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Academic Barriers of Students with Hearing Impairment at the Undergraduate Level (A Case of Two Public Universities)

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Abstract

This study addresses the barriers to academic success faced by hearing-impaired students at two public universities of Lahore, Pakistan. Education is the key to producing a competent generation, but SWHI has unique challenges in pursuing higher education. It is determined that curriculum, instructions, socializing, learning, support services, and communication all play important roles in academic achievement. The study, which used census data, looks at 12 SWHI's age, gender, and degree of disabilities. The researcher collected data with the help of sign language interpreter. Quantitative studies improve SWHI's understanding of academic barriers. Demographic trends and variations are shown via detailed frequency distributions and statistical tests such as t-tests. There were obstacles to socializing, communication, curriculum adaptation, and educational structure. The study found that assistive technologies, the internet, and libraries lessen academic obstacles. The goal of the research is to impact policymakers in order to increase accessibility to higher education at SWHI.

Keywords: Academic Barriers, Students, Hearing Impairment

Introduction

Every person on the planet has the fundamental right to education, and the deaf population, which makes up a sizable portion of our society, also has this right (Afzaal et al., 2023a). One of the fundamental human rights is education, according to Hassanzadeh and Nikkhoo (2019). Enacted in 2001, the No Child Left Behind Act aims to raise all children's academic performance by making education mandatory for them all. While some organizations, divisions, and individuals are working to make education more social, contemporary, and accessible for students with hearing impairments, these students continue to encounter numerous barriers to pursuing higher education (Burke, 2021).

The internationalization of higher education is nothing new in the twenty-first century. According to UNESCO (2020), between 2000 and 2018, the global Higher Education (HE) registration rate nearly doubled from 19% to 38% during the previous 20 years. At the moment, 38% of students are enrolled in postsecondary education. It should be mentioned, therefore, that variations in the rates of enrollment and graduation in higher education have also been recorded (Burke & University, 2019). Furthermore, it is critical that nations focus on growth and dropout rates in addition to high graduation rates that indicate these are the outcomes of their efforts and not just high graduation rates that gauge this process (UNESCO, 2020).

Students with disabilities, particularly those who are hard of hearing, encounter a variety of obstacles in their pursuit of an undergraduate degree at institutions. They lack social connection and are unwilling to engage with other students when they are studying. One of the main barriers to any school setting's growth of a more social system is the curriculum (Juvonen, Lessard, Rastogi, Schacter, & Smith, 2019). One of the main limitations of any educational setting that offers resources for the

development of a holistic system is the curriculum (Dua & Dua, 2017). For students at this level, the curriculum presents another challenge because they are not able to study the complete syllabus like the general public. Social education addresses everything from curricula to learning obstacles and aims to identify and eliminate them.

Academic success for students with hearing impairments is also influenced by their socioeconomic position (SWHI). Teaching instructions 3 and the tactics employed by the teachers can be confusing to them at times because they are designed for general students and may not be appropriate for them. These folks occasionally don't learn like regular people, yet they still have a lot of challenges. These people are so ignorant that they are unable to receive any kind of financial assistance, support services, or other forms of assistance (Giebel et al., 2021). A person's physical, mental, cultural, emotional, or social circumstances can all operate as obstacles to learning, keeping knowledge from reaching its intended learning outcomes.

In Pakistan, it is also clear that HEIs and departments have generally grown within the past 20 years. However, in comparison to industrialized nations, Pakistan's penetration rate is not as good (TARIQ, KHAN, RAHMAN, & Business, 2020). In Pakistan, only 2.2% of 18 to 23-year-olds had access to higher education in 2002. Considerable endeavors have been undertaken to enhance the penetration rate. The entry level was increased to 4.7% and multiple new universities were opened by the HEC. The Ministry of Professional and Technical Training (2011) stated that the government established a goal of 10 percent admittance to using 2015 when it implemented a new nationwide schooling coverage in 2009. Given its tertiary education rate, Pakistan is really close to reaching this goal.

