

NESET II ad hoc question No. 5/2017

By Dovydas Caturianas, PPMI; Laima Užpelkienė, PPMI; Valentina Migliarini, Roma Tre University, Department of Education



ABOUT US

NESET II is a Network of Experts working on the Social Dimension of Education and Training, funded by the European Commission, DG Education and Culture.





NESET II publications and further information is available at: <u>www.nesetweb.eu</u>. The Network is coordinated by PPMI, Public Policy and Management Institute based in Gedimino pr. 50, LT - 01110 Vilnius, Lithuania, Phone: +370 5 249 7056, e-mail: info.neset2@ppmi.lt.

© NESET II 2017. All rights reserved. Opinions expressed in this report are those of the author(s) alone and not of the European Commission.

CONTENTS

CONTENTS		2
Introduction		4
1.	Determinants of education inequalities	5
1.1.	Education and parental background	5
1.2.	Education and gender	6
1.3.	Education, migration and social inclusion	9
1.4.	Education and disability	11
1.5.	Institutional factors of education inequalities	12
2.	Key areas of life affected by education inequalities	14
2.1.	Education and individual skills	14
2.2.	Education, income and socio-economic status	14
2.3.	Education, health and quality of life	16
Conclusions		18
REFERENCES		19

INTRODUCTION

The importance of education in shaping the future economic wellbeing and quality of life among young people has long been recognised and emphasised by EU policy makers: high quality education and training systems are key preconditions for the high levels of sustainable, knowledge-based growth and jobs that lie at the heart of the Lisbon strategy. At the same time, the importance of education in ensuring equity, social inclusion, integration of persons with migrant background, and civic participation among European citizens, has also been increasingly emphasised. Recent violent terrorist attacks across different European countries have underlined the need to promote inclusive and equitable education, which is accessible to all social groups irrespective of their ethnic background, socioeconomic status and personal characteristics. Such inclusive education is necessary to prevent radicalisation, which can lead to violent extremism in the form of terrorism, especially among young people in Europe. According to the Paris Declaration of 2015¹, in order to tackle violent extremism in Europe, it is crucial to ensure that children and young people acquire social, civic and intercultural competences. This can be achieved by promoting democratic values and fundamental rights, social inclusion, non-discrimination, and active citizenship. In addition, it is necessary to enhance the critical thinking, media literacy and education of disadvantaged children and young people, by ensuring that our education and training systems address their needs.

In response to the Paris Declaration, a number of educational policy developments and reforms have been implemented across different member states. Despite these positive developments, however, patterns of inequalities in education opportunities and outcomes in Europe still persist. Major disparities in the educational achievement of different groups persist in Europe: qualification levels still vary between women and men, native-and foreign-born individuals, and regions and countries. Moreover, Europe has a persistent problem of educational poverty, defined as a failure to reach minimum standards in education.²

The present report aims to provide an overview of the different areas of life that are influenced by education and other relevant determinants at both individual and societal level. Based on the latest international data, we also identify the key determinants of education inequalities and emphasise their impact on EU member states. The overview will be used for the Education and Training Monitor 2017, which has a special focus on equity and inclusion.

¹ Informal meeting of European Union Education ministers PARIS, Tuesday 17 March 2015 Declaration on Promoting citizenship and the common values of freedom, tolerance and non-discrimination through education.

² Education and Training Monitor 2016.

1. DETERMINANTS OF EDUCATION INEQUALITIES

1.1. Education and parental background

Recent academic literature has strongly emphasised the importance of family background in shaping societies' education and socioeconomic inequalities. Finnish sociologists have recently challenged the often-stated strong relationship between educational attainment and income, finding that the economic effects of an individual's **educational achievements are mediated by parental income**. Individuals from high income parents (especially men) are more likely to stay in a higher income bracket and not to fall to middle-bracket despite lower educational achievements. This effect of parental income was higher among men than among women. Men who have achieved only the lowest level of education have a higher probability of entering the highest income group and a lower probability of entering the lowest income group if they originate from a high-income family. This does not apply to women to whom basic-level education is equally disadvantageous, regard-less of parental background (Sirniö et al., 2016).

Recent research in the US has confirmed that there is a strong relationship between **low-income family background and lower education achievements**: greater levels of income inequality could lead low-income youth to perceive that investment in their own human capital yields a lower rate of return (Kearney and Levine, 2016). This offsets any potential 'aspirational' effect coming from higher educational wage premiums. The same study finds that individuals (particularly boys) from low socioeconomic backgrounds are more likely to drop out of school if they live in a place with a greater gap between the bottom and middle of the income distribution. Similarly, a recent UK study found a relationship between intra-generational social class mobility of parents and their children's subsequent educational qualifications: children whose parents are upwardly mobile obtain higher educational qualifications than peers in their class of origin, but lower qualifications than peers in their class of destination (Plewis and Bartley, 2014). The reverse pattern was observed for the downwardly mobile.

