

# Adaptability of Students with Mobility Impairments in Higher Learning Institutions in the Kilimanjaro Region of Tanzania

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## Abstract

**Background:** Students with mobility impairments (SWMIs) face significant challenges in higher learning institutions (HLIs) due to inaccessible infrastructure and insufficient institutional support. This study explores the challenges SWMIs encounter in HLIs in Kilimanjaro, Tanzania, and identifies coping strategies they use. **Methodology:** The study employed a cross-sectional, exploratory design, involving semi-structured interviews with 15 students and 5 Deans from five HLIs in Kilimanjaro. Quantitative data were analyzed using Microsoft Excel, while qualitative data were thematically analyzed. **Results:** The study revealed that 66.7% of participants were aged 20 - 30 years, with 80% being male. The main challenges reported were inaccessible buildings, lack of support, and academic difficulties. Strategies for adaptation included self-planning, peer support, and psychosocial adjustment. **Conclusion:** HLIs must improve infrastructure, raise awareness, and provide targeted support to SWMIs. Further research is needed on adapting HLIs for other forms of disability, such as visual and hearing impairments.

## Keywords

Mobility Impairments, Higher Education, Accessibility, Tanzania, Student Adaptation, Disability Inclusion

## 1. Introduction

### 1.1. Background Information to the Study

Education is important to everyone and is a basic human right according to the

Universal Declaration of Human Rights (UDHR) of 1948 (United Nations, 2013). Higher education is a stage where students develop their professional identities in preparation for entering the workforce (Jensen & Jetten, 2015).

To be prepared for professional and career life, post-higher education students need knowledge and career skills, interdisciplinary skills, life skills, and learning skills, as these are the highest-ranked areas for securing strong employment opportunities (DiBenedetto & Willis, 2020) but students with disabilities often need to exert extra effort beyond their capacity to succeed in higher education and access meaningful employment opportunities (Goodall et al., 2022).

Students with disabilities, particularly those with mobility impairments, have a low enrollment rate in Higher Learning Institutions (HLIs) and those who are enrolled are faced with challenges to have full participation during the learning process (Russell & Demko, 2005). Reviewed literature indicates that architectural, pedagogical, technological, and attitudinal barriers are more prominent than accessibility, which is still developing within the higher education setting studied (Wuo & Paganelli, 2022).

#### **1.1.1. Legal and Policy Framework**

The human rights of all people to education were first defined in the United Nations' UDHR of 1948 and further elaborated in a range of international conventions, including the Convention on the Rights of the Child and more recently in the Convention on the Rights of Persons with Disabilities (CRPD) (United Nations, 2006).

The UN CRPD was ratified by Tanzania in 2009; amongst its main aspects to be monitored is education. In Article 24, the CRPD stresses the need for governments to ensure equal access to an "inclusive education system at all levels" and provide reasonable accommodation and individual support services to persons with disabilities to facilitate their education (United Nations, 2006).

The concept of reasonable accommodation for people with disabilities in educational institutes is a fairly recent phenomenon. The Persons with Disabilities Act (1995) of India remained silent on the provision of reasonable accommodation to students, especially at institutions of higher education. More recently Kulkarni (2011) indicated that educational opportunities are limited for those with disabilities due to lack of accessible classrooms, toilets, facilities and resources.

#### **1.1.2. Education for People with Disabilities Particularly Mobility Impairments**

There is still a low graduation rate for students with disabilities in Universities and Colleges. (Brand et al., 2013) reported that in United States of America (USA), amongst students with disabilities who graduate from high school and attend a post-secondary education program, completion rates are low. Only 40.7% graduated or received a degree compared to 52.4% of the general population. Only 34.2% of students with disabilities working toward a four-year degree were able to graduate within eight years, compared to 51.2% of the general population.

A survey carried out in Tanzania by the (National Bureau of Statistics, 2008) reported, “7.8% of the population aged 7 years and above had some form of activity limitation. Prevalence is higher on the mainland (7.8%) compared to Zanzibar (5.9%) and is higher in rural areas (8.3%) than in urban areas (6.3%). There were no significant differences in disability prevalence among males and females. Disabilities prevalence among males was 7.7% compared to 7.8% for females”.

About a quarter (27.4%) of Tanzania’s population aged 15 years and above was illiterate. Illiteracy was higher among people with disabilities; about half of them (47.6%) were illiterate compared to 25.3% of the persons without disabilities.

### **1.1.3. Efforts Made in Mainstreaming Disabilities Issues in Higher Education**

An educational sector review carried out in February 2006 by the Government in collaboration with education stakeholders who support education revealed several challenges that interfere with the progress of educational sector development across the country. Among the challenges, the social and community barriers are the greatest barriers to inclusion not the medical condition (UNESCO, 2007). The study done in India presented by (Chiwandire & Vincent, 2019) explained clearly that if we were look at efforts across the nation, we see struggles at various quarters to ensure inclusion of persons with disabilities, as they lack many opportunities available to mainstream populace, various efforts made by individuals, institutions, companies, and public or civil organization in trying to address these issues.

## **1.2. Statement of the Problem**

Increasing number of Universities and University Colleges within the country gives ways for many postsecondary students with and without disabilities to be enrolled. Despite efforts from the managements of Universities and University Colleges in setting enrollment opportunities for all persons with physical disabilities, there are still a small percentage of these individuals in HLIs (Engelbrecht & de Beer, 2014) in South Africa, only 2.8% of people with disabilities have access to higher education.

According to the World Health Organization (2001) a person’s environment has a huge impact on the experience and extent of disability, so there is need to understand the adaptation of students with disabilities to the environment of higher learning institutions.

Although some studies which have been done explain challenges faced by students with disabilities, particularly mobility impairments in HLIs, there is little information about their adaptation during the learning process.

## **1.3. Objective of the Study**

### **1.3.1. Broad Objective**

To explore the adaptability of students with mobility impairments in HLIs in the Kilimanjaro Region, Tanzania.

### 1.3.2. Specific Objectives

**1. To analyze the demographic profile of students with mobility impairments (SWMI) in Higher Learning Institutions (HLIs):** Find out the comprehensive analysis of the demographic characteristics of SWMIs enrolled in HLIs, including factors such as age, gender, educational background, and socio-economic status, to better understand the diversity within this group.

**2. To identify the learning challenges faced by SWMIs:** Aimed to identify and categorize the various challenges SWMIs encounter during their learning process, encompassing physical, academic, social, and environmental obstacles that may impact their academic experiences and outcomes.

**3. To examine coping strategies used by SWMIs:** Explores the strategies employed by SWMIs to manage and overcome the challenges they face within HLIs. This includes both individual and institutionally supported coping mechanisms, highlighting resilience factors and adaptive practices.

**4. Assess perspectives on improving adaptation for SWMIs:** Aimed to evaluate the views of both SWMIs and institutional representatives regarding potential improvements in adaptation and support systems within HLIs. Insights will inform recommendations for creating a more accessible and inclusive learning environment.

**5. Evaluate Institutional Experience in Supporting SWMIs:** These objective reviews the practices and experiences of institutions in providing support for SWMIs. It assesses existing services, resources, and accommodations, identifying areas for enhancement to better serve the needs of SWMIs.

### 1.4. Research Question

How SWMIs manage to adapt to the existing challenges in accessing learning in HLIs?

### 1.5. Justification of the Study

The study could help the HLIs to understand the general condition of SWMIs and other type of disabilities. It can also help institutions to create a good environment to enroll and accommodate all students with and without disabilities equally in HLIs.

## 2. Literature Review

The importance of education for improving life outcomes is widely recognized, yet people with disabilities remain underrepresented in higher education (Taneja-Johansson, 2024). The system of higher education also plays a decisive role for the person with disability, as it has a positive impact on the construction of the adult identity and facilitates entry in the employment field” (Maggiolini & Molteni, 2013). But the policies and practices do not support in the work-integrated learning or university placements for students with disabilities which are the valuable

opportunities for students to apply their knowledge in work setting and help their transition from university to employment (Dollinger et al., 2023).

