Global Journal of Management and Business Research: B
Economics and Commerce
Volume 25 Issue 1 Version 1.0 Year 2025
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

Demographic Aspects of Illiteracy in Italian Regions through the Latest Census Data

By Giuseppe De Bartolo
University of Calabria, Italy

Abstract- The level of education is becoming more and more important in order to explain the variations in the demographic phenomena. In fact, many studies have shown that women with a high level of education have fewer children; higher education is associated with lower mortality and better health. These evidences are already consolidated in the recent international literature and, according to many scholars, the variable education will be at the center of the social demography of the 21 st century. In this context the analysis of illiteracy would allow to grasp some critical issues related to the transformations taking place in society. We recall that in Italy the community of statisticians and demographers, apart a brief interlude in the fifties and sixties of the last century, gave little importance to the study of illiteracy, considering it a residual element of the social development of the country. Instead, pedagogues and linguists, because of their direct involvement, have shown that in Italy illiteracy and functional illiteracy are in various ways widely spread and cause social marginalization.

Keywords: *demography, illiteracy, Italian censuses.*

GJMBR-B Classification: *LCC Code: HB1543*

Strictly as per the compliance and regulations of:

Demographic Aspects of Illiteracy in Italian Regions through the Latest Census Data

Giuseppe De Bartolo

Abstract - The level of education is becoming more and more important in order to explain the variations in the demographic phenomena. In fact, many studies have shown that women with a high level of education have fewer children; higher education is associated with lower mortality and better health. These evidences are already consolidated in the recent international literature and, according to many scholars, the variable education will be at the center of the social demography of the 21 st century. In this context the analysis of illiteracy would allow to grasp some critical issues related to the transformations taking place in society. We recall that in Italy the community of statisticians and demographers, apart a brief interlude in the fifties and sixties of the last century, gave little importance to the study of illiteracy, considering it a residual element of the social development of the country. Instead, pedagogues and linguists, because of their direct involvement, have shown that in Italy illiteracy and functional illiteracy are in various ways widely spread and cause social marginalization.

At national level these phenomena are widely investigated thanks also to international surveys involving Italian country, such as the International Adult Literacy Survey coordinated by Statistics Canada and those conducted by the OECD. Going down to the Italian regional level, the immediately available data are those provided by the censuses which, however, have the limit of not explicitly bringing out these new forms of lack of adequate education, because only "illiterate being able to read or write. In the census, illiterate and unskilled literates are labeled as those with no educational" and "alphabets but without a qualification" are detected. In the analysis developed here these two categories have been grouped because in this way we believe we could estimate some important features of functional illiteracy at regional level, a phenomenon that is largely underestimated today.

Keywords: demography, illiteracy, Italian censuses.

I. Introduction

Education is becoming increasingly important as a crucial variable in explaining changes in demographic phenomena. Indeed, numerous research studies have shown, for example, that women with high educational attainment have fewer children, and higher education is often associated with lower mortality and better health (Samir and Lentzner 2010, pp. 201-236; James et al. 2012). This evidence is already well-established in the most recent international literature, and according to some authors, the education variable will be at the center of demography in the 21st century (Lutz 2010, pp. 9-16). This is due to the significant changes in today's world, but especially to new ways of interpreting these changes. In this context, the analysis of illiteracy would allow us to capture some critical issues related precisely to the transformations taking place in our society. Limiting ourselves to the terminology in use in the Italian literature on illiteracy, we list its most important definitions below, recalling the difficulty of comparing the phenomenon from country to country and even over time due to the lack of uniform criteria by which the various surveys are carried out.

Literate is one who has no educational qualification but is at least able to read; literates without educational qualifications, defined as such by the population census, are those who reported being able to read and write, even though they did not have an elementary school leaving certificate; illiterate is one who has no educational qualification and can neither read nor write; instead illiterates surveyed by the population census, on the other hand, are those who reported not being able to read or write. In the census, illiterate and unskilled literates are labeled those with no educational qualification. Returning literates are the literate who, without the exercise of alphanumeric skills, regress by losing the ability to use written language to formulate and understand messages; a functional illiterate is defined as one who, although having developed the ability to read and write, is unable to fully comprehend the meaning of the passage read and unable to use writing in order to be understood by other possible readers (Schettini 2005; Vàgvőlgyi et al. 2016, pp. 1-13).

