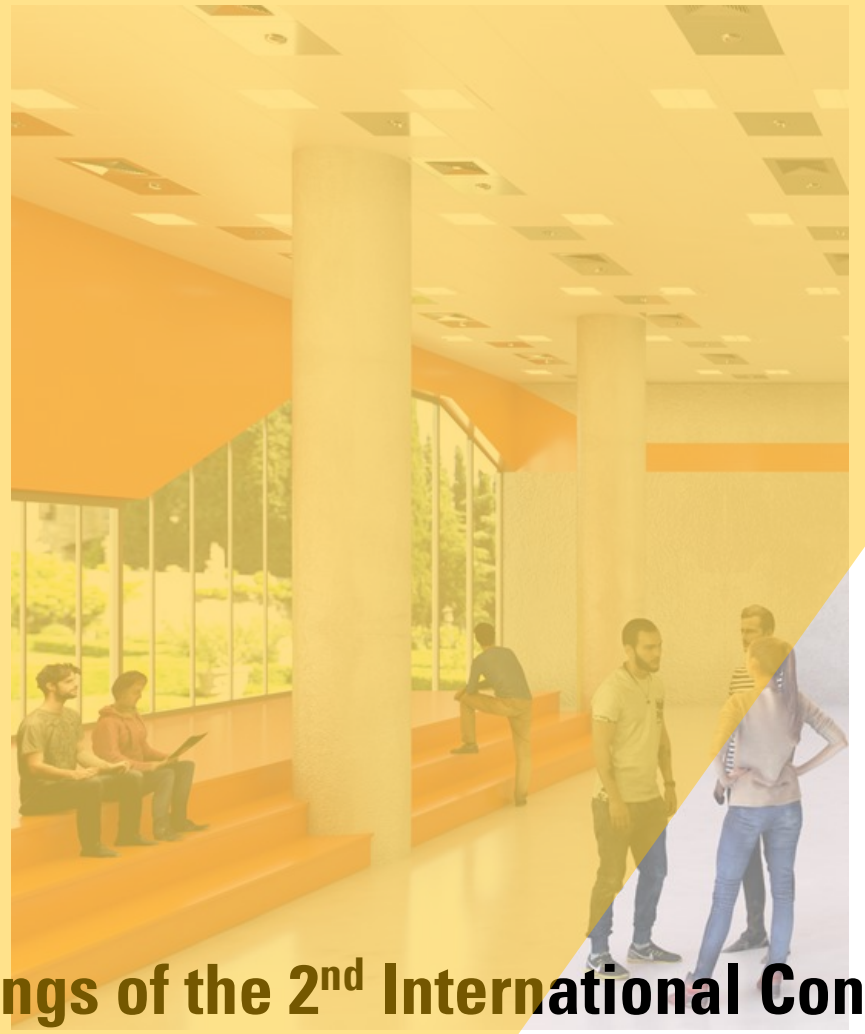


Proceedings of the 2nd International Conference of the Journal Scuola Democratica

REINVENTING EDUCATION

VOLUME II

Learning with New Technologies, Equality and Inclusion

ASSOCIAZIONE "PER SCUOLA DEMOCRATICA"

Proceedings of the 2nd International Conference of the Journal Scuola Democratica

REINVENTING EDUCATION

VOLUME II

Learning with New Technologies, Equality and Inclusion

ASSOCIAZIONE "PER SCUOLA DEMOCRATICA"
Via Francesco Satolli, 30 – 00165 - Rome, Italy

Edited by

The Organizing Committee the 2nd International Conference of the Journal Scuola Democratica

https://www.rivisteweb.it/issn/1129-731X

Published by: ASSOCIAZIONE "PER SCUOLA DEMOCRATICA"

Via Francesco Satolli, 30 – 00165 – Rome, Italy

Published in Open Access

This book is digitally available at:

https://www.scuolademocratica-conference.net/proceedings

How to cite a proceeding from this Volume. APA citation system:

Author, N., Author, S., (2021). Title, in *Proceedings of the 2nd International Conference of the Journal Scuola Democratica "Reinventing Education"*, **VOL. 2,** *Learning with New Technologies, Equality and Inclusion,* **pp-pp**

978-88-944888-8-3

Title **Proceedings of the Second International Conference of the Journal "Scuola Democratica" – Reinventing Education VOLUME II Learning with New Technologies, Equality and Inclusion**

This volume contains papers presented in the First International Conference of the Journal "Scuola Democratica" which took place at the University of Cagliari on 5-8 June 2019. The aim of the Conference was to bring together researchers, decision makers and educators from all around the world to investigate the concepts of "education" in a "post-democracy" era, the latter being a set of conditions under which scholars are called to face and counteract new forms of authoritarian democracy.

