

Econometric Analysis of the Determining Factors of the Balance of Emotions of People With Disabilities in Chile

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ABSTRACT

The research proposes a logit econometric model that allows determining the factors that improve the balance of emotions of people with disabilities in Chile. In the research, the different variables that influence the phenomenon of disability are studied and identified. Through binomial models, the determinants of disability are estimated using the Social Well-being Survey, designed by the Under Secretariat for Social Evaluation of the Ministry of Social Development. The results indicate that factors such as educational level, health conditions, recognition at work, mood and quality of life, significantly indicate the emotional balance of people with disabilities in Chile. This is how the variables related to recognition at work and security at home have the greatest impact on the emotional level of people with disabilities in Chile.

Keywords: Disability, Emotional balance, Quality of life, Logit models, Econometric modelling

INTRODUCTION

Disability is part of the human condition, that is, it is possible that at some point in life all people suffer from some type of disability, either simply due to deterioration as a result of old age, causing functional difficulties, or for another reason.

The literature understands disability as any condition that makes it difficult for a person to perform certain activities or to interact effectively with the world around them (socially or materially). These conditions or impairments may be cognitive, developmental, intellectual, mental, physical, sensory, or a combination of multiple factors. Disabling impairments may be present from birth or may be acquired during a person's lifetime (Banco Mundial, 2011; Padilla-Muñoz, 2010).

The definition of disability has been modified over time (since the 1970s), the changes that have been generated have been motivated by the organization of persons with disabilities itself and also by the creation of the United Nations Convention on Rights of Persons with Disabilities (CRPD) (Banco Mundial, 2011).

Disability is also considered as a heterogeneous situation that brings together the interaction of a person in their physical or mental dimensions and the components of the society in which they develop and live. The above is described given that disability is not limited to just one type, according to the World Health Organization (WHO) there are 5 groups that encompass all types of disabilities (Padilla-Muñoz, 2010; Federal, 2007).

In order to establish a classifying instrument of the consequences and their repercussions in the life of the individual, in 1980 the International Classification of Impairments, Disabilities and Handicaps (CIDDM) was published. Although the ICIDH was translated into 14 languages and used in various fields such as health and economics, it was also widely criticized, since the model it presented was very linear and failed to establish clear interactions between the components (World Health Organization, 2001; Amate and Vásquez, 2006).

To respond to the above, the International Classification of Functioning (ICF) and the International Family of WHO Classifications (FIM-OMS) were created trying to cover a broader range of information and create a much more complete theoretical framework than that of his predecessor. The ICF classification, unlike the ICIDH, seeks to classify the health components and not the consequences of diseases (World Health Organization, 2001).

Worldwide, since the creation of the United Nations Convention on the Rights of Persons with Disabilities, disability is considered in human rights, which has gradually produced a greater inclusion, even so, disability contributes an important problem, and is that according to previous evidence, it is shown that people with disabilities have a lower economic situation than a person without disabilities (Banco Mundial, 2011).

Regarding what is happening in Latin America on disability issues, recently there was no clear idea of the number of people with some type of disability, until in the year 2000 the censuses added questions on that topic. Previous studies showed that between 2010 and 2012 the number of people living with disabilities increased by 4.5 million, due to the fact that a greater amount of information was obtained in each data collection exercise (Pantano, 2014; Vásquez, 2006; CEPAL, 2014; Vergara, 2017).

The Latin American and Caribbean Interuniversity Network on Disability and Human Rights, created in 2009, has carried out various studies that seek to demonstrate how disability affects the education received by people with this condition, since this factor also affects various factors in the time, for example, getting a job or a better education (Vásquez, 2006).

This network arises from the conclusions obtained by the “1st Regional Seminar on the inclusion of persons with disabilities in Higher Education in Latin America and the Caribbean” (2005) and by the “International Convention on the Rights of Persons with Disabilities the United Nations Organization” (2006) (Katz et al., 2018).

