EXPLORING THE CORRELATION BETWEEN EDUCATION AND INCOME: THE IMPACT OF EDUCATION ON PERSONS WITH DISABILITIES IN THE FORMAL SECTOR

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Abstract
Education is the key gateway for people with disabilities to become skilled laborers for self-reliance and to create better welfare. Using Sakernas data for 2021, this study aims to analyze the impact of education level on people with disabilities between two groups, namely people with disabilities with high education and people with low education, with additional observations on people with disabilities working in the formal or informal sector. The sample selected for the study is made up of workers with disabilities who have an income of 27,049. The higher education category is the level of education completed by persons with disabilities at the equivalent of high school to doctoral level, while the low education group is the level of education of persons with disabilities at the junior high school level and below. The results of the Propensity Score Matching (PSM) method state that higher education and working in the formal sector have an impact of more than 58 percent on increasing their income compared to persons with disabilities who have low education and work in the informal sector.

Keywords: Disabilities, Education, Formal Sector, Income

1. INTRODUCTION

One billion people, or 15% of the world's population, experience some form of disability, and the prevalence of disability is higher in developing countries (World Bank, 2022). There are various legislative and policy initiatives designed to eliminate discrimination and wage structures (Castro et al., 2019; Wong et al., 2020), as well as facilitate people with disabilities to enter the labor market (Jones, 2021; Keating et al., 2022) which is also related to improving the quality of education (Mithout, 2021) and providing a safe working environment (Espada-Chavarria et al., 2021; Keating et al., 2022) for people with disabilities. The SDGs agenda clearly emphasizes sustainable targets for everyone without leaving certain parties (no one left behind) out of the achievement process, including groups of people with disabilities. In an effort to respect the rights of persons with disabilities, the UN has formulated the Convention on the Rights of Persons with Disabilities (CRPD) to encourage inclusive development for persons with disabilities. This convention has been ratified by 182 countries in the world by creating national plans in each country in the form of work programs to support the implementation of disability rights (United Nations, 2018).

The issuance of Law No. 8 of 2016 concerning persons with disabilities is the legal basis for ensuring the implementation of real action in respecting the rights of persons with disabilities, which is a continuation of the ratification of the Convention on the Rights of Persons with Disabilities in Indonesia. Several socio-economic indicators show

that people with disabilities have not fully achieved the expected prosperity. The government's obligation to students with disabilities is to facilitate education carried out in the national education system through inclusive education and special education. Fulfilling the educational rights of persons with disabilities will provide opportunities for persons with disabilities to become equal in human development for a better future (Indonesia, 2016).

Persons with disabilities have challenges and barriers to entering the labor market, especially the formal sector, so that the majority of persons with disabilities are dominated by informal workers with very limited social protection (ILO, 2022) and high rates of employment termination (Silva & Vall-Castelló, 2017). The employment status of persons with disabilities (Ye et al., 2023) will affect their income of persons with disabilities, the wage gap (Maroto & Pettinicchio, 2014) and gender towards persons with disabilities (Ballo, 2023). This employment status is divided into two categories, namely the formal and informal sector categories. The large number of workers in the informal sector is not without reason, apart from the ease of access because there are not too many requirements needed compared to formal workers (Foster & Wass, 2013), the work environment is relatively more flexible both in terms of time and rules. This flexibility is what groups of people with disabilities often seek amidst the special needs they have. However, working in the informal sector is inseparable from the risk of income fluctuations (Koning et al., 2017), not having health insurance or other guarantees, in contrast to the formal sector, which gets guarantees from the office or place where they work (Bappenas, 2021).

This study aims to compare the income of workers with disabilities between two groups based on their education level and employment status according to the 2021 Sakernas questionnaire: the high education group, namely high school or equivalent and above, and the low education group, namely junior high school and below. Meanwhile, for additional observations based on sector, the employment status of persons with disabilities is also divided into two groups, namely the formal sector category: (1) businesses assisted by permanent and paid workers; and (2) workers or employees; and the informal sector category, namely: (1) businesses themselves; (2) trying to be assisted by temporary workers/family workers/unpaid; (3) casual workers in agriculture, (4) casual workers in non-agriculture; and (5) family workers/unpaid. The comparison of these two groups of observations will be calculated using the Propensity Score Matching (PSM) matching method. This method will illustrate how much of an impact higher education has on groups of people with disabilities who work in the formal sector in terms of their income compared to groups with disabilities with low education in the informal sector.