Recent studies have also noted the psychological barriers to success faced by low socioeconomic status (low-SES) students in higher education. A recent study by an international team found that low-SES students in higher education face significant psychological barriers (e.g., emotional distress, identity management issues, negative self-perception, and more damaging forms of motivation) that may account for their worse academic outcomes (e.g., taking fewer classes, higher drop-out rates, and lower GPAs) (Jury et al., 2017). The study concluded that while providing economic resources to low-SES students and facilitating their access to higher education are necessary steps for reaching more equality in higher education, these steps are certainly not sufficient. Even if the economic obstacles are overcome, low-SES students may still experience more threat, more health problems, more negative emotions, and lower levels of motivation than their high-SES counterparts. Therefore, it is suggested that in addition to economic policies designed to help low-SES students get access to universities, psychological interventions and institutional changes are necessary. Similarly, students from low socioeconomic-status (SES) backgrounds or in remote locations tend to underestimate their own academic potential (Marginson, 2016). They are also less willing to take risks, more likely to try to acquire secure and well-paid employment instead of pursuing further studies, more concerned with finding a predictable pathway from study to job, and more likely to be anxious that they lack the necessary cultural capital (ibid.).

In addition, a number of recent academic articles have addressed the **impact of parental education** on the educational achievements and economic status of their children. Children coming from families with more educated parents have more chances to end up with more qualified and better paid jobs compared to their peers with poorly educated parents: a study in Finland, for instance, showed that parental education explains children's occupation and socioeconomic status most and income explains it least (Erola et al., 2016). Moreover, a fathers' educational status has more impact than a mothers': status characteristics of fathers altogether explained around half of children's outcomes, and those of mothers explained slightly less (around 40%). Whereas, in infancy, mothers' education better accounted for their children's outcomes, the educational background of fathers accounted more for the outcomes of children in their early adulthood. A similar observation was made in a recent Italian study on social inequalities in educational attainment (Triventi et al., 2016), which found that parental education had a greater 'effect' on inequality of educational opportunity (IEO) than did their social class of origin.

Research reveals that complementary ways to minimise the barriers faced by low-SES students and reduce the SES-achievement gap are needed to compensate for lack of support in the family for children to pursue and complete education.

1.2. Education and gender

Gender has long been viewed as one of the key factors that influence various aspects of educational achievements, together with socio-economic status and migrant background. In Europe, early school leaving varies significantly by gender (European Commission, 2014). The most recent numbers show that the EU-28 average of male school leavers was 17.5%, compared to 15.0% of females (Eurostat, EU-LFS, 2016). However, the gap between male and female early leaving rates narrows as the socio-economic status of students increases (European Commission, 2014).

Gender differences are also observed in reading literacy and mathematics. Girls outperform boys in reading literacy in all EU countries (see Figure 1), while boys perform better in mathematics, except in Finland, Sweden and Latvia (OECD, 2017). The gender gap in science is not as wide as it is in mathematics, but boys still outperform girls in most EU countries. An outstanding exception is Finland, where girls outperform boys by 20 mean scores (OECD, 2017).

Figure 1. Reading performance (PISA) Boys / Girls, Mean score, 2015.



Source: OECD (2017), Reading performance (PISA) (indicator). doi: 10.1787/79913c69-en (Accessed on 06 June 2017).

Gender differences in school performance are useful for understanding female under-representation in mathematics and science at higher levels of education (Eurydice, 2009). Women dominate the fields of education and training, health, welfare, humanities and arts, while men dominate the fields of engineering, manufacturing and construction (Ibid.). The EU-28 average number of males age 20-29 who are graduates of tertiary education in science, mathematics, computing, engineering, manufacturing and construction, more than doubles the number of female graduates (see Figure 2). Differences in the **choice of academic discipline** by young people can largely be attributed to traditional perceptions of gender roles and identities: some fields, especially science and engineering, are regarded as 'masculine' and more suitable for men, while other fields of study, especially care-related ones like education or health, are regarded as 'feminine' and more appropriate for women (Eurydice, 2009).



Figure 2. Graduates in tertiary education, in science, mathematics, computing, engineering, manufacturing, construction, by sex - per 1000 of population aged 20-29 (2014).

Source: Eurostat. Population and social conditions statistics. Online data code: educ_uoe_grad04.

