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STRUCTURAL SIMILARITIES BETWEEN POPULATIONS OF PERSONS WITH AND WITHOUT DISABILITIES BY SELECTED SOCIAL AND ECONOMIC FACTORS

Abstract

Cohesion policy pursued by the EU addresses the important issue of improving the quality of life of persons with disabilities and, above all, preventing their social exclusion and discrimination. Measures in support of these aims are included in many strategic documents, among others, Europe 2020 and Strategy for Accountable Development until 2020. This paper aims to assess the situation of persons with disabilities compared to persons without disabilities by selected socio-economic variables and on the basis of real data from the 2011 General Population and Housing Census. The population structure of persons with and without disabilities was compared using statistical methods based on indexes of structural similarity, the Gini coefficient, and chi-squared statistic.

The structures of the examined groups of persons with and without disabilities turned out to be similar with respect to education and civil status, but significantly dissimilar with respect to age, economic activity, and source of income. Compared to persons without disabilities, among disabled persons there are considerably more persons who are professionally inactive and hence non-wage earners, living on retirement or disability pensions. Persons without disabilities begin living on their own sooner than persons with disabilities. Today, the lower level of education and

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professional activity among persons with disabilities compared to persons without disabilities is the most fundamental and difficult challenge for government policy towards persons with disabilities.

Keywords: persons with disabilities, discrimination, index of structural similarity, Gini coefficient, labour market.
JEL Classification: J15, J18, J71.

1. Introduction

The structure of states and regions in the European Union is remarkably diversified with respect to economic and demographic resources, which is why Member States pursue an integration policy known as cohesion policy. One of the main objectives of cohesion policy is to correct imbalances between EU regions as regards economic level, and business and social conditions. Cohesion policy has set eleven thematic objectives for 2014–2020. One of these is about promoting social inclusion and combating poverty and discrimination, while another concerns support for labour mobility (EU 2013).

One of the social groups most exposed to social exclusion and discrimination is persons with disabilities. Employment is an area where discrimination can be observed (Grabowska 2016, Bennett, Ray & Wilson 2016). Other researchers also mention the built environment and social barriers to people with disabilities (Sendi & Kerbler-Kefo 2009). There are almost 50 million citizens with disabilities in EU countries. Measures aimed at equal opportunities are therefore pursued, and measures designed to improve the quality of life of people with disabilities are provided in many strategic documents. The Europe 2020 strategy identifies sustainable development as the main priority in favour of social inclusion that aims to support the economy with high employment, ensuring social and territorial cohesion, activities promoting social innovation for the benefit of persons in difficult social circumstances (including persons with disabilities), and enhancing awareness and recognition of the basic rights of the socially excluded poor by giving them the opportunity to participate in social life (EU 2010).

Another important document as regards improving the quality of life of persons with disabilities is Strategy for Accountable Development until 2020. One of its particular objectives is socially sensitive and territorially sustainable development which encompasses activities aimed at inclusive development rather than exclusion and which seeks solutions that will allow all social groups (including persons with disabilities) to actively participate

in development processes, thus allowing them to benefit from economic growth. Achieving the targets of cohesion policy and fulfilling the tasks required by the above-mentioned strategies as regards counteracting social exclusion and discrimination, as well as enhancing the quality of life of persons with disabilities, require the situation of this social group to be systematically monitored. This paper seeks to evaluate the situation of persons with disabilities in contrast to those without disabilities by selected social and economic attributes based on real data sourced from the 2011 Population and Housing Census. The structures of social and economic variables characterising populations of people with disabilities and without disabilities in the Dolnośląskie Province are compared by means of statistical methods based on indexes of structural similarity, the Gini coefficient, and chi-squared statistic.

2. Data Sources

The structures of populations of persons with and without disabilities with respect to selected social and economic variables, i.e. age, education, economic activity and sources of income, have been compared using data from the 2011 Population and Housing Census published by the Central Statistical Office in Poland. The data is not up-to-date, so the actual condition of persons with disabilities cannot be evaluated, but it provides a valuable basis upon which to analyse the structural similarity of populations of persons with and without disabilities using the proposed methodology. The obtained results can support the debate conducted in the context of cohesion policy.

Censuses are generally considered one of the most important sources of statistical information because they transmit fundamental and complete knowledge about society and its demographic as well as social and economic properties.