According to the World Bank, in Latin America and the Caribbean there are 85 million people with some type of disability and this leads to more than one problem such as poverty or exclusion that these families face (García et al., 2022).

In the case of Chile, various measures are used to get an idea of the context of disability in the country. For example, the results of the CASEN survey applied in 2003 showed that 3.6% of the total population has at least a disability, which corresponds to 565,913 people. Likewise, the results of the 2002 CENSUS established that 2.2% of the total population has one or more disabilities, which is equivalent to 334,377 people. In this case, the Census considered as “disabled” people with: total blindness, total deafness, dumbness, crippled/paralysis and mental deficiency (FONADIS, 2005).

Another study of disability in Chile was carried out in 2004, where the First National Study of Disability in Chile (ENDISC) was carried out, which marked a historical event, significantly advancing as a country, given that a broader panorama was obtained. general and transversal of what corresponds to disability in Chile. In 2014 the government raised the idea of carrying out another study similar to the one in 2004, since until that year no more studies of this type had been carried out by it. Why is it useful to have a broader panorama on disability? Having a broader panorama on disability allows us to have reliable information to face necessary tasks on inclusion and at the same time promote work towards a country that is more just, supportive and healthy (Zondek et al., 2006; Sánchez, 2015).

Thanks to the First National Study on Disability in Chile, we know that disability is four times more frequent in adults than in children and 14 times more frequent in older adults than in children, that is, the trend in our country says that the older the older are the probabilities of being disabled (FONADIS, 2005).

In terms of child disability of motor origin, the Teletón Institutes of Chile have the greatest experience, with an estimated coverage of 85% of the cases of children and young people with physical disabilities, under 20 years of age, especially carriers of moderate and severe functional impairment (Paolinelli and González, 2014).

In Chile, it seeks to generate equal opportunities between people who have disabilities and people who do not have it, within the framework of this, Law No. 20,422 was created, which establishes regulations so that this equality is fulfilled, giving the right to equal opportunities for people with disabilities.

Although in Chile there have been studies on disability and the various effects it has on people and the environment that surrounds them, this continues to be a topic of global interest that can be addressed in different ways. Thus, the present investigation seeks to identify, analyze, quantify and explain the variables that determine the quality of life of people with disabilities in Chile, through the measurement of the effective balance of emotions, with the objective of establishing and interpreting the quality of life. of life that people with disabilities have in Chile.

THEORETICAL FRAMEWORK

Regarding the determinants of the quality of life that people with disabilities have in Chile, according to the multidimensional model of Schalock and Verdugo (2003) (Schalock and Verdugo, 2003), they are classified into the following factors: Sociodemography and Disability; Disability and Education;

Social relationships; Civic Engagement and Governance; Disability and Quality of Life; these being essential when addressing the issue of the quality of life of people with disabilities in our country.

The aforementioned factors correspond to controversial aspects of the daily life of people with disabilities in our country.

Sociodemographic

In sociodemographic terms, it is understood that the variables related to disability are sex, age and the area where they live, which affect people's quality of life and directly influence their day-to-day life.

According to the World Report on Disability, worldwide, the prevalence rate of female disability is 19.2%, while that of men is 12% (WHO, 2011). The Economic Commission for Latin America and the Caribbean (ECLAC) indicated that between 2000 and 2011 the prevalence of disability was higher in women than in men (Economic Commission for Latin America and the Caribbean, 2011: 13).

In terms of age at the American level, it can be verified that 75% of the countries have the most prevalent disability in people over 65 years of age, only Chile and Guatemala have a higher prevalence of disability in people under 65 years of age. It was also observed that in only 5 countries (Ecuador, El Salvador, Guatemala, Honduras and the Dominican Republic) a greater number of people with disabilities could be found in the rural area of the country, while in the other countries studied the largest population with disabilities is located in an urban area (Neves and Álvarez, 2014).