The study's two main goals were to identify the academic obstacles that students with hearing impairments (SWHI) must overcome and to look at the academic supports that enable SWHI students to complete their undergraduate degrees successfully. The purpose of this study was to provide light on the difficulties that students with hearing impairments encounter in their undergraduate and graduate studies (Kisanga & Development, 2020). Numerous studies demonstrated the relationship between the obstacles and resources available to deaf individuals pursuing higher education.

In light of the discussion above, it can be concluded that academic obstacles and facilitators for students with hearing impairments (SWHI) to excel in their advanced education at the undergraduate level in universities come in many forms. The aim of this research is to examine the obstacles to academic success that undergraduate students with hearing impairments encounter. Additionally, to investigate how different gender-based responses from students with hearing impairments relate to academic hurdles.

Literature Review

The ability of education to prepare a generation of people to become a nation with broad competence and character can be used to measure its strength (Anisah, 2019). According to Afzaal et al. (2023), education is a tool that gives people new knowledge, skills, abilities, and records. This helps people understand their rights and obligations in relation to their community, society, and kingdoms. According to Hassanzadeh and Nikkhoo (2019), every person has the right to exist in this planet and to be literate. The No Child Left Behind Act (2001), which was signed to raise all students' academic performance, places a strong emphasis on the requirement that all children receive an education.

Education is provided as a social welfare service in an effort to ensure that the rights and opportunities of the hearing impaired are limited so they can become productive, employable, and have an impartial and prosperous future (Mantey, Cobbina, and Hamenoo, 2017). Higher education participation is regarded as a significant sociological discussion, according to Awab-us-Sibtain et al. (2019). This is because a country's financial wealth is closely correlated with the rise of higher education (Douglass, 2015). According to Fazil et al. (2019), one of education's roles in unbreakable development is to encourage learning for long-term survival through quality education.

Providing education to people with disabilities does not entail placing them in a classroom; rather, it entails making sure that measures are taken to enhance their learning, especially if the institution offers social education. Because of this, SWHI is unique, and their education can only be improved by adopting enablers that remove barriers to learning (Kumatongo and Muzata, 2021). The Higher Education Commission of Pakistan has very recently introduced undergraduate education in higher education (Hoodbhoy, 2021). Many Punjabi higher education institutes welcome students who are physically disabled, visually impaired, or hearing impaired.

As multiple studies have shown, SWHI confronts a number of challenges, including getting support for enrollment, diversified education, public adjustment, and changing evaluation procedures, according to Hameed and Quratul-Ain (2020). Similarly, SWHI only has access to a small number of higher education opportunities at these few universities. Numerous research demonstrate that SWHI faces numerous challenges (Muzata, 2017; Muzata & Mahlo, 2019; Simalalo, 2017).

Enabling students with hearing impairments (SWHI) to participate socially and communicate effectively with their teachers and fellow pupils is also crucial (Albash, 2023). Due to their hearing loss, deaf people communicate with other staff members using alternative methods, the most dynamic and unrestricted of which is probably sign language (19). According to Oudah, Al-Naji, and Chahl (2020), it is a system of visual signals that comprises of a certain order, position, path, and hand movements in addition to fingers and facial expressions. Sign languages have established nationwide learning methodologies, and certain corporations endorse, expand, and instruct them. The majority of deaf people find sign language to be a comfortable and reliable form of verbal communication, which causes them to identify with the language.

According to Escudeiro et al. (2013), sign language is created in a three-dimensional space using a variety of structures and components, such as hand movements, hand placement, orientation and orientation, and face and body expressions. According to Frumos and Rosu (2019), teaching hearing-impaired pupils about deaf culture can be extremely advantageous to a social setting,

as prejudice is a major obstacle to their communication. A major aspect of these students' experiences is their inability to independently develop these skills, which leads to a literacy delay (Barnes, 2019). The number of SWHI enrolling in higher education is rising as a result of changes in educational methods and policy 20 (HESA, 2016). Pupils who identify as "deaf" can communicate in ASL and/or by testing their own lips and voice (Jun, 2022).

