

Satisfaction of Students with Physical Disability

M. T. Karimian

International Programmes and External Linkage Office Takoradi Technical University

Abstract Poor physical health can affect the performance of everyday life activities of students and their integration into society. The evaluation of university facilities is important to improve the quality of services received by students in order to achieve better academic performance. This research study aimed to examine the university facility and psychological existential orientation of students with physical disability. Fifty-five students with physical disabilities with Mean \pm SD age of 23.84 ± 1.84 years and age range of 20-28 years were examined with regard to university facility and psychological existential orientation, using the student satisfaction questionnaire included items of the questionnaire on assistive technology AT-24. The type and degree of the disabilities were pronounced differently. The sample consisted of 38 (69%) males and 17 (30.91%) females and were enrolled in different faculties and in different years of study in the Bachelor classification. Regarding their experience, the students stated that the university's facilities and services did not correspond to a high level of quality. The results also showed that the university facility should be improved to support students with physical disabilities more productively. The subjects also reported a psychological existential orientation in mental, social and financial burden due to their physical disability. Poor university facilities can affect service quality when the facilities are not used for reasons of management system and health. It is important that the university facility meets the expectations of student demand in order to achieve a high level of satisfaction in terms of providing services.

Keywords Disability, University facility, Satisfaction, Distress, Academic performance

1. Introduction

Universities are interested in knowing the evaluation and satisfaction of the students' academic process such as faculty, facilities, courses [1]. Internal and external factors (e.g., "professorial role opportunity", "examination process", "technology", "family time", "job opportunity") can be associated with students' academic performance [2]. Students' evaluation of the academic process of universities and colleges is important to find out the progress of students' academic achievements. MeenuDev, 2016 [3] reported that academic performance of the learners has been paid more attention. In this case parents, faculty members of the universities/colleges, political decision-makers and organizers are more interested in the academic outcomes of the students who play an important role in the development of a country, which can be developed by highly qualified professionals and managers from educational organizations. [4,5].

Academic performance can be affected by factors, such as age, study form, gender, discipline, class attendance, quality of faculties in academic goal, time management, socialization, personality, socio-economic situation, parents' education [6].

The most research study in academic performance, it refers to the factors such as gender differences, teaching method, teachers educational background and level, class and environment situation, socio-economic matter and educational situation of family members. The result of these studies vary from place to place regarding special form and issues of different regions and cities [7].

Health and well-being are linked to academic goals as an important factor in education [8]. "For many, special needs education is synonymous with the education of people with disability, with the frequent assumption that every learner with a disability automatically has a special educational need. Over time broader definitions have developed. Many now view 'people with special educational needs' as including anyone who experiences difficulties with the learning process that require some sort of special educational response. Those difficulties need not be linked with an impairment, may not be permanent, and may occur at any point in a person's education. Increasingly, it is acknowledged that not every disabled learner necessarily has a special educational need – they may just have the same needs as every learner for a generally better-quality teaching and learning experience" [9].

As definition of disability by the Social Security Code Book: "Persons are disabled if their physical function, mental capacity, or mental health is likely to deviate from the typical age condition for more than six months, and therefore their participation in the life of society is impaired" [10].

* Corresponding author:
m.karimian@web.de (M. T. Karimian)

Received: Sep. 10, 2023; Accepted: Dec. 15, 2023; Published: Mar. 9, 2024
Published online at <http://journal.sapub.org/edu>

Any kind of disability and health condition can affect the student's campus life functioning at school [11]. Disability refers to the restriction of performing daily tasks in society. This also refers to limiting the individual's interaction with physical environmental and social society [12,13]. In Rwanda, the national government has defined the disability as "the condition of a person's impairment of health ability he or she should have been in possession, and consequently leading to deficiency compared to others" and a disabled person is "any individual who was born without congenital abilities like those of others or one who was deprived of such abilities due to disease, accident, conflict or any other reasons which may cause disability" [14]. Regarding 2012 census it is reported that 446,453 persons with disabilities aged 5 and above are living in Rwanda. It consisted of 5.2% males and 4.8% females [15].