Questions about disabilities broadly understood were introduced into census questionnaires in the 1978 census. The main objective of that census and of subsequent censuses conducted in 1988, 2002 and 2011 was to recognise and to obtain the demographic, social, economic and housing characteristics of this population, whose significance is socially so important.

The data on persons with disabilities gained as a result of the 2011 Population and Housing Census, which was carried out in compliance with the General Census Act of 2011 (The Act 2010, No 47, item 277), was collected in a representative survey for the first time, and the acquisition

of data was not mandatory due to the specific nature and sensitivity of the issue. The available responses included an optional refusal for respondents to answer specific questions concerning the area of disabilities. One may therefore suppose that data on the proportion of persons with disabilities in the total population collected in the 2011 census is underestimated (Central Statistical Office 2013).

According to the 2011 census methodology, disabled persons, in legal terms, are those who have been awarded relevant judgements issued by an approved authority. Biologically disabled persons, in turn, are those who have not been awarded such judgements but who feel constrained in their ability to perform basic activities of daily living typical for their age. Basic activities typical for infants are, for instance, correct reactions to external stimuli (crying, gestures, reflex actions), while for elderly persons they are daily self-care activities such as grooming, shopping, and cooking. Consequently, a disabled person as defined in the 2011 census is either a person with disabilities in the legal sense (i.e. only legally, or both legally and biologically) or a person who is not officially disabled but who feels constrained when performing basic activities of daily living typical for their age (working, studying, leisure, self-care).

The population and housing census is a valuable source of data input to analyses of social and economic conditions of disabled persons and their households. It is also the only source of data used to perform a wide--reaching analysis in this field at the regional level.

3. Methodology

3.1. General Remarks

In this paper we measure the similarity of structures using the Bray--Curtis and Canberra metrics as well as concentration ratios graphically illustrated by concentration curves. The analysis is focused on visualisation so as to better understand and recognise the data structure in its entirety and the underlying interrelationships. Pearson's χ^2 test (Agresti 2002) was used to evaluate the relationship between two populations under study in regard to selected social and economic variables:

$$\chi_2 = \sum_{i=1}^{I} \sum_{j=1}^{J} \frac{(n_{ij} - e_{ij})^2}{e_{ij}}, \tag{1}$$

where n_{ij} are frequencies in the contingency table $(I \times J), e_{ij} = \frac{n_{i.} n_{.j}}{n}$ – are theoretical, expected frequencies if we assume the independence of variables. The test statistic (1) is asymptotically distributed as chi-squared with $(I - 1)$ $(J - 1)$ degrees of freedom, if n is sufficiently large. When expected frequencies are small, then the type II error probability increases. Therefore, the above tests were conducted with a large sample of 75,257 observations, and the expected frequencies were always greater than 10.

In order to indicate variables such as age, education, marital status, economic activity and source of income, which are significant for a person with or without disabilities, the following null hypotheses claiming the independence between two variables were tested:

$$H_0: \forall\, i = 1,2,...,I \quad \forall\, j = 1,2,...,J \; p_{ij} = p_{i.} p_{.j},$$

i.e. the variables under study are independent, with the alternative hypothesis:

$$H_1: \exists\, i = 1,2,...,I \quad \exists\, j = 1,2,...,J \; p_{ij} \neq p_{i.} p_{.j},$$

i.e. the variables under study are dependent, where I and J denote the numbers of rows and columns in a contingency table created for the two variables under study.

3.2. Similarity Index

There are a number of structural similarity (comparison) measures in the literature using distance (unlikeness) measures (*Taksonomia*… 1998). The choice of specific measures is a debatable issue, and their application depends on a given case, whereas no measure can outperform other measures (Ostasiewicz 2011).

Let $p = (p_1, p_2, \ldots, p_r)$ and $q = (q_1, q_2, \ldots, q_r)$ denote structures of populations of persons without disabilities and with disabilities, respectively, as regards the selected social and economic variables for r elements of the structure, where:

$$\sum_{i=1}^{r} p_i = 1, \sum_{i=1}^{r} q_i = 1, i = 1, 2, \ldots, r.$$

The measure of similarity of two structures, based on the Bray-Curtis metric, belonging to the interval [0, 1], is then defined by the following formula:

$$s_{BC} = \sum_{i=1}^{r} \min(p_i, q_i). \tag{2}$$

This index can also be written using the Czekanowski's metric, normed on the interval [0, 1], which is based on the city block (taxicab) metric (Młodak 2006):

$$s_{Cz} = 1 - \frac{1}{2}\sum_{i=1}^{r} \left| p_i - q_i \right|. \tag{3}$$

Another popular measure of similarity of structures is also the measure based on the Canberra distance, which is normed on the interval [0, 1] and defined as:

$$s_C = 1 - \frac{1}{r}\sum_{i=1}^{r} \frac{\left| p_i - q_i \right|}{p_i + q_i}. \tag{4}$$

The similarity coefficient based on the Canberra metric, in contrast to that based on the Bray-Curtis metric, is sensitive to the type of dissimilarity that is typical in the case of differences between structures of entities in populations. A good measure should indicate such sensitivity, even if it is not always necessary (Młodak 2006).