When students arrive for class, they ought to be expected to pay close attention to the speaker during the lecture and to participate in group discussions while sitting in small groups. These situations present difficulties for the deaf student since they call for knowledge of social interaction, communication, and educational content. Although interpretation appears to be the most widely utilized tool for helping D/HH kids, it has certain limitations, both social and cognitive. Similar findings have been reported in previous research. According to Vincent and Chiwandire (2019), deaf college students may not always receive all the opportunities and support services necessary for academic inclusion from better training packages.

Additionally, deaf students desire social inclusion (Frumos and Rosu, 2019). According to Powell et al. (2014), SWHI experience difficulties in both social and educational contexts, and they are categorised to a certain extent in the social interface zone with hearing nobles. Pakistani higher education institutions have taken action to give admission to SWHI in a variety of programs, but regrettably they are not yet prepared to address the social and academic demands of these students (Hameed and Qurat-ul-Ain, 2020).

When discussing the topic of students with hearing impairment, the caliber of higher education is another important factor to take into account (SWHI). Physical facilities, as well as adaptable instructional methods and curricula, are quality issues. Students participating in the educational process within the educational system typically define curriculum as the sum of all experiences (Kelly, 2009). In social classes, teachers must incorporate material about SWHI and sign language into the curriculum (Hameed and Qurat-ul-Ain, 2020). In a research study, Safder et al. (2012) found that there are numerous curriculum-related problems pertaining to curriculum adaptation and modification to fit the particular requirements of SWHI. The question of quality includes both education and flexible physical and curriculum spaces.

Students with hearing loss encounter numerous challenges when it comes to the instructional strategies employed by teachers in the classroom. Social education faces numerous obstacles, including professors' rapid-fire lectures, difficulty participating in group discussions, and difficulty responding to inquiries. When translators are available to support them, teachers communicate more effectively (Safder, Akhtar, Fatima, and Malik, 2012). In order to overcome obstacles, a combination of lip reading, sign language, traditional communication, and assistive technologies can enable the kids to engage in class discussions and fully experience learning. The majority of kids with hearing impairments read the speech to some degree. Teachers should therefore listen to their students when they speak. To assist them, you should talk loudly, clearly, and slowly.

While systemic barriers to learning are obstacles imposed by the educational system itself, learners may encounter one or more barriers throughout their time in school (Lavrijsen & Nicaise, 2019). In order to realize their full potential, children with disabilities who experience their limitations primarily throughout the learning process must learn to cope with them on multiple levels. At the college or university level, hearing-impaired students can encounter numerous obstacles to education. These obstacles are not limited to internal ones; these students' learning abilities also play a significant role. Due to their extremely restricted vocabulary, deaf learners find it difficult to participate in incidental learning (Barcroft et al., 2021). Insufficient classroom areas can complicate implementation.

In order to help learners who are D/HH overcome learning obstacles, supportive services are desired. Among these include the availability of suitable instructional resources, such as visual aids like diagrams, images, and artwork, to help deaf students comprehend concepts better. For individuals with learning difficulties, differentiation aids in the creation of Individualized Education Plans (IEPs). Furthermore, assessments must to be customized to meet the unique needs of every student (Mapepa and Magano, 2018).

Methodology

Research design is not linked to any certain method of handling record series or specific type of data. Finding the type of evidence needed to accurately answer the study question is crucial when planning investigations (Akhtar, 2016). In order to help undergraduate students with hearing impairments (SWHI) overcome their academic obstacles, researchers have adapted quantitative studies from descriptive study settings. extending the scope of the study design approach to include decisions on general goals and viewpoints, the kind of research environment to be employed, the data collection procedure, the sampling plan or topic selection criteria, information collecting strategies, and fact-checking tactics. A conceptual framework used for doing research is known as research design.

