COVID-19 and its Impact on Persons with Disabilities' Employment

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ABSTRACT

The impacts of the COVID-19 pandemic and the economic aftermath have been widespread but are particularly predominant among the marginalized people in the country, including those living with disabilities. These uneven impacts on society sectors reflect harsh, long-standing disparities, often coming from discrimination and the problem of inclusion – in education, employment, health care, and disaster management that the current crisis is exacerbating. In response, this short study investigates the effect of the Covid-19 pandemic on persons with disability (PWD) employment. A total of 526 respondents from the different Disabled People's Organization (DPO) participated in the online survey disseminated thru the Project Inclusion Network. Using correspondence analysis, the results reveal that there is no significant association between the type of disability and the industry that PWDs are currently working with. In addition, PWDs with hearing disabilities are more likely to have regular work and those who have been working for three or more years have more chances to become permanent at work than being contractual employees. This analysis generates quick insights into generally resonating disability-related issues in the workplace, including disruption of employment in the time of the pandemic, which may impact their financial independence and the ability to participate in society and live independently fully.

Keywords: *COVID-19, people with disabilities, employment, correspondence analysis, multinomial logit analysis*

INTRODUCTION

On January 30, 2020, the World Health Organization declared the Covid-19 outbreak as a "Public Health Emergency of International Concern" (WHO 2020a). March of 2020, it was raised as a "pandemic" due to the speed and scale of the virus transmission. In the same month, WHO released a summary document regarding the sector of people living with disabilities who are more vulnerable under the pandemic (WHO 2020b).

In the Philippines, at least 1.443 million Filipinos or 1.57% of the household population (92.1 million) have a disability. The population was according to the 2010 Census of Population and Housing (CPH 2010). Almost ten years gap of not having an updated population of people living with disabilities in the country. According to the United Nations Statistics Division (Morita-Lou, 2015), the population data is fundamental for a state to plan and tweak specific policy. It should be timely and reliable to support evidence-based decision making, and this is also the reason why even there is relief and support measure during a crisis like this pandemic; still, there are significant gaps – including, for example, many persons with disabilities in the country have struggled with their employment during the COVID-19 crisis.

According to a study by Dunn et al. (2008), the employment of persons with disabilities conferred a significant benefit to a person, and that work played a central role in their lives and identities. In the Philippine context of employment to persons with a disability, there is a provision under RA 10524, which is an act of giving equal opportunity for employment to persons with disability and that "no person with disability shall be denied access to opportunities for suitable employment" (NCDA 2013).

Amid this pandemic, how is the employment situation of persons with disabilities? How are they coping with the situation now that the sector is among the vulnerable groups? This study using the collected data of Project Inclusion Network (PIN) aims to determine and report the impact of the Covid-19 pandemic on Persons with Disability's (PWD) employment. PWD under normal circumstances already experiences difficulties that hinder them from fully participating in society and are further aggravated by the current circumstances that the COVID-19 pandemic has brought about. The report also documents intervention and actions needed to support PWDs during and after the pandemic. PIN's goal focuses on moving towards disability-inclusive recovery in employment and livelihood in the time of COVID-19.

METHODS

Design

The study utilized descriptive-predictive research design. Descriptive approach is used to acquire information concerning the status of the phenomena to describe (Shuttleworth, 2008). Furthermore, the predictive research design is employed to predict the probability of PWDs to being permanently employed or having a contractual employment status.

Data Collection

The data that were used in the study were taken from the online survey that Project Inclusion Network (PIN) did in participation of the different DPOs (Disabled Peoples Organization) with the support of DOLE, DTI, and the National Council on Disability Affairs (NCDA). A total of 526 respondents participated in the survey that are both conducted in English and Filipino. The study also used random sampling technique to have a well-represented population.

Statistical Tools

The study employed correspondence analysis to determine the possible association of PWDs' type of disability with the industry they are currently working with. Furthermore, a Pearson chi-squared test was computed to possibly determine significant association. Multinomial logit analysis was also utilized to determine the influence of demographic characteristics of PWDs towards their employment status.

RESULTS

Table 1 shows the distribution of the respondents according to the demographic characteristics – employment status, sex, disability class, and years at work of respondents.

Based on the descriptive analyses employed, most PWD respondents have either permanent (42%) or contractual (27.1%) status in their employment. There seemed to be a balance of genders – males (53.7%) and females (46.3%). As to disability, 4 out of 10 respondents (42.7%) are suffering from physical/orthopaedic disabilities. Finally, most of the PWD respondents

have been working for less than 2 years (33.7%), followed by those who have been employed for 10 years or more (31%) and those working for 3 to 5 years (18%).