Despite efforts in many western countries to support students with disabilities and recognize the value of higher education, low enrollment and high first-year dropout rates persist. Key factors include limited accessibility, inadequate support, negative social attitudes, social isolation, and financial constraints (Svendby, 2021).

It is discouraging that individuals with disabilities in the United States of America (USA) were still much less likely than those without disabilities to possess a college degree (13% vs. 30%). “People with disabilities continue to face challenges that result in lower attendance and graduation rates when related to people without disabilities” (Marshak et al., 2010).

An Indian Country Report (Kulkarni, 2011) acknowledges that “Despite financial support for students with disabilities in higher education, their enrollment remains low, signaling a need for greater inclusion efforts. Most institutions in Bangalore lack adequate facilities for students with disabilities, with physical access as the main barrier. Additionally, faculty indifference and limited readiness to address these students’ needs pose significant challenges.

Students delay in accessing disabled student services because they wanted a fresh start in college, feared negative reactions from non-disabled students, did not want to be singled out because they had a disability, did not know if they had a qualifying disability, and were concerned about confidentiality with respect to the use of services (Meredith, 2014).

Research on college adaptation for students with disabilities highlights key predictors such as problem-solving skills, social support, resource use, satisfaction with disability services, attachment to family and peers, extracurricular involvement, and need for academic and counseling support. (Adams & Proctor, 2010).

Inclusive assessment in higher education requires addressing complex social and material exam barriers. True inclusion goes beyond one-time accommodations, involving ongoing improvements in responsiveness, assessment design, and alternative methods to support all students (Tai et al., 2023).

Achieving success at university can be challenging, especially for students with disabilities who face numerous barriers. While accommodations are available, they alone fall short of fulfilling the broader political goals of inclusive education (Bjørnerås et al., 2024).

Barriers to participation for students with disabilities included lecturers’ limited competence in inclusive education, failure to provide handouts and notes in advance, rigid assignment and exam policies, an emphasis on disabilities over abilities, and patronizing attitudes (Majoko, 2018).

Students with disabilities face barriers to daily activities due to inadequate accessible infrastructure, a lack of accessible teaching and learning materials, and negative attitudes. Improving academic success for these students requires designing effective rehabilitation strategies and implementing policies focused on accessible infrastructure, inclusive education, and the provision of assistive technology

(Kibret et al., 2024). Students with disabilities viewed the interventions as essential for adapting to campus life and achieving academic success (Römhild & Holleder, 2024).

### **3. Research Methodology**

#### **3.1. Study Design and Study Area**

A cross-sectional, exploratory qualitative design was used to examine the adaptability strategies and challenges experienced by students with mobility impairments (SWMIs) in Higher Learning Institutions (HLIs) in the Kilimanjaro region. The cross-sectional design allowed for a snapshot of the experiences and strategies at a single point in time, while the exploratory approach was chosen to facilitate in-depth understanding of adaptive mechanism among SWMIs in a specific educational cultural context.

The study was conducted in Kilimanjaro Region. The headquarters of the region is in Moshi. Kilimanjaro Region is bordered to the North and East by Kenya, to South is bordered by Tanga Region, to South-West by Manyara Region and to West by Arusha Region. According to the 2012 Tanzania census the population of Kilimanjaro was 1,640,087 constituting 90 percent rural residents.

Kilimanjaro Region is among the regions with a notable number of HLIs. Institutions included in the study were Moshi Cooperative University (MOCU), Mwenge Catholic University (MWECAU), Kilimanjaro Christian Medical University College (KCMUCo), Tanzania Training Center for Orthopedic Technologists (TATCOT), and Stefano Moshi Memorial University College (SMMUCo). These institutions were selected to provide diverse perspectives on student experiences across multiple regional academic environments

#### **3.2. Study Population**

The target population comprised SWMIs enrolled in the selected HLIs and five Deans of students one from each institution responsible for students affairs. This selection allowed for a balanced view of experiences from both students and institutional representatives.

#### **3.3. Sample Size**

The study included 20 participants: 15 SWMIs and 5 Deans. The sample size was determined based on the exploratory nature of the study, aiming to achieve depth in qualitative insights rather than statistical generalizability. This sample provide sufficient data to identify patterns in adaptive strategies while considering feasibility and scope of the study.

#### **3.4. Sampling Method**

Purposive sampling was employed to select participants who were most likely to provide relevant and rich information regarding the study objectives to ensure that only SWMIs who were enrolled and actively engaging with academic

environments were included, to maximize the relevance findings.

### **3.5. Criteria for Inclusion and Exclusion**

#### **3.5.1. Inclusion Criteria**

- SWMIs enrolled in the selected HLIs located in Kilimanjaro region.
- Deans of students from each selected HLIs located in Kilimanjaro region.

#### **3.5.2. Exclusion Criteria**

- Students with other forms of disabilities which did not involve mobility impairments was not included in this study.
- Students meeting the inclusion criteria but unwilling to participate were excluded from the study.

### **3.6. Variables**

#### **3.6.1. Dependent Variable**

- Strategies or ways used to adapt with the challenges.
- Challenges encountered by SWMIs in Institutions.

#### **3.6.2. Independent Variables**

- Socio-demographic characteristics (Age, Gender) Type of mobility impairment.
- Accommodation location.
- Use of assistive devices.

### **3.7. Data Collection Method and Tools**

#### **3.7.1. Methods**

The information gathered for this study is obtained from semi-structured interviews with the 20 participants (15 students and 5 Deans). A semi-structured interview guide was developed and reviewed by research team. The guide essentially consists of a list of topics or questions that covered each participant, encouraging them to talk freely and to record all their responses.

Each interview lasting approximately 30 to 35 minutes, the audiotape being later transcribed for data analysis.

The interview responses used for this study were those drawn from a subset of the semi-structured interview guide. Topics covered in this area included the experienced challenges faced by SWMIs, the ways or strategies used by SWMIs to adapt to HLIs. The students' views about the strategies for successful adaptation were recorded. Within this context, participants described their experiences with challenges and different strategies to successful adaptability, their views about what are required for easier, less exorbitant strategies to have successful adaptability in HLIs environment.

Data were collected through semi-structured interviews, a method conducive to exploring individual perspectives while allowing flexibility to probe into emergent themes. An interview guide was developed and reviewed by the research team, focusing on challenges faced, adaptation strategies, and institutional support

perceptions.

Each interview lasted approximately 30 to 35 minutes and was recorded with consent. The semi-structured format enabled participants to share in their own words, thereby providing a deeper understanding of their unique experiences.

### **3.7.2. Data Collection Tools**

An audio recorder was used to capture verbal responses, while demographic data were recorded on a questionnaire guide sheet. This combination of tools facilitated both quantitative and qualitative data gathering.

### **3.7.3. Pre-Testing**

A pre-test was conducted with two former SWMIs to refine the interview guide. Their feedback informed minor modifications, ensuring that questions were clear and relevant to the study's objectives.

## **3.8. Data Processing and Analysis**

Data processing involved transcription and thematic analysis; Audio recordings were transcribed verbatim. Transcripts in Swahili were translated into English and reviewed for accuracy to ensure fidelity to participants' original responses.

Demographic data were entered into Microsoft Excel for quantitative analysis, while qualitative transcripts were organized for thematic analysis.

Demographic information was analyzed using Microsoft Excel to generate summary tables and descriptive statistics. Transcripts were analysed using a thematic approach. This involved coding responses to identify recurring themes and patterns, which were then grouped under the study's specific objectives. Themes such as "infrastructure challenges," "academic adaptation strategies," and "institutional support" emerged, providing a structured framework for presenting findings.

## **3.9. Data Management**

All audio recordings and transcripts were securely stored on a password-protected computer. Physical copies, such as questionnaire sheets and consent forms, were kept in locked filing cabinets accessible only to the research team.