In 2010, in Chile, within the framework of Law No. 20,422, which establishes the rules on equal opportunities and social inclusion of people with disabilities, the National Disability Service (SENA-DIS) was created. This body is responsible for promoting and articulating public policies on disability throughout the national territory and was in charge of promoting the preparation of the II National Study on Disability (ENDISC), carried out in 2015. This latest version identified that 16.7% of the national population over 2 years of age is in a situation of disability, a statistic that incorporates 2,836,818 individuals, showing that of the total number of adults who present a situation of mild, moderate or severe disability, one 24.9% are women in contrast to 14.8% of men in the same condition (Ramos, 2015).

Education

In the educational process, it is constantly sought to integrate people with different abilities, since the 1960s in developed countries movements were created that requested greater inclusiveness for people with disabilities, but it was not until 1994 that the United Nations Organization for the Science, Culture and Education (UNESCO) maintained that all students have the right to education regardless of their particular characteristics or difficulties, thus the concept of educational inclusiveness gained worldwide relevance.

The essence of special education is to ensure that children and young people with disabilities have adequate care and everything underlying the educational system must be geared towards that goal.

Regarding the educational level in Chile, 8.5% of the population with disabilities are studying, 10% have not completed any year of study and 42% have not completed basic education in Chile, all this according to the National Institute of Statistics. (INE).

If the level of education reached by people with disabilities is analyzed, the figures reflect a significant gap: One in 2 people with disabilities has not completed basic education, and it is surprising that 1 in 10 people with disabilities have attended secondary school and complete and only 1 in 20 have managed to access higher education.

Work

Regarding the area that involves work for people with disabilities, according to the author, the labor inclusion of people with disabilities is a complex process which considers different aspects, such as the process of insertion into the job position., infrastructure, among others, the boss-worker relationship being an important point, which influences how the area manager integrates the workers into the work environment and this relationship also influences the way workers create links with each other.

People with disabilities have less participation in the labor market and lower employment rates. With respect to disability and work, the figures say that one in three people with disabilities and of the corresponding age to work, do paid work and if we consider the population with a low socioeconomic status, the numbers of people with disabilities are twice as frequent than in the population with medium and high socioeconomic level.

Regarding work in Chile, according to studies, 29.2% of people with disabilities over the age of 15 do paid work and the remaining 70.8% do not do paid work.

For this reason, significant and sustained measures will be necessary in the coming years to favor the inclusion of people with disabilities in employment promotion, rural development and anti-poverty programs; The purpose is to offer opportunities for productive employment and decent work to people with disabilities and move towards the achievement of the Millennium Development Goals such as reducing poverty, allowing States to benefit from their contribution to the economy and society and avoid the high costs that derive from exclusion. Previous literature mentions that medium and large companies are the main employers in disability, because they contain more incorporation of these workers.

Social Relationships

Social relationships are a fundamental part of the process by which individuals develop the way of thinking, acting and feeling. These are essential for their participation in society, given the importance of this field is that it tries to consider disability as a form of social diversity.

Disability completely influences personal development, since it is a condition that affects a personal, family, social and cultural level, so not only people with disabilities (PeSD) are affected, but also their environment.

Historically, various models have been made to define disability, the social and biopsychosocial models being those that include the component

of how disability affects people in the social sphere and will be explained below.

Social model, disability is understood as a condition originating from social causes, not related to biological or religious reasons, but to limitations that society has to provide services and meet the needs of PeSD. Disability, therefore, would be the consequence of a disabled or disabling environment. This model proposes to focus on people's abilities and not on their normalization.

The biopsychosocial model is a model that articulates the medical and social models. The biopsychosocial model, recognized by the ICF, defines disability as a generic term that encompasses deficiencies, activity limitations and participation restrictions, becoming the negative result of the interaction between people with a health problem and personal and environmental factors. From this point of view, the response to the needs and the interventions that must be carried out must be based on the person-environment relationship, enhancing the resources of the subjects themselves and those of the context, in order to generate an inclusive environment.

