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WORKFORCE INCLUSION THROUGH TRAINING: EVIDENCE FROM INDONESIA'S DISABLED LABOR FORCE

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ABSTRACT: The employment participation gap between persons with and without disabilities in Indonesia remains pronounced, with structural and social barriers limiting equal access to decent work. This study contributes to the literature by providing robust empirical evidence on the role of job training in enhancing both overall labor force participation and formal sector employment among persons with disabilities. Drawing on nationally representative 2021 SAKERNAS data and applying logistic regression models, the analysis reveals that training significantly increases the likelihood of employment, particularly in the formal sector where social protection and job stability are more prevalent. Beyond training, the study highlights how education, gender, regional location, household characteristics, and disability type influence labor outcomes, underscoring the need for multidimensional interventions. These findings suggest that inclusive and targeted training programs, integrated with broader employment and disability policies, are essential to foster equitable labor market inclusion in Indonesia.

Keywords: Persons with Disabilities; Employment Participation; Job Training; Formal Sector; Inclusive Labor Policy

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INTRODUCTION

Based on data from the National Labor Force Survey (SAKERNAS) in 2021, persons with disabilities accounted for only 5.97% of the total working population in Indonesia (BPS, 2021). The low employment rate of persons with disabilities in the labor market is influenced by individual quality factors such as educational qualifications, work experience, and training, as well as environmental factors that serve as barriers for persons with disabilities to enter the workforce (Aitken et al., 2022; Harder, Rash, & Nelson, 2012; Hästbacka, Nygård, & Nyqvist, 2016; Morwane, Dada & Bornman, 2021; Pagan, 2015; Trezzini et al., 2021).

Figure 1 illustrates the distribution of the Indonesian population aged over 15 years by education level and disability status in 2022 (Statista, 2022). Based on Figure 1, it can be seen that only 4.51% of persons with disabilities aged over 15 hold a university degree. On the other hand, as many as 17.22% of persons with disabilities in Indonesia have never attended school. Figure 1 shows that there is a disparity in education between persons with disabilities and non-disabled individuals, with persons with disabilities being dominated by those with lower levels of education.