Populisms, racisms, discriminations and nationalisms have burst and spread on the international scene, translated and mobilized by sovereigntist political movements. Nourished by neo-liberalism and inflated by technocratic systems of governance these regressive forms of post-democracy are shaping historical challenges to the realms of education and culture: it is on this ground, and not only on the political and economic spheres, that decisive issues are at stake. These challenges are both tangible and intangible, and call into question the modern ideas of justice, equality and democracy, throughout four key dimensions of the educational function, all of which intersected by antinomies and uncertainties: ethical-political socialization, differences, inclusion, innovation.

The Conference has been an opportunity to present and discuss empirical and theoretical works from a variety of disciplines and fields covering education and thus promoting a trans- and inter-disciplinary discussion on urgent topics; to foster debates among experts and professionals; to diffuse research findings all over international scientific networks and practitioners' mainstreams; to launch further strategies and networking alliances on local, national and international scale; to provide a new space for debate and evidences to educational policies. In this framework, more than 600 participants, including academics, educators, university students, had the opportunity to engage in a productive and fruitful dialogue based on researches, analyses and critics, most of which have been published in this volume in their full version.

ISBN 978-88-944888-8-3

Educational Poverty in Europe: Mixing Education as Certification and as Competencies among Youth and Adult Population

Luca Salmieri, Orazio Giancola and **Simona Colarusso**
Sapienza, University of Rome, luca.salmieri@uniroma1.it
Sapienza, University of Rome, orazio.giancola@uniroma1.it
Università of Padua, simona.colarusso@unipd.it

ABSTRACT: *Educational poverty has become a key reference to consider education as an essential functioning, just as health, social relations, employment, housing conditions and economic resources (Sen, 1992, 1997). Allmendinger (1999) distinguishes between two types of educational poverty: lack of formal education and lack of competencies. We suggest merging the two, considering educational poverty as 1) the lack of a certificate, 2) low level of basic competencies or 3) the two taken together. Adopting this notion of educational poverty, we discuss outcomes from a multivariate analysis we have carried on comparing poorly educated student and adult populations in EU28 countries, UK and Norway. For this purpose, we considered 1) low scoring in mathematics and reading at the OECD PISA tests as a potential predictor of educational poverty in adulthood; 2) upper secondary school dropout rates, NEETs rates and the percentage of young people aged 20 to 39 without a university degree. 3) Finally, among the adult population, we estimated the share of low secondary education attainers and/or lower achievers in literacy and numeracy. We therefore have cross-nationally compared not only the educational levels of the adult population, but also the diffusion of functional illiteracy. Data sources are respectively from: 1) the European Social Survey and Eurostat indicators useful to get the international framework of education levels and illustrative/control variables such as public spending on education; 2) the PIAAC survey on adult skills and 3) OECD-PISA 2018 assessment results for 15-year-old student's abilities in mathematics and sciences. After a preliminary descriptive analysis, data have been computed via (PCA) Principal Component Analysis and Cluster analysis to graphically project countries cluster-groups distributions in relation to latent dimensions. Emerging results stress out the high diffusion of educational poverty especially among the Italian and Spanish population and the need to strengthening policies against poverty in a multidimensional perspective, so that economic schemes tackling economic poverty could be linked to long-term policies aiming at improving basic social skills and therefore reducing the risk of both educational and economic poverty.*

KEYWORDS: *Educational Poverty, Adults Performance; Students Performance; OECD PISA; PIACC; Multivariate Analysis*

1. Introduction

The multidimensional view of poverty has led many authors to interpret basic skills as an essential dimension of poverty (Reardon, 2011; Khan, 2015; Bonal, 2016). Researchers interpret basic competencies as an essential dimension of wellbeing, since basic competencies contribute to avoiding the risk of poverty and social exclusion, especially in terms of generating resources potentially capable of stimulating the empowerment of citizens, in terms of job opportunities and participation to civic, political and social life in a broader sense (Bynner, Parsons, 2002; Stromquist, 2009).