II. Demographics and Illiteracy

In Italy, the community of statisticians and demographers, apart from a brief interlude in the 1950s-1960s, gave little importance to the study of illiteracy, considering it a residual element in the country's social development. It was not until the 1990s that interest in this topic returned through original research by Pezzulli and Lombardo on youth illiteracy in light of 1991 census data (Pezzulli and Lombardo 1995, pp. 15-28). Pedagogists and linguists, on the contrary, through their direct involvement, have pointed out that in Italy illiteracy, but especially return illiteracy and functional illiteracy, are in various ways widespread and of concern because they are a cause of social marginalization (De Mauro 1995).

At the national level, these phenomena are widely studied thanks also to international surveys that have seen and see our country involved. We recall in this regard the International Adult Literacy Survey (IALS),

Author: University of Calabria, Italy.
e-mail: giuseppe.debartolo@unical.it

a sample survey coordinated by Statistics Canada, conducted between 1994 and 1998, which was the first large-scale comparative survey supported by the OECD and designed to identify and measure a set of adult skills in order to assess the impact of education on the economy in the 20th century. The results of this survey represent an important asset for studying and evaluating adult skills in twenty two countries including Italy, which joined in 1998. It was followed in 2003 by the Adult Literacy and Life Skill Study and in 2012 by the Program for the International Assessment of Adult Competencies (PIAAC), which in our country is edited by the National Institute for Public Policy Analysis-INAPP. Recall again that the PIACC survey measures the skills of adults aged 16-65 on *Literacy, Numeracy and Problem solving.*

The results of the first round of the PIAAC survey, which took place between 2011 and 2012 and in which 38 countries took part, show a gap between Italian participants and the OECD average in both *Literacy* and *Numeracy;* moreover, at the geographical level, the average scores recorded in the South and Islands are lower than the rest of the country (Invalsi Open 4/12/2020).

For a more detailed analysis regarding the so-called *low skilled,* who emerge from the data of the 2014 OECD-PIAAC survey country report with respect to socio-demographic characteristics and other variables for the 16-24 and 25-34 age groups, please refer to the study by Di Francesco et al. (2016, pp. 53-67). Here we highlight only a few features of this study, such as that the problem of the *low skilled* is a feature shared by all the countries that participated in the first round of the PIACC survey; that in Italy citizens in the 16-65 age group with very low levels of *literacy* are just under 11million, the highest percentage among the participating countries. The *low skilled* tend to be concentrated in the older ages, although important percentages are found in the 16-24 age group (9.6 percent) and the 25-34 age group (15 percent). In addition, there is not an even distribution throughout the country of people with low skill levels as the South and Northwest have the highest percentages (60 percent). People with low levels of competence are in the vast majority low-schooled (75 percent), which confirms that educational qualification is one of the main "predictors" of the level of competence expressed by individuals. In any case, it is not insignificant that 20.9 percent of these people hold a diploma and 4.1 percent even hold a bachelor's degree.

The results of the association of age with educational qualification highlight an important feature: the *low-skilled* with an educational qualification equal to a high school diploma are predominantly in the 25-34 age group (28 percent) and in the 35-44 age group (26 percent). This finding confirms a trend of the existence in our country of a significant number of young adults who are functionally illiterate despite possessing a college degree, which was already highlighted in the previously cited research by Pezzulli and Lombardo (1995, pp. 15-28) on census data from 1991.

III. Life Expectancy by Gender and Level of Education in Italy

The mortality table is the tool that allows a very accurate statistical analysis of human survival. Its invention played a fundamental role in the history of demography (J.et M. Dupâquier, 1985, Ch. 6). Until recently, mortality tables have been constructed exclusively by age, sex, and territory, whereas many studies conducted on inequality in morbidity and mortality indicate that there is strong heterogeneity in survival associated with socioeconomic factors such as education, income, employment status, and social class (Kuhn, Prskawetz and Sunde 2014).

From these evidences, observed in many European countries, arose by Istat the need to study also for Italy, with a special project, the inequalities on mortality linked to socio-economic factors, choosing the educational qualification as a symptomatic variable of this condition; variable that is also related to the social condition of the family of origin, lifestyles and opportunities for access to care. Subsequently, the survival analysis was extended by Istat to the regional level, thus making available for the first time in Italy regional mortality tables by level of education (high, medium, low) of the resident population at the 2011 Census classified by gender and also by birth cohort (Istat, 2018).