In recent decades, the gender education gaps in many Western, Nordic and post-socialist countries have gradually reversed in favour of girls and women, both in terms of participation in the formal education system and in achievement (Ganguli et al., 2011; Ganguli, 2013). However, this has not translated into any considerable improvement of their position in the labour market (Roosmaa and Aavik, 2016). Although women are highly successful in gaining qualifications, their subsequent career paths are often interrupted or blocked by the conflicting demands of care (Lynch and Feeley, 2009). Women are more likely to work part-time, to have shorter or slower careers, they face a range of barriers to returning to studies or work, and are at greater risk of falling into poverty (Ibid.). Gender gaps in labour force participation and employment remain substantial in Europe (Klasen and Minasyan, 2017). Gender gaps are also observed in education outcomes: the employment rates of men with tertiary education aged 15-64 are higher than that of women with the same level of education, across all EU countries (Eurostat. Employment rate by sex, age groups, educational attainment level and household composition, 2015. Online data code: Ifst_hheredty).

Finally, the gender gap in educational achievements also contributes to the changing patterns of family choices. For instance, due to the reversed gender gap in education, highly educated women are increasingly tending to partner 'downwards', with less educated men, rather than remaining single (De Hauw et al., 2017).

1.3. Education, migration and social inclusion

When considering education inequalities and educational achievements in the context of migration, it is relevant to **distinguish between educational attainments of immigrants/foreign-born persons, and the educational attainment in the host country of children of immigrants**.

In EU-28 countries, **non-EU/foreign born immigrants come with and attain significantly lower educational attainments** compared to both native-born and EU-born populations. In 2016 the highest proportion of people having attained only pre-primary, primary or lower secondary education) was observed among the non-EU-born population (37.8 %). This share was 12 percentage points higher than for the native-born population (see Figure 3). In addition, the education gap among non-EU migrant persons varied across different member states. Overall, in 2015, Malta (45.3%), Italy (44.6%), Greece (44.3%) and Spain (40.9%) had the highest proportions of foreign-born populations with low educational attainment. The gap between the shares of foreign- and native-born populations with low educational attainment were the highest in Greece (22 %), Sweden and France (both 20%), and Finland (19%).



Figure 3. Educational attainment level among different groups of population (aged 15-64) in EU-28 countries by country of birth.

Source: Eurostat: Educational attainment statistics: Population by educational attainment level, sex, age and country of birth (%). Online data code: *edat_lfs_9912*.

Moreover, young foreign-born persons were generally at **greater risk of leaving education** without having completed upper secondary education level. This was true especially of young non-EU-born persons: over the 2008–16 period, they had the highest early leaving rate of all population groups. Although consistently decreasing since 2008, the share of non-EU-born early-leavers in 2016 was almost twice the rate of native-born leavers (19.4% vs 9.8%).³

³ Eurostat. Migrant integration Statistics. Available at: http://ec.europa.eu/eurostat/statistics-explained/index.php/Migrant_integration_statistics_-_education#Main_statistical_findings



Figure 4. Early leavers from education and training by year and country of birth in EU-28 countries (%).

Source: Eurostat. Statistics of education and training outcomes. Online data code: edat_lfse_02.

In terms of **children with migrant background**, on average, migrant children in the EU underperform at school compared to their native counterparts, especially when their new country's language is different from the one spoken at home. For instance, a recent PIAAC study showed that there is no difference in literacy proficiency between native and foreign-born adults once the language of origin is taken into account. Native-language speakers scored about 277 points, regardless of their country of origin, and both native- and foreign-born foreign-language speakers scored about 250 points. Overall then, individuals whose native language was different from the assessed language scored lower than native language speakers irrespective of their origin of birth (OECD, 2016b).

Children's immigrant background is linked to lower socioeconomic family status and lower parental educational achievements, and as discussed earlier, such families are associated with poorer educational opportunities for their children. Generally speaking, parents with lower socioeconomic status and educational achievement provide fewer educational resources at home, are less skilled, able or inclined to help their children with their homework, and attach lower value to academic success (Borgna and Contini, 2014; OECD, 2010), all of which contribute to the academic under-achievement of their children. Thus, in addition to a lack of resources, the underachievement of children with immigrant background is caused by other challenges which stem from the characteristics of migrant groups, and include psychological barriers, potential low expectations from parents and teachers, and insufficient family and community support (Janta and Harte, 2016).