If the examined structures are totally different (dissimilar), then structural similarity measures normed on the interval [0, 1] are equal to zero, and if they are identical, the index is equal to one.

3.3. Concentration Curve

The concentration (dispersion) curve of distribution q with respect to distribution p has been applied in a non-standard way in this research to compare the populations of persons with and without disabilities concerning a given attribute.

A diversity of two structures p and q can be represented graphically by a broken line connecting in a plane, in a unit square, the points with following coordinates:

$$(0, 0), (p_1, q_1), (p_1 + p_2, p_1 + q_2), \ldots,$$
$$(p_1 + p_2 + \cdots + p_{r-1} + p_r, q_1 + q_2 + \cdots + q_{r-1} + q_r), (1, 1).$$

The number of segments of the concentration curve is equal to the number of values taken by variables characterising the populations examined with regard to the given variable. When the points in the curve concerning one variable are naturally ordered, then the curve can be situated over the diagonal of the unit square or under the diagonal as well. However, if the points belonging to the concentration curve are in a non-decreasing order

according to the angle of inclination with respect to the horizontal axis, calculated from the formula q_i/p_i, then the curve obtained by joining the points will always be situated under the diagonal (the curve will be convex). The curve formed according to the ordered non-decreasing quotients is called the curve of maximal concentration (dispersion), and the diagonal of the square is called the line of uniform division (Borowski & Szczęsny 2005, Wyżnikiewicz 1987).

If the structures of populations of persons with and without disabilities were identical with regard to some social and economic variables, then the concentration curve would be equal to the line of uniform division. In practice, such a situation does not ever occur, or it occurs extremely rarely. The opposite situation occurs in the case of a total concentration, when both populations are described by a single, yet different, value taken by the variable. In such a case the concentration curve has the form of two perpendicular segments – the horizontal axis and the right-hand side segment of the plot.

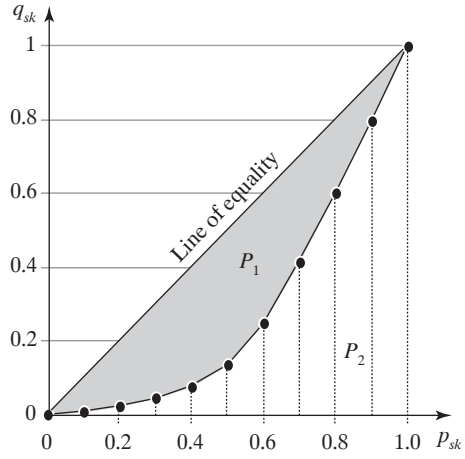

Fig. 1. Concentration Curve

Source: authors' own elaboration.

The higher the degree of concentration or the more diversified the structures of the populations under study, the more distant the concentration curve is from the line of uniform division. The concentration curve represents the application of the Lorenz curve, well-known in statistics and econometrics as a measure of inequality of distribution of income or

another good. The concentration curve allows an analysis of the character of concentration based on its shape, and also determines the degree of concentration by means of the Gini coefficient. The numerical value of concentration is given as the ratio of the area between the concentration curve and the line of uniform division to the half area of the unit square. With respect to the above definition, the coefficient of concentration is calculated from the following formula:

$$G = \frac{P_1}{P_1 + P_2} = 2P_1 = 1 - 2P_2 . \tag{5}$$

The coefficient of concentration defined in this way belongs to the interval [0, 1]. It is equal to zero in the case of a total absence of concentration (the curve is equal to the line of uniform distribution), and to one in the case of full concentration. The greater the value of the coefficient, the more dissimilar the structures of the examined populations. Using area formulas for a trapezium and triangle (Fig. 1), the coefficient of concentration can be written in the form:

$$G = 1 - 2\sum_{i=1}^{r} \frac{q_{sk_i} + q_{sk_{i-1}}}{2} p_i, \tag{6}$$

where: p_{sk_i}, q_{sk_i} denote the cumulative frequencies for a population of persons with and without disabilities, respectively.

