2020; pp. 21–44.
13. HM Government. Equality Act 2010: Chapter 15. Available online: http://www.legislation.gov.uk/ukpga/2010/15/pdfs/ukpga_20100015_en.pdf (accessed on 10 March 2023).

14. Torreno, S. The History of Inclusion: Educating Students with Disabilities. Available online: <http://www.brighthub.com/education/special/articles/66803.aspx> (accessed on 2 May 2010).
15. United Nations. *The Declaration on the Rights of Disabled Persons*; UN General Assembly on 9 December 1975. Available online: <https://www.ohchr.org/en/instruments-mechanisms/instruments/declaration-rights-disabled-persons> (accessed on 1 July 2023).
16. Yssel, N.; Pak, N.; Beilke, J. A door must be opened: Perceptions of students with disabilities in higher education. *Int. J. Disabil. Dev. Educ.* **2016**, *63*, 384–394. [CrossRef]
17. Smith, L.; da Cunha, S.; Roy, A.W.N.; Cole-Hamilton, I.; Clery, L.; Keil, S. Shaping the Future: The Educational Experiences of 16 to 25 Year-old Blind and Partially Sighted Students. In *Research Report 3*; Royal Institute for the Blind: London, UK, 2001.
18. Keil, S.; Crews, N. Post-16 and post-18 transitions of young people with visual impairment in Wales. *Br. J. Vis. Impair.* **2008**, *26*, 190–201. [CrossRef]
19. Hewett, R.; Keil, S. *Investigation of Data Relating to Blind and Partially Sighted People in the Quarterly Labour Force Survey*; VICTAR: University of Birmingham: Birmingham, UK, 2015.
20. Vision 2020 UK. Key Facts about Vision Impairment in Children and Young People. Available online: <https://www.pocklington.org.uk/wp-content/uploads/2021/03/Key-facts-for-vision-impairment-in-children-young-people.pdf> (accessed on 6 June 2018).
21. Erickson, W.; Lee, C.; von Schrader, S. *Disability and Employment Status Report for the United States*; Yang-Tan Institute (YTI) Cornell University: Ithaca, NY, USA, 2017.
22. American Foundation for the Blind. Low Vision and Legal Blindness Terms and Descriptions. Available online: <https://www.afb.org/blindness-and-low-vision/eye-conditions/low-vision-and-legal-blindness-terms-and-descriptions> (accessed on 15 March 2023).
23. Centers for Disease Control and Prevention. The Burden of Vision Loss. Available online: <https://www.cdc.gov/visionhealth/risk/burden.htm> (accessed on 15 March 2023).
24. GaStat. General Authority for Statistics. 2022. Available online: <https://www.stats.gov.sa/en/news/230> (accessed on 15 March 2023).
25. Saudi National Portal for Government Services. Saudi National Portal for Government Services. Available online: <https://www.my.gov.sa/wps/portal/snp/careaboutyou/RightsOfPeopleWithDisabilities> (accessed on 15 March 2023).
26. Deanship of Students' Affairs—Special Needs Center Services. Available online: <https://studentaffairs.kau.edu.sa/Content-211-EN-231097> (accessed on 15 April 2023).
27. Orsini-Jones, M. Measures for inclusion: Coping with the challenge of visual impairment and blindness in university undergraduate. *Support Learn.* **2009**, *24*, 27–34. [CrossRef]
28. Polu, W.; Mong, A.; Nelson, C. Social and economic inclusion of people with disabilities: Practical lessons from Bangladesh. *Dev. Pract.* **2015**, *25*, 1182–1188. [CrossRef]
29. Getzel, E.E. Addressing the persistence and retention of students with disabilities in higher education: Incorporating key strategies and supports on campus. *Exceptionalit* **2008**, *16*, 207–219. [CrossRef]
30. Beauchamp-Pryor, K. Visual impairment and disability: A dual approach towards equality and inclusion in UK policy and provision. In *Routledge Handbook of Disability Studies*; Watson, N., Roulstone, A., Thomas, C., Eds.; Routledge: London, UK, 2012; pp. 177–192.
31. Hodges, J.S.; Keller, M.J. Visually impaired students perceptions of their social integration in college. *J. Vis. Impair. Blind.* **1999**, *93*, 153–166. [CrossRef]
32. Howell, C. Disabled students and higher education in South Africa. In *A South African Agenda*; Watermeyer, B., Swartz, L., Lorenzo, T., Schneider, M., Priestley, M., Eds.; HSRC Press: Cape Town, South Africa, 2006; pp. 165–178.
33. Joshi, H. Reducing Barriers to Training of Blind Graduate Students in Psychology. Ph.D. Thesis, Alliant International University. Available online: http://www.researchgate.net/publication/34915262_Reducing_barriers_to_training_ofblind_graduate_students_in_psychology (accessed on 15 March 2023).
34. Swart, E.; Greyling, E. Participation in higher education: Experiences of students with disabilities. *Acta Acad.* **2011**, *43*, 81–110.
35. Toran, H.; Muhamad, T.A.; Yasin MH, M.; Tahar, M.M.; Hamzah, N.H. Pengetahuan dan sikap rakan sebaya terhadap pelajar kurang upaya di sebuah IPT di Malaysia. *Asean J. Teach. Learn. High. Educ.* **2011**, *2*, 22–34.
36. Creswell, J.W. *Qualitative Inquiry and Research Design: Choosing among Five Approaches*, 3rd ed.; Sage Publications: London, UK, 2013.
37. Bryman, A. *Social Research Methods*, 4th ed.; Oxford University Press: Oxford, UK, 2012.
38. Abed, M.G.; Shackelford, T.K. Educational support for Saudi students with learning disabilities in higher education. *J. Learn. Disabil.* **2020**, *35*, 36–44. [CrossRef]
39. Tinti, V. Dropout from higher education: A theoretical synthesis of recent research. *Rev. Educ. Res.* **1975**, *45*, 89–125. [CrossRef]
40. Tinti, V. Building community. *Lib. Educ.* **1993**, *79*, 16–21.
41. Sukhraj-Ely, P. Inclusive Education Policy and Practice: Investigating the Educational Rights and Needs of Learners and Students with Visual Impairments in South Africa. Ph.D. Thesis, University of KwaZulu-Natal, Howard College Campus, Durban, South Africa, 2008.