Participants were assigned unique identifiers to anonymize their data. Personal identifiers were removed from transcripts to protect participants' privacy. Only the primary researcher and authorized team members had access to the raw data. Access was restricted to ensure data security and confidentiality.

## **3.10. Ethical Consideration**

Ethical approval was obtained from the KCMU College's Ethical Review Committee. Informed consent was acquired from all participants before data collection. Confidentiality was maintained by anonymizing participants' identities in all records and reports.

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## 4. Findings

### • Participants

15 SWMIs and 5 Dean of Students were interviewed. All interviews were audiotaped. The student sample included a mix of Certificate, Diploma and Bachelor Degree students. Approximately 80% of the participating students were male, and 20% were female. Mobility impairments types as reported by the participants included specific amputation (upper and lower limb), paralysis and shortening of the lower limbs.

### • Interview Procedures

The information gathered for this study obtained from semi-structured (or focused) interviews with the 20 participants (15 students and 5 Deans). A semi-structured interview guide developed by the researcher and reviewed by supervisors of the researcher. The guide essentially consists of a list of topics or questions that covered with each participant, encouraging them to talk freely and to record all their responses.

Each interview lasting approximately 30 to 35 minutes the audiotape being later transcribed for data analysis.

The interview responses used for this particular study were those drawn from a subset of the semi-structured interview guide. Topics covered in this area included the experienced challenges faced by SWMIs, the ways or strategies used by SWMIs to adapt in HLIs. The students' views about the strategies to successful adaptation by SWMIs were recorded. Within this context, participants described their experiences with challenges and different strategies to successful adaptability, their views about what are required for easier, less exorbitant strategies to have successful adaptability in HLIs.

### • Data Analysis

The researchers made use of an editing analysis style in order to interpret the qualitative data gained from the interviews. Such a style involves reading the transcripts in search of meaningful fragments. These fragments were then reviewed and utilized to develop a categorization scheme and matching codes. Then the codes used to sort the qualitative data so that structures and patterns can be sought to better understand the thematic categories.

The quantitative data obtained from the field was analyzed by using a computer programme (Microsoft Excel) and the findings displayed in tables and figures. Qualitative information obtained from the field was analyzed descriptively by quoting the narration and grouping them into themes. A discussion of the findings based on the objectives of the study was carried out.

### 4.1. Demographic Characteristics of Respondents

The students' age distribution, gender, type of mobility impairments, types of assistive devices and hostel accommodation used by participants were presented. The aim was to find the correlation existed between the different factors.

#### 4.1.1. Age Distribution of Respondents

Majority of respondents 66.7% were in the 20 - 30 years age range, 13.3% were in the 31 - 40 years range, 13.3% were in the 41 - 50 years range, while those in the age range 51 - 60 years represented 6.7%. Only 1 (6.7%) was between 51 - 60 years (Table 1).

**Table 1.** Age category of students with mobility impairments (n = 15).

Age ranges	Frequency	Percent (%)
20 - 30	10	66.7
31 - 40	2	13.3
41 - 50	2	13.3
51 - 60	1	6.7
<b>Total</b>	<b>15</b>	<b>100.0</b>

#### 4.1.2. Gender Distribution of the Participants

Among the respondents, 80% (3 SWMIs) were male, while 20% (3 SWMIs) were female (Table 2).

**Table 2.** Gender category of students with mobility impairments (n = 15).

Gender	Frequency	Percent (%)
male	12	80.0
female	3	20.0
<b>Total</b>	<b>15</b>	<b>100.0</b>

#### 4.1.3. Types of Mobility Impairments of Participants

Most participants (60%) presented with lower limb paralysis, predominantly unilateral, though some had bilateral paralysis (paraplegia). This was followed by amputees (33.3%) at various levels, while lower limb shortening was the least common presentation, observed in 6.7% of participants (Table 3).

**Table 3.** Types of mobility impairments category of students with mobility impairments (n = 15).

Types of mobility impairments	Frequency	Percent (%)
paralysis	9	60.0
amputation	5	33.3
shortening	1	6.7
<b>Total</b>	<b>15</b>	<b>100.0</b>

#### 4.1.4. Assistive Devices Used by Participants

Approximately 26.7% of participants did not use any assistive device for various

reasons, while another 26.7% relied on crutches for mobility. Additionally, 13.3% used orthoses, 13.3% used prostheses of various levels, 6.7% used a combination of crutches and orthopedic shoes, and 6.7% used wheelchairs (Table 4).

**Table 4.** Assistive devices used by participants category of students with mobility impairments (n = 15).

Assistive devices used	Frequency	Percent (%)
no device	4	26.7
wheelchair	1	6.7
crutches	4	26.7
orthosis	2	13.3
orthoprosthesis	1	6.7
prosthesis	2	13.3
crutch and orthopedic shoe	1	6.7
<b>Total</b>	<b>15</b>	<b>100.0</b>

#### 4.1.5. Accommodation of the Participants

Most participants (66.7%) resided in on-campus hostels, while 33.3% lived off-campus for various reasons (see Table 5).

**Table 5.** Accommodation of the participants category of students with mobility impairments (n = 15).

Accommodation of the participants	Frequency	Percent (%)
out of the campus	5	33.3
hostel	10	66.7
<b>Total</b>	<b>15</b>	<b>100.0</b>

## 4.2. To Explore Challenges Faced by Students with Mobility Impairments

The aim of this objective was to explore the challenges faced by SWMIs during their learning process in the HLIs.

The information about the experienced challenges faced by SWMIs were obtained through interview questions.

Four major thematic categories emerged from the data analysis, which were identified as challenges faced by SWMIs during the learning process in HLIs: inaccessible buildings, academic difficulties, and insufficiency support from the institutions and location problems. As will be subsequently discussed, the findings clustered in 10 sub-categories, which fell within the four overarching themes (Table 6).

**Table 6.** Summary of student identified challenges by category.

Category	Challenges faced by students with mobility impairments (sub-category)
Inaccessible buildings	<ul style="list-style-type: none"> <li>- Fail to access library due to building design</li> <li>- Difficult to reach Administration offices</li> <li>- Difficult to reach some classes, lecture halls and seminar classes.</li> </ul>
Academic difficulties	<ul style="list-style-type: none"> <li>- Experience difficulty to perform some class activities.</li> <li>- Coming late and missing classes.</li> <li>- Less consideration of students with disabilities in class activities, class schedule and location of venues.</li> </ul>
Insufficient support from the institutions	<ul style="list-style-type: none"> <li>- Poor response to the disabled students' concerns.</li> </ul>
Location problems	<ul style="list-style-type: none"> <li>- Long distance from main road to the institutions</li> <li>- Distance from home out of campus to the institution</li> <li>- Lack of public transport</li> </ul>

#### 4.2.1. Inaccessible Buildings

As presented by many participants, the accessibility of many buildings in the different HLIs was the major challenge to them. The setting of many buildings which included Administration Offices, Libraries, Classes, Lecture halls, Seminar classes, toilets and bathrooms and other buildings was seen to be more for the benefit of students without physical disabilities particularly mobility impairments. Three more specific identity-related sub-themes emerged. These were: Fail to access library, Difficult to reach Administration offices, and Difficult to reach some classes, lecture halls, seminar classes.

**Fail to access library:** Many students commented on their experience to accessing the library building as one of their major challenges in attaining a good level of education. Students from four institutions reported their feelings about this situation and their desire to access libraries. Often this required great effort by the individual student and help from their fellow students. For example, one student who has a paraplegic mobility impairment and uses a wheelchair explain her experience of trying to use library services like other students, she said

You may study here for all those three years without get into the library building. I cannot pass through the door. I just ending outside the library and borrow the book. But there is no way I can stay there and study. For wheelchair user you cannot and I had never use library

Another student who uses bilateral crutches adding by saying that:

Some places like library are difficult for me this is due to the way it was designed at the entrance is not friendly to someone with disability like me or someone who is using a wheelchair to be able to get in and have a book.