These new tables highlight the existence of significant territorial inequalities in survival at birth, estimated at 3.0 years for the male sex (between Bolzano and Campania) and 2.6 years for the female sex (again between Bolzano and Campania) with Calabria, Sicilia and Campania always occupying the last places in these rankings. The gap widens even more when education level is also taken into consideration. Considering the difference between high and low levels of education, there is even a 6.1 year difference for men and a 4 year difference for women, differences again recorded between the province of Bolzano and Campania. The latter region is also the most disadvantaged in life expectancy at birth for both less educated women and less educated men (82.9 and 77.5 years of life expectancy at birth, respectively) (Table 1).

Variation in inequality in life expectancy by educational attainment is a constant feature at the territorial level but with some differences that we point out here: Marche and Umbria have smaller differentials than other Italian regions for both sexes, while Emilia-Romagna and Calabria have lower differentials only among men (Table 1).

Table 1: Life Expectancy at Birth by Region, Gender and Educational Level of the Census Population in Italy in 2011 Period 2012-2014

Regions/Provinces	Males				Regions/Provinces	Females			
	Education level					Education level			
	Low	Medium	High	All		Low	Medium	High	All
Bolzano	80.4	82.3	83.6	81.7	Bolzano	85.5	86.6	86.9	86.0
Trento	80.0	81.5	83.0	81.1	Trento	85.4	86.8	86.4	85.9
Marche	80.5	81.2	82.3	81.1	Umbria	85,5	85,5	86,0	85,6
Toscana	79,9	81,6	82,8	81,0	Marche	85.5	85.5	86.2	85.6
Umbria	80.0	81.6	82.1	81.0	Lombardia	84.9	85.8	86.5	85.4
Emilia-Romagna	80.0	81.4	82.5	80.9	Veneto	85.1	85.8	86.4	85.4
Lombardia	79.5	81.3	82.9	80.8	Toscana	85.0	85.6	86.3	85.4
Veneto	79.4	81.3	82.7	80.6	Molise	84.8	85.6	86.7	85.3
Puglia	79.8	81.3	82.5	80.6	Sardegna	85.0	85.8	86.3	85.3
Molise	79.3	81.0	83.2	80.5	Emilia-Romagna	84.8	85.2	86.0	85.2
Abruzzo	79.4	80.7	82.2	80.4	Basilicata	84.7	85.7	86.7	85.0
Piemonte	79.1	80.8	82.3	80.3	Liguria	84.2	85.1	86.3	84.9
Liguria	78.8	80.7	82.2	80.3	Friuli-Venezia G.	84.5	84.9	86.0	84.9
Italia	79.2	80.9	82.3	80.3	Lazio	84.2	85.1	86.0	84.9
Valle d'Aosta	79.1	80.4	82.8	80.1	Puglia	84.5	85.5	86.2	84.9
Friuli-Venezia G.	78.7	80.3	82.2	80.1	Italia	84.5	85.3	86.0	84.9
Basilicata	79.3	80.4	82.2	80.1	Piemonte	84.4	85.1	85.8	84.8
Sardegna	78.8	80.9	82.3	80.0	Valle d' Aosta	84.3	85.4	85.7	84.8
Calabria	78.8	80.5	81.4	79.8	Calabria	84.2	85.3	85.5	84.6
Sicilia	78.6	80.2	81.5	79.5	Sicilia	83.3	84.5	85.3	83.8
Campania	77.5	79.4	81.0	78.7	Campania	82.9	84.0	85.1	83.4

Source: Istat, Tavole regionali di mortalità per genere e livello d'istruzione, 2018

IV. Illiteracy and Censuses

In early population censuses, partly because of the low rate of schooling, little space was devoted to educational system. From 1861 to 1931 the only information that was collected referred to the ability to read and/or write. At the 1936 census, data on education was not collected. In 1951, for the first time, it is asked to specify in a free-text field the highest educational qualification attained. Beginning in 1971, the question is restructured, providing for some precoded modes (literacy, elementary and middle school graduation) but leaving open the question on the description of upper secondary and college degrees. In the 1981 and 1991 censuses this survey mode remains roughly unchanged. In the 2001 census, the "Education and Training" section of the questionnaire was entirely redesigned in terms of content to adapt it to changes in the education system and the no longer insignificant presence of foreign nationals. In subsequent censuses, the survey strategy has remained very similar to that of 2001.