42. Chataika, T. Inclusion of disabled students in higher education in Zimbabwe. In *Cross-Cultural Perspectives on Policy and Practice: Decolonizing Community Contexts*; Lavia, J., Moore, M., Eds.; Routledge: New York, NY, USA, 2010; pp. 116–131.
43. Altunay, B.; Yalcin, G.; Saraç, M.U. Orientation and mobility problems of adults with visual impairment and suggestions for solutions. *Eğitimde Nitel Araştırmalar Derg.* **2021**, *28*, 300–330. [[CrossRef](#)]
44. Langher, V.; Ricci, M.E.; Reversi, S.; Citarelli, G. Disabled students and the quality of relationships within the class. *Procedia Soc.* **2010**, *5*, 2295–2299. [[CrossRef](#)]
45. Thurston, M. “They Think They Know What’s Best for Me”: An Interpretative Phenomenological Analysis of the Experience of Inclusion and Support in High School for Vision-impaired Students with Albinism. *Int. J. Disabil. Dev. Educ.* **2014**, *61*, 108–118. [[CrossRef](#)]
46. Fichten, C.; Barle, M.; Asuncion, J.; Fisse, M. What government, agencies, and organizations can do to improve access to computers for postsecondary students with disabilities: Recommendations based on Canadian empirical data? *Int. J. Rehabil. Res.* **2000**, *23*, 191–199. [[CrossRef](#)] [[PubMed](#)]
47. Kutscher, E.L.; Tuckwiller, E.D. Persistence in higher education for students with disabilities: A mixed systematic review. *J. Divers. High. Educ.* **2019**, *12*, 136. [[CrossRef](#)]
48. Mullins, L.; Preyde, M. The lived experiences of students with an invisible disability at a Canadian university. *Disabil. Soc.* **2013**, *28*, 147–160. [[CrossRef](#)]
49. Ministry of Education. *Organizational Rules for Special Education Institutes and Programs*; Kingdom of Saudi Arabia, Riyadh, Ministry of Education: Riyadh, Saudi Arabia, 2002.
50. Ministry of Education. *Teacher’s Guide for Learning Disabilities*; Kingdom of Saudi Arabia, Riyadh, Ministry of Education: Riyadh, Saudi Arabia, 2015.
51. Alquraini, T. Special education in Saudi Arabia: Challenges, perspectives, future possibilities. *Int. J. Spec. Educ.* **2011**, *26*, 146–156.
52. Morina, N.; İjntema, H.; Meyerbröker, K.; Emmelkamp, P.M.G. Can virtual reality exposure therapy gains be generalized to real-life? A meta-analysis of studies applying behavioral assessments. *Behav. Ther.* **2015**, *74*, 18–24. [[CrossRef](#)]
53. Tincani, M. Improving outcomes for college students with disabilities: Ten strategies for instructors. *Coll. Teach.* **2004**, *52*, 128–133. [[CrossRef](#)]

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