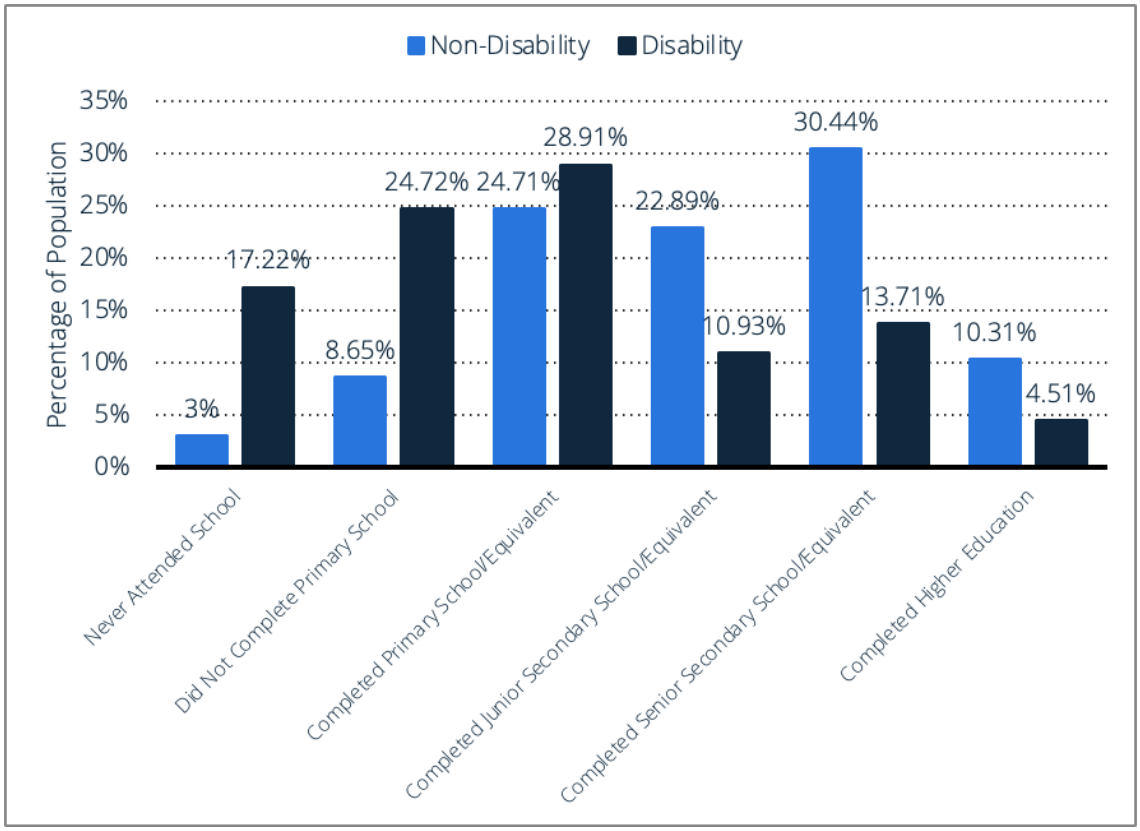

Figure 1. Highest Educational Attainment and Disability Status
Source: Statista, 2022

Figure 2 illustrates the distribution of persons with disabilities in Indonesia in 2020 (Statista, 2021). Based on Figure 2, it can be seen that the percentage of persons with disabilities who are self-employed is 28.37%. Meanwhile, the percentage of persons with disabilities working in the formal sector is only 20.68%. This figure indicates that many persons with disabilities still face difficulties in securing formal employment. The qualifications required in today's formal job market—such as relevant work experience and adequate educational certificates—remain significant barriers for persons with disabilities in obtaining jobs (Widhawati, Santoso, & Apsari, 2020).

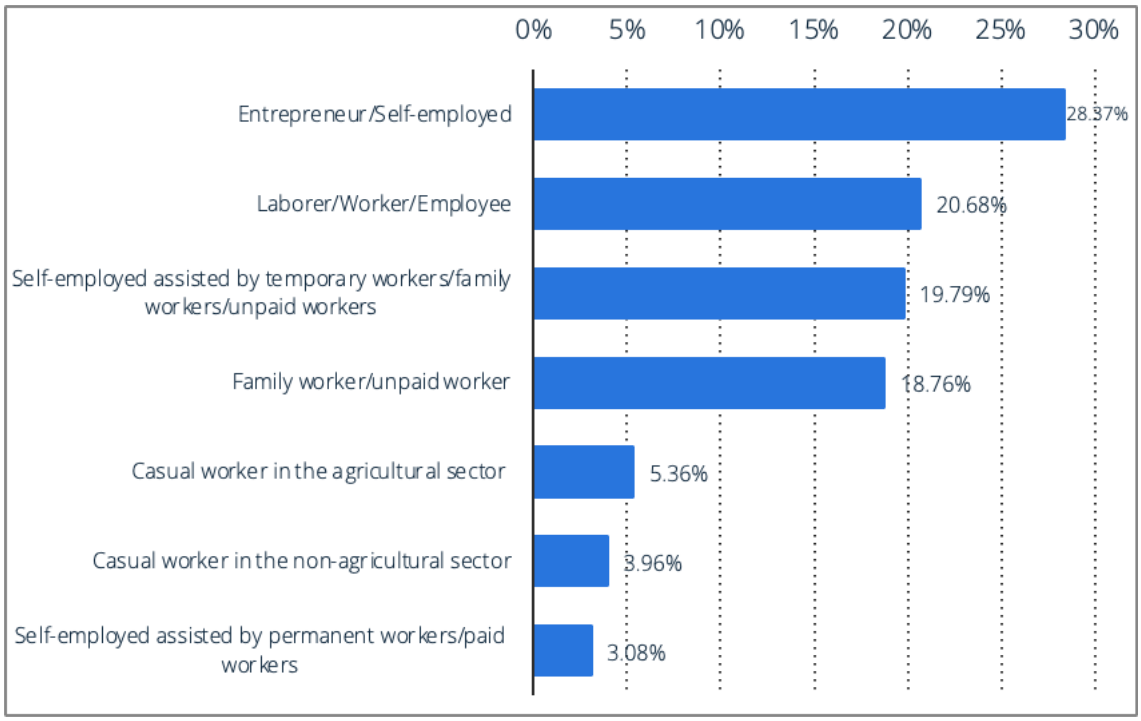

Figure 2. Distribution of Disability Workers in Indonesia by Employment Status, 2020
Source: Statista, 2021

Job training is one of the key strategies for enhancing human capital and facilitating access to the labor market. Previous studies have shown that training can improve the employment opportunities of persons with disabilities (Nuri et al., 2012). Moreover, training has been found to increase the income of persons with disabilities (Echarti, Schuering, & O'Donoghue, 2020; O'Neill et al., 2015; Flannery et al., 2008). However, a report from the United Nations Economic and Social Commission for Asia and the Pacific (UN ESCAP, 2021) highlights that Indonesia is among the countries in the Asia-Pacific region where persons with disabilities are less likely to be employed compared to those without disabilities. As a result, various government efforts to improve access for persons with disabilities in the labor market—such as the implementation of employment quotas and training programs—have not shown significant progress.