With its graphical interpretation, the Gini coefficient outperforms other indexes used to study the similarity of structures that are measures of similarity only.

4. Results of the Analysis

Information at the regional level about persons with disabilities may only be gained from General Censuses of Population and Housing. With no other source of information available, the 2011 census data was used to compare the structures of populations of persons with and without disabilities by selected social and economic variables in the Dolnośląskie Province.

According to the 2011 census, Dolny Śląsk (Lower Silesia) had a population of 2.915 million, which comprised 13% of persons with disabilities and 87% of persons without disabilities. In other words, there are 15 persons with disabilities per 100 persons without disabilities. Among the approximately 384,000 persons with disabilities, 253,000 were officially disabled (66% of the total number of those with disabilities), and the

remaining approximately 130,000 persons were biologically disabled only (34%).

Women outnumbered men among persons both with and without disabilities (Fig. 2). This is primarily because on average women live longer than men. In 2016, average life expectancy for women in Lower Silesia was 81.4 years, while for men it was 73.5 years. Average life expectancy in Poland has been systematically increasing due to advanced medical technology, diagnostics, as well as the general promotion of proactive and healthy lifestyles (Central Statistical Office 2017).

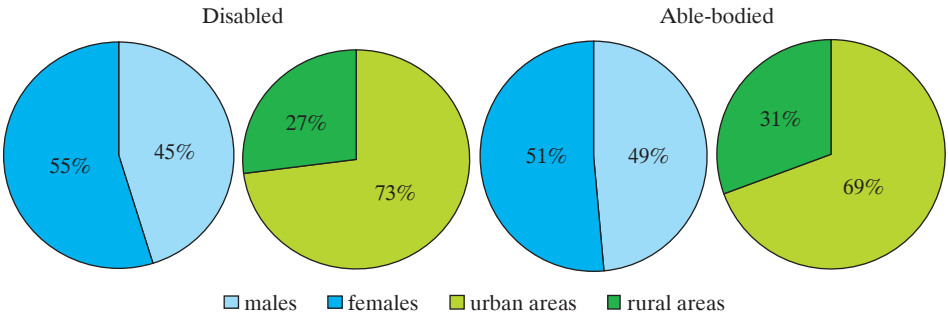

Fig. 2. Structure of Disabled and Able-bodied People by Sex and Place of Residence

Source: authors' own elaboration.

The structure of populations of persons with and without disabilities was quite similar with respect to place of residence, as it was with respect to gender. In both populations of persons with and without disabilities, approximately 30% lived in villages. In 2011, nearly 12% of village dwellers were persons with disabilities, whereas almost 14% of urban dwellers were persons with disabilities. Both shares were quite similar.

Various demographic and socio-economic variables are important determinants of civilised communities. Therefore, the present similarity analysis of distributions in the populations under study was conducted by such variables as: age, education, marital status, economic activity, and source of income. The chi-squared test applied to test for independence of the aforementioned demographic variables of being a person with or without disabilities in each case rejected a null hypothesis claiming that disability is independent of given variables ($p_{value} = 0.00$). Hence, it is justified to analyse the quality of life and symptoms of social exclusion of persons with

disabilities regarding those demographic and socio-economic variables. To determine the similarity of distributions, the presented method was applied based on similarity measures constructed in relation to the Bray--Curtis and Canberra distance measures. The structure of the population of persons without disabilities was compared to the population of persons with disabilities, and to subpopulations of legally disabled persons and of biologically disabled persons.

The conducted analyses of population structures by age, source of income, and economic activity demonstrate major differences between the populations under study. The similarity indexes (cf. Table 1) for those variables ranged from 0.42 to 0.64. Groups of persons with and without disabilities were more similar regarding marital status and education – the similarity measures ranged from 0.66 to 0.84. This result may indicate that disabilities do not always have to be a hindrance to achieving the life goals of raising a family or pursuing a professional career, where knowledge and proficiency associated with adequate education are the strongest factors.