Disability includes various physical and mental impairments such as mobility and physical impairment, vision impairment, cognitive or learning impairment, hearing impairment that can affect daily life ability of person to perform his/her daily activities. In March 2023, the Ministry of Education (MINEDUC) Rwanda reported a total of 4,159,782 learners in the education system, that 38,937 (.9%) have disabilities. In primary education, disabled learners make up about 29,994 (1.1%) and in secondary education about 4,849 (.6%). Only 15,569 (14.6%) teachers were trained in special needs and inclusive education. To reach the quality in education it is a need factor training of teachers in inclusive pedagogies [16]. According to Education and Employment, people with disabilities in Rwanda often miss the opportunity to start or even complete their educational goals. After 1994, the Rwandan government tried to know, work on and eliminate all the causes and obstacles that can lead to inequalities in education. However, early school leaving remains a challenge to address for both boys and girls, as well as for learners with a disability [17].

People with disabilities are at increased risk of poverty, fewer educational opportunities, as well as fewer job opportunities and poorer health. In terms of a person's physical or intellectual capacity, it is not the disability itself that disables a person's daily activity, but the physical, behavioral and attitudinal barriers society are challenges. It is the responsibility of persons with disabilities to try to adjust in society and also the responsibility of society to provide the opportunity for persons with disabilities to be included in everyday life [18].

The purpose of this research study was to examine the factors that can affect satisfaction of students with a physical disability. In general, possibly because the service facility at universities does not meet the expectations of student demand with special needs, this study focused on students with physical disability. Most of the research and project work for the Rwandan education system has focused on children with and without disabilities in primary and secondary schools. There is very little work that deals with the quality of higher education in general, and also special, related to the facilities opportunities for the students with

disabilities. This research can serve for further educational research related to gender, disability, geographical or social group.

2. Methods

Sample

Fifty-five students with physical disabilities, in the age range of 20-28 years (average age, 23.84 years; SD = 1.84) years participated in this study. The sample consisted of 38 (69 %) males and 17 (30.91 %) females, enrolled in Bachelor classification program in one university in Rwanda. The type and degree of the disabilities were pronounced differently. 5 (9.09 %) persons studied in the first academic year, 12 (21.82 %) in the second academic year, 22 (40.00 %) in the third academic year and 16 (29.09 %) in the fourth academic year. More socio-demographic data of the sample can be extracted from Table (1).

Table 1. Sociodemographic data of the subject group

N=55	
Age in Year:	
Mean (SD)	23.84 (1.84)
Range	20-28
Sex:	
Number of Male	38 (69 %)
Number of Female	17 (30.91 %)
Nationality:	
Rwandan	55 (100%)
Marital status:	
Yes	1 (1.8%)
No	54 (98.2%)
Housing situation:	
Living alone	1 (1.8%)
With one or more other students	50 (90.9%)
With friends who are not students at the institution I am attaching	2 (3.6%)
With other people	1 (1.8%)
With spouse and partner	1 (1.8%)
Where living:	
Campus	51 (92.7%)
Private	3 (5.5%)
no reply	1 (1.8%)

3. Procedure

Data collection took place by means of an anonymous questionnaire (student satisfaction questionnaire). The questionnaire was distributed to students at different Faculties. Subjects were briefly explained the content and process of the examination, referred to the voluntary nature of participation, and were demonstrated the ability to stop the study at any time. In the case that the respondents were willing to participate in the study, a date was set for the processing of the questionnaire. This case of processing could fulfill the self-assessment and the survey for a better

understanding of the situation of the university facilities. The inclusion criteria were used randomly for the sample as follows: students with physical disabilities, students of all faculties, students of all academic years. All students as a distance learning student were excluded from this study. The study took place in Rwanda.

4. Statistical Analysis

All statistical procedures were performed using the SPSS data analysis system for Windows. In the process, a 2-sided significance test was performed. The level of significance was set at $P < .05$. The reliability was determined by Cronbach's alpha. The mean values were compared for independent, normally distributed variables with the T-test and for non-normally distributed variables the Mann-Whitney U-test. Furthermore, the correlations based on Pearson were conducted and tested for significance.

5. Research Instrument

Student Satisfaction Questionnaire

The global used Student Satisfaction Questionnaire [19] asks about the university facility. It focuses also on personal details such as (course of study, year of study, disability and aid/resource), quality of other service university delivery and advising role.

The item "Contact with disability adviser" asks about the level of quality of service received. It is scored on a 5-points scale as following: 1 = very poor 2 = poor 3 = satisfactory 4 = good 5 = very good.

Quality of other services facility scale focuses on 6 following items: a) how would you rate the University's IT provisions for disabled students? b) how would you rate the University's library provision for disabled students? c) how would you rate the accessibility of the campus? d) how would you rate the University's careers service in terms of provisions for disabled students? e) how would you rate the University's sports and recreation facilities for disabled students? f) how would you rate the University's accommodation provision for disabled students? It is scored on a 5-points scale as following: 1 = very poor 2 = poor 3 = satisfactory 4 = good 5 = very good. Meanwhile the alpha coefficient of the Student Satisfaction Questionnaire scales, which refers to the quality of other service facility, for the reliability test was $\alpha = .79$. The quality of the other service

scale is the average of the above-mentioned 6 items.