Table 1. *Distribution of PWDs according to demographic characteristics*

Variables		N	%
Employment Status	permanent	107	42.0%
	contractual	69	27.1%
	casual	34	13.3%
	freelancer with consistent clients	13	5.1%
	freelancer with inconsistent clients	16	6.3%
	others	16	6.3%
Sex	male	137	53.7%
	female	118	46.3%
Disability Class	physical / orthopaedic	109	42.7%
	visual	32	12.5%
	hearing	21	8.2%
	speech	5	2.0%
	neurodevelopmental	22	8.6%
	multiple disabilities	8	3.1%
	psychosocial	35	13.7%
	others	23	9.0%
Years at Work	less than 2 years	86	33.7%
	3 to 5 years	46	18.0%
	6 to 8 years	26	10.2%
	8 to 10 years	18	7.1%
	more than 10 years	79	31.0%

A correspondence analysis was utilized to determine possible association of PWDs' disability with the industry they are currently working with. A further Pearson chi-squared test was computed to possibly infer from these associations. Chi-squared test in Table 2 revealed no significant association nonetheless, $\chi^2 = 34.916$, p=0.472.

Table 2. *Active margin table showing distribution of PWDs' disability class according to industry*

Disability Class	Industry				
	government sector	private organization	NGOs	telecommuting	Active Margin
physical / orthopaedic	29	52	1	7	89
visual	3	18	4	1	26
hearing	6	12	1	1	20
speech	1	2	0	0	3
neurodevelopmental	2	13	2	2	19
multiple disabilities	1	2	3	0	6
psychosocial	9	14	3	1	27
others	6	11	0	0	17
Active Margin	57	124	14	12	207

$\chi^2 = 34.916$, p=0.472

Table 3 shows the summary of the correspondence analysis between disability class of employed PWDs vis-à-vis the industry that they are working with. Based on the analysis, three dimensions were generated, with dimension 1 accounting for 77% of the proportion of the inertia (*SD*=0.026). Dimension 2 accounted 18.9% of the proportion of generated inertia (*SD*=0.024). When correlated, the clustering of categories in Dimensions 1 and 2 have a negative correlation, r = -0.302. The third dimension only accounted for 4.1% of the overall inertia.

To validate the number of dimensions, a biplot was produced which also shows the Euclidean distances of the categories. It can be seen in Figure 1 that PWDs with hearing and speech problems are associated with the telecommuting industry. In addition, those with multiple disabilities and psychosocial disabilities tend to associate with NGOs. Finally, most PWDs with either visual or neurodevelopmental disabilities clustered near private organizations.

Table 3. *Summary of correspondence analysis for disability class vs. industry of working PWDs*

Dimension	Singular Value	Inertia	Proportion of Inertia		Confidence Singular Value	
			Accounted for	Cumulative	Standard Deviation	Correlation 2
1	.260	.067	.770	.770	.026	-.302
2	.129	.017	.189	.959	.024	
3	.060	.004	.041	1.000		
Total		.088	1.000	1.000		