Table 1. Similarity Measures of Structures

Statistical Variable	Persons without Disabilities *versus*		
	All Persons with Disabilities	Persons with Disabilities, Legally	Persons with Disabilities, Biologically
Index Based on the Bray-Curtis Distance			
Age	0.53	0.55	0.47
Marital status[a]	0.81	0.84	0.74
Education level[b]	0.77	0.78	0.74
Source of income	0.44	0.42	0.48
Economic activity[a]	0.59	0.59	0.59
Index Based on the Canberra Distance			
Age	0.52	0.54	0.47
Marital status[a]	0.73	0.76	0.69
Education level[b]	0.69	0.71	0.66
Source of maintenance	0.52	0.49	0.59
Economic activity[a]	0.62	0.61	0.64

[a] – persons aged 15 years and over, [b] – persons aged 13 years and over.

Source: authors' own elaboration.

In the population of persons without disabilities 54% were married *versus* 52% among those with disabilities. The biggest difference with respect to civil status involved widows and widowers (7% of those without disabilities and 25% of those with disabilities, respectively), while more than 90% of them were aged 60 or over. This is partly because disabilities become more acute with age (Fig. 3).

Education is distributed similarly to civil status in the populations under study. The similarity is weaker than in the case of civil status, but it is quite noticeable. Persons with disabilities are less educated than persons without disabilities, but at most levels of education the share of persons with disabilities differs from that of persons without disabilities by 3 percentage points on average. The biggest difference concerned higher education. Only 7% of persons with disabilities (or perhaps as much as 7%, because generally the organisms of disabled people are less efficient) have higher education *versus* 20% of persons without disabilities (Fig. 3).

As for the other analysed variables, the structures of the examined populations are dissimilar. Especially different are distributions of economic activity and related sources of maintenance. The population of persons with disabilities contains markedly more persons who are professionally inactive, and thus their sources of income are non-wage related such as retirement and disability pensions. Hence, there are fewer professionally active persons with disabilities who are wage-earners compared to persons without disabilities.

It is also interesting that the share of dependent persons in the population of persons without disabilities is three times bigger than the share of dependent persons in the population of persons with disabilities. This is because young people are dominant in the group of persons without disabilities. Among dependent persons without disabilities, 78% were persons aged 24 or under *versus* 46% of dependent persons under 25 among disabled persons. Hence, persons without disabilities become independent and live on their own sooner than persons with disabilities.

Today, the lower level of education and professional activity among persons with disabilities compared to persons without disabilities is undoubtedly the most fundamental and difficult challenge for government policy towards persons with disabilities.

Both measures of similarity of structures – the one based on the Bray-Curtis metric and the one based on the Canberra distance – produced similar results.