2. LITERATURE REVIEW
2.1. Persons with Disabilities in The Labor Market

According to law no. 13 of 2003, article 1, "employment" is all matters relating to labor before, during and after the period of employment; labor is every person who is able to do work to produce goods and/or services either to meet their own needs or for the community (indonesia, 2003). according to law no. 8 of 2016, a person with a disability

is any person who experiences physical, intellectual, mental, and/or sensory limitations for a long period of time and who, in interacting with the environment, may experience obstacles and difficulties in participating fully and effectively with other citizens based on equal rights (Indonesia, 2016).

The concept of disability used in this research is based on the data source that will be used, namely *sakernas*. Disability is a condition of difficulty or disorder experienced by workers that causes limited participation in society. *Sakernas* data source, identifying people with disabilities with the questions: (1) do you experience difficulty/impairment in seeing (whether when using glasses or not)?; (2) do you experience difficulty/impairment in hearing (either when using hearing aids or not)?; (3) do you experience difficulty/impairment in walking/climbing stairs?; (4) do you experience difficulty/impairment in using/moving your fingers/hands?; (5) do you experience difficulty/impairment in speaking and/or understanding/communicating with other people?; (6) do you experience other difficulties/disorders?, for example difficulty remembering/concentrating, taking care of yourself, behavioral/emotional disorders, etc.)(BPS, 2021).

2.2. Education in the Labor Market

The wage differential theory suggests that there are varying wage rates among workers due to different occupations (M. Baldwin & johnson, 2017; M. L. Baldwin & Johnson, 2000; McCurdy, 1981), and also due to different workers. Each individual brings a unique set of abilities and skills to the labor market (Collard & Becker, 1972), or what is commonly called human capital. The implications of the human capital model led to the development of the human capital income function (Hickman & Krueger, n.d.). Jacob mincer (Borjas, 2016; Mincer, 2006) showed that the human capital model generates an income profile by age in the form:

$$\log w = as + bt - ct^2 + others\ variable$$

Where w is the worker's wage rate, s is the number of years of schooling, t is the number of years of labor market experience, and t2 is the square of experience by age. In the Mincer earnings function, the coefficient on schooling an estimates the percent increase in earnings resulting from one additional year of schooling and is interpreted as the rate of return to schooling. The coefficients on experience and experience squared (b and c) estimate the income growth rate resulting from one additional year of experience in the labor market and the impact of on-the-job training on income.

The concept of education used in this study is formal education. According to BPS (BPS, 2021), formal education is a structured and tiered education path consisting of basic education, secondary education, and higher education, including SD/MI/equivalent, SM/MTS/equivalent, SM/MA/equivalent, and tertiary education. The highest level of education completed is the highest level of education completed by a person, which is marked by a certificate or diploma. (1) Elementary school includes elementary school, madrasah ibtidaiyah and equivalent; (2) Junior high school includes general junior high school, madrasah tsanawiyah, vocational junior high school and equivalent; (3) Senior high school includes senior high school (SMA), vocational junior high school (SMK),

madrasah aliyah and equivalent. (4) Higher education includes the education levels of diploma I, II, III and IV and the equivalent.

2.3. Employment Status

Employment status is the type of position a person has in carrying out work in a business unit or activity (BPS, 2021). Starting in 2001, employment status is divided into 7 categories: (1) self-employed, meaning working or trying to bear economic risks; (2) doing business with the help of non-permanent workers or unpaid workers, meaning working or trying at one's own risk; and (3) doing business with the help of permanent workers or paid workers, meaning doing business at one's own risk. And employ at least one paid or permanent worker. A laborer, or employee, is someone who works for another person, agency, office, or company on a permanent basis and receives wages or salary in the form of money or goods. (5) A casual worker in agriculture is someone who works for another person, employer, or institution that is not permanent (more than 1 employer in the last month) in an agricultural business, whether in the form of a household business or non-household business, on the basis of remuneration by receiving wages or rewards in the form of money or goods, and either with a daily or piece rate payment system. Agricultural businesses include food crop farming, plantations, forestry, animal husbandry, fishing and hunting, including agricultural services. (6) A non-agricultural casual worker is someone who works for another person, employer, or institution that is not permanent (more than 1 employer in the last month) in a non-agricultural business and receives wages or compensation in the form of money or goods, either through a daily payment system or wholesale. Non-agricultural businesses include those in the mining, industrial, electricity, gas and water sectors; the construction/building sector; the trade sector; the transport, warehousing and communications sectors; the financial sector; insurance; building rental businesses; land and company services; community services; social; and individual. (7) A family or unpaid worker is someone who works to help other people who are doing business without receiving wages or salary, either in the form of money or goods.