Different social dimensions play a role in the production and reproduction of educational poverty. The most relevant is embedded in the family of origin which impacts on learning, motivation to study and expectations in achieving via the socio-economic and cultural background. Family's capabilities to give informed and correct advice to children also play a relevant role. In addition, broader social contexts and places of living tend to influence children's learning prospects and educational career, because the availability and the quality of local services and resources such as transports, libraries, cultural institutions, and other cultural services ignite learning, curiosity, social skills and attract cultured upper classes. On the reverse, social complexity within which educational poverty occurs makes it necessary to plan and implement integrated, next-generational policies in order to fill the gap in opportunities and resources that usually are scanty in deprived social contexts (Raffo et al., 2009; Giancola, Colarusso, 2020). Educational poverty has become a key reference to consider education as an essential functioning, just as health, social relations, employment, housing conditions and cultural and economic resources are (Sen, 1992, 1997).

Allmendinger (1999) differentiates between two types of educational poverty: 1) lack of formal education and of 2) basic competencies conceived as reading comprehension, writing and arithmetic capabilities, as well as main scientific principles and selected minimum social skills (Audigier, 2000). In order to account for the various complex nuances of educational poverty, we suggest merging the two, considering educational poverty as: 1) the lack of a school certificate higher than just the compulsory education, 2) low level of basic competencies and 3) the two taken together. Accounted likewise, educational poverty stands not only as a low level of schooling, but also as a shortage of basic knowledges and abilities. If compulsory schooling requirements signal a minimum level of educational achievement, nevertheless compulsory standards differ from country to country and use to change over time. Additionally, the total number of certified years of formal education cannot be translated automatically in an index of educational richness/poverty, since it merely indicates that a certain amount of school years has been completed obtaining the minimum standard in education, but does not guarantee that, years after completion of studies, individuals

are still capable of carrying out basic operations and actions resulting from the acquired skills. In extreme cases, for example, students may be awarded a high school diploma, but still be unable to read, write, or do math at a basic level or in more common cases adult individuals may have lost the pragmatical capability to use the theoretical knowledge they learnt years before at school. Therefore, in educational poverty we also include the inability in mastering basic social competencies such as literacy and numeracy, beyond the possession or not of the corresponding level of education.

Nevertheless, the possession of basic competencies (also considered as foundational, essential or basic skills), if not accompanied by medium or high levels of education, can be a formal deficit: official qualifications retain workers' accreditation to employers as one of the primary sources for selection and allocation along occupational hierarchies (Kjeldsen, Bonvin, 2015). Finally, the third dimension of educational poverty – i.e., the coexistence of low schooling and low abilities in basic competencies – can be considered as severe educational poverty.

To fulfil the purpose of our analyses, which is to compare poorly educated students and adult population in EU28 countries and UK, we have relied on sources of data including educational credentials (education levels via certifications) and basic competencies tested via OCSE-PISA (Programme for International Student Assessment) and OCSE-PIAAC (Programme for the International Assessment of Adult Competencies) assessments. Large international test-based surveys allow the extensive definition of educational poverty presented above to be operationally usable. Such surveys also allow for international comparison and can then be integrated, according to a logic of «distal analysis» (Giancola, Viteritti, 2014). Based on aggregated data such surveys can help to detect different levels of educational poverty as well to provide some policies drivers to tackle poverty in a multidimensional perspective. Of course, data from large international assessment surveys must be treated in a cautionary mode and not to be exploited for competitive and ranking purposes (Volante et. al, 2019, 2022).

2. Data and methods

Adopting the definition of educational poverty as the lack of upper secondary education and/or the basic social abilities in reading, mathematics and sciences, we have carried on multivariate analysis to compare poorly educated student and adult populations in EU28 countries and UK.

Contrary to other studies based on individual data (Salmieri, Giancola, 2021) to estimate variables affecting skills, educational attainment, and thus relative poverty risk, in the present one we have opted for an approach based on ecological dimensions which we have aggregated

according to an exploratory and relational approach between the different selected variables. For this goal, we considered: *i*) low scoring in mathematics and reading in the OECD PISA tests as a potential predictor of educational poverty in adulthood; *ii*) secondary school dropout rates, NEETs rates and the percentage of young people aged 15 to 29 who have not achieved a degree in tertiary education and finally *iii*) the share of low secondary education attainers and/or lower achievers in reading skills among the adult population. We therefore have cross-nationally compared not only the educational levels of the adult population, but also the diffusion of functional illiteracy.

Data sources are respectively: *i*) Eurostat indicators in order to get the international framework of education levels and illustrative/control variables such as public spending in education and national wealth; *ii*) data from the PIAAC survey on adult skills and 3) OECD-PISA 2018 results at tests for 15-year-old student's performances in mathematics and sciences (see Table 1). It is relevant here to specify that we could not use OECD-PISA data on reading competencies because tests for assessments were not valid for all the countries that we included the analyses. We have therefore relied on math and sciences competencies also because these abilities are strongly correlated with those of reading in the countries where assessments are available (Pearson correlation index value: +0.87).