In addition, another student who has paraplegia and uses bilateral crutches also

commented saying:

The condition of the library recent in general is not good; because the library we are using is on the upper floor of the building, therefore we have to climb stairs. It is big challenge because sometimes I cannot go there; I have to ask someone to pick a book for me. You know there is difference from the book of your choice

***Difficult to reach Administration offices:*** Direct communication between students with mobility impairments and staff is hindered by inaccessible administrative office locations. Many students cited this as a challenge impacting academic activities and programs needing direct support from lecturers outside class. Complaints included wasted time, fatigue, and inadequate representation of their concerns. A wheelchair-using student shared her experience accessing these offices, stating:

Yes, they are (upstairs classes) and most of offices are like that, and it is the big challenge. For instance I need to see a lecturer, I have to go down there and send someone instead or may be at a time he is free he can come down. But to meet with them face to face is very difficult. There is no even one-administration building which is supportive. I had never reach to any office upstairs...

A student from another institution who uses double-hand crutches emphasized that:

We have only one block which was made for people with disabilities but the administration block, totally is not friendly to us. That was totally made not to us.

***Difficult to reach some classes, lecture halls, seminar classes:*** Many students commented on the difficult to access easier classes, lecture halls and seminar classes in different Higher education institutions. Some fail to reach classes on time, are tired when they reach classes, and a few of them fail to attend sessions. The most challenging part of teaching buildings was to climb stairs to reach classes located on the upper floors of the buildings. One of the students stated that:

Climbing stairs, climbing stairs is the major challenge because wherever you go there is stairs and you have to climbs them, though there is a ramp for wheelchair but you cannot walk that long distance going to the classes instead of climbing stairs, so definitely the stairs is very difficult. It is very sad.

Another student added by explains his fear when ascending to the upper floor by the stairs:

Sometimes you may find the session it has to be done upstairs on the upper floor of the class building and I have to climb stairs. I need to be very careful when I climb those stairs because it is a little bit dangerous.

Another student had the same experience of climbing stairs to reach classes especially during period of examination:

You may find that, during time for examination and the venue for my exam is on the upper floor of the class building, so sometimes it is become very difficult for me to reach on the upper floor but I try as much as I can and write my exam together with my fellow students, yah!! The stairs to the upper floor is a big challenge

#### 4.2.2. Academic Difficulties

This second major thematic category included challenges that related to the difficulties which involve academic activities during their learning period in the institutions. Within this category, three more specific sub-themes were revealed, including: Experience difficult to perform some class activities, Coming late and missing classes, and less consideration of students with disabilities in class activities, class schedule and location of venues.

***Experience difficult to perform some class activities:*** Some participants presented with the experience of difficulty to pursue some class activities especially those, which involve physical tasks. The main comment presented was tiring situations and students tend to use a long time to complete them. One student who uses a prosthetic leg explained:

Me, I have challenges may be when am doing some tasks. Sometimes I get challenge I get tired because of standing much sometimes there are tasks which need me to squat! Like for example when am taking cast for TF in order to get a good shape I need to squat which is difficult to me, so as to get a good shape so, that one is a challenge for me. Also there are some tasks which need a lot of force for you to do what... to succeed so it's difficult.

Another student also explains the same situation when he was performing class activities:

The teacher can come to me and say that (Name) do not hold that hacksaw like that, or that way. For him he does not understand why am holds that hacksaw like that, it is because of the stability. That is the challenge to me.

***Coming late and missing classes:*** Students reported arriving late or missing classes due to challenges like wheelchair issues, long distances from home, and inaccessible buildings. One participant shared that she missed an entire day of classes due to a problem with her wheelchair.

“There was one day I did not attend classes from afternoon to evening hours, but the reason was my wheelchair had some problem. I waited all that time for the services. I spent the whole day in hostel.

Another student from another institution also presented with a similar challenge. He explained it as:

It occurs so many times, most of the time I came late to the college and

sessions but I had never failed to attend classes. So many times I came late to the college...”

From another institution a student told of a similar challenge by saying that:

So I wake up late about two or three minutes before lecture to start, to walk up to there I will be late for the first lecture. The time you get there it is already started, so it's the only problem so I have to make sure that you wake up early so that I must have a waking time like 15 or 20 minutes before I can miss the first lecture.

***Less consideration of students with disabilities in class activities, class schedule and location of venues:***

Limited awareness and consideration for students with mobility impairments were noted as academic challenges. Handwriting and writing speed posed difficulties for those with upper limb issues, while class schedules and venue locations were also problematic. One student shared the case of a paraplegic wheelchair user with upper limb impairments who failed exams due to slow writing speed and lack of consideration from lecturers during exams.

“There was one student last year failed an exam because he was very slow in writing. So it was like that!!”

Another student described how class schedules were not accommodating for students with disabilities.

“The challenges I faced here within the institution is the class schedule, the arrangement of class sessions sometimes you may find the session it has to be done upstairs on the upper floor of the class building and I have to climb stairs...”

In addition, another student stressed that the choice of venues for class sessions and examination was a challenge because it was not properly considered:

You may find that it is during time for examination and the venue for my exam is on the upper floor of the class building, so sometimes it is becoming very difficult for me to reach on the upper floor but I try as much as I can and write my exam together with my fellow students.

**4.2.3. Insufficient Support from the Institutions**

The third major thematic category explains the challenges which involved the dissatisfaction of students with mobility impairments concerning the support from their institution. Only one challenge was seen as a prominent sub-category.

***Poor response to the disabled students' concerns:*** A majority of the students responded by mentioning and explaining the insufficient support from the institutions which was seen as a big challenge to them. One respondent explained that:

Maybe I need something from the administration, they told me to wait for a certain time, so I may not get my requests at a time...

Another participant comes to add as he said that:

But apart from that, the school government body, like students' organization trying to help! I don't see anything like that.

#### **4.2.4. Location Problem**

Some participants presented with challenges about the location of the institution. This thematic category involved the location of the institution in relation to the main road, hostels and other places where students were living. Three more specific identity-related sub-themes emerged. These were long distance from their home places to the institution, long distance from institution to the main road, and lack of public transport.

***Long distance from their home places to the institution:*** Some institutions had few hostels and others do not have hostels to accommodate students. Some students who were staying out of campus commented on the challenge faced as a long distance to reach the college which made them late to classes and exhausted when they reached the class. A participant who stayed out of campus elaborated thus:

There is no any other challenge other than distance from where I am staying to the college...

He added that:

Most of the time I came late to classes and it happen so many times... I became very tired and sometimes I lose concentration. It is challenging sometimes

Another respondent added:

...distance from home to school, living out off campus makes a big challenge to me because of that in and out movements it is tiresome...

***Long distance from main road to the institutions and lack of public transport:*** Distance from the institution to the main road and the lack of public transport are another prominent challenge to students with mobility impairments. Most of the participants presented with difficulty to reach main road from the institution because of the distance and lack of public transport available. A vivid explanation described by one of the participants as:

There is challenge especially when I come from Ushirika wa Neema. It is very far and the steeper so during rainy season you find that it is very slippery and make it dangerous. That is the challenge I faced, distance due to the location and sometimes there is no public transport...

Another student added by said that:

...it is really affecting me because of this distance; it is very difficult for disabled person like me to reach here from the bus stand. Considering my condition in terms of walking... is very far for sure I can't...

### 4.3. To Identify Ways Used by Students with Mobility Impairments to Cope with the Challenges Faced during Participation in Higher Learning Institutions Activities

A question dealt with the third specific objective, which was to identify ways or strategies used by SWMIs to adapt to the challenges they faced during learning process in HLIs.

From the data analysis, three major themes found, which explain the ways or strategies used to adapt with those challenges toward successful education attainment. The findings were grouped in sub-categories, which fell within the four overarching themes (**Table 7**).