Education is a strong driver of integrating youth into the labour market, both for recent immigrants and for immigrant offspring (OECD/EU, 2015). Among both first-generation immigrants and their nativeborn offspring of both genders, **labour market outcomes tend to improve with higher levels of educational attainment**. However, improvement varies greatly by degree. It is weakest among immigrants who arrived as adults, since they have low educational attainment or hold foreign educational credentials that host-country employers may have trouble assessing, or which labour markets may substantially downgrade the value of (OECD/EU, 2014). To illustrate the point, across the EU the employment rate for immigrants with a host-country degree is 10 points higher than for those with a foreign qualification, and those host-country degree holders have, on average, a comparable employment rate to the native-born population (OECD/EU, 2015). Training, which includes language courses, can help immigrants secure recognition of their foreign qualifications and eventually enter the labour market (OECD, 2014).

On average, not only third-country migrants and their offspring, but also EU-migrant children, do not do as well at school as their native counterparts, especially when their new country's language is different than their own. This underperformance of EU-migrant children is associated with later challenges in the labour market: rates of youth unemployment among EU migrants tend to be higher than for non-migrant youth (OECD/EU, 2015).

Education-based upward social mobility is often found to be one of the **key preconditions in tackling political extremism, improving overall societal cohesion, integration and civic participation**, particularly among persons with migrant background (Meer and Modood, 2016). Primary education seems to be the critical stage of intervention because of its potential to influence and shape attitudes and behaviours that encourage civic participation. Primary education also creates an environment in which different opinions and points of view are free to emerge and can be confronted in an open and constructive way. Teaching peace values, and combining efforts at school and at home during their early years, prepare children for adolescence, a period when they will be confronted with choices, competing ideologies, and different forms of social pressure (Macaluso, 2016).

Similarly, early childhood education in the host country is particularly beneficial for integrating immigrant offspring. Among children of comparable socio-economic backgrounds, those who attended preschool in their current OECD host country obtain better reading literacy results at 15 years old than those who did not (OECD/EU, 2015). Involvement in ECEC also strongly contributes to language acquisition and therefore integration of children with migrant background. For instance, a recent study confirmed that a longer time spent in preschool is associated with better German language skills for Turkish-origin children with low levels of German language input at home. This result is very stable across different preschool contexts (Klein and Becker, 2017). Unfortunately, however, in Europe immigrant students and students with less educated parents attended ECEC less than native students or with higher educated parents. For instance, the attendance rate of 3-6 year-old immigrant children in early childhood education programmes in 2012 was 7 percentage points lower than among their native-born peers (DECD/EU, 2015). Thus, the children with a higher need of ECEC attend less and therefore profit less (Jehles, 2017).

1.4. Education and disability

Despite there being an international consensus on the rights of children with Special Educational Needs (SEN) (UN Convention on the Rights of Persons with Disabilities (CRPD) 2006⁴), and despite the wide efforts to find an international definition of children with SEN, data on children with SEN is still being collected according to national definitions. This implies that data are not fully comparable. Based on national definitions, Iceland stands out as a country with the highest proportion of SEN diagnosing, at

⁴ Available at: http://www.un.org/disabilities/documents/convention/convention_accessible_pdf.pdf

nearly 1 in 4 children. In the remaining OECD countries, the proportion of children with SEN varies from 1% in Korea to over 10% in the United States. These large differences can, in no small part, be attributed to differences in national definitions and whether or not they include children with some specific disabilities or disorders within the category of children with SEN (OECD, 2012).

Across different OECD countries, children with SEN are taught either in segregated special schools and segregated special classes in mainstream schools, or in regular classes in mainstream schools (OECD, 2012). By 2012, **most EU countries already had a large proportion of children in totally inclusive settings**. In 2012, Ireland, Italy, Norway, Portugal and Spain had included more than 75% of children with disability and SEN in mainstream classes in mainstream schools. All countries, with the exception of Italy and Poland, have special classes in mainstream schools, but only in Denmark and France is this the most common form of educational setting for children with SEN (ibid.). The rates of children with SEN in special school ranges from less than 0.5% in Italy – where special schools are only for children who have visual or hearing impairments – to over 60% in the Netherlands (OECD, 2012).

Recent academic literature on both sides of the Atlantic has shown that SEN policies, officially introduced to bring justice and equity for all those learners experiencing school failure, are actually oriented to the identification, classification and categorisation of 'difference' within (or outside) mainstream school settings, as well as to manufacturing inability. These **policies, thus, often produce and reproduce educational exclusion and inequity for disabled students** (Armstrong, 2003; Baglieri, 2016; Bocci, 2016; D'Alessio, 2013, 2014; Harry and Klingner, 2014; Tomlinson, 2017). In EU countries that are characterised by integrative and desegregation models of teaching and learning, such as Italy, introducing new SEN policies enhance the risk of students' micro-exclusion in mainstream educational settings, rather than fostering systemic change in inclusive terms (D'Alessio, 2014; Migliarini et al., 2017).