After a preliminary descriptive analysis, data have been summarised via Principal Component Analysis (PCA) which is a statistical technique for missing as little as possible information after reducing the number of interrelated variables within a dataset. Latent variables, also called principal components, are the consequence of the reduction and they represent as many the main features of the phenomenon which is under investigation (Marradi, Di Franco, 2013).

The principal components have been extracted and the projected into a cartesian diagram (see sections 3 and 4). Finally, three regression models were developed (see section 5). Our overall goal was to understand similarities and differences among EU countries, UK and Norway in the extension and the structure of educational poverty. We have included several countries in our analyses: Austria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Norway, Poland, Slovak Republic, Slovenia, Spain, Sweden, UK.

More specific lines of analysis were *i*) to understand whether and at what extent correlations exist between countries' public investments in education and training, other welfare expenditures and educational poverty as well as *ii*) to find out the link between educational poverty as lack of basic social competencies and as lack of higher education attainments and finally *iii*) to cluster EU countries according to educational poverty among the young and adult population.

TAB. 1. *Data, sources and indicators*

	Data	Indicators	Sources
Performances and educational level of adults	Adult literacy (PIAAC)	PIAAC score in literacy	OECD PIAAC 2012-2016
	Adult numeracy (PIAAC)	PIAAC score in numeracy	OECD PIAAC 2012-2016
	High_educated_30-34 years old	30-34 years old with higher education	Eurostat, Labour force survey 2018
	Low educated adults	25-64 years old with lower secondary education at most	Eurostat, Labour force survey 2018
	Adult literacy low performers	PIAAC score in literacy low performers	OECD PIAAC 2012-2016
	Adult numeracy low performers	PIAAC score in numeracy low performers	OECD PIAAC 2012-2016
Public expenditure	Public expenditure in education	Public expenditure in education and training	Eurostat, 2018
	Public expenditure in recreational culture	Public expenditure in recreation and culture	Eurostat 2018
	Public expenditure in social protection	Public expenditure in social protection	Eurostat 2018
Young people outside the education system	Drop outrates	Early school leavers	Eurostat, Labour force survey 2018
	NEETs	NEETs (15-29 years old)	Eurostat, Labour force survey 2018
Performance of 15-year-olds students	Math	PISA score in math	OECD PISA 2018
	Sciences	PISA score in sciences	
	Math_below_1b	PISA score in math below level 1b	
	Math_below_1a	PISA score in math below level 1a	
	Math level 1	PISA score in math below level 1	
	Sciences below_1b	PISA score in sciences below level 1b	
	Sciences _below_1a	PISA score in sciences below level 1a	
	Sciences level 1	PISA score in sciences below level 1	

3. Correlations

In this paragraph we present and outline the main correlations related to the performance of adults and students in basic competences and educational achievements. We have processed data extracted from the OECD-PISA 2018, OECD-PIAAC 2012-2016 datasets and from the Labour force survey dataset (EUROSTAT, 2018).

A correlation matrix emerging from adults' performances in literacy and numeracy is shown in Table 2. As expected, the relevance of the correlation between average performances in adult literacy-numeracy and the share of adult low performers in literacy-numeracy is proven.

More remarkable is the correlation between the share of country adult population with lower secondary education at most and adult literacy and

numeracy low performers (respectively: ,723 and ,693), meaning that the older the country population, the higher the likelihood that educational poverty is widespread among the adult population.

TAB. 2. *Correlations between adults' performances in literacy-numeracy and educational achievements. EU28, UK and Norway population*

	Adult literacy (PIAAC)	Adult numeracy (PIAAC)	25-64 with lower secondary education at most	30-34 with higher education	Adult low performers literacy	Adult low performers numeracy
Adult literacy (PIAAC)	1	,886**	-,633**	0,351	-,958**	-,866**
Adult numeracy (PIAAC)		1	-,674**	0,086	-,911**	-,985**
25-64 with lower secondary education at most			1	-0,127	,723**	,693**
30-34 with higher education				1	-0,249	-0,069
Adult_ low performers literacy					1	,923**
Adult_ low performers numeracy						1

* Correlation is significant at the 0.05 level (two-tailed). ** Correlation is significant at the 0.01 level (two-tailed).

A correlation matrix for public expenditure is shown in Table 3. It includes public expenditure in education and training, in recreation and culture and in social protection. We note that there is no significative correlation between the type and the intensity of public expenditure in the selected social sectors.