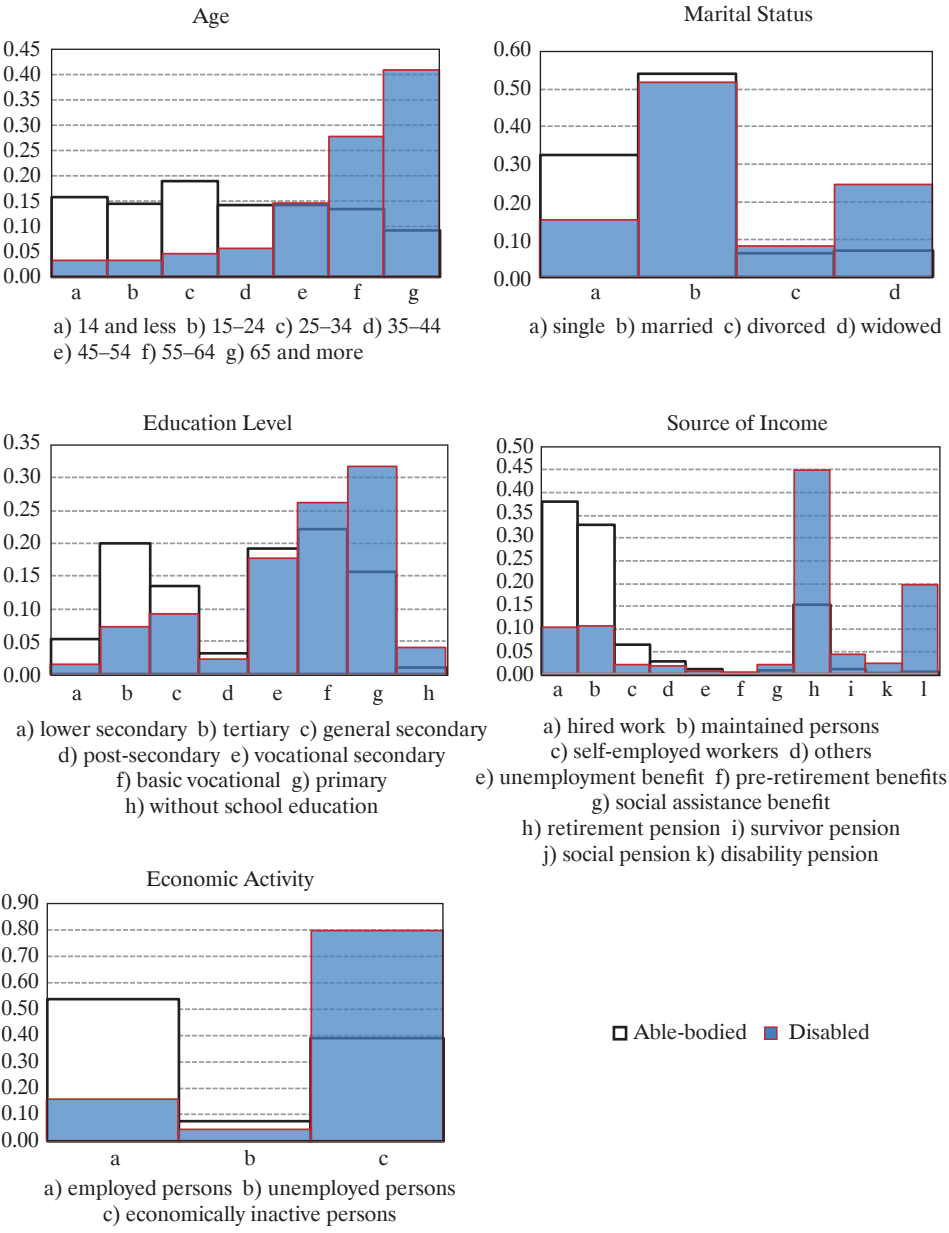

Fig. 3. Similarity in the Structure Due to Selected Features

Source: authors' own elaboration.