2.4. Formal and Informal Sector

According to Law No. 25/1997, Article 1, formal sector employment is an employment relationship that exists between employers and workers based on a work agreement, either for a certain time or for an indefinite time, that contains elements of work, wages, and orders. Informal businesses are the activities of individuals, families, or several people who carry out joint businesses to carry out economic activities on the basis of trust and agreement and are not legal entities. Informal sector workers are workers who work in informal sector employment relationships by receiving wages and/or rewards. Informal sector employment is an employment relationship that exists between workers and individuals or several people who carry out joint businesses that are not incorporated on the basis of mutual trust and agreement by receiving wages and/or rewards or profit sharing (Indonesia, 1997).

3. RESEARCH METHODS

3.1. Data Specifications

This research uses secondary data from the National Labor Force Survey (Sakernas) for the period August 2021. The selected sample in the research is disabled workers, whose income is 27,049, with the category of disabled workers namely: (1) experiencing difficulty or impairment in seeing (whether when using glasses or not), (2) experiencing difficulty or impairment in hearing (whether using hearing aids), (3) experiencing difficulty or impairment in walking or climbing stairs, (4) experiencing difficulty/impairment in using or moving fingers, (5) experiencing difficulty/impairment in speaking and/or understanding or communicating with other people, (6) experiencing other difficulties/disorders, for example: difficulty remembering/concentrating, taking care of themselves, behavioral/emotional disorders. Category of people with disabilities in the formal sector, namely: (1) businesses assisted by permanent and paid workers, (2) workers and employees. Informal sector categories are: (1) self-employed; (2) businesses assisted by temporary workers, family workers, or unpaid workers; (3) casual workers in agriculture; (4) casual workers in non-agriculture; and (5) family or unpaid workers. Furthermore, the higher education category for people with disabilities is education completed at high school level and above, and the low education category is education completed at junior high school level or below.

After the sample and unit of analysis have been determined, the next step is to form variables according to the definitions relevant to this research. Operational definitions of variables can be seen in Table 1.

Table 1. Operational Definition

Variables	Initial	Description
Dependent	Income	Net Income for a Month in the form of money and goods received by disbalanced workers for one month.
Treatment	Educ	The highest level of formal education completed by workers with disabilities. Where: 1 "Higher education" is: SMA/SMK/MAK; DiplomaI/II/III; DiplomaIV/S1 (bachelor); S2 (master)/S2 Applied/S3 (doctor). 0 "Low education" i.e. elementary school; junior high school.
Covariates	Sectstat	What sectors do workers with disabilities work in? If: 1 "formal sector" 0" informal sector"

3.2. Analysis Method

The research aims to compare the income levels of people with disabilities based on high and low education groups in the formal and informal sectors in Indonesia. Researchers assume that some people with disabilities with higher education may make their own decision to work in the informal sector, this could cause selection bias in some samples. The decision of people with higher education disabilities to choose to work in the informal sector rather than the formal sector is a conscious action to take. For example,

some people with disabilities who are aware of their physical limitations and time flexibility and who work in the informal sector prefer to do their own business rather than become workers for a company.

The above conditions make the status of employment in the formal and informal sectors for people with disabilities endogenous, and therefore, the use of econometric methods other than ordinary least squares (OLS) is necessary to avoid the problem of estimation bias. One of the appropriate methods to use to avoid this problem is the propensity score matching (PSM) method. Propensity Score Matching (PSM) is defined as a non-parametric approach used to find a comparison group from the selected non-treated (non-intervention) group, so that the observed characteristics of the selected group will be similar to those of the group given the intervention (treatment groups). The two groups are then matched based on their respective propensity scores.

3.2.1. Propensity Score Matching (PSM) Model

Propensity Score Matching (PSM) is a method of matching the propensity score of a comparison group that is built statistically based on a probability model, namely a treatment group and a control group, using observed characteristics (Khandker et al., 2010). These two groups of observations are then matched based on probability or propensity scores. The average treatment effect of the program is then calculated as the average difference in outcomes between the two groups (Li et al., 2022). The validity of the PSM depends on two conditions: (a) conditional independence (i.e., unobserved factors that do not influence participation) and (b) the presence of substantial influence or overlap in propensity scores across samples of participants and non-participants. Different approaches were used to match participants and non-participants based on propensity scores, including nearest-neighbor (NN) matching, radius matching, stratification and interval matching, kernel matching and local linear matching (LLM).