From the public policy level, the National Policy for the Social Inclusion of Persons with Disabilities 2013–2020 is in force, under the Action Plan of the National Policy for the Social Inclusion of Persons with Disabilities (National Service for Disability, 2013), which brings together public policies from all sectors and materializes the State's commitment to people with disabilities. Its lines of work are health, employment, education, housing and culture, among others.

In the same way, the principle of equality and non-discrimination is in force from the Political Constitution of the Chilean Republic, which establishes in Chapter I, article 1, the full equality of people in dignity and rights, as well as in chapter III, article 19: 2nd and 3rd (Political Constitution of the Republic of Chile, 1980). A similar situation is described in Law No. 20,609 of July 2012, which establishes measures against discrimination, including disability as part of the definition of arbitrary discrimination (Law No. 20,609, art. 2).

At the local level, the Inclusive Local Development Strategy is being promoted as a public policy, which aims to promote inclusive local development at the community level from a comprehensive perspective through support, technical cooperation and intersectoral coordination, to reorient and/or deepen the inclusive policies from municipal development (National Service for Disability, 2017).

Civic Commitment and Governance

Civic commitment and governance are closely related and directly influence the lives of people with disabilities, which is why, over time, different laws and services have been created to improve these aspects.

To begin, we have The United Nations Organization (UN), which promotes the materialization of rights for people with disabilities, be it civil and political, economic, social and cultural rights through a social model, this has been materialized by the International Convention on the Rights of Persons with Disabilities in 2006, being ratified in Chile in 2008. This

places the different spheres of life of persons with disabilities on the level of rights.

Also, in Chile the National Disability Service (SENADIS) was created in 2010, responsible for promoting and articulating public policies on disability.

Regarding the health of people with disabilities, in Chile there is a charitable institution “La Teletón”, which is in charge of raising funds for the rehabilitation of children with motor disabilities, through a national television collection. This institution was founded in 1978, in the context of the military dictatorship and directly challenges the idea of the right to health as a social and human right, privatizing and commodifying health, and in turn redefines the responsibilities of the state regarding the matter.

At the same time, the World Health Organization convention emphasizes that the rehabilitation of children with disabilities should be promoted as quickly as possible, requiring a joint effort by multiple work teams and, in turn, it is necessary to have a record and adequate follow-up.

Quality of Life

The quality of life for a disabled person can be defined as the satisfaction experienced by the person with said vital conditions and, in turn, the combination of living conditions and personal satisfaction, directly influencing social well-being, which is defined as a value whose purpose is that all members of society have the necessary means to satisfy those demands accepted as needs. This is why the quality of life is also related to the valuation of the services provided to people, influencing different aspects such as the environment, security and housing, among others.

Although the environment is not a variable that directly affects disability, we can say that it is directly related to people's quality of life, it can be assumed that people who have better basic services such as water, air quality or the environment in general can lead to a better quality of life.

METHODOLOGY AND RESULTS

For the present investigation, the data were obtained directly from the “Social Well-being Survey (EBS 2021)” database, designed by the Undersecretary of Social Evaluation of the Ministry of Social Development as of 2019, which includes the responses of all the modules of the questionnaire, in addition to variables corresponding to established indicators and other variables of interest from the Casen Pandemia 2020 survey (Coughenour et al., 2019; Chahuan et al., 2021; De la Fuente-Mella et al., 2021; Chahuan et al., 2021).

The Social Well-being Survey was created in 2019 as a result of a social crisis that took place in Chile, where it was determined that the diagnosis of the country in terms of its economic situation was incomplete, for which reason the Ministry of Social Development and Family decided to incorporate new aspects of quality of life, which not only include material aspects.

In 2021, the aforementioned survey was finally presented, which sought to measure the quality of life and well-being of people, incorporating 11 well-being indicators established by the Organization for Economic Cooperation and Development: Income, Work, Housing, Health, Work-Life

Balance, Education, Social Relations, Civic Engagement and Governance, Environmental Quality, Personal Safety and Subjective Well-being.