TAB. 3. *Correlation among types of public expenditures. EU28, UK and Norway population*

	Public expenditure in education and training	Public expenditure in recreation and culture	Public expenditure in social protection
Public expenditure in education and training	1	,478*	0,350
Public expenditure in recreation and culture	,478*	1	-0,072
Public expenditure in social protection	0,350	-0,072	1

* Correlation is significant at the 0.05 level (two-tailed).

We have then investigated possible correlations between the 15-year-old students' test scores in math and sciences (Table 4) and found out that, of course, tautologically being a low performer in sciences (-,969) and in

math (-,994) is strictly associated to low performances in those two basic skills.

However, we have observed a remarkable correlation: low scores in math (,650) and in sciences (,538) are strongly correlated with the NEETs quotas."This perhaps means that low performers in math and sciences are predicted to become NEETs in the coming of age.

TAB. 4. *Correlation between students' performances in math and science and educational achievements and failures. EU28, UK and Norway population*

	PISA score in math	PISA score in sciences	PISA math low performers	PISA sciences low performers	Early school leavers	NEETs (15-29)
PISA score in math	1	,870**	-,994**	-,842**	-0,160	-,671**
PISA score in sciences		1	-,870**	-,969**	-0,132	-,648**
PISA math low performers			1	,850**	0,133	,650**
PISA sciences low performers				1	0,116	,538*
Early school leavers					1	0,335
NEETs (15-29)						1

* Correlation is significant at the 0.05 level (two-tailed). ** Correlation is significant at the 0.01 level (two-tailed).

Table 5 reports the correlations between public expenditure and adults' and students' educational performance. Observed levels of correlation are in some cases sufficiently robust, especially for the positive association between public expenditure in education and training and students' scores in math and sciences, meaning that across Europe the higher the public expenditure in education and training, the higher the students' scores (,525) in these two basic competencies. A similar correlation is proved between public expenditure in education and training and adults' scores (,493). It eventually confirms that investments in education and training translate in lessening educational poverty especially among the population of teenagers attending schools.

TAB. 5. *Correlations between public spending and adults' educational performances. EU28, UK and Norway population.*

	Adults' scores average literacy & numeracy	Students' scores average math & sciences	Public expenditure in education and training	Public expenditure in recreation and culture	Public expenditure in social protection
Adults' scores average literacy & numeracy	1	,479*	,493*	0,332	-0,055
Students' scores average math & sciences		1	,525*	0,370	-0,103
Public expenditure in			1	,478*	0,350

education and training					
Public expenditure in recreation and culture				1	-0,072
Public expenditure in social protection					1

* Correlation is significant at the 0.05 level (two-tailed).

We have then observed the correlations between adults' and students' performances and educational outcomes (Table 6): the strongest correlated dimensions are adults' scores and being NEETs (-,715); adults' scores (-,703) and poorly educated students (-,488). These two correlations might validate two crucial negative dynamics: firstly, adults' scores in basic skills are negatively influenced by being or having been in a NEET condition, since being out of job training and professional advancement as well as out of learning activities reverberates on educational poverty. Secondly, it seems that the more educational poverty in basic skills of adults is widespread, the more this is reflected in poor results in the learning of basic skills by current students. In conclusion, countries with high rates of low performers in the adult age also display high rates of NEETs and high shares of young individuals with lower educational attainments.

TAB. 6. *Correlation between performance and educational attainments for adults and students). EU28, UK and Norway population.*

	Adults' scores average literacy & numeracy	Students' scores average math & sciences	25-64 with lower secondary education at most	Early school leavers	NEETs 15-29	30-34 with higher education
Adults' scores average literacy & numeracy	1	,479*	-,703**	-0,228	-,715**	0,194
Students' scores average math & sciences		1	-,488*	-0,141	-,651**	0,398
25-64 with lower secondary education at most			1	,620**	,610**	-0,127
Early school leavers				1	0,335	-0,336
NEETs 15-29					1	-0,423
30-34 with higher education						1

* Correlation is significant at the 0.05 level (two-tailed). ** Correlation is significant at the 0.01 level (two-tailed).

4. Data reduction (PCA): creating an index of performances

We now move on to comment results stemming from our condensation of variables by means of Principal Component Analysis (PCA) for both adults' and students' performances. In a first PCA process, we have computed variables concerning the adult population competencies (Tab. 7), while in a second PCA run we have projected data concerning 15 years old students' competencies, according to the PISA assessment (Tab. 8). On this basis, a projection of the countries on the two extracted components is shown in Fig. 1 where correlations between adults' competencies and young learners' competences are displayed by country.