In addition to this questionnaire, the subjects were asked with two questions of the questionnaire on assistive technology AT-24 [20] about personal experiences with their disabilities. The AT-24 is a self-designed questionnaire to identify the use of assistive technologies regarding the psycho-social existential orientation. The items are evaluated based on a 5-point Likert scale with 1 = not at all, 2 = little, 3 = rather, 4 = strong, and 5 = very strong. The two questions of the AT-24 ask about personal experience with disability as a) are you stressed because of your physical disability? (mental, social, financial) b) do you feel that your physical disability is a burden on your family or environment? (physical, social, family stress, financial). The alpha coefficient of the AT 24 scales, which refers to the questions: are you stressed because of your physical disability? (mental, social, financial), and do you feel that your physical disability is a burden on your family or environment? (physical, social, family stress, financial) for the reliability test were $\alpha = .69$ and $\alpha = .64$.

6. Results

In terms of evaluation, contact with advisory service quality received and other service facilities received, the mean; SD values reached values of 2.65; .62 and 2.99; .44. The evaluation of the mean values showed that the subjects were less satisfied with the advisory role in support services and service facilities of the university.

Contact with disability counsellor/quality of service received rating (1 = very poor, 2 = poor, 3 = satisfactory, 4 = good, 5 = very good) and other services received rating (1 = very poor, 2 = poor, 3 = satisfactory, 4 = good, 5 = very good) were also examined considering gender differences. A significant gender difference was found with a higher prevalence among males (Table 2).

In the present study, the psychological existential orientation of the test persons, are you stressed because of your physical disability? was examined based on 3 sub-items: mental, social and financial rating (1 = not at all, 2 = little, 3 = rather, 4 = strong, and 5 = very strong). It was striking that the subjects stated that there was more financial burden than social and mental burden. The psychological existential orientation of the subjects was also examined considering gender differences. There was a significant difference between the female and male samples only for social burden ($Z = -2.136$; $p = .033$). Females showed significantly higher social burden than males (table 3).

Table 2. The mean score of service quality and facility based on gender

	Whole group	male	female	T ^a	p	Z ^b	p
	M (SD)	M (SD)	M (SD)				
How do you rate the quality of disability advisory service you received?	2.65 (.62)	2.76 (.59)	2.41 (.62)			-2.104	.035
Quality of other university facilities?	2.99 (.44)	3.07 (.45)	2.81 (.38)	2.032	.047		

a. T-Test

b. U-Test

Table 3. Effect of physical disability

	Whole group M (SD)	male M (SD)	female M (SD)	Z	p
Are you stressed because of physical disability?					
Mental	3.25 (1.17)	3.11 (1.25)	3.59 (.94)	-1.178	.239
Social	3.44 (1.05)	3.24 (1.13)	3.88 (.70)	-2.136	.033
Financial	4.04 (1.15)	4.05 (1.19)	4.00 (1.12)	-2.243	.808

Table 4. Effect of a physical disability on family or environment

	Whole group M (SD)	male M (SD)	female M (SD)	Z	p
Do you feel that your physical disability is a burden on your family or environment?					
Physical	3.75 (1.25)	3.58 (1.39)	4.12 (.78)	-1.090	.276
Social	3.87 (1.14)	3.63 (1.24)	4.41 (.62)	-2.230	.026
Family stress	2.07 (1.25)	2.11 (1.31)	2.00 (1.12)	-.097	.923
Financial	4.22 (1.05)	4.32 (1.02)	4.00 (1.12)	-1.044	.296

Table 5. Relationships between advisory service quality and psychological burden because of disability

N=55	Are you stressed because of physical disability?		
	Mental	social	financial
How do you rate the quality of disability advisory service you received?			
r (correlation)	-.39	-.28	.1
p (significance)	.012	.040	.611

Table 6. Relationships between service quality and psychological burden because of disability

N=55	Are you stressed because of physical disability?		
	Mental	social	financial
Quality of other university facilities?			
r (correlation)	-.37	-.47	-.02
p (significance)	.008	.000	.900

Family and environment can be affected by physical disabilities of the subjects. It can also affect their daily life activity. Therefore, the subjects were also asked whether they feel that their family or environment is stressed due to their physical disabilities: physical, emotional, financial and family stress rating (1 = not at all, 2 = little, 3 = rather, 4 = strong, and 5 = very strong). There was less family stress for the family or environment. The perceived financial burden had the largest mean scores, followed by social burden. In terms of gender differences, a significant gender gap was found for the social burden in the family or environment ($Z = -2.230$; $p = .026$), with a higher prevalence among females (table 4).