The definition of illiterates has also varied over time. In the censuses from 1861 to 1881 and 1901 to 1931, those who could not read are considered illiterate, and from 1951 to 2001, both those who can neither read nor write and those who can either only read or only write are considered illiterate. In 2011 and subsequent censuses, those who stated that they had no educational qualification and could not read or write are detected as illiterate. With the start of the permanent censuses, the minimum age of detection is also increased from 6 to 9 years. The changes in the methods of surveying educational attainment, which we described earlier, lead us to look with some caution, however, at the long-term statistics of illiteracy captured through this survey instrument, even though there has been a picture of actual contraction of the phenomenon since Unity (Table 2).

Table 2: Illiterates detected at censuses from 1861 to 2022. Absolute values and percentages

Censuses	Illiterates	%	Censuses	Illiterates	%
1861	16,999,701	78.0	1971	2,547,217	5.2
1871	19,553,792	73.0	1981	1,608,212	3.1
1881	19,141,157	67.3	1991	1,145,612	2.1
1901	18,186,353	56.0	2001	782,342	1.5
1911	16,107,173	46.7	2011	593,523	1.1
1921	13,888,556	35.8	2018	346,616	0.6
1931	7,458,909	21.0	2020	306,923	0.6
1951	5,456,005	12.9	2022	260,247	0.5
1961	3,796,834	8.3			

Sources: G. Genovesi, Storia della scuola in Italia dal Settecento ad oggi, Laterza, 2010; Istat, L'Italia in 150 anni. Sommario di statistiche storiche 1861-2010, year 2011; censuses 2018, 2020 and 2022

V. Functional Illiteracy at the Regional Level. Evidence from the 2011, 2018 and 2020 Census Data

As illustrated above, at the national level illiteracy, but especially return illiteracy and functional illiteracy, are widely studied thanks also to international surveys involving our country. Going down instead to the regional level, the results immediately available are census results, which, however, have the limitation of not explicitly bringing out these new forms of lack of adequate education since only illiterate people and those who are literate but lack a qualification are surveyed. In the analysis that follows, these two categories have been grouped by us because we believe that we are thus approaching the concept of functional illiteracy, a phenomenon that is largely underestimated today[1].

Since Unification, the great advances in schooling and in Italian society as a whole have resulted in a significant reduction in overall and gender illiteracy. The educational institution participated on two levels in the building of the state structure, both by combating illiteracy and by making people acquire a series of values essential for the construction of a national identity such as fatherland, flag, family, authority, etc. This work of the school continued in the Fascist period, obviously with a strong ideological conditioning, and after World War II in the climate of new found democratic coexistence, changing, under the pressure of the social and technological changes that were gradually taking place, its original function from a school of education and instruction to a school of training (Trebisacce 2012, pp. 219-231). This evolution has caused the level of illiteracy in our country from the value of 78 percent in 1861 to gradually decrease to the value of 0.5 percent in 2022 (Table 2).

Despite this exceptional progress, the persistence of the education deficit that is also captured through the tool of recent censuses represents an element of backwardness for Italy that is not easily removed: 2,138,024 functional illiterates in 2022 (3.9 percent) (Table 3).

[1] We remind that functional Illiteracy are those who can read and write, but have difficulty understanding simple texts and lack many skills useful in daily life.

Table 3: Illiterates, Unskilled Literates, and Functional Literates at the 2011, 2018, 2020 and 2022 Censuses. Percentages of Resident Population Aged 9 Years and Older[2]

	Absolute values				%			
Censuses	2011	2018	2020	2022	2011	2018	2020	2022
Illiterates	591,22	346,616	306,923	260,247	1.10	0.60	0.60	0.50
Alphabets without educational qualifications	2,812,433	2,265,127	2,074,583	1,877,777	5.20	4.10	3.80	3.40
Functional illiterates	3,403,653	2,611,743	2,381,506	2.138.024	6.30	4,7	4.30	3.90

Source: Istat Censuses 2018, 2020 and 2022 and estimated values from 2011 census

These data being aggregated, however, hide the considerable territorial variability that sees the southern regions the most penalized and among them in first place the Calabria region (illiteracy rate 1.5 percent and functional illiteracy 5.7 percent) (Table 4).

