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Social Inclusion of Person with Disabilities (PWDs) with Special Reference to their Financial Access to Education

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ABSTRACT The study examined the social inclusion of persons with disabilities (PWD) in context of their access to education. A multistage stratified random sampling was adapted to collect data from sample of 488 respondents. Chi square and Kendall's Tau-b tests were used to determine the association and direction of the association among variables. The association of social inclusion of PWDs was found significant and positive with easy access of PWDs to schools, encouragement from teachers, encouragement from students, accessibility to bathrooms and other facilities. Moreover, the study found that PWDs who belonged to higher income families had more access to education compared to PWDs from low income families. It was concluded from the findings that accessibility to educational facilities is associated with social inclusion of person with disabilities. Also, the results highlighted that sound family income is the most important pillar of accessibility to educational facilities that become the foundation of their social inclusion.

INTRODUCTION

In past, economic stability was to be consider the only and the most important aspect of a high quality and dignifies life without any discrimination. But with the passage of time researchers has identified other important aspects along with economic stability such as access to education, health services, recreational, and participation in social and cultural life etc. to secure better life standards by an individual including person with disabilities (Holden et al. 2017; Sakellariou and Rotarou 2017; Watson et al. 2018). Disability in itself is a cause to multiple disadvantages. In developing countries 98 percent of disabled children did not attend school, 30 percent of the world street children are disabled and only three percent of the world's disabled persons are literate, to the dismay, and only one percent PWDs is literate women (United Nations 2010). The multiple disadvantaged groups of disabled people are marginalized by the society and are pushed to the darkness of social exclusion (United Nations 2007). Inappropriate policies, standards and strategies for social inclusion of PWDs are the major inclusion barriers faced by disable persons (Australian Bureau of Statistics 2004). In addition societal prejudices in term of attitude and beliefs restrain the disabled persons from getting education, employment, health facilities etc. and their social participation. These attitudes are framed at individual, group and its societal levels to develop a dominant belief about non-productiveness and ineffectiveness about PWDs. As a result, this group face problems in getting access to righteous facilities like education and employment and are unable to adjust in the mainstream society as the society shut them out (WHO 2011).

PWDs face obstacles in their routine life especially when the want to be the productive member of society where they live. While to address these problems a universal declaration of Human Rights adopted that didn't protect the rights of PWDs adequately. The UN promulgated a convention on the rights of PWDs. Hence, disability rights are not specific rights in a particular area but these are the enjoyment

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and exercising of equal human rights without any discrimination (Quinn et al. 2012).

Research Objectives

The present study has two main aims, the first aim was to assess the association of access to education and social inclusion of PWDs. The second aim was to measure the effect of family monthly income on the association of access to education and social inclusion of PWDs.

MATERIAL AND METHODS

Study Design, Sample Size and Sampling

A "cross sectional" research study designed was adopted on the basis of time of exploration and study population (Babie 1989). The proposed study was carried out at District Malakand Khyber Pakhtunkhwa, Pakistan during the year 2019. For selecting a representative sample, a multistage stratified random sampling technique was adopted. There were two Tehsil and 28 Union Councils in District Malakand. A total of 06 Union Councils (UCs), including 03 Union Council from each Tehsil were randomly selected. As per record of the office of the Social Welfare District Malakand total number of disabled in the District is 8028 for which the required sample size is 488on the basis of the methodology recommended by Chaudhry (Chaudhry 2009). The sample size was distributed in each Union Council through proportional allocation method and for respondents' selection sample random sampling procedure was adopted as presented by Bowley (Bowley 1926). Sample size allocation is given in Table 1.

Table 1: Allocation of required sample to selected Union Councils

UC name	*Population size/total number of disabled person*	*Sample size*
Hero Shah	379	101
Kot	313	83
Palai	359	96
Pir Khel	312	83
Skhakot Bandajat	201	54
Thana Bandajat	268	71
Sub Total	1832	488

Conceptual Framework

The study conceptual framework consists of two independent variables (Access to education and family monthly income) and one dependent variable (social inclusion of PWDs) as give in (Table 2).