The correlative relationship between the advisory service quality and psychological burden because of disability was analyzed (Table 5) to find out whether the advisory service quality correlates with the psychological burden because of disability. The correlation analysis showed a significant negative correlation with sub-items mental and social.

By the way, the correlative relationship between the service facility and psychological burden because of disability was analyzed (Table 6) to find out whether the service facility correlates with the psychological burden because of disability. The correlation analysis showed a significant negative correlation with sub-items mental and social.

7. Discussion

Academic processes such as faculty experience, possibilities of facilities, course availability are important for the university in the world to know the satisfaction of students at their university [1]. The results of the evaluation can help universities to perform better. Over the past decade, activities have been carried out to facilitate students with disabilities in higher education. This is mainly due to the fact that people with special needs and disabilities can play an important role in the economic development of a country

[21]. The present research study showed that the subjects reported that their experiences with contact with the advisor in the matter of service quality were less moderately satisfied. For other service facilities, the result showed moderate satisfaction. It should be noted that physical disability, which can limit the ability to obtain the available resources, is related to more suitable facilities that can meet the expectations of student demand in order to improve the quality of service of the university. This case can influence the academic performance of those affected. As Richardson [22] found in his study, students with disabilities had lower grades compared to students without disabilities. This result may possibly relate to the quality of support and service for students with disabilities at the university. Zahid et al. [21] reported in his study that students with disabilities should be provided with handicapped accessible structures such as ramps, elevators, toilets, easy entry and exit. In addition, they can be supported by offering additional time for exams and assignment processing, flexible assessment options, volunteer students who can assist with writing and guidance on campus, soft form of learning materials", practicing inclusive teaching processing technique. "Psychological counseling and help should also be extended". The current study achieved a higher prevalence for women compared to men in this case.

In the present study, the subjects reported suffering psychological burden due to their physical disabilities. Their physical disabilities can affect family and environment, and this situation can also have psychological effects on the subject, as they feel dependent on the family or environment and can put additional stress on them in various areas. Koca- Atabey et al. [23] investigated the psychological wellbeing of Turkish students with disability and found that "disability burden, daily hassles, and helplessness coping were significant predictors of psychological symptoms". Disability restricts daily activity and can affect the psyche of those affected. The current study showed that the females reported a higher social burden compared to male. This can likely lead to female versus male being less satisfied with the quality of service provided by the university. "Physical, social and psychological factors have a strong gender dimension" [24]. In this context, it should be noted that such circumstances may be related to a higher need for a more productive quality of service by the university. Factors such as administrative services, quality of academic members, leisure activities, quality of teaching process are important in the satisfaction issues [25], that can relate to psychosocial statements [26]. Improved service quality and facilities can represent a better evaluation and use of resources and means more satisfaction and well-being of students at their university. This study showed that quality of advisory roles and quality of service facilities provided by university can correlate with psychological situation because of the physical disabilities to perform the daily educational activities. In this context, as United Nations Development Programme 2023 [18] mentioned, the physical, behavioral and attitudinal barriers society is important to avoid the affect the disability.

8. Conclusions

In general, the education system in developing countries needs to be improved in order to achieve a better education quality. Special needs for learners are challenging, as it is necessary to find out the factors involved and make the right decision to provide some type of education for everyone regardless of their physical situation.

Learners with special needs and also the society of the different sectors such as universities, policy makers, parents, social environment should work together to know the needs of education and to achieve a fair and good education which can meet the satisfaction of the learners and a high level of academic performance for all learners, regardless of gender and disability. In this case, it will be possible to achieve better education with high quality, which can provide the country with higher-level experts who can improve the economy.

ACKNOWLEDGEMENTS

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of Interest

The author reports no conflict of interests.

Limit

This research work can be used for further research, which will concentrate on a bigger number of students and also to compare different universities.