**Table 7.** Summary of adaptation strategies used by students with mobility impairments, categorize.

Category	Ways to successful adaptation (sub-category)
Psychosocial adjustment to disability	– Self-determination and encouragement
Self-planning and time management	– Time organization skills to rest and doing class and daily activities – Evade several movements to avoid exhaustion, use of extra money
Budgeting or use of reserves	– Transport requirements – Use of money for daily activities and assistance, – By having own means of transport
Good interaction and assistance from fellow students	– Creating a good relationship with fellow students – Through academic support from fellow students – Through assistance from fellow students in daily activities.

#### 4.3.1. Psychosocial Adjustment to Disability

Psychosocial adjustment to disability has been described as an emotional acceptance of one's disability reflected by positive self-worth, a realization of some-one potential, active pursuit of goals and overcoming obstacles when they arise in pursuit of goals. Many participants presented with the strategy of adjusting themselves psychologically to accept the situation. Many SWMIs explained this as a major way to adapt with many challenges. Within this category, the emerged sub-theme was revealed: Self-determination and encouragement.

***Self-determination and encouragement:*** Many students tend to encourage themselves and to have self-determination. As one way to adapt to challenges one student explained his strategy by saying that: “*I first convince myself that a disability is not a reason to stop me to do what I want to do. That is the first thing I convince myself and another thing I also look up to the people with disabilities who have managed. Because I am not the first person with disability to come here, there were people with disability who came here to study and they managed to finish their studies*”.

And another student added to this by saying:

“Sometimes when there are good climatic conditions I used to walk because is just part of physical exercises. Yes, I do it to strengthen my body...”

A participant from another institution said: “*but also for me I take them as the normal small challenges, I take them as part of physical exercise ... hee! towards my success in future*”

#### **4.3.2. Self-Planning and Time Management**

SWMIs presented different skills in solving their problems, which were identified to build this major theme. The theme comprises two sub-categories: Time organization skills, and Evade several movements to avoid exhaustion, use of extra money

***Time organization skills:*** time management skills were presented my most of the participants as one way for them to adapt to some of the challenges which involved several movements from one place to another within the institution. Shifting from one Lecture Theater to another or to the stationary. one of the participants who has weakness of both lower and upper limbs on one said explained the way he spent his time to get rid of several movements,

First of all, according to me, I don't have that tendency of shifting from one class to another that much. When I want to come back to my room hostel I come to sleep.

Another participant, who uses a prosthetic leg explained how manage her time to cope with the challenges of stairs

Most of the time for example I said I have problem with stairs. So, I make sure I ascend on the stairs earlier in good time. So when am supposed to be at a certain place I will be take my time to get on the stairs. I don't rash when am doing I try to take my time so that I don't get tired.

Then another participant said that

First of all, I normally not going to break, like going to break always I have to climb stairs so I would like to be prepared at home, I eat and to school.

***Evade several movements to avoid exhaustion, use of extra money:*** some participants show how much it was difficult for them to move from one place to another within the institution. For them to get rid of being exhausted they use to spare time to rest so that they could have energy for other necessary academic activities. One participant who was a transtibial amputee explain that

If there is something unnecessary to me, I can take my time to rest so that I could gain new strength then later I will continue with my activities...

Another also explained how she avoids movements when the environment was wet

I don't need to move too much. So if I know I will be at one place for a long time I use my crutches and also when am walking. You know, I expose myself to water. So I use my crutches instead of my artificial leg.

#### 4.3.3. Budgeting or Use of Reserves

This major theme or category includes the need to have a prepared budget or the use of extra money/reserves to try to cope with the challenges faced in the HLI environment. Within this category there were 3 sub-categories to identify exactly the ways students use to cope with the financial challenges: Budgeting for transport, Use of money for daily activities and assistance, and by having own means of transport.

***Budgeting for transport:*** Most of the participants indicated that the most common way to cope with the problems of distance to travel is by planning a budget to help them to have suitable transport. One participant presented this when he said:

About distance, sometimes it costs me but I have accepted the situation. It may occur that twenty minutes remains for the class to start I have to take motorcycle to bring me there. it is difficult for me to walk up to the University campus because it is very far and also my health condition does not allow me so I just take motorcycle...

Another participant added:

...Other days when the situation is worse I get on a motorcycle and bring me to the college...

In another institution one of the participants explained that:

...like I said I have problem with the public transport, haaaaa!! What I do always in my budget I have an allowance for my accommodation I save money for my transport so that will help me to move properly.

Another participant contributes:

There are public transports from Ushilika wa Neema up to here such as motorcycles, for others may decide to take or not. I must have a budget because of what? For me to cope with that challenge just because of my condition.

***Use of money for daily activities and assistance:*** Others explained their strategy at paying for assistance in their daily activities. This was revealed through the information given by some students, when one participant explained.

Another thing. For example when water went off around the dormitories, I bought my own buckets so I give money to someone, maybe Tsh500/=, they do help...

Another participant commented that:

...Sometimes that is what we can do, so there are women who used to be

around here we gave them our clothes and help us

***By having own means of transport:*** Only one participant explained his experience and bought a motorcycle to help him to reach the institution:

I managed to buy my own motorcycle for transport because it is very far from school.

#### **4.3.4. Good Interaction and Assistance from Fellow Students**

Within this fourth major thematic category there is information about good interaction and help from fellow students.

Students indicated that one the best strategies to cope with the challenges in the HLIs was the good will and assistance from fellow students. This category is supported by three sub-categories, which gave in-depth information concerning this way to adapt to those challenges: Creating a good relationship with fellow students, Through academic support from fellow students, and Through assistance from fellow students in daily activities.

***Creating a good relationship with fellow students:*** Most participants indicated that a good relationship with each other was the best way to cope with the challenges they face within the institution. One participant revealed his secret way to cope and said that:

Not all people can help unless you are so much closer or maybe he is your classmate. He can carry books for you... to have good interaction with people but if you are just staying alone is very difficult somebody to help. But if you're transparent, talk to the people it is ease to receive some help...

Another participant also came with the same strategy as follows:

...I think what helps me is that I used to interact with different kind of people, I use to interact with almost everyone I try my level best to participate in many activities such as sports, games and class group discussion. So I do to remove the people's feeling that I am different. This makes others to see me just as a normal person.

***Through academic support from fellow students:*** As most students presented with the same academic difficulties, it was found that the most common way to adapt and try to cope with those challenges was through support from fellow students and class representatives. One student/participant who uses a wheelchair said:

If I failed to attend class session upstairs, alternatively I will have group discussion to cover what others learn after...

Another participant who stayed out of campus and had a challenge of coming late to class also explained:

When it happens I am late and the teacher has gone far there is group discussion with my fellow students so that I can catch up so we can go together

and that is it... group discussion...

**Through assistance from fellow students in daily activities:** Some participants expressed that asking fellow students to help them pursue some daily activities was the only means to adapt or cope with those challenges.

One participant who had impairments of one side at his body in both upper and lower limbs said:

I have found an assistant to help me, washing my clothes and also in case of typing, there are some people to assist me...

Aver another participant said:

For me I can say am using my own effort and assistance from my classmates, those are the people who helping me so much... if won't manage to reach to canteen I ask someone to take me there or sometimes she can buy food for me, but if she is not around the University I just sleep...

#### 4.4. To Identify Views on the Strategies to Successful Adaptation of Students with Mobility Impairments

The aim of this objective was obtained views about what should be done towards easier and successful adaptation of SWMIs to the higher education institutions. From the information obtained and analyzed, three major categories were seen to address views about the required conditions for SWMIs to adapt easier and ability to pursue their academic activities more successful. The findings were grouped in sub-categories, which fell within the three overarching themes (**Table 8**).

**Table 8.** Summary of the categories of views on the strategies to successful adaptation of students with mobility impairments.