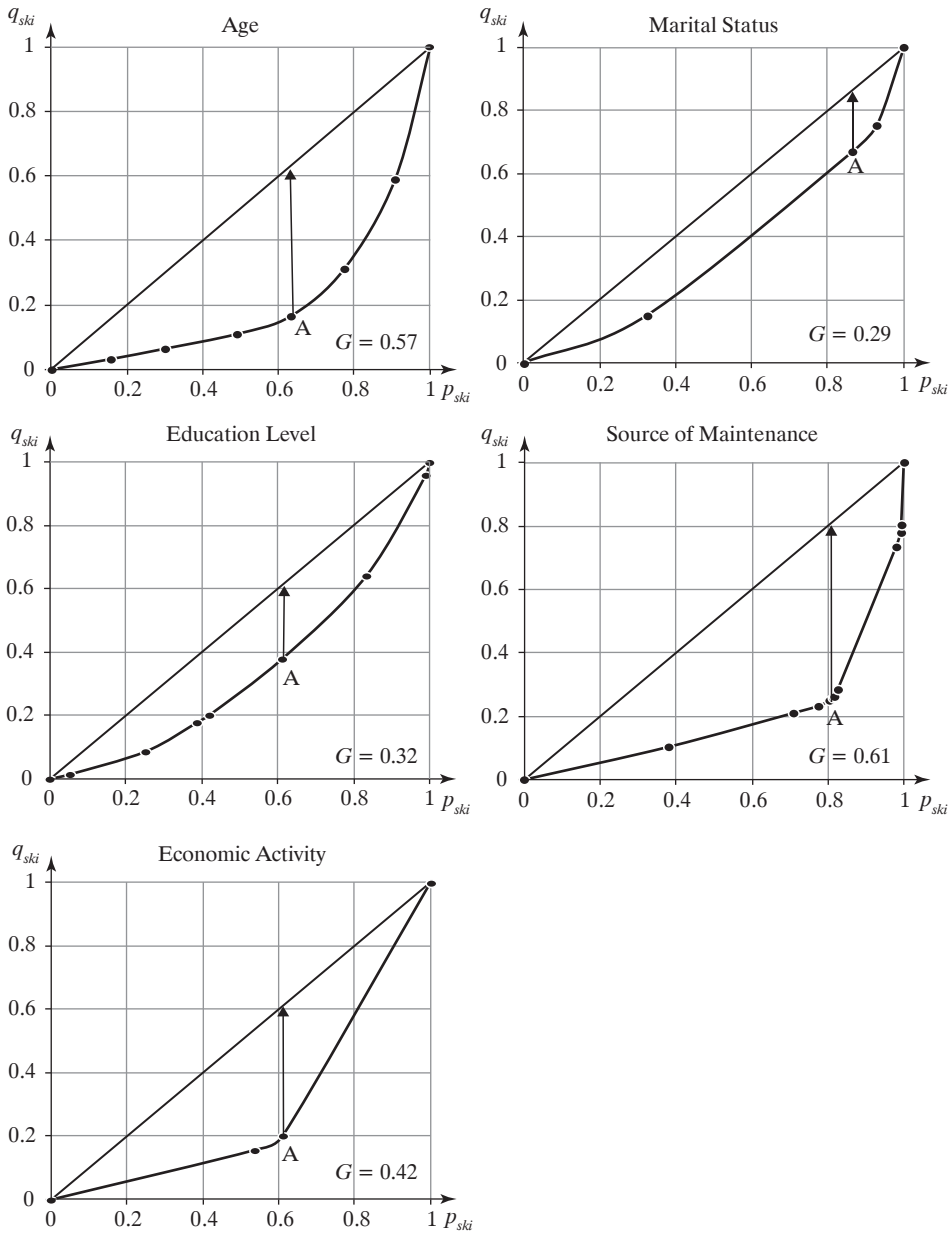

Fig. 4. Maximum Concentration Curve

Source: authors' own elaboration.

The similarity of structures measured by indexes based on the Bray--Curtis and Canberra metrics was found to be comparable, both in the case of all persons with disabilities and in the case of subpopulations of legally disabled and biologically disabled persons. Therefore, the analysis based on concentration curves and coefficients will now consider all persons with disabilities and compare them to persons without disabilities.

The concentration coefficients calculated according to formula (6) take on analogous values as metrics based on the Bray-Curtis and Canberra distances to show the dissimilarity of structures. When analysing their values, one may conclude, as above, that the structures of the populations of persons with and without disabilities resemble one another more as regards civil status and education, and less in the case of the remaining variables. This approach is better because the measure is graphically interpreted by the curve of maximal concentration.

The concentration curve (cf. Fig. 4) demonstrates the level of disparity between the structures of the populations under study. The closer to the line of uniform division the concentration curve, the lower the level of concentration. The line of uniform division represents the case where the cumulative frequency of persons without disabilities, given the values of the categorical variable from the first to the rth item, is identical to the cumulative frequency of persons with disabilities.

Looking at the concentration curves in Figure 4, we notice that in each case the curves first diverge from the diagonal and then come closer to it again. This is because the cumulative frequencies of persons with disabilities first diverge from the cumulated frequencies of persons without disabilities for the respective categorical data, but after reaching a certain "critical" point (A in Fig. 4), the differences between them start to decrease.

The distance between the concentration curve and the uniform division line is biggest at point A, and equals for the respective variables: age – 0.47, civil status – 0.19, education – 0.23, source of income – 0.56, economic activity – 0.42.

In the case of age, the result indicates that approximately 47% of persons should be shifted from one age bracket to another in order to obtain an identical structure of persons with and without disabilities among all age groups. In addition, the maximal concentration curve implies that in the four age groups jointly (i.e. persons aged 14 years and under, from 15 to 24 years, from 25 to 34 years, and from 35 to 44 years) the percentage of persons without disabilities who are aged 45 years or less is bigger by 0.47 percentage points than the percentage of persons with disabilities in this age bracket.

In turn, persons with disabilities dominate those without disabilities in the case of three age groups, i.e. 45 to 54 years, 55 to 64 years, and 65 years and older, which are located above the critical point A, while the difference between the percentages is biggest for the oldest group (9% for the population of persons without disabilities *versus* 41% for the population of persons with disabilities).

Looking at the concentration curve describing economic activity, one notices that in the case of two categories, i.e. employed and unemployed, in other words professionally active or inactive persons, the structure exhibits an excess of persons without disabilities over persons with disabilities. On the other hand, professionally inactive persons dominate in the population of persons with disabilities, as demonstrated by the third segment of the cumulative maximal concentration curve. If 41% of professionally inactive persons with disabilities were shifted to the professionally active group, i.e. to employed persons, then the curve of maximal concentration would be almost identical with the line of uniform division, and the coefficient of concentration would equal zero. Similar analysis can be conducted for the remaining statistical variables.

The conducted research demonstrated the considerable usefulness of methods based on concentration curves for analysing the structural similarity of two populations, especially as regards delivering quick information using graphical visualisation.