Table 4: Functional Illiterates and Illiterates in Italian Regions Year 2022. Percentage Values of the Resident Population Aged 9 years and Older.

Regions	Illiterates	%	Functional Illiterates	%
Piemonte	14,830	0.37	136,100	3.42
Valle d'Aosta	609	0.53	3,851	3.34
Liguria	3,855	0.27	41,164	2.90
Lombardia	34,226	0.37	315,342	3.40
Trentino Alto Adige	2,415	0.24	30,478	3.08
Veneto	12,870	0.28	148,909	3.29
Friuli- Venezia G.	2,304	0,21	30,083	2.68
Emilia-Romagna	14,793	0.36	154,024	3.72
Toscana	14,514	0.42	124,889	3.64
Umbria	2,991	0.37	30,821	3.84
Marche	3,998	0.29	56,163	4.04
Lazio	17,366	0.33	187,960	3.53
Abruzzo	4,612	0.39	47,859	4.02
Molise	1,391	0.51	11,459	4.19
Campania	33,335	0.64	225,096	4.35
Puglia	27,454	0.75	188,059	5.16
Basilicata	5,022	1.00	27,204	5.40
Calabria	21,324	1.25	97,063	5.67
Sicilia	35.164	0,79	217.637	4.89
Sardegna	7,174	0.48	63,863	4.28
Italia	260,247	0.47	2,138,024	3.89

Source: elaborations on 2022 census data

[2] In calculating the indices the age groups resulting from the 2011 census were corrected to make them uniform with those from subsequent censuses.

VI. Functional Illiteracy by Regions and Age Groups at the 2020 Census

Istat's dissemination of census data by level of education and age makes it possible to make more in-depth comparisons through the calculation of specific ratios that, compared with generic ratios of level of education, are not affected by the interference of the demographic structure[3]. Because of these characteristics, the specific quotients can be compared both with the corresponding values of another population and with those of the same population over time, especially if they are summarized in some way, for example, by calculating an average value.[4] index that could thus be accepted as a value of *educational inefficiency* of the area under consideration. Following this methodology, Table 5 shows the absolute values of functional illiterates by age groups resulting from the 2022 census, and Table 6 the specific quotients derived from them.

Table 5: Functional Illiterates by Age Group in Italian Regions. Year 2022. Absolute Values

Regions	9-24 years old	25-49 years old	50- 64 years old	65 years old and +	9 years old and +
Piemonte	73,730	12,413	9,401	40,556	136,100
Valle d'Aosta	2,257	335	372	887	3,851
Liguria	23,380	4,204	2,998	10,582	41,164
Lombardia	188,416	37,133	25,889	63,904	315,342
Trentino Alto Adige	22,632	2,506	2,070	3,270	30,478
Veneto	87,552	14,651	11,573	35,133	148,909
Friuli - Venezia G.	20,013	2,484	1,54	6,046	30,083
Emilia-Romagna	80,368	14,684	13,462	45,51	154,024
Toscana	63,132	14,349	10,38	37,028	124,889
Umbria	14,757	1,828	1,612	12,624	30,821
Marche	25,936	4,744	3,163	22,32	56,163
Lazio	106,314	18,156	11,016	52,474	187,96
Abruzzo	21,789	3,094	2,386	20,590	47,859
Molise	4,292	646	519	6,002	11,459
Campania	99,783	21,31	19,061	84,942	225,096
Puglia	66,832	11,684	12,435	97,108	188,059
Basilicata	8,238	1,546	1,198	16,222	27,204
Calabria	31,666	8,023	7,529	49,845	97,063
Sicilia	84,500	13,649	20,549	98,939	217,637
Sardegna	23,987	2,701	3,620	33,555	63,863
Italia	1,049,574	190,14	160,773	737,537	2,138,024

Source: elaborations on 2022 census data

More specifically, an examination of Table 5 shows that functional illiteracy is most concentrated both in the older classes 34.5 percent (737,537 functional illiterates aged 65 and older, out of total functional illiterates of 2,138,024) and in the younger classes ((9-24 years of age) whose weight is even higher (1,049,574 out of 2,138,024). The latter values represent a further confirmation of the persistent inefficiency of our education system.

[3] Such as, for example, the illiteracy index, which is obtained by dividing the number of illiterates to the population aged 9 and older.