Globally, the literature on similar topics (Aitken et al., 2022; Trezzini et al., 2021; Hästbacka, Nygård, & Nyqvist, 2016; Pagan, 2015; Harder, Rash, & Nelson, 2012; Morwane, Dada, & Bornman, 2021; Nuri et al., 2012; Hogan et al., 2012) is dominated by issues of labor market participation for persons with disabilities, focusing on the roles of education, stigma, and the social environment. There is also a growing body of literature (Echarti, Schuering, & O'Donoghue, 2020; Nuri et al., 2012; O'Neill et al., 2015; Flannery et al., 2008) that discusses the impact of training on the income of persons with disabilities. This study aims to contribute to the literature on the subtopic of training and persons with disabilities. Furthermore, this study differs from previous research, as there is currently no literature specifically addressing the impact of training on the labor force participation of persons with disabilities in Indonesia. This research is expected to provide a more holistic understanding by delivering accurate information to accelerate inclusive and sustainable economic growth in Indonesia. The objective of this study is to analyze the effect of training on the labor force participation of persons with disabilities in Indonesia using data from the 2021 National Labor Force Survey (SAKERNAS).

THEORETICAL REVIEW AND HYPOTHESIS DEVELOPMENT

This research, referring to previous studies (Aakvik, 2003; Frölich, Heshmati, & Lechner, 2004; Flannery et al., 2008; Nuri et al., 2012; O'Neill et al., 2015), positions training as the main independent variable to examine its effect on the labor force participation of persons with disabilities (see Figure 3). In addition, this study considers factors that influence the labor force participation of persons with disabilities as control variables (Loprest, Rupp, & Sandell, 1995; Randolph, 2004;

Randolph & Andresen, 2004; Mavromaras et al., 2007; Smith, 2007; Dalgin & Bellini, 2008; Bell & Heitmueller, 2009; Chiang et al., 2013; Thomas et al., 2013; Ramachandra et al., 2017; Vu et al., 2020).

As shown in Figure 3, the factors influencing the labor force participation of persons with disabilities are grouped into four categories: socio-demographic characteristics, household characteristics, disability severity, and type of disability. Socio-demographic characteristics include age, gender, marital status, educational attainment, region of residence, and location of residence. Household characteristics consist of household size and household income. The severity of disability is also included as a factor influencing the labor force participation of persons with disabilities. Finally, the type of disability is another factor affecting the labor force participation of persons with disabilities.