Table 2: Conceptual framework of the study

Independent variables	*Dependent variable*
Access to education Monthly family income	Social inclusion of PWDs

Measurement of Variables

The variable access to education comprised of (10 items). Optimistic response of the respondents on 5 items or more was considered as good access to education of person with disability. The variable of social inclusion consisted of four dimensions, that is, Social Isolation, Social Relations, Social Acceptance and Individual Items; the scale for measurement of Social inclusion consists of 13 items. Positive response of respondents on 07 items or more were considering social inclusion of PWDs. Respondents' monthly family income was measured at two levels, that is, (below PRs 16500 and PRs 16500 and above).

Indexation

To measure the association between the independent and dependent variable at the bivariate and multivariate levels, the independent variable and dependent variables showing Cranach's Alpha values of 0.6 or more were indexed to find out that variations in social inclusion of PWDs are caused exclusively by access to education and are affected by control variables too (family monthly income).

Data Analysis

At first level of analysis for the measurement of the strength and direction of association of variables (access to education and social inclusion) Chi-square Test and Kendall's Tau-b tests were applied. At second level of analysis respondents' monthly family income was kept

as control variables to find the association between (access to education and social inclusion).

Measurement of Chi-square values were based on procedure proposed by Mary (2009) in equation-3.

$$x^2 = \sum_i \frac{(O_i - E_i)^2}{Ei} \qquad \text{(Equation-3)}$$

$$t_B = \frac{n_c - n_d}{\sqrt{(n_0 - n_1)\,(n_0 - n_2)}} \qquad \text{(Nachmias and Nachmias 1992)}$$

RESULTS

Association between Access to Education and Social Inclusion of PWDs

Accessing school is a strong ingredient of social inclusion of PWDs that encompasses the aspects of accessibility, quality education, attitude and infrastructure. Schools in the study area were located at long distance with unsatisfactory transport facility. In addition, the learning materials were not only insufficient but were short of the requirements of PWDs. Participation into school activities was also low among PWDs due to insufficient encouragement from school administration and peers. Thus the structural barriers further aggravated the accessibility to educational facility in terms of inappropriate structural design and insufficient facilities at school. A combination of these deprivation were compelling for social exclusion of PWDs. on the other hand all those respondents that were satisfied from these accessibility to education aspects were highly liable to social inclusion into the mainstream society.

Results in Table 3 revealed that the association of easy access of PWDs to schools found

Table 3: Association between access to education and social inclusion of PWDs

Attributes	*Attitude*	*Social inclusion of PWDs*			*Statistics*
		Socially excluded	*Socially included*	*Total*	
Schools in your area are in easy access to PWDs	Yes	30 (38.5)	48 (61.5)	78 (100)	χ^2= *36.690* P= 0.000
	No	301 (73.4)	109 (26.6)	410 (100)	Tau-b=0.274
PWDs are provided pick and drop facility from home to school	Yes	23 (35.9)	41 (64.1)	64 (100)	χ^2= *34.329* P= 0.000
	No	308 (72.6)	116 (27.4)	424 (100)	Tau-b= 0.265
Adequate means are available for PWDs to access course content	Yes	29 (25.2)	86 (74.8)	115 (100)	χ^2= *125.185* P= 0.000
	No	302 (81.0)	71 (19.0)	373 (100)	Tau-b= 0.506
The quality of education PWDs receive is the same as students who do not have disabilities	Yes	6 (15.4)	33 (84.6)	39 (100)	χ^2= *53.423* P= 0.000
	No	325 (72.4)	124 (27.6)	449 (100)	Tau-b= 0.331
Teachers encouraged PWDs participation in school activities	Yes	32 (39.5)	49 (60.5)	81 (100)	χ^2= *35.699* P= 0.000
	No	299 (73.5)	108 (26.5)	407 (100)	Tau-b= 0.270
Fellows students encouraged PWDs participation in school activities	Yes	32 (40.5)	47 (59.5)	79 (100)	χ^2= *32.244* P 0.000
	No	299 (73.1)	110 (26.9)	409 (100)	Tau-b= 0.257
School building designed as according to PWDs needs	Yes	26 (38.2)	42 (61.8)	68 (100)	χ^2= *31.707* P= 0.000
	No	305 (72.6)	115 (27.4)	420 (100)	Tau-b= 0.255
There are enough accessible bathrooms for the educational buildings PWDs use	Yes	24 (36.4)	42 (63.6)	66 (100)	χ^2= *34.626* P= 0.000
	No	307 (72.7)	115 (27.3)	422 (100)	Tau-b= 0.266
Classroom space in buildings is adequate for PWDs needs	Yes	59 (46.5)	68 (53.5)	127 (100)	χ^2= *35.932* P= 0.000
	No	272 (75.3)	89 (24.7)	361 (100)	Tau-b= 0.271
Learning materials are in suitable format as per PWD requirements	Yes	72 (62.1)	44 (37.9)	11 (100)	χ^2= *2.313* P= 0.081
	No	259 (69.6)	113 (30.4)	372 (100)	Tau-b= 0.069