[4] It is actually the application of the concept of direct standardization (Wunsch and Termote, (1978), p. 53-60; an exemplification of the various standardization methods can be found in De Bartolo (1997, Ch. IV) .

Table 6: Specific Rates of Functional Illiteracy by Age Group in Italian Regions. Year 2022 Values %

Regions	9-24 years old	25-49 years old	50-64 years old	65 years old and +	9 years old and +
Piemonte	11.9	l.0	0.9	3.6	3.4
Valle d'Aosta	11.8	l.0	1.2	2.9	3.3
Liguria	11.4	l.0	0.8	2.4	2.9
Lombardia	12.1	1.2	1.l	2.7	3.4
Trentino Alto Adige	12.4	0.8	0.8	1.44	3.1
Veneto	11.7	l.0	1.0	3.0	3.3
Friuli-Venezia G.	11.7	0.7	0.5	1.9	2.7
Emilia-Romagna	12.1	1.1	1.3	4.2	3.7
Toscana	11.9	1.3	1.2	3.9	3.6
Umbria	11.8	0.7	0.8	5.5	3.8
Marche	11.7	1.1	0.9	5.8	4.0
Lazio	12.2	l.0	0,8	4.0	3.5
Abruzzo	11.7	0.8	0.8	6.4	4.0
Molise	10.4	0.7	0.8	7.8	4.2
Campania	10.2	1.2	1.5	7.4	4.3
Puglia	10.7	1.0	1.4	10.4	5.2
Basilicata	10.2	1.0	0.9	12,1	5.4
Calabria	10.8	1.4	1.8	11.5	5.7
Sicilia	10.7	0,9	1,9	9.0	4.9
Sardegna	11.2	0.6	0.9	8.1	4.3
Italia	11.5	1.1	1.2	5.2	3.9

Source: elaborations on census data 2022

In order to complete the picture of the analysis, we have reported in Table 7 the regional summary indices of *school inefficiency* as of 2022 compared with similar indices calculated at the 2001 census. The comparison shows the remarkable recovery of the southern regions (Calabria, Basilicata, Puglia, Sicilia, Campania and Sardegna) even though values of school inefficiency still persist in these territories far above the Italian average.

We recall that the synthetic indices of educational inefficiency for each Italian region were estimated by us by making the arithmetic mean of the specific quotients calculated in each age class (9-24 years: 25-49 years; 50-64years; 65 years and over), that is, by relating the number of functional illiterates in each age class to the resident population belonging to the same class. Some corrections had to be made to the population structure by educational attainment of the 2001 census, which had as its initial age 6 years, to make it congruent with that of the 2022 census, which instead has as its initial age 9 years.

Table 7: Regional Rankings of School Inefficiency. Years 2001, 2022. Values %

Regions	2001 Census	2022 Census	Differences
Piemonte	6.0	4.4	-1.6
Valle d'Aosta	5.0	4.2	-0,8
Liguria	5.3	3.9	-1.4
Lombardia	5.3	4.3	-l.0
Trentino- Alto Adige	3.7	3.8	0.1
Veneto	6.7	4.2	-2.5
Friuli - Venezia G.	5.l	3.7	-1.4
Emilia-Romagna	7.6	4.7	-2.9
Toscana	7.3	4.6	-2.7
Umbria	9,3	4,7	-4,6
Marche	9.3	4.9	-4.4
Lazio	7.5	4.5	-3.0
Abruzzo	11.2	4.9	-6.3
Molise	13.3	4.9	-8.4
Campania	13.1	5.l	-8.0
Puglia	18.1	5.9	-12.2
Basilicata	16.4	6.0	-10.4
Calabria	16.4	6.4	-10.0
Sicilia	22.0	5.6	-16.4
Sardegna	15.3	5.2	-10.1

Source: elaborations on 200l and 2022 census data.

VII. Concluding Remarks

Relevant and robust international studies have highlighted the importance of education in explaining changes in many socio-demographic variables, so much so that many now believe that education will be at the center of social demography in the 21st century. In this framework, the analysis of illiteracy would allow us to capture some critical issues related precisely to the transformations taking place in society. In Italy, the community of statisticians and demographers, apart a brief interlude in the 1960s, have always given little importance to the study of illiteracy, considering it a residual element in the development of our country. Pedagogues and linguists, on the other hand, through their direct involvement, have made it clear that in Italy illiteracy *tout court* and functional illiteracy are in various ways widespread and of concern because they are a cause of social marginalization.