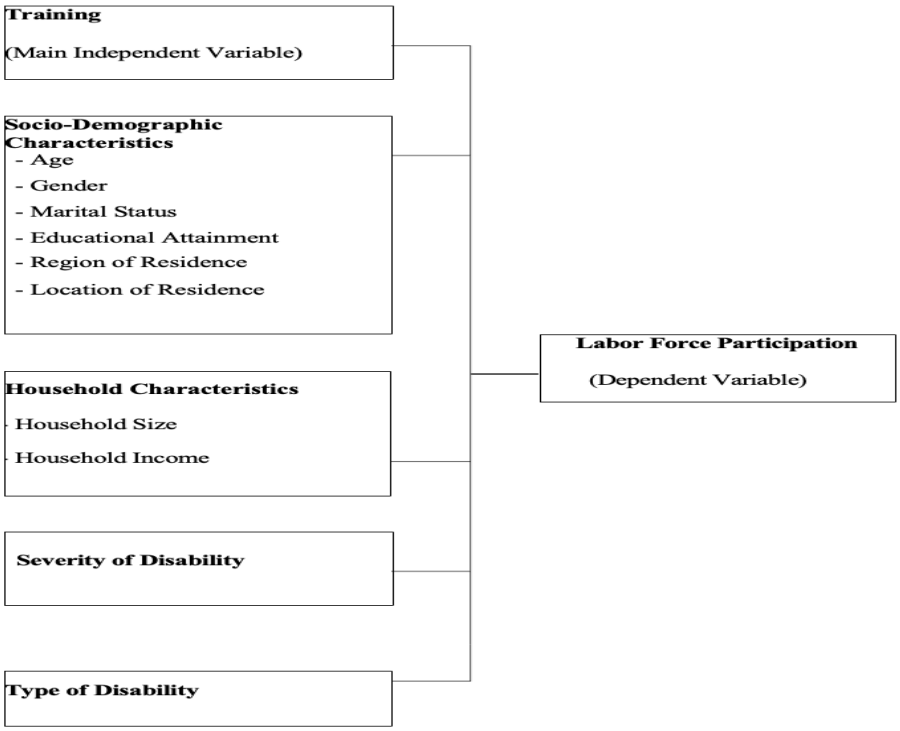

Figure 3. Analytical Framework

RESEARCH METHOD

This study employs two analytical methods: descriptive analysis and inferential analysis. Descriptive analysis is used to provide a general overview of respondents based on the research variables. The results of this analysis are presented in tables and charts, which show the distribution of variables and cross-tabulations between variables. Meanwhile, the inferential analysis used in this study is binary logistic regression, also known as the logit regression. Binary logistic regression is used to explain the relationship between the response variable, which is dichotomous/binary, and independent variables that may be either interval or categorical data. According to Wooldridge (2013), the effect of independent variables on the probability of Y occurring can be explained using the binary logistic regression model. Wooldridge (2013) notes that this model can be used to determine the effect of independent variables on the probability of the variable Y occurring, as illustrated in Equation 3.1.

$$P(y = 1|x) = G(\beta_0 + \beta_1 x_1 + \ldots + \beta_k x_k) = G(\beta_0 + \mathbf{x}\boldsymbol{\beta}) \quad (1)$$

P = probability
y = dependent variable
x = independent variable
G = logistic function

β0 = intercept
β1, βk = Change in log odds when x1, … , xk increase by 1 unit

Wooldridge (2013) explains that G is the logistic function as described in Equation 3.2.

$$G(z) = \frac{\exp(z)}{[1+\exp(z)} \quad (2)$$

This logistic function transforms the value of z (i.e., the value of $\beta_0 + \beta_1 x_1 + \cdots + \beta_k x_k$) into the probability of the dependent variable (y = 1) by ensuring that the likelihood remains within the range of 0 and 1. The parameters β_0, β_1, ..., β_k are regression coefficients that need to be estimated from the data. These coefficients represent the relative influence of each independent variable on the probability of the dependent variable. A positive coefficient ($\beta > 0$) indicates that an increase in the independent variable increases the probability of the dependent variable. In contrast, a negative coefficient ($\beta < 0$) suggests that an increase in the independent variable decreases the probability of the dependent variable. By adopting the model from Wooldridge (2013), the effect of training on the labor force participation of individuals with disabilities, estimated in this study, is formulated using the econometric model in Equation 3.3.

$$P(y = 1|x) = G(\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5) \quad (3)$$

This study uses the marginal effect to interpret the research results. Wooldridge (2013) describes this in Equation 3.4.

$$\frac{\partial p(x)}{\partial xj} = g(\beta o + x\beta)\beta j \quad (4)$$

To assess the consistency of the training effect, this study compares the effect of training in sub-samples of persons with disabilities and non-disabled individuals. The first model in Equation 3.5 uses the same model as in Equation 3.3, but with a different sample. The sample used consists of individuals without disabilities. Since the sample is non-disabled, the model in Equation 3.5 does not include disability severity and disability type as control variables. In addition, the second model in Equation 3.6 also uses the same model as Equation 3.3 but with a different independent variable. The independent variable used is a dummy variable, where individuals with informal employment status are coded as 0 and individuals with formal employment status are coded as 1. This aims to determine whether training can help individuals with disabilities secure more stable and secure jobs in the formal sector, which often offers better benefits and social protection for workers. The models in Equations 3.5 and 3.6 are constructed to compare the results and findings with those from the model in Equation 3.3 to see if there are any significant differences between them. If all three models yield similar findings, this may indicate the consistency of the training effect.

$$P(y = 1|x) = G(\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3) \quad (5)$$

$$P(y = 1|x) = G(\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5) \quad (6)$$

RESULTS AND DISCUSSION

Table 1 presents the average marginal effects from two regression models estimating the probability of labor force participation in Indonesia, disaggregated by key demographic, socioeconomic, and regional characteristics. Model 1 includes a sample of individuals with disabilities, while Model 2 incorporates both persons with and without disabilities, allowing for broader comparative interpretation. The estimates account for training experience, education level, age, gender, household income, residential location, and type and severity of disability, among other covariates. Statistically significant coefficients indicate the magnitude and direction of association between each factor and the likelihood of participating in the labor force.