The propensity score matching method (PSM) in this study was used to analyze the impact of people with disabilities with high education who work in the formal sector as the treatment observation group and people with disabilities with low education who work in the informal sector as the control observation group. (Li et al., 2022) In the case of binary treatment, the treatment group will be given a value of 1 and the control group will be given a value of 0. The potential outcome is then defined as Yi (Di) for each individual I, where I = 1...n and n represents the population. The treatment effect for an individual I can be written as follows:

$$T_i = Y_i(1) + Y_i(0)$$

Where Ti is the treatment effect for the i-th individual, Yi(1) and Yi(0) are the potential outcomes (income) with and without the treatments of higher education and formal employment, respectively. In general, the average impact of higher education and formal employment for people with disabilities is obtained by averaging the impact across individuals in the population, known as the average treatment effect (ATE), which is defined by the equation:

$$ATE = E(Y_1 - Y_0)$$

Another parameter used is the average treatment effect on the treatment group (ATT) which aims to measure the impact of higher education and working in the formal sector for people with disabilities, with the equation:

$$ATT = E[Y_1 - Y_0 \mid D_i = 1]$$

3.3. Descriptive Statistics

The descriptive statistics of this study are shown in the table below. The unit of analysis of this study is the workforce with disabilities with higher education who work in the formal sector and people with disabilities with lower education who work in the informal sector. Steps in determining the research sample: (1) determining respondents who work and do not work, after obtaining samples that work and do not work, samples that do not work will be discarded because they are not included in the research category. Based on the sample of workers who work, the next identification is the workforce with disabilities or not, and the number of workers with disabilities is 6.43 percent with 30,837 respondents.

Table 2. Research Sample

Description	Frequency	Percent	Cum.
Non disability	448.599	93,57	93,57
Disability	30.837	6,43	100
Total	479.436	100	

Source: data analysed, 2023

Of the total respondents identified as having a disability, only 27,049 people have an income. So that the number of samples in this study that fulfil the disability category and have income is 27,049 people.

Table 3. Samples who fulfil the category of having income

Variable	Obs	Mean	Std. Dev.	Min	Max
Educ	30,837	0,226995	0,418897	0	1
Sectstat	30,837	0.203392	0.402528	0	1
Income	27,049	13.52505	2.040207	0	18.31532

Source: data analysed, 2023

Furthermore, Table 4 explains the descriptive analysis of respondents, namely workers with disabilities who work in the formal and informal sectors, which will be grouped based on education, training, gender, age and marital status of respondents.

Table 4. Comparison Between Treated and Matched Control Groups

Working in the sector:	Frequency	Percent	Cum.
Formal	6.272	23,19	23,19
Informal	20.777	76,81	100,00
Total	27.049	100,00	

Source: data analysed, 2023

Table 4 shows the sample size of 27,049 respondents who are workers with disabilities from the entire labour population throughout Indonesia based on Sakernas data in 2021. The results reveal that as many as 6,272 respondents are workers with disabilities who are in the informal sector, and as many as 20,777 respondents are workers with disabilities in the informal sector, which means that the current disability workforce in Indonesia is around 76.81 percent of the disability workforce in the informal sector.

4. RESULTS AND DISCUSSION
4.1. Overview of the Characteristics of the Disabled Workforce in Indonesia

In Indonesia in 2021, as many as 6.43% of the total labor force were workers with disabilities. And 76.8% of the disabled population works in the informal sector. People with disabilities face significant challenges and barriers to gaining access to health information, transportation, infrastructure, and employment (Bappenas, 2021; Jetha et al., 2023; Prasojo, 2020). The Indonesian government is expanding the participation of people with disabilities in the labor market by requiring companies to accommodate people with disabilities for one percent of their employees in the private sector and two percent in the public sector (ILO, 2022). The level of participation of people with disabilities in the labor market is still a concern, as, of the total labor force that is employed and has an income in 2021, the number of people with disabilities involved in the labor market only amounts to around 6 percent. In addition, people with disabilities tend to be in the informal sector, which does not have a fixed wage but rather daily, weekly, or monthly wages paid based on the output produced (Putri, 2019). The participation of people with disabilities in the Indonesian labor market can be seen based on the following employment statistics published by the International Labor Organization in 2022:

Table 5. Employment Statistics (%) in 2020

Status	Non-disabled	Persons with Mild Disability	Persons with severe disability	Percent
Labour force	70,40	56,72	20,27	68,06 % (127.671.869)
Work	66,42	54,63	18,32	64,31 % (120.647.697
Does not work	3,98	2,08	1,95	3,74 % (7.024.172)
Not the labour force	29,60	43,28	79,73	31,94 % (59.928.765)
Housewife	18,13	28,71	21,14	19,27 % (36.158.428)
Students	9,74	0,84	0,85	8,66 % (16.245.007)
Others	1.73	13.74	57.74	4,01 % (7.525.330)

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Total population	100,00 % (164.804.980)	100,00 % (164.804.980)	100,00 % (164.804.980)	100 % (187.600.634)
Unemployment Rate	5,65 %	3,67 %	9,63 %	5,50 %

Source: ILO, 2022

The unemployment rate for people with disabilities, especially those with severe disabilities, is much higher than for people without disabilities. However, for people with mild disabilities, the unemployment rate is much lower than that of non-disabled people. This explains why the unemployment rate for people with mild disabilities is relatively low. Based on BPS data, people who are not included in the labor force are people of working age (15 years and older) who are still attending school, taking care of the household, or doing other activities other than personal activities. Although the unemployment rate of people with mild disabilities is relatively low, this value is actually caused by the low participation of people with disabilities. Efforts to remove barriers to the participation of people with disabilities in the labor force are very important, both from the side of employers and from the side of workers with disabilities. Persons with disabilities are divided into three groups according to the level of difficulty: non-disabled persons (no difficulty), mildly disabled persons (slight or moderate difficulty), and severely disabled persons (severe difficulty).
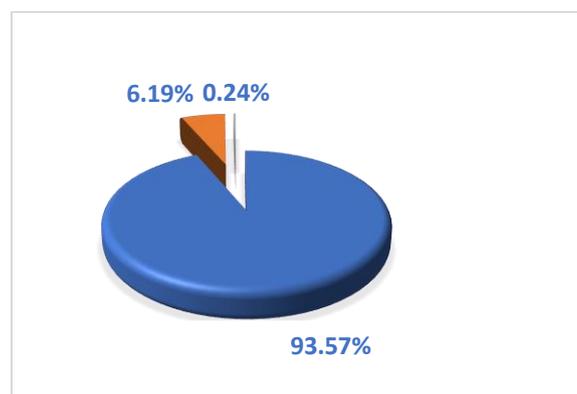

Figure 1. Prevalence of Persons with Disabilities according to Level of Difficulty in Indonesia
Source: sakernas, 2021 (data processed)

The prevalence of persons with disabilities in labor participation in Indonesia according to Sakernas data in 2021 (Figure 1) was 93.57 percent of non-disabled workers, and workers with disabilities with mild levels of difficulty amounting to 6.19 percent as well as workers with low levels of disability. Severe difficulties amounted to 0.24 percent. Next, Figure 2 describes the prevalence of people with disabilities according to the type of disability inherent in them. Based on the type of disability, the prevalence of people with disabilities with visual impairments is 2.97 percent, people with disabilities with hearing impairments is 0.9 percent, people with disabilities with problems walking or climbing stairs is 1.06 percent, people with disabilities with problems moving their

fingers or hands is 0,47 percent, people with disabilities with speech or communication disorders are 0.22 percent and people with disabilities with emotional disorders are 0.81 percent. With the small number of people with disabilities in general, this group has become a minority group, resulting in a gap in access to equal employment opportunities, which is key to improving living standards and the SDGs mission of reducing gaps in employment opportunities, especially for people with disabilities (ILO, 2022).
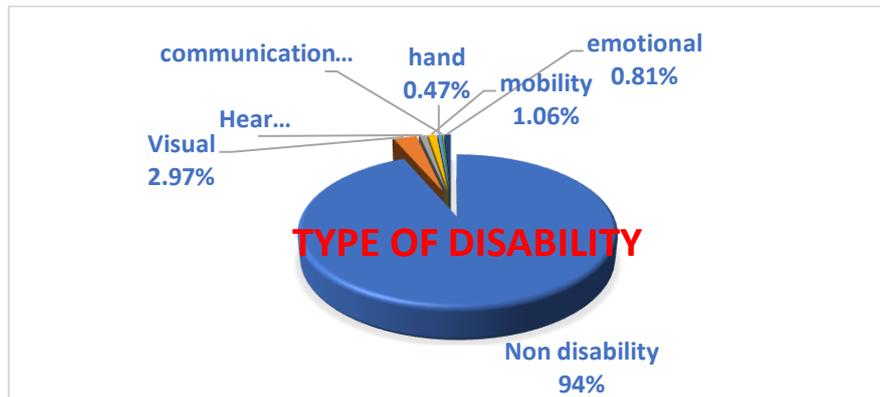
Figure 2. Prevalence of Persons with Disabilities by Type of Disability in Indonesia
Source: Sakernas, 2021 (data processed)