Category	Views on the strategies towards successful adaptation (sub-category)
Infrastructure improvement	<ul style="list-style-type: none"> <li>- Modification or establishment of wheelchair pathways</li> <li>- encourage better way for them to access buildings</li> <li>- improvements of hostels</li> </ul>
Good communication and follow up after students identification	<ul style="list-style-type: none"> <li>- Meeting with students with disabilities</li> <li>- Effective way of presenting their concern</li> <li>- Follow up after students identification</li> </ul>
Raise of awareness about disability	<ul style="list-style-type: none"> <li>- Required services to students with disabilities</li> <li>- Awareness to improve students social relationships</li> </ul>

##### 4.4.1. Infrastructure Improvement

Many participants said that inaccessible infrastructure was one of the big challenges in most of the HLIs; most suggested that improvement of infrastructure is required for the successful adaptation of SWMIs. This major category has sub-categories which were: Encourage better way for them to access buildings, Modification and establishment of wheelchair pathways and Improvements of hostels

***Encourage better way for them to access buildings:*** According to the present situation in many building of HLIs such as the administration block, libraries and classes, lecture halls and seminar rooms, the majority of the presenters suggested other better way for them to access to those large buildings. One of the participants suggested that:

They have to try, especially on the higher buildings to put elevator for people with disabilities, yah! Ascending up and descending down with help of elevators it will be more helpfully. Also about the bathrooms they have to make at least one special designed for people with disabilities and the least for others, they must have special one for people with disabilities

Another participant insists on the same thing as follows:

The elevator that is best idea, if they could have an elevator that is very good idea.

***Modification or establishment of wheelchair pathways:*** Few of the institutions were seen to have ramps for wheelchairs. There were uneven surfaces and steep roads. This indicated the unsupportive environment to wheelchair users. One participant who uses wheelchair suggested some improvements were required:

On the side of the pass ways, they should try to renovate, some they're not good like those from one class to another I cannot when am alone...

Another student also supported that when he said:

Okay about the buildings, actually the first thing is the administration block. They should build a very friendly, friendly ramp to allow all the students to reach the administration.

***Improvements of hostels:*** Most of the students were staying in the hostels within the campus. However, although they got the chance to stay in the hostel but mostly they presented with the need of more improvement of toilets, bathrooms and other accessories. One students suggested as follows:

Also the University should try to build self-contained rooms for people with disabilities and should consider this in their plan at least 4 or 5 rooms...

Also it was supported by another participant when she said that:

Also if possible you even accommodation like I told you for me most of the accommodation setups they are not considering the other people like they have the hostel to say these hostels for people with mobility impairments like two rooms and they make them more suitable for us like in term of how to get to the rooms and to come back and to reduce the area of too much mud.

#### **4.4.2. Good Communication**

Communication between students with mobility impairments and students' affairs office was seems to be ineffective. Class representative was the only bridge

between them. Students suggested other effect and comfortable way of communication and show real need of presenting their concerns to dean of students' office.

One participant suggested that:

I think the student's government can have... hee! A follow-up like Dean of students does, to identify who has disability and what challenges they are facing if there is challenge they can help talk to the administration for something to be done. I think there is no that follow up...

Another participant also suggests as follows:

I have been here for three years. There must be special people to check these people (students with disabilities) for example a committee specifically which with have a follow up to identify their needs, which are necessary and helpful to them...

From another institution another participant suggested that:

They should improve communication between us and them; it can be for example the council, a club or whatever that could bring connection between us and them

He also added by saying that:

Then after a certain time we can have a meeting to talk with them, listening to our challenges and everyone have got his or her own challenge... I think there are other people who experience big challenges but just because of the system can never be transparent and present his or her challenges...

#### **4.4.3. Raise Awareness about Disability**

Most of the participants presented with the suggestion of ways to raise awareness to the both students with and without mobility impairments and workers of the institutions. One student suggested that:

Provision of education on how to care about people with disabilities starting from our university to other institutions... above all education is essential...

Another participant had the same suggestion as she presented:

First of all I think one of the major things that the institutions can do or can be done is to promote awareness, as much there are students with mobility impairments in school. There is little awareness, I don't know or I don't think... But there is little awareness on other students

#### **4.5. To Identify Experience of the Higher Learning Institutions towards Inclusion and Adaptability of Students with Mobility Impairments during the Learning Process**

The aim of this objective was to obtain information about experience of the higher education institutions concerning SWMIs. The information obtained was analyzed and three major categories emerged which expressed the general experience

during enrollment process and living condition of SWMIs in academic and social perspective. The findings were grouped in sub-categories, which fell within the three overarching themes (Table 9).

**Table 9.** Summary of institutional experiences with students with mobility impairments.

Category	Experience of institution toward students with mobility impairments (sub-category)
Identification and follow-up	<ul style="list-style-type: none"> <li>– Way to identify students with mobility impairments</li> <li>– Means of communication between administration and students with mobility Impairments</li> </ul>
Services provision	<ul style="list-style-type: none"> <li>– Condition of the institutions to support students with mobility impairments</li> <li>– Status of service or support provided</li> </ul>
Challenges experienced	<ul style="list-style-type: none"> <li>– lack of prior information about students with mobility impairments</li> <li>– financial problem to support students with mobility impairments</li> </ul>

#### 4.5.1. Identification and Follow-Up

Identification of SWMIs was seen to be one of the first challenging steps to many of the HLIs. This category provided information about the process of identifying these students and the follow-up of the institution with regards to the SWMIs. Two sub-categories emerged to explain this situation: Ways to identify SWMIs, and Means of communication between administration and SWMIs.

***The ways to identify students with mobility impairments:*** All institutions presented that the most common way to identify SWMIs during the enrollment process was through the student's health status information provided by medical examination forms. This was supported by all participants. One participant clarified as follows:

There is a very good way of identify them and that is through filling the Medical Examination forms, so when they fill those forms it will indicate if they have any problem, impartment or any part of their body and so that is actually we are identify them yah

Another participant came to refine it more when he explains it more clearly:

We have medical examination forms. In that medical examination form, there is place student explain including physical, mental or any other kind of disability. There is a place where a doctor on any other medical practitioner can feel the particular information concerning the physical, mental condition of the student

***Means of communication between administration and students with mobility Impairments:*** After identification of the SWMIs, the follow-up to these students were the efforts of the students themselves. Offices were opened to receive student concerns and class representatives sent their concerns. This was agreed by

most of the participants. The first participants explained how they receive concerns from students with mobility impairments:

First, an office, which deals with student's social welfare, is always open for them, but we have student representation. We encourage them to use hee! Students who represent them to present their matters but we have an attendance from all halls. So, students pass their concerns though that way, especially, those who have disabilities. Therefore, they present them in the office and get their concerns...

Another participant comes to insist that:

No, we normally do not have regular meeting with them, but during the same time of enrollment when we were providing them rooms in our hostels we use to talk to them and when they are with other people no problem but in case he/she face any problem can come to Dean of Students office to present their problem. Moreover, we can...

#### 4.5.2. Services Provision

Provision of services was a major category that emerged from the information obtained which gave more clarification about the condition of the SWMIs and the view of their adaptation in the HLIs. Two sub-categories which emerged from this category were Condition of the institutions to support SWMIs, and Status of service or support provided.

***Condition of the institutions to support students with mobility impairments:*** A number of services, support and environmental conditions including infrastructure were presented by most of the participants as the means of supporting SWMIs. One of the participants comes to reveal as follows:

For the accommodation. we give them accommodation as the first priority as the policy recognize them and we have tried our best to establish a permanent place for ladies and for males, we have specific dormitories and special toilets and rooms for them.

As you can see, you can so to Kilimo and Ushirika there are room for them.

Another participant also said that:

For example, we buy even the wheelchairs, we buy also I do not know our do you call it... for those who do not have hands. Two years ago, we bought one because we got money and a student was in the Degree program then he sought that access. When he finished he went with that wheelchair.

Another participant finalizes by saying that:

We are listening to them. Therefore, when we receive them we have special rooms to accommodate them. There are ramps for the wheelchair and toilet system there are those supporting arms and their beds, the level of their beds, all are there in Hostel B. Therefore, there are special considerations for people

with healthy problems especially physical disabilities. Accommodation and other accessories. In term of accessories, physical disabled accessories which are; for example for wheelchair users they need ramp to propel, they need special doors for wheelchair to pass through and special toilets chair and bed.