5. Conclusions and Further Research

The European Union's strategy is primarily aimed at creating a society that is friendly and accessible to all. Messages, guidelines, and even directives are regularly issued that oblige EU Member States to work against the social exclusion of persons with disabilities. Nevertheless, it is mainly the Member States who bear responsibility for the policy towards persons with disabilities. Each government should regulate the issue through its internal cohesion policy towards disabled persons. This policy should be supported by statistical analyses aimed at evaluating the social and economic conditions facing persons with disabilities.

Even though the data provided by the General Population and Housing Census is underestimated, it relates to a large group of people with disabilities and hence allows their demographic and socio-economic situation to be assessed quite well at both the country and regional level. Therefore, it is necessary to continue research in this area and to extend its range, so

that the results obtained by researchers may contribute to the undertaking of proper measures aimed at improving the situation of disabled persons.

The presented facts, which are expressed in numbers, provide the material for sociological and demographic analyses of disabled persons and for the accomplishment of basic needs-oriented activities. The analysis emphasises the significant differences in the structure of populations of persons with and without disabilities. It also tries to demonstrate that in some areas the structure of persons with disabilities does not deviate from that of persons without disabilities, and that disabilities do not always have to be a hindrance to achieving life goals or pursuing a professional career.

Today, the lower level of education and professional activity among persons with disabilities compared to persons without disabilities is undoubtedly the most fundamental and difficult challenge for government policy towards persons with disabilities. The low level of involvement of persons with disabilities in labour markets represents a major policy problem not only in Poland, but also in many EU countries. The employment rate for persons with disabilities aged 20–64 in the EU in 2009 was 45.7%, whereas in Poland it was as low as 33.3% – one of the lowest rates recorded in the EU (Kukulak-Dolata & Sobocka-Szczapa 2013). This index was only lower in Romania, Hungary, and Greece. The situation of persons with disabilities primarily depends on economic development in their home countries and on policies pursued by governments. Further research is needed to examine how efficiently persons with disabilities are supported. Actual improvement in the well-being of disabled persons also depends on whether they can make determined efforts to take advantage of the help provided by policymakers.

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Abstract

Analiza podobieństwa struktur zbiorowości osób niepełnosprawnych i pełnosprawnych według wybranych cech społeczno-ekonomicznych

W ramach polityki spójności prowadzonej w Unii Europejskiej ważnym problemem jest poprawa jakości życia osób niepełnosprawnych, a przede wszystkim zapobieganie ich wykluczeniu społecznemu i dyskryminacji. Działania wspierające ten kierunek wymieniane są w wielu dokumentach strategicznych, m.in. Europa 2020 czy Strategia na rzecz odpowiedzialnego rozwoju do 2020 r. Celem artykułu jest ocena sytuacji osób niepełnosprawnych w porównaniu z osobami sprawnymi według wybranych cech społeczno-ekonomicznych na podstawie rzeczywistych danych pochodzących z Narodowego Spisu Powszechnego Ludności i Mieszkań z 2011 r. Analiza porównawcza struktury cech społeczno-ekonomicznych ludności sprawnej i niepełnosprawnej w województwie dolnośląskim została przeprowadzona z wykorzystaniem metod statystycznych opartych na wskaźniku podobieństwa struktur, współczynniku Giniego oraz statystyce chi-kwadrat.

Badane grupy osób pełnosprawnych i niepełnosprawnych okazały się podobne pod względem struktury wykształcenia i stanu cywilnego, natomiast istotnie zróżnicowane pod względem wieku, aktywności ekonomicznej oraz źródła utrzymania. Wśród niepełnosprawnych zdecydowanie więcej niż wśród sprawnych jest osób biernych zawodowo i tym samym utrzymujących się z niezarobkowych źródeł, jak emerytury czy renty, natomiast mniej jest osób aktywnych zawodowo i utrzymujących się z dochodów z pracy. Osoby sprawne szybciej przechodzą na własne źródło utrzymania niż osoby niepełnosprawne. Niższy niż wśród osób pełnosprawnych poziom wykształcenia oraz aktywności zawodowej to obecnie bez wątpienia podstawowe, a zarazem najtrudniejsze wyzwania stojące przed polityką państwa wobec grupy osób niepełnosprawnych.

Słowa kluczowe: osoby niepełnosprawne, dyskryminacja, wskaźnik podobieństwa struktur, współczynnik Giniego, rynek pracy.