Furthermore, Figure 3 shows the participation of people with disabilities in the labor market based on employment status. Of the total workforce that entered the labor market, among them were dominated by self-employment at 30.06 percent, businesses assisted by non-permanent employees as much as 29.29 percent, businesses assisted by permanent employees as much as 3.08 percent, laborers and employees as much as 17.26 percent, free workers in agriculture 4.66 percent, free workers in non-agriculture 3.37 percent, and finally family workers / unpaid as much as 12.28%. The large number of persons with disabilities in the types of self-employment and business without the assistance of permanent employees shows that there is still a lack of persons with disabilities who occupy formal jobs, which of course have a better level of legal certainty and income.
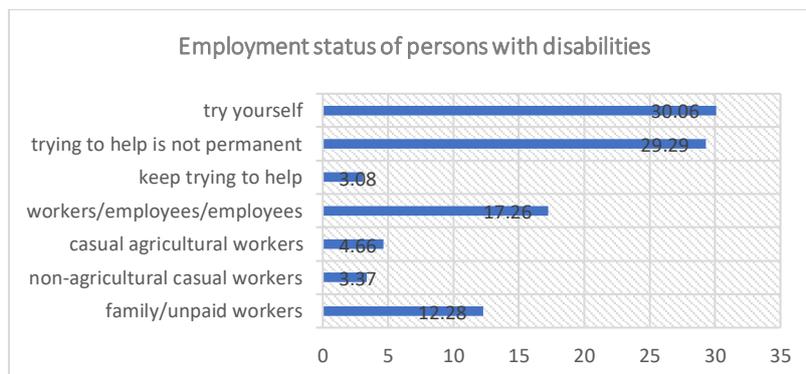

Figure 3: Prevalence of people with disabilities in the labour market: Employment Status
Source: Sakernas 2021 (data processed)

The level of education is a big challenge for people with disabilities to be able to participate in the labour market and get a job with a decent level of income, 77 percent of people with disabilities are at an education level lower than junior high school (Figure 4), and those with higher education are very limited, for the Bachelor level amounts to 5 percent of the total workforce of people with disabilities. Various theories state that education is an asset for workers to get a decent job and income, of course this is an obstacle and challenge for persons with disabilities in general, because the majority are at a low level of education, which will have an impact on the widening gap both among persons with disabilities who work in the formal and informal sectors, and in a broader sense with non-disabled people.
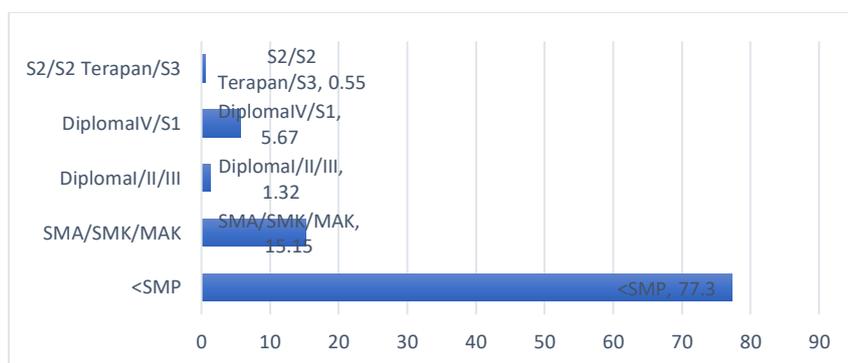

Figure 4. Prevalence of the Highest Education Completed by Persons with Disabilities
Source: Sakernas, 2021 (data processed)

4.2. The Effect of Education Level and Working in the Formal Sector on Labour Income of Persons with Disabilities

This section discusses how the effect of education level and working in the formal sector on the income of persons with disabilities, which can be seen in the table below:

Table 6. Propensity Score in the Formal Sector

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Estimation of the propensity score

Iteration 0:   log likelihood = -14487.995
Iteration 1:   log likelihood = -12656.553
Iteration 2:   log likelihood =  -12652.19
Iteration 3:   log likelihood =  -12652.19

Probit regression                        Number of obs   =      27049
                                          LR chi2(1)      =    3671.61
                                          Prob > chi2     =     0.0000
Log likelihood =  -12652.19               Pseudo R2       =     0.1267
```

educ	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
sectstat	1.152845	.0192079	60.02	0.000	1.115198	1.190492
_cons	-1.092461	.0108703	-100.50	0.000	-1.113766	-1.071155

```
Note: the common support option has been selected
The region of common support is [.1373153, .52407526]
```

Source: data processed, 2023

The probity regression results regarding the probability of workers with disabilities who are highly educated and work in the formal sector, with a coefficient value of 1.1528 which is significant at the 1% level. Which means that the level of higher education for people with disabilities who work in the formal sector has a positive effect on increasing their income, when the education level of workers with disabilities increases by one percent, their income will increase by 115 percent if they work in the formal sector. With the common support area in the range 0.1462242 - 0.96388488.

Furthermore, table 7 presents the average treatment effect of the PSM method. In this study, the nearest neighbor matching technique, stratification method, radius matching method and kernel matching method were used to measure the impact of higher education level and working in the formal sector for persons with disabilities on income.

Table 7. Higher education and working in the formal sector on outcome variables for people with disabilities

Method		n. treat	n. contr	ATT	St. Err	t
Nearest Neighbor Matching		6140	20909	0.581	0.032	17.897
Stratification Method		6140	20909	0.581	0.028	20.815
Kernel Matching Method		6140	20909	0.581	0.026	22.110

Source: processed data, 2023

The research results show that for people with disabilities, higher education who work in the formal sector has a large impact on the income of workers compared to the income group of the control group (low education in the informal sector), this is proven by the matching value using the nearest neighbor method with an ATT value of 0.581, with statistical matching of 0.581 percent, and the kernel matching method with an ATT value of 0.581. These three matching calculation methods produce results that are consistent with each other, so it can be concluded that higher education and working in the formal sector have an impact of 58.1 percent on increasing the income of people with disabilities when compared to the control group. This illustrates that higher education and working in the formal sector provide a better level of welfare for people with disabilities. However, in reality, the formal sector only accommodates around 22 percent of the total number of people with disabilities who participate in the labor market. In line with the results of this research, the ILO (ILO, 2022) states that three out of four people with disabilities have only received primary education, and the majority work in the informal sector with very limited social protection. The obstacles that cause school dropouts need to be addressed comprehensively. Meanwhile, access to education, training and skills needs to be improved so that opportunities for formal employment can be greater.

Education is the gateway for people with disabilities to become skilled workers, so they can improve their standard of living. According to a report (Bappenas, 2021), which found that the majority of people with disabilities were at the lowest level of education (primary school equivalent), these results indicate that there is still a fairly large gap for people with disabilities who have received junior high school or above. Access to equal employment opportunities for people with disabilities, which is the key to improving

living standards and the SDGs mission to reduce opportunity gaps, especially for minority groups with disabilities, is something that is difficult to achieve.

5. CONCLUSION

In this study, we examine the impact of the level of education on the ability of people with disabilities to work in the formal and informal sectors. This research provides more in-depth results on the impact of education levels for both sectors on increasing their income. We use goods income and money income as net income for one month. Using Sakernas data for the 2021 period, we involved 27,049 people with disabilities who work in types of work divided into two education level groups, namely high education and low education, and work in the formal and informal sectors in Indonesia. The PSM method with probity regression is used to match the characteristics of people with disabilities from groups with high education and working in the formal sector with those from groups with low education and working in the informal sector to reduce selection bias based on unobserved characteristics. The results show that the probability of income for people with disabilities is influenced by the level of higher education in the formal sector. Because this research only focuses on the education level and employment status of people with disabilities, the impact of training for people with disabilities as an alternative to increasing their competence and skills in work has not been explained further for both the formal and informal sectors. So, in future re-search, we will analyze the impact of education and training as an interactive variable with other socio-economic variables on increasing the income of workers with disabilities. And it is also necessary to study the probability of entering the workforce and working in the formal sector.

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