***Status of service or support provided:*** Most of the participants were shown to encourage their institutions to provide more support and suitable environments to the SWMIs. The information shows there are much more to be done to encourage SWMIs in HLIs. One of the participants explains it clearly as follows:

Generally, I can that still it is a challenge for students with physical impairments because in most of our building. That notion of accommodating students with physical impairments

Another participant comes to refine it by saying that:

I would say it is not adequate. Because for young institution like ours we have not really been able to support them fully as we should but we have tried on the area of accommodation

#### **4.5.3. Challenges Experienced**

Provided there were services and support from the HLIs, this last major category explains the challenges experienced by most of the institutions toward provision of services, support and creation of suitable environment to the SWMIs. This major category contained two sub-categories, lack of prior information about SWMIs, and financial problem to support SWMIs.

***Lack of prior information about students with mobility impairments:*** Most of the participants presented with the challenge of poor preparation of the suitable accommodation to SWMIs. Students with mobility impairments were identified during enrollment process which affected them during accommodation location and planning of the class schedule and other academic activities. One participant explained this as:

some people they are apply late especially for certificate and Diploma students but for the care of students who applying for Degree programs, even the TCU have indicated in their application that it you have the disability they have to show that...

Another participant also said that:

When during allocation of the rooms in our hostel for example we can plan that this year we are going to enroll a certain number of student but we do not know how many will have disabilities. There is prior information, which is explaining like there is certain number of students with disabilities. Of which it could be more helpful to the institution to have good preparation to receive those students but it is always during registration we just find a student with disability.

***Financial problem to support students with mobility impairments:*** Many institutions claimed that one of the challenges the experience was the financial problem to create good environment and support to the SWMIs. A participant claimed that:

For young institution like ours we have not really been able to support them fully as we should but we have tried on the area of accommodation.

From another institution, the next participant said that:

That is what we are doing but the thing that is affect us as we are the public university is the Budget concern we trying our best we use the fees that we get to help the students...

## 5. Discussion

Access to higher education is a fundamental human right and a vital pathway to professional development and societal contribution. However, students with disabilities continue to encounter significant obstacles in realizing this right fully. In Tanzania's Kilimanjaro region, only a small percentage of students in higher learning institutions (HLIs) have mobility impairments, reflecting broader trends of underrepresentation. A recent study revealed that 66.7% of students with mobility impairments face inaccessible buildings, inadequate institutional support, and limited resources, often resulting in delayed class attendance and missed educational opportunities. These students report encountering inaccessible classrooms, limited access to libraries and administrative offices, and a general lack of academic support. Such barriers severely hinder their educational participation and adaptation. Addressing these barriers is crucial not only for empowering students with disabilities but also for fostering an inclusive educational environment that reflects values of equity and diversity.

### 5.1. Demographic

The demographic characteristics were analyzed along variables such as gender, age and type of mobility impairments, use of orthopedic devices.

The present study shows that there are many (66.7%) young students aged between 20 - 30 years of age with mobility impairments in HLIs. This was also seen in another study conducted in Kenya by (Ong'eta, 2013) which reviewed the age of higher education students with physical disabilities with age ranging 22 - 25, from two Universities and concluded that, the ages of the majority of the students with disabilities were within the age range of the general student body that joins the HLIs.

Only a small percentage of participants were female students with mobility impairments (20%), compared to male students with mobility impairments (80%), which does not reflect the national gender distribution. (National Bureau of Statistics, 2013b) shows (51.3%) females compared to (48.7%) males. This gives clue

that female with disabilities they still have low chance to access education compared to male with disabilities.

Some 26.7% of SWMIs were not using any orthopedic assistive device. Few were using (13.3%) prostheses and (13.3%) orthoses. Lack of awareness about rehabilitation services was seen as one reason. (Appiah, 2008) supported by added that rehabilitation also includes making changes to the individual's environment for example, by installing a toilet handrail. While it was found in this study use of crutches to walk was common which gave them difficulties to do their activities and limits their full potential. (Ong'eta, 2013) commented on the same situation whereby students in crutches found it demanding to keep standing in classes for long time.

Most students (66%) stayed in special on-campus hostel rooms, indicating support with accommodation. Most faced minimal room challenges, though students with mobility impairments encountered varied difficulties requiring adaptations. Wheelchair users, the majority, highlighted the need for barrier-free environments to facilitate access and participation in learning activities (Ong'eta, 2013).

## **5.2. Challenges Faced by Students with Mobility Impairments in HLIs Institutions**

The finding of this study indicated that most the SWMIs experiences difficult to access the building in the many of the high learning institutions. Most of at the buildings were the old buildings which shows the perceptions for accommodating (SWMIs) was not there. This indicating that there was low awareness less consideration about inclusion of people with disability. Most admission blocks, class lecture halls and seminar rooms they were not accessible to people with disabilities. According to (Brewstera et al., 2014) in relevance mainly for students with physical disability, some have found classrooms environments to be hard to move around due to unfavorable room layout. Finding identified the new recent buildings which were not accessible to SWMIs. Consideration to people with mobility impairment in term at building accessibility is still very low. Also, the problem of accessing buildings was affecting students' daily activities within the institutions particularly in term of academic prospective. Also reported that lack of ramps or partially constructed ramps in the two universities hindered particularly students on wheelchairs accessing some classes in time particularly those located upstairs hence they ended up writing incomplete notes or missed classes. For example, some failure to access libraries and others failure to presents their concerns to the lecturers because they were not able to reach their offices.

The results of this study show the minimal support of the most HLIs to SWMIs. Most of the institutions seem to provide support more into accommodation in term of Hostels within the campus. Regardless of that support there was still much required by SWMIs, unfilled gap existing was expressed by the poor response from HLIs' student welfare to the particularly concerning about social affairs presented by SWMIs. The study done by (Brewstera et al., 2014) supported that,

aspects of the learning environment and availability of resources, problems with the effectiveness of support and adjustments that they find beneficial.

This study indicated that some SWMIs they come late to class or sometimes missing class sessions because of the location of the Hostels being far from the campus. And SWMIs sometimes experienced difficult to reach main road from the campus or from their household to the campus. Some were come late and very exhausted which lead to low concentration in classes and come over more expenditure of money for private transport. (Shepherd, 2006) reported the same situation that some SWMIs may not get to the lecture on time because of the transport problem.

### 5.3. Strategies or Ways Used by Students with Mobility Impairments to Adapt to HLIs

It was seen from this study that psychosocial adjustment to mobility impairment has the one of the best ways for SWMIs and would be also encouraged to students with other types of disabilities to adapt well with the challenges their learning process in HLIs. Emotional acceptance of one's disability and self-motivation and encouragement was seen as the good way toward successful adaptation to the HLIs environment. Successful adaptation would therefore include persons who have positive self-esteem and increased levels of self-efficacy and persons who utilize adaptive coping while gaining both independence and personal mastery (Freeman, 2013). Another study clarifies in detail that experiences of students with disabilities through focus groups and found that self-determination skills were the most important student-related factor that helped students in obtaining appropriate support services (Getzel & Thoma, 2008).

The current study show that some SWMIs were tried to overcome some challenge such as the problem of distance from their hostels out of campus to the campus some daily activities through planning budget and use of reserve for private transport as also indicated from the report statement of transport for people with disabilities by (Ayele & Dear, 2022) that for people with disabilities there are places where public transportation is not available. Thought it was seen to be different from others but they presented this as the one way to adapt and abo to learn how to adapt different environment in their daily life.

Others commented on the use of day planners or other methods of writing tasks down to help plan ahead for assignments that might take extra time. The same skills to adapt or cope with the challenges which involved several movements the use to stay in one place for a time and to do their class tasks. From the study done by (Getzel & Thoma, 2008) explained the same thing that some participants scheduled their classes so they were not back-to-back, allowing time for studying or completing assignments.