As we mentioned before, the database used for the methodology of this work consists of different variables considered important when evaluating the quality of life of people with disabilities, where a survey is carried out during the months of April and May of the year 2021 (considering eight weeks of lifting) to the population aged 18+ and who has one or more disabilities.

Considering the type of variables presented in the database, it is that some transformations of the original database were carried out in order to make the interpretations of the measures of the variables more in line with reality and thus facilitate their interpretation. A user missing debugging method has been used, which consists of adding a number not used in the scale for the missing values, in the most common cases for Likert-type questions, the number "99" is used, but it was already typified as Don't know/No answer in other survey variables, therefore we will use the number "9".

Given that the database contained 250 questions, it has been chosen to use those that had more than 97.5% of the answers without imputation, generating a subbase of 44 variables, they will be the ones that will finally be used for the following methodological analyses.

The analysis for this research considers, according to what was analysed in the theoretical framework, the variables: educational, work, social relations, civic commitment and governance, quality of life and demographic variables; In order to explain the effective balance of emotions through the rest of the variables, and thus form an idea of the factors that influence it.

In order to answer the research question regarding what factors determine the quality of life of people with disabilities in Chile, Logit models will be used in this research, which correspond to non-linear econometric models that are used when the dependent variable is binary, which is part of the family of Generalized Linear Models, this is a regression that predicts the result of a categorical variable based on the independent or explanatory predictor variables.

RESULTS

For the realization of the model, 31 iterations were carried out, in order to achieve a more efficient and optimal result in terms of the model parameters, for which the following results were obtained, using the first iteration as a reference. to later compare it with the last iteration performed.

We can observe through the significance of the variables, selecting those that present a significance level of 90% ($pvalue \leq 0.1$), that iteration 1 presents five variables that explain the variable under study and the iteration 31, presents 9 variables, so interaction 31 contains a greater number of significant variables, which have a significant relationship with the dependent variable.

It is important to mention the type of relationship (positive or negative) that each predictor variable has with the dependent variable. This through the estimator β (coefficients). Based on these results of the model of the last iteration, it has been obtained that the effect of the educational level on the income of people with disabilities in Chile would positively affect the balance

of emotions, that is, the higher the educational level, the greater the balance of emotions. Regarding health conditions, the lower the health condition, the lower the possibility of continuing to study, causing a rather negative balance of emotions. The recognition at work of people with disabilities has a positive effect on their emotions, that is, the greater the recognition, the more positive emotions they have. Regarding the feeling of mistreatment/past to carry, we have a negative effect on the balance of emotions, that is, the greater the feeling of mistreatment, the less negative feelings will appear. With respect to the results of the indicator that evaluates the mood regarding anxiety/stress (PHQ4), we can observe that the lower the PHQ4 result, the lower the emotional balance. The effect of evaluating the quality of air and water in the commune positively affects emotions, that is, the better the evaluation, the more positive feelings are had. And finally, we have the evaluation regarding safety in public spaces and inside the home, in which both have a positive influence on the balance of emotions, the greater the security, the greater the emotional balance.

CONCLUSION

The findings of this research are consistent with what is stated in the theoretical framework, in relation to the fact that there are elements that can affect the well-being of people in the world of work, and can affect people with disabilities in a particular way (PCD). The present work has tried to make a scientific contribution to the empirical reality of PWD in Chile.

It is important to know these results in light of the efforts of public policy (e.g. Law 20,422) that tries to help incorporate PWD into the labor market. In this regard, it is noteworthy that many of the variables mentioned above do not mean an economic outlay by the State as a guarantor of labor inclusion, for example variables such as “to what extent have you been recognized at work” or “have you felt mistreated/past to take”. This is encouraging inasmuch as it makes us think that a cultural change can help in the sought social purpose.

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