Table 1. Marginal Effects on Labor Force Participation in Indonesia by Disability Status

Variable	Model 1	Model 2	Variable	Model 1	Model 2
Training Experience			Education Level		
Yes	0.068***	0.046***	Senior High	-0.047***	-0.011***
Age	0.037***	0.051***	Vocational High	-0.021**	0.043***
Age²	-0.000***	-0.001***	Diploma	-0.021	0.075***
Gender (ref: Female)			Bachelor/Master+	0.059***	0.106***
Male	0.215***	0.259***	Residential Area		
Marital Status			Urban (ref: Rural)	-0.107***	-0.085***
Married	0.161***	0.026***	Island of Residence (ref: Java)		
Divorced	0.154***	0.084***	Sumatra	0.043***	0.007***
Household Size	-0.018***	-0.013***	Bali & Nusa T.	0.139***	0.077***
Household Income			Kalimantan	0.026***	-0.011***
Prosperous (ref: Poor)	0.100***	0.092***	Sulawesi	0.033***	-0.002
Disability Severity			Papua & Maluku	0.097***	0.040***
Severe (Mild/Moderate)	-0.323***	—	Disability Type (ref: Visual)		
Observations	42,256	66,8059	Hearing	0.012	—
			Walking	-0.125***	—
			Finger/Hand	-0.089***	—
			Speaking	-0.016	—
			Other	-0.019	—
			>1 Impairment	-0.192***	—
			Multiple Impairments	-0.186***	—

Notes: *** Significant at 0.01 level ** Significant at 0.05 level * Significant at 0.1 level
Source: Processed from SAKERNAS 2021

The findings presented in Table 1 offer a foundational portrait of the structural inequalities and enabling factors that contour labor force participation in Indonesia, particularly through the lens of disability status. Rather than simply cataloging disparities, the marginal effects underscore the nuanced interplay between individual capability, social stratification, and institutional access. Variables such as education, geographic location, and household composition do not merely correlate with labor engagement—they signal deeper systemic cleavages that determine who gets to participate in economic life and on what terms.

What emerges is not only a profile of labor market inclusion, but a set of empirical tensions warranting closer theoretical inspection. The differential impact of region, disability type, and gender speaks to the limitations of a one-size-fits-all labor policy and invites a reframing of workforce participation beyond binary categorizations of ability. Equally, the marginal returns to training and educational attainment suggest that structural disadvantages may attenuate the expected gains from human capital investment, particularly for individuals facing intersecting vulnerabilities.

These results necessitate a more textured interpretation that considers the institutional, spatial, and embodied barriers to labor force entry. The subsequent discussion will interrogate these dimensions more closely, drawing upon theoretical perspectives from labor economics, social policy, and disability studies. In doing so, it aims to move beyond the quantification of marginal effects toward a deeper understanding of the structural conditions under which labor participation becomes possible—or persistently elusive—for disabled populations in Indonesia.

In addition to Models 1 and 2, Table 2 presents the results from Model 3, which focuses on the determinants of employment status among persons with disabilities, specifically differentiating between formal and informal sector participation. Distinct from the earlier models, Model 3 isolates the impact of training experience on formal employment outcomes. The results reveal that individuals with disabilities who have received training are, on average, 7.2 percentage points more likely to be employed in the formal sector, a relationship that is statistically significant at the 1% level. This underscores the critical role of targeted skill development in facilitating access to more secure and regulated forms of employment for this population.

Table 2. Marginal Effects on Formal vs. Informal Employment Among Persons with Disabilities

Variable	dx/dy	Variable	dx/dy
Training Experience		Island of Residence (ref: Java)	
Yes (ref: No)	0.072***	Sumatra	0.007
Age	0.002	Bali & Nusa Tenggara	-0.053***
Age Squared	0.000***	Kalimantan	0.017*
Gender (ref: Female)		Sulawesi	-0.021**
Male	0.078***	Papua & Maluku	-0.006
Marital Status (ref: Never Married)		Household Size	-0.008***
Married	0.024**	Household Income (Poor)	
Divorced	0.059***	Prosperous Family	0.130***
Education Level		Disability Severity (Mild/Moderate)	
Senior High School	0.103***	Severe	0.005
Vocational High School	0.110***	Type of Disability (ref: Visual)	
Diploma (D1–D4)	0.315***	Hearing	-0.007
Bachelor/Master/Doctoral	0.536***	Walking	-0.033***
Residential Area (ref: Rural)		Finger/Hand	-0.024
Urban	0.072***	Speech	-0.033
Observations	24,262	Other Impairment	-0.056***
		>1 Impairment	-0.037***