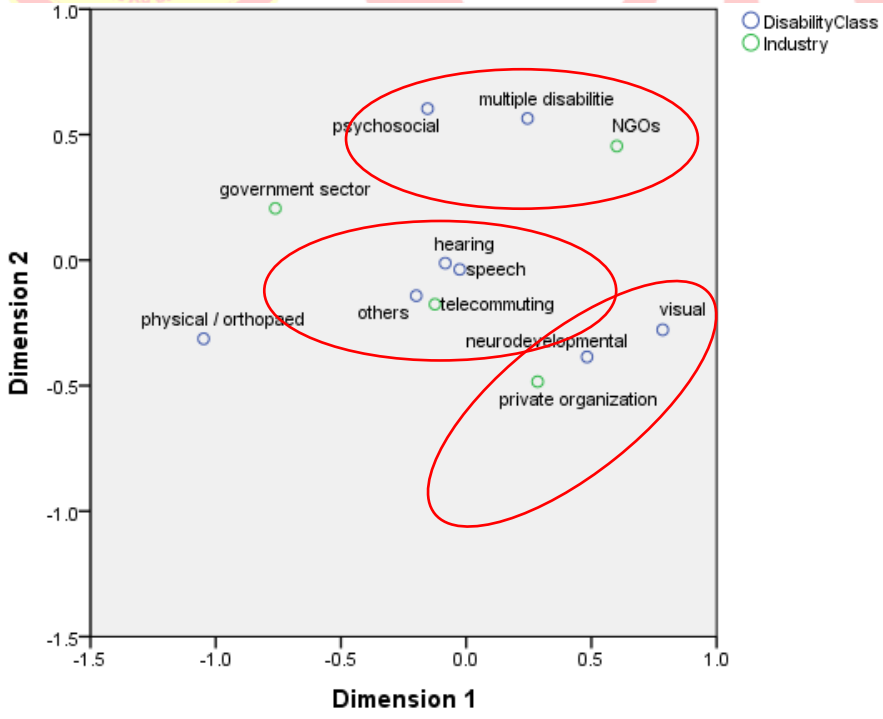

Figure 1. *Biplots of disability class-industry showing number of dimensions of correspondence analysis (Euclidean distance)*

A multinomial logistic regression was used to determine the contribution/influence of demographic characteristics of PWDs towards attaining a permanent status in employment vis-à-vis being contractual at work. The reference category of employment status is being contractual, while the probability of being permanent was estimated based on the categories of the predictors. Table 4 shows that the MNL model has an LR χ^2 = 117.984, p<0.05, which rejects the hypothesis of no significant difference between the intercept-only model and the final MNL model estimated. This means that the MNL model computed was significant and prediction can be plausible based on the predictors used. Pseudo R^2 of the model revealed that the predictors account for 15.6 to 39% of the variance of employment status of the PWDs.

Table 4. *Model fitting criteria of the multinomial logit model*

Model	Model Fitting Criteria			Likelihood Ratio Tests		
	AIC	BIC	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	727.985	745.692	717.985			
Final	740.001	987.890	600.001	117.984	65	.000

Finally, Table 5 revealed the parameter estimates of the MNL model showing the probability of PWDs to being permanently employed vis-à-vis having a contractual status. All other employment statuses were eliminated from the analysis to highlight the difference of tenure-seeking behaviour of PWDs or being afforded equal employment like any other normal employee's chances regardless of their condition. Based on the analysis, it was found out that PWDs with hearing disabilities are nine times more likely to have regular work (Wald=6.586, p<0.05). Also, those who have been working for three or more years have 8 to 18 times more chances to become permanent at work than being contractual employees.

Table 5. *Multinomial logit analysis of predictors of permanent employment status with contractual being the reference category*

	B	Std. Error	Wald	df	Sig.	Exp(B)
(Intercept)	-3.995	1.119	12.737	1	.000	
Age	.019	.018	1.096	1	.295	1.019
male	.467	.360	1.682	1	.195	1.594
physical / orthopaedic	0[b]	.	.	0	.	.
visual	1.323	.731	3.274	1	.070	3.756
hearing	2.213	.862	6.586	1	.010*	9.146
speech	-.200	.958	.043	1	.835	.819
neurodevelopmental	2.380	1.432	2.762	1	.097	10.810
multiple disabilities	.791	.845	.877	1	.349	2.206
psychosocial	-.701	1.373	.260	1	.610	.496
less than 2 years	.528	.818	.416	1	.519	1.695
3 to 5 years	2.566	.534	23.066	1	.000*	13.009
6 to 8 years	2.158	.594	13.217	1	.000*	8.655
8 to 10 years	2.297	.661	12.069	1	.001*	9.948

Cox and Snell .370
Nagelkerke .390
McFadden .156

DISCUSSION

This study reveals that those with hearing and speech problems are associated with the telecommuting industry while those with multiple disabilities and psychosocial disabilities tend to associate with non-government organizations and most PWDs with either visual or neurodevelopmental disabilities clustered near private organizations. Based on the analysis also, PWDs with hearing disabilities are nine times more likely to have regular work and those who have been working for three or more years have 8 to 18 times more chances to become permanent at work than being contractual employees.

This finding provides a better understanding of why a person with hearing impairment worked in the telecommuting industry. There are assistive technologies that help make communication for hearing-impaired simpler and enable them to work remotely. As far as intervention and support, the government should promote and give training on how to utilize tools for PWDs to work remotely. This also gives the employers and companies the plan to make reasonable accommodation to PWD employees regardless of their disability. Through these assistive tools and services, PWDs can perform essential job duties.

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