Twelve students from SWHI who were enrolled in two public universities and pursuing undergraduate degrees made up the sample population for this study. For this investigation, a census sampling technique was employed. As per BYJU (2023), the census method comprises a statistical counting system that analyzes every individual within the population. The collection of all observations under the given circumstance is referred to as the population. All of the students enrolled in the institution will constitute the "population" component of your research, for instance, if you need to find out what the students think about the amenities at your school. By choosing and creating an appropriate instrument, researchers can gather high-quality data that can be utilized to formulate and evaluate hypotheses in a certain field.

Furthermore, the development of novel research questions and hypotheses as well as the credibility of research findings can be aided by the use of legitimate and trustworthy quantitative research instruments (Pentang, 2023). Six academic hurdles

made up the instrument: curriculum, instructions, learning, socializing, communication, and support services (Tuiloma, Graham, Arias, & Caicedo, 2022).

Instruments that the researcher created with the supervisor's guidance were used to collect the data. For the purpose of obtaining insightful information regarding the academic obstacles and facilitators faced by undergraduate students at the SWHI, the researcher employed a sign language interpreter to translate surveys into sign language. The instruments are divided into two sections: the first section includes demographic data on SWHI, such as age, gender, semester, and degree of impairment; the second section includes statements about obstacles to academic success.

Following the distribution of the questionnaires, the data was coded and imported into SPSS. For the purpose of facilitating data analysis, each variable was given a numerical code. Descriptive statistics were employed in conjunction with SPSS to examine the data collected and derive conclusions regarding the academic obstacles that the SWHI faces at the undergraduate level. Every measurement and result was presented in tabular form and reported as such. To determine the frequency of replies provided by SWHI on academic hurdles, descriptive statistics were utilized.

Results and Discussion

This study uses descriptive and inferential statistics to examine records. While descriptive records summaries statistics, inferential facts derive inferences and anticipate population behavior from sample data. This study analyses academic hurdles to undergraduate performance for students with hearing impairment (SWHI) using frequency, mean, and standard deviation. Mean and standard deviation show the data's central tendency and variability, whereas frequencies show how frequently specific behaviors or traits occur.

Table 1

Gender	Frequency	Percentage
Male	07	53.8
Female	06	46.2
Total	13	100.0

The gender-based SWHI frequency distribution shows 07 male (53.8%) and 06 female (46.2%). Percentages represent gender distribution in the 13-person sample. SWHI distribution by gender is summarized in this presentation.

Table 2

Age	Frequency	Percentage
20-22	04	30.8
23-25	05	38.5
26-28	04	30.8
Total	13	100.0

The SWHI frequency distribution by age group is shown in the table. The 20-22 group has 04 (30.8%), the 23-25 group 05 (38.5%), and the 26-28 group 04 (30.8%). The 13-person sample provides a complete SWHI distribution by age.

Table 3: Frequency Distribution Based on Student's Perceptions of Barrier 1 "Communication"

Sr. No.	Statement	DA	N	A	M	SD
1	Sign language interpreters are actively involved	30.8	15.4	53.8	2.2308	.92681
2	Difficulty without an interpreter in communication	69.2	15.4	15.4	1.4615	.77625
3	Teachers adequately trained for sign language	46.2	15.4	38.5	1.9231	.95407
4	Interpreters contribute to easing communication	30.8	23.1	46.2	2.1538	.89872
5	Best communication with an interpreter	7.70	23.1	69.2	2.6154	.65044
6	Frustration without an interpreter in activities	46.2	30.8	23.1	1.7692	.83205
7	Interpreters communicate questions to teachers	46.2	15.4	38.5	1.9231	.95407
8	Expertise and fluency of sign language interpreters	30.8	15.4	53.8	2.2308	.92681

Student Academic Barriers: Frequency Distribution of SWHI for "Communication" is shown in above table. The table evaluates sign language interpreters, teacher training, and communication efficacy using eight assertions. Disagree (DA), Neither (N), and Agree (A) responses reveal students' perspectives of academic communication obstacles.