Starting on the previous considerations-after a brief *excursus* of the main international surveys in which our country has participated, surveys aimed at identifying and measuring a set of adult skills - our analysis focused on illiteracy and functional illiteracy, the latter estimated through data from the latest population censuses and in particular that of 2022. While we are aware that the estimation of illiteracy through census data has critical issues related to the way in which the phenomenon is surveyed, a way that has changed over time not marginally, the study focused more specifically on the regional level analysis of the relationship between life expectancy, gender and level of education, using the 2018 Istat regional tables by gender and level of education. This analysis highlighted how spatial differences in survival are amplified when spatial data and education level are taken into account. In addition, it showed that functional illiteracy is more concentrated in southern regions, in the youth (9-24) and older (65+) classes. Furthermore, it was found that the youth classes weigh as much as 46.2 percent of the total functional illiterates and the older classes (50-64) 38.4 percent. These latter features of the phenomenon, which were partially grasped as early as the 1991 census statistics, are indicative of a persistent deficit in our education system that can now be monitored in a timely manner through the annual data provided by the permanent censuses, also using a symptomatic indicator of school inefficiency proposed in this research.

Bibliography

1. De Bartolo G., Elementi di analisi demografica e demografia applicata, Centro Editoriale e Librario, Università della Calabria, 1997.
2. De Mauro T., *Idee per il Governo. La scuola,* Bari, Laterza, 1995.
3. Di Francesco G., Amendola M., Mineo S., *The low skilled in Italy. Evidenza dall'indagine sulle competenze degli adulti,* Osservatorio Isfol, n. 1-2, 2016, pp. 53-67.
4. Dupâquier J. et M., *Histoire de la Démographie,* Perrin, Paris, 1985.
5. Genovesi G., *Storia della scuola in Italia dal Settecento ad oggi,* Laterza, 2010.
6. Invalsi Open 4/12/2020: https://www.invalsiopen.it/competenze-adulti-indagine-ocse-piaac/.
7. Istat, L'Italia *in 150 anni. Sommario di statistiche storiche 1861-2010,* anno 2011.
8. Istat, *Diseguaglianze nella speranza di vita per livello d'istruzione, aprile* 2016.
9. Istat, *Diseguaglianze nella speranza di vita per livello d'istruzione, giugno* 2017.
10. Istat, *Diseguaglianze regionali nella speranza di vita per livello d'istruzione, aprile* 2018
11. *Istat, Tavole regionali di mortalità per genere e livello d'istruzione,* 2018.
12. James K.S., Skirbekk V., Van Bavel J., *Education and the Global Fertility Transition,* Vienna Yearbook of Population Research 2012, (Vol. 10).
13. Kuhn M., Prskawetz A. and Sunde U. (Guest Editors), Health, education and retirement over the prolonged life cycle, Vienna Yearbook of Population Research 2014, (Vol. 12).
14. Lutz W., *Education will be at the heart of 21st century demography,* Vienna Yearbook of Population Research 2010, (Vol. 8), pp. 9-16.
15. Pezzulli S., Lombardo, E., L'analfabetismo giovanile alla luce dell'ultimo censimento della popolazione. Un indicatore globale dell'efficienza scolastica?, CADMO, n. 9, Dicembre 1995, pp. 15-28.
16. Samir K.C, Lentzner H., *The effect of education on adult mortality and disability: a global perspective,* Vienna Yearbook of Population Research 2010, (Vol. 8), pp. 201-236.
17. Schettini B., Tanti analfabetismi anche oggi, INDIRE, 19 luglio 2005.
18. Trebisacce G., *Scuola e Mezzogiorno in 150 anni di storia unitaria,* in F. Cambi and G. Trebisacce (a cura di), I 150 anni dell'Italia unita. Per un bilancio pedagogico, ETS, Pisa, 2012, pp. 219-231.
19. Vàgvölgyi R., Coldea, A., Dresler Th., Schrader J., Nuerk, H. C., *A Review about Functional Illiteracy: Definition, Cognitive, Linguistic, and Numerical Aspects,* Frontiers in Psychology, Vol. 7, Nov. 2016, pp. 113.
20. Wunsch G. J and Termote M. G., Introduction to Demographic Analysis, Plenum Press, 1978, pp. 53-60.