TAB. 7. *PCA – Adults' performances in literacy-numeracy (average) competencies. EU28, UK and Norway population.*

Total variance explained						
	Initial auto-values			Cumulative values		
Component	Total	% Variance	% Cumulative	Total	% Variation	% Cumulative
1	3,765	94,127	94,127	3,765	94,127	94,127
2	0,184	4,605	98,732			
3	0,044	1,093	99,825			
4	0,007	0,175	100,000			

Extraction method: principal component analysis

	Component 1
Adult literacy (PIAAC)	0,956
Adult numeracy (PIAAC)	0,975
Adult literacy low performers	-0,977
Adult numeracy lower performers	-0,973

The first PCA process produces a single component with a variance equal to the 94.1% of the original variance, meaning that this first principal component can equivalently be defined as a direction that maximizes to 94.1% the variance of the projected data. A single latent variable also emerges from the second PCA process applied to student's performances in math and sciences, summarizing 92.4% of the original variance.

TAB. 8. *PCA – Students' performances in math and science (average) competencies. EU28, UK and Norway population.*

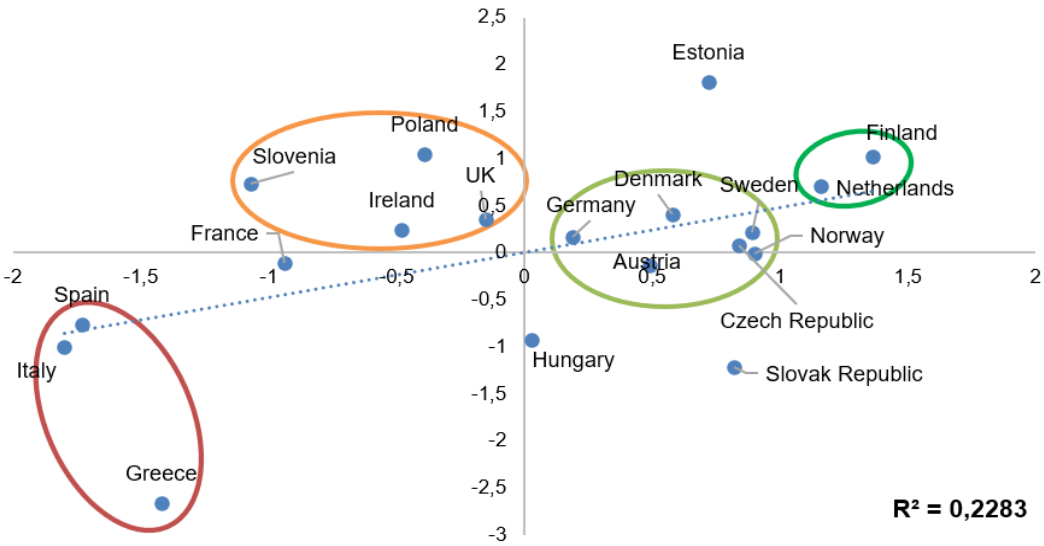
Total variance explained						
	Initial auto-values			Cumulative values		
Component	Total	% Variance	% Cumulative	Total	% Variation	% Cumulative
1	3,698	92,456	92,456	3,698	92,456	92,456
2	0,266	6,651	99,106			
3	0,031	0,765	99,872			
4	0,005	0,128	100,000			

Extraction method: principal component analysis

	Component 1
PISA score in math	0,964
PISA score in sciences	0,964
PISA math low performers	-0,966
PISA sciences low performers	-0,952

Once the two components had been extracted, it has been possible to produce a scatter plot projecting the relationship between the components and then clusters of countries in the geometric space identified by the components. A cluster including Italy, Spain, and Greece clearly emerges on the low left side and one can name it as the 'Mediterranean' cluster. It regroups countries where educational poverty is higher among both adult and student population.

FIG. 1. *Projection of countries on the two components: students' and adults' educational performances. EU18, UK and Norway.*



On the opposite, at the right side in the graph, a 'Continental-Northern' macro-cluster is clearly visible, including Scandinavian countries, the Netherlands, Denmark, Germany, and Austria where educational poverty is less noticeable. But being more detailed, one can distinguish Finland and the Netherlands for their higher educational performances among adult and school-age populations. However, it should be noted that the most relevant result is the relationship between the macro variables, as observed through the interpolation line and the r-square value.