Table 4: Frequency Distribution Based on Student's Perceptions of Barrier 2 "Socialization"

Sr. No.	Statement	DA	N	A	M	SD
1	I feel belongingness to the classroom during lessons.	23.1	30.8	46.2	2.2308	.83205
2	My classmates or friends help me when I feel stuck.	23.1	0.00	76.9	2.5385	.87706
3	I can initiate conversation with peers.	15.4	38.5	46.2	2.3077	.75107
4	I can make friends easily.	30.8	0.00	69.2	2.3846	.96077
5	I share study materials with others.	15.4	15.4	69.2	2.5385	.77625
6	I like to ask others how they are.	0.00	38.5	61.5	2.6154	.50637

7	I like to ask others what they are doing.	15.4	30.8	53.8	2.3846	.76795
8	I can share my academic related problems with peers.	15.4	38.5	46.2	2.3077	.75107

The table shows a Frequency Distribution of student views of "Socialization" obstacles, notably Barrier 2. Statements (1-8) show the proportion of replies to belongingness, class help, starting talks, creating friends, sharing study materials, showing care, and addressing academic challenges with peers. This data shows how students see academic socialization obstacles.

Table 5: Frequency Distribution Based on Student's Perceptions of Barrier 3 "Curriculum"

Sr. No.	Statement	DA	N	A	M	SD
1	Availability of specially designed curriculum	30.8	38.5	30.8	2.0000	.81650
2	Satisfaction with the content of the curriculum	23.1	38.5	38.5	2.1538	.80064
3	Ease of understanding the curriculum	23.1	38.5	38.5	2.1538	.80064
4	Fulfillment of needs for special education	15.4	30.8	53.8	2.3846	.76795
5	Availability of sufficient teaching materials	23.1	30.8	46.2	2.2308	.83205
6	Satisfaction with teachers trained for social curriculum	7.70	38.5	53.8	2.4615	.66023
7	Accessibility of the curriculum for students	15.4	61.5	23.1	2.0769	.64051
8	Delight with the content of the curriculum	7.70	38.5	53.8	2.4615	.66023
9	Modification of curriculum according to needs	15.4	38.5	46.2	2.3077	.75107
10	Clarity of learning goals in courses	15.4	23.1	61.5	2.4615	.77625

The table shows a Frequency Distribution of student views of "Curriculum" obstacles, especially Barrier 3. Statements (1–10) show the percentage distribution of answers on topics such as specifically tailored curriculum, content satisfaction, ease of understanding, special education needs, accessibility, and teacher training. Statement 4 shows that 15.4% disagree, 30.8% neither agree nor disagree, and 46.2% think the curriculum meets special education goals. Student opinions on curricular issues are shown by this data.

Table 6: Frequency Distribution Based on Student's Perceptions of Barrier 4 "Instructions"

Sr. No.	Statement	DA	N	A	M	SD
1	I am encouraged to participate in all class activities.	0.00	23.1	76.9	2.7692	.43853
2	I feel satisfied from instructions in the class.	15.4	30.8	53.8	2.3846	.76795
3	Teachers teach faster than I can learn.	30.8	23.1	46.2	2.1538	.89872
4	I prefer to take help from teachers than students.	38.5	15.4	46.2	2.0769	.95407
5	I am allowed to figure out things.	7.70	30.8	61.5	2.5385	.66023
6	There are cordial relationships between the hearing impaired and general students.	7.70	30.8	61.5	2.5385	.66023
7	Our teachers teach us with differentiated instructions according our need.	7.70	61.5	30.8	2.2308	.59914
8	I feel satisfied from teaching methodology of teachers.	23.1	38.5	38.5	2.1538	.80064

The table shows a Frequency Distribution of student views of "Instructions," concentrating on Barrier 4. Statements (1-8) show the proportion of replies as Disagree (DA), Neither (N) and Agree (A). Statement 3 shows that 30.8% disagree, 23.1% neither agree nor disagree, and 46.2% believe that instructors teach quicker than pupils can learn. This data shows student satisfaction and preferred help seeking techniques for educational issues.