REFERENCES

- [1] Adel S, Aldosary. (1999). Students' Academic Satisfaction: The case of CED at KFUPM. JKAU: Eng. Sci. vol. 11 no. 1, pp. 99-107. doi:10.4197/eng.11-1.7.
- [2] Príncipe HR. (2005). Factors influencing students' academic performance in the first accounting course: a comparative study between public and private universities in Puerto Rico, Faculty of Argosy, university/Sarasota.
- [3] MeenuDev. (2016), "Factors Affecting the Academic Achievement: A Study of Elementary School Students of NCR Delhi", India, Journal of Education and Practice, 7(4), 70-74.
- [4] Olufemi, O.T.; Adediran, A.A., & Oyediran, W.O. (2018), "Factors affecting students' academic performance in colleges of education in southwest, Nigeria", British Journal of Education, 6(10), 43-56.
- [5] Norhidayah, A.; Kamaruzaman, J.; Syukriah, A.; Najah, M. & Anzi S.A.S. (2009), "The factors Influencing Students' Performance at Universit Teknologi MARA Kedah, Malaysia",

- Management Science and Engineering, 3 (4), 81-90.
- [6] Arora, N. & Singh, N. (2017). "Factors affecting the academic performance of College students", *i-manager's Journal of Educational Technology*, 14 (1), 47-53.
- [7] Mushtaq, I. & Khan, S.N. (2012). "Factors Affecting Students' Academic Performance", *Global Journal of Management and Business Research*, 12 (9), 16-22.
- [8] Freudenberg N & Ruglis J. (2007). Reframing school dropout as a public health issue. *Preventing Chronic Disease*. 4(4): 1-11. A107. PMC2099272.
- [9] Paper commissioned for the EFA Global Monitoring Report. (2010). *Reaching the Marginalized*. efareport@unesco.org. 2010/ED/EFA/MRT/PI/01.
- [10] International Labour Organization. (2001). [Social Code - Book IX - Rehabilitation and Participation of Disabled Persons (German)]. German: Federal Association of Accident Insurance Funds e. V. (BUK), Sankt Augustin: SZ DRUK.
- [11] Queensland Government Education, (2023). Who are students with disability? <https://education.qld.gov.au/students/students-with-disability>.
- [12] Brandt EN & Pope AM. (1997). *Enabling America: Assessing the role of rehabilitation science and engineering*. National Academy of Sciences: National Academies Press.
- [13] Knops HTP; Marinček Č; Bühler C; Knops H & Andrich R. (2001). *Assistive technology – added value to the quality of life: Setting the baseline for assistive technology and quality of life*. Berlin: Oxford IOS Press.
- [14] Ministry of Justice. (2007). Law no.01/2007 Of 20/01/2007 Relating to Protection of Disabled Persons in General.
- [15] The National Institute of Statistics of Rwanda (NISR). (2014). *Fourth Population and Housing Census 2012*.
- [16] Nidhi Joshi. (2023). Inclusive education is a reality in Rwanda "Disability is not inability; a primary school in Rwanda demonstrates it well".
- [17] Laura Lartigue & Yolande Miller-Grandvaux. (2018). *Gender and Inclusive Education: Lessons from Rwanda, USAID*.
- [18] United Nations Development Programme (UNDP). (2023). *New policy on inclusion of persons with disabilities is an opportunity for all of us*.
- [19] Appendix IX Student Satisfaction Questionnaire. https://www.slideshare.net/ridwan_nadir/student-satisfaction-questionnaire.
- [20] Karimian M.T & Tagay S. (2007). *Questionnaire on Assistive Technology AT-24 (German)*, Universität Duisburg Essen.
- [21] Zahidi G; Khan AS & Keshf Z. (2018). Service for students with disability at higher education of Pakistan. *European Journal of Education Studies*, Volume 5, Issue 5. 260-273. doi: 10.5281/zenodo.1490358.
- [22] Richardson JTE. (2009). The academic attainment of students with disabilities in UK higher education. *Studies in Higher Education*, 34(2), 123-137.
- [23] Koca-Atabey M; Karanci NA; Dirik G & Aydemir D. (2011). Psychological wellbeing of Turkish University students with physical impairments: an evaluation within the stress-vulnerability paradigm. *Int J Psychol*, 46(2): 106-18.
- [24] Paper commissioned for the EFA Global Monitoring Report. (2010). speters@msu.edu 2010/ED/EFA/MRT/PI/16.
- [25] Wiers-Jenssen J; Stensaker B & Groggaard, JB. (2002). Student satisfaction: Towards an empirical deconstruction of the concept. *Quality in Higher Education*, 8, 183-195.
- [26] Cotton SJ; Dollard, MF & de Jonge J. (2002). Stress and student job design: Satisfaction, well-being and performance in university students. *International Journal of Stress Management*, 9(3), 147-162.