Table X shows how different factors affect the chance of persons with disabilities working in the formal sector. Education and training stand out as important drivers. Those with higher education levels—especially diploma or university degrees—are much more likely to be formally employed. Training also plays a key role in improving access to formal jobs. Other factors like gender, marital status, and where someone lives also matter. Some types of disabilities are linked to lower chances of formal employment, showing that barriers still exist. These results provide a strong base for the next section, which discusses the meaning behind these patterns and what they imply for policy.

Socio-demographic attributes matter, but not uniformly. Age exerts only a weak influence; beyond a certain range the probability of formal employment tapers, suggesting a life-course penalty that human-capital accumulation cannot fully offset. A clear gender gap persists: men with disabilities are more likely to enter the formal sector, indicating that gendered labor-market sorting does not disappear once disability is introduced into the equation.

Education delivers the largest and most consistent returns. The gradient from senior high school to university credentials maps almost monotonically onto higher probabilities of formal employment, underscoring how credentialism still governs access to regulated, contract-based jobs. Urban residence similarly advantages persons with disabilities, reflecting the spatial concentration of formal employment opportunities and the relative scarcity of disability-inclusive firms and public agencies outside metropolitan centers. Regional contrasts reinforce this geography: locations outside Java generally trail, pointing to uneven institutional capacity, industrial composition, and policy reach.

Household characteristics also bite. Larger households depress formal employment odds—likely via time, care, and financial constraints—whereas higher household income lifts them, consistent with the role of economic buffers in enabling costly job search, training, and mobility. These patterns suggest that individual capabilities are mediated by household resource endowments and intra-household role expectations.

Disability heterogeneity matters. Not all impairments translate into the same labor-market penalties: mobility limitations and multiple or unspecified impairments significantly depress formal sector attachment, while several sensory and speech-related conditions do not show independent effects. The absence of a significant penalty for severe disability plausibly reflects low participation rates and compositional selectivity among those who do work. Collectively, these results argue for finely targeted active labor-market policies—training, placement, and employer incentives—that are simultaneously education-attentive, region-sensitive, and impairment-specific. They set the stage for the discussion to probe mechanisms (e.g., discrimination, infrastructure, task-matching) and the policy architecture required to narrow these persistent gaps.

DISCUSSION

This study presents three models based on calculations using logit analysis. Model 1 is used to examine the effect of training experience on the labor force participation of persons with disabilities. Models 2 and 3 are used as robustness checks. Model 2 is used to assess the effect of training on the labor force participation of individuals who are not disabled. The Model 3 is used to evaluate the impact of training on the employment status of individuals with disabilities. The results and findings from Model 1 are compared with those from Models 2 and 3 to determine whether there are significant differences among the models.

Table 1 presents the results of the average marginal effect analysis on the probability of labor force participation for persons with disabilities (Model 1) and non-disabled individuals (Model 2). The primary focus of this study is to investigate the impact of training on the labor force participation of individuals with disabilities in Indonesia. The data analysis reveals a positive and statistically significant correlation at the 1% level between training and the labor force participation of persons with disabilities. Persons with disabilities who have training experience are 6.8% more likely to participate in the labor force. This finding is consistent with previous studies (Aakvik, 2003; Frölich, Heshmati, & Lechner, 2004; Flannery et al., 2008; O'Neill et al., 2015; and Echarti, Schuering, & O'Donoghue, 2020), which conclude that training is an effective tool for increasing the labor force participation of persons with disabilities. Training can provide the necessary skills and knowledge for persons with disabilities to enter the workforce or to enhance existing skills to remain employed. In comparison, Model 2 also shows that training has a positive and significant correlation at the 1% level with the labor force participation of non-disabled individuals, increasing their probability by 4.6%. This indicates that the impact of training on persons with disabilities is greater than its impact on non-disabled individuals, even after controlling for the severity and type of disability.