significant (P=0.000) and positive (T^b=0.274) with social inclusion of PWDs. In addition, the association between pick and drop facility provided to PWDs with social inclusion was found high significant and positive (P=0.000, T^b = 0.265). Easy approach to school conserves most physical and financial energies and ensures to overcome the difficulties faced by PWDs in terms of their mobility and transportation. It is therefore always advised to construct school in the physical proximity of the population. Special schools for PWDs are limited in number, therefore, are almost always inaccessible in terms of distance to school, to majority of PWDs. The education planners, therefore, plan the distribution of building of special school at suitable accessible places. In addition, suitable transport facilities are provided for pick and drop of PWDs at school and home. However, the available number of schools, their accessibility and the available transport facility to approach school were not up to the satisfaction level of PWDs. that is also a big cause of low education and high dropout in them. It is obvious from the above result that greater satisfaction from accessibility and transportation aspect of approaching school was positively and significantly associated with social inclusion of PWDs.

The results further show that adequate means available for PWDs to access course content significantly (P=0.000) and positively (T^b=0.506) associated with social inclusion of PWDs. Moreover, the association between the quality of education PWDs receive was the same as students who do not have disabilities with social inclusion of PWDs was highly significant and positive (P=0.000, T^b=0.331). It is common everywhere in the schooling system that course content is set in educational syllabi according to age requirements and capabilities of the children. The children are provided necessary exposer to additional learning materials beside textbook. Libraries and computer labs are established at schools. The PWDs, however, didn't received satisfactory access to course contents and learning materials like the normal children did. As a result the quality of education that PWDs received was not at far with that of normal student. A positive endeavor in improvement of PWDs access to learning materials and improvement in their quality education is liable to enhance their social inclusion.

The results further disclosed that the association between teachers' encouragement of PWD to participate in school activities and social inclusion of PWDs was highly significant (P=0.000) and positive (T^b=0.270). Additionally, Significant and positive (P=0.000, T^b=0.257) association was found between fellow's students encouraged PWDs participation in school activities with social inclusion of PWDs. Encouragement provide a strong motivational push to PWDs in achieving their life goals. A teacher being the role model and the fellow's students as a peer group has strong influence on PWDs personality development. A positive and encouraging attitude from these two important social groups at school makes the PWDs feel as worthy and significant member of the society. The motivational force so provided by these two important groups is compelling for PWDs to work hard and feel mainstreamed into the educational system at the school. The PWDs educated in such positive teachers and peer groups relation is prone to social inclusion and more likely to be better productive.

In addition, the results portrayed a significant (P=0.000) and positive (T^b=0.255) association between school building designed as per PWDs needs and social inclusion of PWDs. Similarly, enough accessible bathrooms for PWDs in educational buildings was highly significantly (P=0.000) and positively (T^b=0.266) associated with social inclusion of PWDs. The study results further revealed a high significant and positive (P=0.000, T^b=0.271) association between adequacy of classroom for PWDs needs and social inclusion of PWDs. Furthermore, the results showed non-significant (P=0.081) and weak positive (T^b=0.069) association between learning materials were in suitable format as per PWDs requirements with social inclusion of PWDs.

Designing of schools need special attention especially in taking into consideration the physical needs of PWDs. Despite of the development of building codes the school buildings were seldom constructed according to the needs of PWDs. As a result the PWDs face problem in approaching their classroom, free mobility within classroom and approaching washrooms and water points. Difficulties faced by the PWDs in this respect leads to wastage of time, un-satisfaction, low interest and low educational attain-

ment in them. It is therefore necessary to follow building codes while constructed schools for better social inclusion of PWDs as highlighted by significant and positive Tau-b value in above results.