5. Regression

The last step in our analysis relies on three regression models. Once the relationships presented in Tables 2-5 and in Figure 1 are identified, we opted to develop a set of linear regression models projected in Table 9. The dependent variable is the students' performances on standardized tests scores. In the first model (1), we have run the regression only with one independent variable concerning public expenditures; in the second model (2), we selected the so-called contextual variables, i.e., educational attainment by the adult population, the rate of early school leavers and the rate of NEETs, the rate of 30-35rs with tertiary education, average adult scores in literacy and numeracy; in the third model (3) all the

independent variables (expenditures and context), controlled for adult scores have been included. Operatively, we entered the sets of variables assumed to be independent in two steps, while in the third step, we computed all the variables together.

TAB. 9. *Regression: Effect on students' scores in math e sciences*

	Model (1)	Model (2)	Model 3
Public expenditure in education and training	+++		++
Public expenditure in recreation and culture	++		+
Public expenditure in social protection	++		+
25-64 with lower secondary education at most		- - -	- -
Early school leavers		- -	-
NEETs (15-29 y. o.)		N.S.	N.S.
30-34 years old with higher education		N.S.	N.S.
Adults score in literacy and numeracy (PIAAC)			++

+++ strong positive effect; ++ positive effect; + positive but negligible effect
--- strong negative effect; -- negative effect; - negative but negligible effect
N.S. statistically not significant

Taking into consideration only the expenditure variables, the investment in education and training exerts the most significant effect. While considering educational variables, a strong negative effect emerges from the share of the adult population with lower secondary education at most and the rate of early school leavers. Finally, looking at the effects of all variables assumed to be independent, the explanatory outcoming from the set of models is confirmed, although the effects tend loosening strength due to the mechanism of multicollinearity among the regressors). Furthermore, the relative weight of effective basic competencies among the adult population is once more proven. The most implication-laden evidence is that in order to reduce the share of low-skilled will-be-adults among the younger generations, an average educated adult population may be not enough because a fully competent and active-learning adult population is needed. A substantial effect is played by public expenditure in education, training and culture. Therefore, educational context variables on which individual schools cannot massively intervene need to be targeted via specific and contextualised actions requiring integrated multi-sector and multi-level policies.

Some preliminary conclusions

The set of evidence resulting from our analyses clearly highlight the way educational attainments and competencies levels are strongly linked. At the same time, as proven in previous studies (Salmieri, Giancola, 2021) the importance of strengthening policies against educational poverty in a multidimensional perspective must stressed by acting on both students and adult individuals. On one hand, If the fight against the reproduction educational poverty is condensed only in fostering the share of students reaching higher educational attainments, there is the risk that some share of the adult population will experiment the obsolescence of basic competencies and that some shares of will-be-adult students will be affected by transmission of educational poverty via parents and family contexts. On the other hand, if welfare policies insist on tackling educational poverty only or mainly among the adult population via requalification and training schemes for unemployed individuals, a new poorly educated share of the population will grow up (Allmendinger, Leibfried, 2003). In this sense, measures supporting educational dynamism could be more incisive in the long-term if addressed to a double target audience in order to maintain acquired basic competencies all lifelong and to reinforce literacy, numeracy and other basic social competencies among the current poorly educated adults.

The role of welfare public spending in education and training is also clearly indicative to counter fight educational poverty (Agasisti, 2014; Benadusi, Giancola, 2014). If it is true that the pandemic has produced disruptive loss in terms of learning (even if the evidence is still weak, at least in terms of large-scale results), outcomes from our analyses should suggest extra efforts to invest in education and training, in terms of both inclusive and supportive educational strategies and schools', universities and adult learning centres' funding in a life-long learning perspective. A first consideration, then, is that today's students are tomorrow's adults, but since social competencies partially passes through family cultural and social inheritance (Breen et al., 2019), educational policies could not avoid adult educational poverty.

On the other hand, through aggregate human capital theory, as James Coleman (1988) pointed out[1], aggregate human capital facilitates the production of social capital; this latter then positively influences the educational mission perpetuated by single schools: an educated adult population has the effect, even if spurious and mediated, to enhance on the average outcomes of students in a singles school. As Esping Andersen has observed schools alone are not able to face the battle against educational inequality (Esping-Andersen, Mestres, 2004). A

[1] Coleman considers social capital in its three forms – obligations and expectations, information channels and social norms – as the constituency to produce human capital. Circularly, high levels of human capital facilitate the new production of social capital.

significant part of these inequalities must be fought 'outside the school' with widespread cultural policies including for children from early pre-primary schools and policies of defamiliarization (Esping-Andersen et al., 2002).