From the finding of this study SWMIs encourage good social interaction with other fellow students as the means towards successful adaption in term of creating corporation with others. Good interaction and cooperation was seen to encourage

other students to help them (students with disabilities) in many things during daily activities and academic support. Isolation and feeling of self-stigmatization were not encouraged by most of the SWMIs as it was the major draw back towards the successful adaptation in the HLIs environment. According to (Erten & Savage, 2012) these negative social interactions, although often very mild and verbal in nature, were experienced more by students with disabilities and concluded that these students may be at greater risk for experiencing obstacles at the postsecondary level

#### **5.4. Views of Students with Mobility Impairments towards Successful Adaptation in HLIs**

Despite efforts by various institutions to enhance building accessibility, they emphasized the need for improvements in large buildings with stairways. (Naaz et al., 2012) highlighted the impact of inadequate accessibility on education for people with disabilities, sharing the perspective of one individual: "I wish my country had accessible infrastructure and support. I could have become a doctor like my friends, but was left behind." Key buildings like libraries, classrooms, lecture halls, and seminar rooms require improvements, as wheelchair users face significant access challenges.

Also it was found there were communication barrier between SWMIs and the student welfare offices at HLIs. Students wanted an effective way to raise concerns about challenges and an unsupportive environment that went unreported to the institution (Love et al., 2015) emphasize that institutions should implement grievance procedures to allow students to voice concerns fairly and receive timely, equitable resolutions. In this study, class leaders served as the only bridge to the student welfare office, which proved inadequate for many students with mobility impairments. Regular direct meetings with the student government were recommended as a better approach for communication and follow-up.

The study found that awareness about people with disabilities was generally low in most higher learning institutions (Izzo et al., 2001) noted that faculty members often lacked knowledge about necessary accommodations or viewed them as unfair advantages for students with disabilities. Support in both academic and social aspects is essential for students' successful adaptation and quality of life. Students with mobility impairments suggested implementing awareness programs for students and staff to improve support for individuals with disabilities.

This could also help in improvement particularly in construction of accessibility buildings and other services to accommodate students with mobility impairments (Fuller et al., 2004). It may be helpful to organize specific disability awareness sessions to ensure all staff and students gain a basic, consistent understanding. This approach would emphasize the importance of treating each student individually rather than assuming all students with mobility impairments have the same needs.

### 5.5. Experience of the Institutions towards Inclusion and Students with Mobility Impairments Their Adaptation in Higher Education

This study found that most Higher Learning Institutions (HLIs) commonly use medical examination forms to identify students with mobility impairments and other disabilities. However, poor preparation to support these students was often due to a lack of detailed information on the specific types of impairments and the students' needs. (Phillips & Clarke, 2010) note that entry forms require students to disclose any disabilities, which are then forwarded to disability services. Upon acceptance, the disability service contacts students to introduce available supports and invites them to register, enabling access to various services upon entry.

Also the findings reveal there was no direct follow-up to the SWMIs. The means of communication was more depending on the student themselves to present their concern or through their class representatives. Students with disabilities viewed their interactions with instructors somewhat differently than their non-disabled peers (Frymier & Wanzer, 2003).

Findings presented in this study elaborates the different services and support provided by HLIs to the students with mobility impairments. Most of the HLIs provided favor to them in term the giving them more priority to stay the hostels in the campus. Prepare special rooms for them with accommodation environments. (Erten & Savage, 2012). Findings indicate that postsecondary institutions should support students with disabilities not only by providing accommodations but also by addressing hidden attitudinal barriers to enable equal participation opportunities for all. Also all most each HLIs shows that, there were still need to do more than what they provided to SWMIs and disability in large. According to the survey case study done in Ireland by (Phillips & Clarke, 2010) reported that: "The quality of disability service provided at the further and higher education institutions that were selected for this study is very high, making further and higher education much more accessible for students than in the past. However, there are considerable challenges to overcome in the pathway from secondary to further and higher education before equality of participation and outcome is achieved".

This study explains the draw backs which hinder improvement of infrastructure to accommodate SWMIs were the financial problems to support those students, it was seen from another study by (Love et al., 2015) where by faculty members descriptions of practical and resource challenges to provide services to students with disabilities were indicative of a gap in support. And also in the many HLIs there was no pre-information about SWMIs what kind of mobility impairment student has and what were the major services or support, could be an obstacle for HLIs to be prepared to receive SWMIs and other types of disabilities. This was also seen in the survey case study done in Ireland by (Phillips & Clarke, 2010) which explained the importance of pre-information in preparation of services and support to student with disabilities that, Student contact with the disability service prior to entry seems to be very important in terms of identifying and lining up

financial, educational and practical supports, as well as preparing academic staff. The process for disability services making contact with prospective students appears to be very streamlined in all of the colleges visited.

## **6. Conclusion, Limitations and Recommendations**

### **6.1. Conclusion**

The study identified gaps in the literature, noting a lack of focus on the adaptability of students with disabilities within HLI environments. This research reflects their actual needs, adaptation efforts, and offers solutions for better support during learning. Being a female with a disability decreases educational access, as shown by the small number of female SWMIs, highlighting gender inequality in education. Successful adaptation depends on both SWMIs and supportive HLI environments. However, SWMIs need HLIs' support in creating accessible infrastructure and a supportive community. Three barriers hinder SWMIs' adaptability: lack of pre-entry information from TCU, sponsors, and SWMIs themselves; inadequate HLI infrastructure and social support; and limited awareness of rehabilitation services. Addressing these barriers not only supports SWMIs in their educational pursuits but also promotes equity and inclusivity across HLIs. However, as with any study, there are limitations to consider.

### **6.2. Limitations**

The most noticeable limitation would be the small sample size (15 participants). This sample was selected to allow for an in-depth qualitative analysis rather than statistical generalizability. To improve representativeness, future studies should recruit a larger, demographically diverse sample, including diversity in race, type of disability, etc. Additionally, a common limitation in qualitative research, response bias, may have influenced participants to portray themselves favorably, potentially distorting some information.

### **6.3. Recommendation**

Based on the study results and conclusions, the following recommendations are made to create a conducive environment and promote academic participation for students with mobility impairments.

#### **6.3.1. Architectural Designs**

HLIs need to create barrier-free, disability-friendly environments to improve access for students with mobility impairments. This includes providing accessible buildings, academic materials, assistive devices, and other equipment to support their participation. HLIs can achieve this by removing physical barriers, building ramps, and ensuring flat areas for wheelchair operation. Accessible transport services and lifts within institutions are essential. The government, along with the Ministry of Education, Tanzania Commission of Universities, and donors, should allocate funds to HLIs for infrastructure and equipment improvements.

### 6.3.2. Sensitization and Awareness

HLIs administration should promote sensitization programs like seminars, sports, workshops, and forums to raise awareness of SWMIs' needs, aspirations, capabilities, and available rehabilitation services, enhancing acceptance and participation in learning. The program should ensure SWMIs live with dignity, enjoy human rights, and address barriers hindering full involvement in class activities. This would foster positive attitudes and awareness that disability is not inability, while encouraging students to utilize available facilities to enhance academic participation.

### 6.3.3. Areas of Further Research

The study has revealed that gaps still exist and there is need for further studies in these following areas:

- There is need to carry out the similar study to investigate the learning environment and academic participation in other group of disabilities in HLIs of Tanzania.
- This study can be done in all other HLIs in Tanzania since this study findings cannot be generalized to other HLIs.
- There is also need to carry out the study to investing the inclusion and accessibility of female with disabilities to the education mainstream in Tanzania.

While this study provides valuable insights into the challenges faced by students with mobility impairments in higher learning institutions, the limited sample size of 15 participants poses a limitation regarding the representativeness of the findings. This sample was selected to allow for an in-depth qualitative analysis rather than statistical generalizability. Further studies with larger sample sizes are recommended to confirm and expand upon these findings across more diverse populations.

### Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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