Association between Access to Education and Social Inclusion of PWDs (Controlling Monthly Family Income)

Results in Table 4 highlighted that for all those PWDs having monthly family income below PRs 16500 and have good access to education 26.9 percent were socially included, likened to 7.3 percent of persons having poor access to education. Likewise, for all those PWDs having monthly family income of PRs 16500 and above and having good access to education 87.8 percent were socially included, equated to 59 percent of respondents who have poor access to education. The influence of access to education on social inclusion of PWDs in context of family monthly income indicated positive and significant (T^b=0.196, P=0.005) association for PWDs having family monthly income below 16500. In addition, the association of aforementioned variables had positive and highly significant (T^b=0.243, P=0.000) for those having family monthly income of PRs 16500 and above. The above table demonstrated a highly significant and positive association (P=0.000, T^b=0.273) between access to education and social inclusion for both monthly family incomes. The value of Kendal T^b and chi square significance illustrated that the effects of access to education and social inclusion of PWDs were spurious while controlling monthly family income. The results show that access to education affected social inclusion of PWDs more positively that are having PRs 16500 and above family monthly income.

DISCUSSION

Education is an important social institution meant for transmitting required knowledge, skills, and cultural values to the member of society. It ensure enhancement of productive involvement of members in societal causes. Education can be imparted via formal, informal and non-formal education. Schooling is one important aspect of formal education in which trained people are involved for educating the children and adults. Due to universal importance, education is considered a basic human right of all including PWDs. Educating PWDs however, require some amendments in terms of educational facilities, educational material and teaching that correspond to their physical disability. Education is an important ingredient of social mobility in terms of availing quality employment, promotions and economic wellbeing. Outcomes on familiarity of PWDs about access to education and their association with social inclusion of PWDs is given in Table 3 and explained below.

In Pakistan there is class based education system. The situation is worsened in rural areas, like one in the study area, where schools are located faraway and are not easily approachable for PWDs. Moreover, the PWDs have to depend on learning material meant for normal student. The efforts from provincial government of KP to enhance school admissions rate has significant effects on school enrolment, howev-

Table 4: Association between access to education and social inclusion of PWDs while controlling monthly family income

Monthly family income	*Access to education*	*Socially excluded*	*Socially included*	*Total*	*Statistics χ^2(P-Value) T^b*	*Level of significance for entiretable*
Below than	Poor access to	241 (92.7)	19 (7.3)	260 (100)	χ^2=11.004	χ^2=36.460
	Good access to education	19 (73.1)	7 (26.9)	26 (100)	P=0.005	P=0.000
	Total	260 (90.9)	26 (9.1)	286 (100)	χ^2=11.890	
PRs 16500 and Above	Poor access to education	66 (41.0)	95 (59.0)	161 (100)	P=0.000	
	Good access to education	5 (12.2)	36 (87.8)	41 (100)	T^b=0.243	
	Total	71 (35.1)	131 (64.9)	202 (100)		

er, these efforts have almost totally ignored the availability and accessibility issues of schools for PWDs. Madriaga (2007) also found a link between high illiteracy and inaccessibility to educational facilities among PWDs. the accessibility gap and poor transport facility in reaching educational institutions contribute to low enrollment, delayed attendance and wastage of time while traveling to school (Porter 2009). A steady growth in educational attainment is possible through improvement in accessibility to schools (Watson and Nolan 2011) that is connected to social inclusion of PWDs (McConkey et al. 2017).

There is social stigma attached with disability aspect of PWDs which restrict normal students to freely interact with PWDs. The combination of physical barriers in terms of inappropriate school design, mobility space and attitudinal barriers from teachers and students constrain continuity and attainment of quality education to PWDs. Lack of student-teacher and among students coordination, therefore, is highlighted as an important problem to be overcome for quality education (Georgeson et al. 2015; Cooper 2015). Supporting teachers and friends at school help PWDs to thrash out from their feeling of isolation and insignificance (Jaarsveldt and Ndeya-Ndereya 2015; Salmon and Kinnealey 2007) and result into development of positive outcomes and feeling of success among PWDs. Maintaining and encouraging and positive environment at classroom, both by teacher and classmates, is important for mainstreaming PWDs through their inclusion (Kang et al. 2007; Sen 2009; Croft 2010). Proposed a peer support programs like peer counseling, peer tuition and help that enhance self-determination among PWDs and their social inclusion (Kang et al. 2007).