Table 7: Frequency Distribution Based on Student's Perceptions of Barrier 5 "Learning"

Sr. No.	Statement	DA	N	A	M	SD
1	I feel difficulty in learning during class.	30.8	30.8	38.5	2.0769	.86232

2	Teachers assess our understanding needs.	23.1	46.2	30.8	2.0769	.75955
3	Teachers teach us according to our learning styles.	46.2	30.8	23.1	1.7692	.83205
4	I feel difficulty in learning mathematics related subjects.	30.8	23.1	46.2	2.1538	.89872
5	I feel difficulty in note taking during lecture.	38.5	15.4	46.2	2.0769	.95407
6	Teachers understand our characteristics.	38.5	23.1	38.5	2.0000	.91287

The table shows a Frequency Distribution of student views of "Learning," emphasizing Barrier 5. Statements (1-6) show the proportion of replies as Disagree (DA), Neither (N) and Agree (A). Statement 4 demonstrates that 30.8% disagree, 23.1% neither agree nor disagree, and 46.2% agree that scientific courses are challenging. This data shows students' views on learning problems, including difficulty and instructor comprehension.

Table 8: Frequency Distribution Based on Student's Perceptions of Barrier 6 "Support Services"

Sr. No.	Statement	DA	N	A	M	SD
1	Access to library.	0.00	23.1	76.9	2.7692	.43853
2	Access to the internet in the computer lab.	15.4	7.70	76.9	2.6154	.76795
3	Access to assistive technology like hearing aids.	30.8	15.4	53.8	2.2308	.92681
4	Ease of interaction with the sports instructor.	15.4	30.8	53.8	2.3846	.76795
5	Availability of support staff for hearing-impaired students	30.8	30.8	38.5	2.0769	.86232

The table shows a Frequency Distribution of student views of "Support Services," at Barrier 6. Statements (1-5) indicate the proportion of replies as Disagree (DA), Neither (N) and Agree. Statement 3 shows that 30.8% disagree, 15.4% neither agree nor disagree, and 53.8% agree they wear hearing aids. This data shows students' views on hearing-impaired student assistance provision.

Conclusion

In two public institutions in Lahore, Pakistan, this study looked at academic hurdles for undergraduate students with hearing impairments (SWHI). A quantitative methodology was employed in the study to look into SWHI educational concerns. The findings shed light on obstacles in the classroom in many ways. A range of ages, genders, and levels of impairment were represented in the perspectives of SWHI experiences. The majority of them had significant hearing loss, underscoring the unique issues associated with severe hearing loss. Frequency distribution tables illustrate the various obstacles that SWHI had to overcome in the areas of socializing, curriculum, instruction, learning, and support services.

The study uncovered problems with effective communication, teacher preparation, and sign language interpreters. Social interactions were challenging, frustration was high, and effective communication necessitated interpreters in the absence of them. Curriculum problems brought to light the need for content satisfaction, accessibility, customization, and SWHI-specific curricula. Social education, teaching materials, and instructional pace are among the subjects covered in instruction. Students mentioned teacher comprehension and scientific challenges as learning barriers. SWHI experienced issues with the internet, the library, assistive technology, sports teachers, and student support staff who were hard of hearing.

The research emphasized the need to address barriers in order to enhance undergraduate SWHI inclusion and success. Lastly, in order to make SWHI more social, our research may inform educational policies, interventions, and support services. Building a higher education system that satisfies the needs of all students, regardless of hearing ability, require an understanding of these limits. Future studies and initiatives aimed at enhancing SWHI academic performance and well-being in higher education should take these observations into consideration.

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