References

Agasisti, T. (2014). «The efficiency of public spending on education: An empirical comparison of EU countries», *European Journal of Education*, 49 (4), 543-57.

Allmendinger, J. (1999). «Bildungsarmut: Zur verschränkung von bildungs-und sozialpolitik», *Soziale Welt*, 50 (1), 35-50.

Allmendinger, J., Leibfried, S. (2003). «Education and the welfare state: the four worlds of competence production», *Journal of European Social Policy*, 13 (1), 63-81.

Audigier, F. (2000). *Basic concepts and core competencies for education for democratic citizenship*, Strasbourg, Council of Europe.

Benadusi, L., Giancola, O. (2014). «Secondary school systems: 'comprehensive' versus 'selective'. A comparison in terms of equity», *Scuola democratica*, 2, 461-82. https://www.rivisteweb.it/download/article/10.12828/77426

Bonal, X. (2016). «Education, poverty, and the 'missing link': The limits of human capital theory as a paradigm for poverty reduction», in K. Mundy, A. Green, B. Lingard, A. Verger (eds.) *The handbook of global education policy*, Malden, MA, Wiley, pp, 97-110.

Breen, R., Ermisch, J., Helske, S. (2019). «Educational reproduction in Europe», *Demographic Research*, 41, 1373-400.

Bynner, J., Parsons, S. (2002). «Social exclusion and the transition from school to work: The case of young people not in education, employment, or training (NEET)», *Journal of vocational behavior*, 60 (2), 289-309.

Coleman, J. S. (1988). «Social capital in the creation of human capital», *American journal of sociology*, 94, S95-S120.

Esping-Andersen, G., Gallie, D., Hemerijck, A., Myles, J. (2002). *Why we need a new welfare state*, Oxford, Oxford University Press.

Esping-Andersen, G., Mestres, J. (2004). «Unequal opportunities and social inheritance», in M. Corak (ed.) *Generational income mobility in North America and Europe*, Cambridge, Cambridge University Press, pp. 289-314.

Giancola, O., Colarusso, S. (2020). «The social costs of disease», *Journal of Advanced Health Care*, 2.

Giancola, O., Viteritti, A. (2014). «Distal and Proximal Vision: a multi-perspective research in sociology of education», *European Educational Research Journal*, 13 (1), 47-57.

Khan, M. T. (2015). «Role of education in poverty reduction (A literature review)», *International Journal of Information, Business and Management*, 7 (3), 124-39.

Kjeldsen, C. C., Bonvin, J. M. (2015). «The capability approach, education and the labour market», in H.-U. Otto, R. Atzmüller, T. Berthet, L. Bifulco, J.-M. Bonvin, E. Chiappero, V. Egdell, B. Halleroed, C.C. Kjeldsen, M. Kwiek, R. Schröer, J. Vero, M. Zielenska, (eds.) *Facing Trajectories from School to Work*, Cham, Springer, pp. 19-34.

Marradi, A., Di Franco, G. (2013). *Factor analysis and principal component analysis*, Milan, Franco Angeli.

Raffo, C., Dyson, A., Gunter, H., Hall, D., Jones, L., Kalambouka, A. (2009). «Education and poverty: mapping the terrain and making the links to educational policy», *International Journal of Inclusive Education*, 13 (4), 341-58.

Reardon, S. (2011). *The Widening academic achievement gap between the rich and the poor: New evidence and possible explanations*, New York, Russell Sage Foundation

Salmieri, L., Giancola, O. (2021). «La pobreza educativa en España en una comparación europea», *RES. Revista Española de Sociología*, 30 (2), 17.

Sen, A. K. (1997). *On Economic Inequality*, Oxford, Clarendon Press.

Sen, A. K. (1992). *Inequality Reexamined*, Oxford, Oxford University Press.

Stromquist, N. P. (2009). *Literacy and empowerment: A contribution to the debate. Background study commissioned in the framework of the United Nations Literacy Decade*. https://unesdoc.unesco.org/ark:/48223/pf0000187698

Volante. L. Schnepf, S. Klinger, D. (2019), *Socioeconomic Inequality and Student Outcomes. Education Policy & Social Inequality*, Springer, Singapore

Volante, L., Sylke, V., Schnepf, S., Klinger, D. (2022), *Cross-National Achievement Surveys for Monitoring Educational Outcomes Policies, Practices, and Political Reforms within the European Union*, Luxembourg, Publications Office of the European Union.

ISBN 978-88-944888-8-3

Proceedings of the 2nd International Conference of the Journal Scuola Democratica
REINVENTING EDUCATION

VOLUME I

Citizenship, Work and The Global Age