In addition, this study examines the effect of socio-demographic characteristics on the labor force participation of persons with disabilities, including variables such as age, age squared, gender, marital status, education level, residential area, and island of residence. In this study, age has a positive and significant correlation at the 1% level with the labor force participation of persons with disabilities. This result is consistent with previous findings (Randolph, 2004; Randolph & Andresen, 2004; Mavromaras et al., 2007; Bell & Heitmueller, 2009; Ramachandra et al., 2017). Each additional year of age increases the probability of labor force participation by 3.7% for persons with disabilities. When compared with Model 2, the results are consistent in terms of both the direction of the coefficient and the level of significance, although the coefficient is higher for non-disabled individuals at 5.1%. However, beyond a certain age, in both Models 1 and 2, an increase in age tends to reduce the probability of working, as indicated by the age squared variable, which is negatively and significantly correlated with labor force participation.

Gender also shows a positive and significant correlation at the 1% level with the labor force participation of persons with disabilities. Male persons with disabilities are 21.5% more likely to work than female persons with disabilities. This finding is in line with previous studies (Loprest, Rupp, & Sandell, 1995; Randolph, 2004; Randolph & Andresen, 2004; Smith, 2007; Bell & Heitmueller, 2009; Chiang et al., 2013; Thomas et al., 2013; Vu et al., 2020), which concluded that the labor force participation rate of women with disabilities is lower than that of men with disabilities. This finding also supports Borjas (2016), who states that women experience discrimination in the labor market. When compared to Model 2, the results are again consistent in both the direction of the coefficient and the level of significance, although the coefficient is higher for non-disabled individuals, at 25.9%.

Marital status has a positive and significant correlation at the 1% level with the labor force participation of persons with disabilities. Persons with disabilities who are married or divorced have a higher probability of working by 16.1% and 15.4%, respectively, compared to those who have never been married. This result is consistent with previous research (Loprest, Rupp, & Sandell, 1995; Randolph, 2004; Randolph & Andresen, 2004; Mavromaras et al., 2007; Bell & Heitmueller, 2009), which found that married persons with disabilities are more likely to participate in the labor force than those who are single. In comparison to Model 2, the results are consistent in the direction of the coefficient and level of significance, but the coefficients for non-disabled

individuals are lower at 2.6% for those who are married and 8.4% for those who are divorced, relative to those who have never married.

The level of education has varying effects on the labor force participation of persons with disabilities. Persons with disabilities with a high school (SMA) education (1% significance level) and vocational high school (SMK) education (5% significance level) have a lower probability of working by 4.7% and 2.1%, respectively, compared to those with less than junior high school education. Persons with disabilities with a diploma (DI/II/III/IV) do not have a significant effect on the probability of working compared to those with less than junior high school education at any significance level. Those with a bachelor's, master's, or doctoral degree (S1/S2/S3) have a higher probability of working by 5.9% (1% significance level) compared to those with less than junior high school education. This result differs from previous studies (Randolph, 2004; Randolph & Andresen, 2004; Mavromaras et al., 2007; Bell & Heitmueller, 2009; Chiang et al., 2013; Thomas et al., 2013; Vu et al., 2020), which found that higher education levels are associated with a higher probability of employment. The finding of a negative correlation in employment probability among high school and vocational high school graduates compared to those with less than junior high school education is mainly due to the labor supply and demand factors known as the "educated unemployment phenomenon" (Pratomo, 2017).

In comparison to Model 2, non-disabled individuals with a high school education (1% significance level) are 1.1% less likely to work than those with less than junior high school education. Additionally, in Model 2, non-disabled individuals with vocational high school, diploma, and higher education (S1/S2/S3) are more likely to work by 4.3%, 7.5%, and 10.6% (1% significance level), respectively, compared to those with less than junior high school education. This result differs from Model 1, where the diploma education level does not have a significant effect on the probability of employment for persons with disabilities.

In terms of area of residence, persons with disabilities living in urban areas are 10.7% less likely to work (1% significance level) than those living in rural areas. This result is consistent with the findings of Thomas et al. (2013), who found that persons with disabilities living in rural areas are more likely to be employed than their counterparts in urban areas. Thomas et al. (2013) noted that 65% of their research sample consisted of individuals living in villages, most of whom were unskilled workers. In rural areas, most economic activities tend to be related to agriculture, livestock, and other informal sectors. In this context, persons with disabilities in rural areas may have better access to employment related to agriculture or the informal sector, such as artisans, small traders, or domestic workers. In urban areas, the dominant sectors are usually related to industry, trade, services, and other formal sectors. Job opportunities in urban areas are more diverse and tend to require higher levels of education and skills.