The PWDs need special care at school because of their special needs. The school buildings were not constructed according to building codes that constrain mobility of PWDs in and outside the school and classrooms. The pick and drop facilities were limited. Similarly, the washrooms and water drinking facilities were inappropriate for PWDs. Such un-conducive educational environment has negative affect on the educational attainment of PWDs. PWDs from developing countries are major victim of these structural barriers to education and a major cause of their social exclusion (Agarwal 2012). Jaarsveldt et al. (2015) criticize the current building construction codes policies as these were inappropriate for the needs and safety of PWDs. As a result, the PWDs always struggle to develop a strong relationship of belonging with their educational institutions (Ginsberg and Wlodkowski 2009) and are more likely to be excluded (Thomas 2012; Engelbrecht and Beer 2014; Chiwandire and Vincent 2017).

Mobility and inappropriate learning materials are two major constraints that limit the educational attainment of PWDs. The developed nations, keeping in view the above fact, has develop open university system to educate PWDs at home and ensure their access to quality learning materials through radio, TV and internet etc. (Cooper 2015). However, their distance learning schemes and e-learning facilities, are characterized with low retention rate as compared to mainstream children (Lichiello 2012). E-learning, therefore, is not an ideal substitute of physical schools except that it provide support to them in learning (Ahmad 2015; DFID 2015). Georgeson et al (2015) highlighted that technology related support at school is meant for equitable educational experiences and outcomes and can help improvement in education accessibility and inclusion (Douce 2015), especially when specific support services are available to students according to their disability requirements (Jaarsveldt and Ndeya-Ndereya 2015; UKZN 2004). Eisenman (2007) further added that the disability related educational needs of PWDs with appropriate curricula and learning materials is strongly linked with social inclusion of PWDs. Moriña et al. (2013) described that an inclusive classroom learning environment foster a sense of belonging to all learners and their full participation in learning process by offering equal opportunities.

Moreover, on the basis of their monthly family income it is depicted from Kendal T^b values and chi square significance values that the effects of access to education and social inclusion of PWDs were spurious while controlling monthly family income. The results in Table 4 show that access to education affected social inclusion of PWDs more positively that are having PRs 16500 and above monthly family income. Education is the main component for develop-

ment throughout the world. In this regard government of Pakistan introduced several laws to enhance the literacy through provision of uniform, books and other packages to students and teaching staff as well. However, the PWDs are not much facilitated in this regard. Those PWDs whose family monthly income is enough they provided educational facilities to their PWDs members by enrolling them in private schools for PWDs or the family provide various assistive devices to them for their education. On the other side, The PWDs from poor families were lacking this familial support. Therefore, PWDs from rich families better secured their educational need and were more socially included than those from poor families. Educational attainment and regularity of going to school remained very poor in PWDs (World Bank 2007). On the same way, disability is reason of poverty, disability leads to unemployment, out of school and exclusion from healthcare result into poverty (Trani and Loeb 2012). Generally, PWDs throughout the world consider the most poor segment of the society, mostly illiterate or having low level of education and unemployed, and have low access land and housing (Loeb et al. 2008; Mitra et al. 2013).

CONCLUSION

This study examined the association of social inclusion of PWDs and access to education and the influence of family monthly income on the association between the variables. It was concluded from the study results that access to education play an important role in social inclusion of PWDs in the mainstream society as indicated by significant and positive test results. Furthermore, it was depicted from the findings that family members and close friends extended positive support to PWDs in availing educational facilities, however, outside the home PWDs in the study area faced physical, financial and attitudinal hardships in access to education. Moreover, unsuitability of building infrastructure and transport facilities hindered the overall mobility of PWDs and hindered their access to educational facilities. It was also concluded from the study results that PWDs from higher family monthly income were more likely to secure education than PWDs from low income families.

RECOMMENDATIONS

Implementation of building codes while construction of public educational buildings to facilitate smooth mobility of PWDs along with easy use of washrooms, water points, waiting rooms and other refreshment facilities. To overcoming PWDs problems, provision of special training to teachers to deal PWDs by giving proper time to explain them their education related problems. Up-gradation of educational institution with specific focus on educational needs of PWDs. This can be done by improving accessibility of schools, provision of suitable learning material, provision of assistive devices, establishment of students groups with membership of PWDs, participation of PWDs for school planning, development process.

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