Based on Table 1, it is evident that 76.36% of persons with disabilities are graduates of less than junior high school or have a low level of education. This may explain why persons with disabilities living in urban areas have a lower probability of employment than those in rural areas, as rural areas have more jobs that absorb workers with lower levels of education, while urban areas demand higher education levels due to the dominance of the formal sector. In comparison with Model 2, non-disabled individuals living in urban areas are also 8.5% less likely to work (1% significance level) than those living in rural areas.

Furthermore, based on island of residence, persons with disabilities located in Sumatra, Bali and Nusa Tenggara, Kalimantan, Sulawesi, and Papua and Maluku have a higher probability of employment with a positive and significant correlation (1%) compared to those living in Java. When compared to Model 2, non-disabled individuals living in Sumatra, Bali and Nusa Tenggara, and Papua and Maluku also have a higher probability of working with a positive and significant correlation (1%) compared to those living in Java. Non-disabled individuals living in Kalimantan have a lower probability of working, with a negative and significant correlation (1%) compared to those in Java. Meanwhile, non-disabled individuals living in Sulawesi do not show a significant correlation at the 1%, 5%, or 10% levels with the probability of working.

Besides socio-demographic characteristics, this study also examines the effect of household characteristics on the labor force participation of persons with disabilities, namely household size and household income. Household size has a negative and significant correlation at the 1% level with the probability of employment for persons with disabilities. Each additional household member reduces the probability of employment by 1.8%. This finding is consistent with

previous studies (Bell & Heitmueller, 2009; Vu et al., 2020). When compared to Model 2, the result is similar but with a smaller coefficient of 1.3%.

Household income, as a proxy for household welfare, has a positive and significant correlation at the 1% level with the probability of employment for persons with disabilities. Persons with disabilities from prosperous families are more likely to work at the 1% significance level than those from poor families. This result is consistent with previous studies (Randolph & Andresen, 2004; Chiang et al., 2013; Vu et al., 2020), which found that household income significantly affects the labor force participation of persons with disabilities. In comparison with Model 2, the result is similar but with a smaller coefficient of 9.2%.

Apart from socio-demographic and household characteristics, this study also examines the effects of disability severity and type on the labor force participation of persons with disabilities. Persons with severe disabilities are 32.3% less likely to work than those with mild or moderate disabilities. This finding is consistent with previous studies (Randolph, 2004; Mavromaras et al., 2007; Smith, 2007; Thomas et al., 2013), which found that the higher the severity of disability, the lower the employment status (those working for pay) and income.

Types of disabilities such as walking, finger/hand, other impairments, and multiple impairments have a negative and significant effect on the probability of employment for persons with disabilities compared to visual impairments. However, hearing and speech impairments do not have a significant effect compared to visual impairments. Among the types of disabilities that have a negative and significant effect on employment probability, the highest average marginal effect is found for other impairments at 19.2%. This result is consistent with previous studies (Randolph & Andresen, 2004; Mavromaras et al., 2007; Dalgin & Bellini, 2008; Ramachandra et al., 2017), which found that persons with non-physical disabilities have a lower probability of employment than those with physical disabilities.

CONCLUSION AND FURTHER STUDY

This study underscores the pivotal role of training in enhancing the employment prospects of persons with disabilities in Indonesia. Beyond facilitating labor force participation, training is shown to improve access to formal sector jobs—where employment tends to be more stable and socially protected. These findings affirm the importance of equipping individuals with disabilities not only with technical skills but also with the credentials and confidence needed to compete in formal labor markets. Training, therefore, emerges not as a peripheral intervention but as a strategic lever for inclusive employment policy.

Despite these contributions, the study has notable limitations. Its cross-sectional design limits causal interpretation, and the data do not account for variations in training quality, duration, or delivery mode. Future research should explore longitudinal outcomes and examine how different types of training affect subgroups based on disability type, gender, or region. From a policy standpoint, there is a clear imperative to scale up inclusive, targeted training programs, particularly in underserved regions. Such efforts should be integrated with employer incentives, infrastructure accessibility improvements, and active labor market policies to ensure that persons with disabilities are not merely included, but empowered within the formal economy.

ETHICAL DISCLOSURE

Not applicable

CONFLICT OF INTEREST

The authors declare no conflict of interest in this paper construction, and presentation.

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