There is also a discrepancy in the **proportion of pupils with an immigrant background that are represented within special education** (European Agency for Development in Special Needs, 2009). Disproportions in the representation of pupils with an immigrant background in special education occur primarily when intellectual impairments and learning disabilities are involved. The literature identifies several reasons: more frequent problems of social behaviour within the immigrant population and minority ethnic groups; the lack of early intervention or health care among these groups; the existence of prejudices within the host society about people with an immigrant background; and finally, problems when assessing the needs and abilities of pupils with an immigrant background.

1.5. Institutional factors of education inequalities

A European study found that the comprehensiveness of a country's education system is an important factor that influences the educational achievements of children, in conjunction with parental background (Burger, 2016). The study found that the effect of parental education on a child's educational achievement is stronger in highly tracked education systems, and in systems with a shorter annual instruction time. However, the **social composition** of a school's student population also affects the intergenerational transmission of education, and it interacts with annual instruction time, such that the effect of school social composition on a child's achievement is stronger in education systems with a longer instruction time. Thus, overall, the results challenged the hypothesis that social inequality in education could be minimised by extending the school year.

The impact of existing education systems on educational achievements and subsequently on the level of skills was confirmed by a recent study on the skills and education inequalities in Anglophone Countries (Green et al., 2015). The study suggests that early tracking increases inequality in education and skills, as combined peer effects and school effects raise aspirations among high-status students. In particular, recent evidence from Europe shows that early tracking in schools has a significantly detrimental effect on the relative achievement in reading of less integrated migrant students (migrant students who almost never speak the test language at home). Even larger negative effects of early tracking were found for first-generation immigrants, who are arguably even less integrated and less skilled in the testing language (Ruhose and Schwerdt, 2016). Public schools in general have fewer resources and do not provide sufficient quality education to catch up with best, often private schools. As a consequence, private schools enhance inequality as families with high incomes are able to buy higher-quality education for their children in schools with smaller class sizes, better resources, and higher-paid teachers. Recent evidence, however, shows that the effects of private schooling on education inequalities are inconclusive and depend on external factors. For instance, according to the PISA 2015 Results (Volume II), after accounting for socio-economic status, in 22 education systems, students in public schools score higher than students in private schools, in eight systems they score lower than students in private schools, and on average across OECD countries, students in public schools score higher than students in private schools. Moreover, the same report revealed that science scores and equity in science performance are virtually unrelated to the percentage of students enrolled in public schools (OECD, 2016a). Lack of standardisation in curricula and assessment systems promotes inequality because school practises differentiate according to the social and ability composition of their intakes, thus exacerbating variation in school and peer effects across schools (Green et al., 2015). Whereas some (often private) schools have high standards and quality of education, other schools retain less demanding expectations in curricula and student assessment. Finally, regionalised funding in state school sectors increases inequalities in school quality, as richer areas can spend more on education than poorer areas. And because Anglophone countries tend to exhibit most or all of the above characteristics, they demonstrate higher levels of education and skills inequalities compared to other Western countries. Similarly, a comparative study on different European education systems showed that in addition to early-tracking, and timing of entry in school and pre-school, residential segregation also plays a major role in shaping the learning opportunities of children with immigrant background (Borgna and Contini, 2014).

The **impact of different voucher systems** on education inequalities in schools is also of interest. Simply put, in the US *universal voucher* programmes (voucher available to any student in state with no limitations on student eligibility according to ability) aggravate existing stratifications within a school system (Akyol, 2016). Under this system, public schools increase their expenditure per student, thereby adding to an overall increase in expenditure per student, and subsequently leading to an increase in efficiency. However, students who remain in public school are exposed to a decline in peer group quality, since students with higher abilities or higher income tend to switch schools. In contrast, *target vouchers*, which are a function of student ability, allow school districts to benefit from increased competition while avoiding the deterioration of peer groups.

2. KEY AREAS OF LIFE AFFECTED BY EDUCATION INEQUALITIES

2.1. Education and individual skills

Although it is common to emphasise individual skills as the key determinant of educational attainments, recent evidence also shows there is a very significant reverse relationship. According to the Survey of Adult Skills under the OECD Programme for the International Assessment of Adult Competencies (PIAAC), of all the various socio-demographic characteristics (including gender, family background and age), **educational attainment has the strongest relationship with proficiency**, and this holds both before and after the influence of other socio-demographic characteristics are accounted for. Most importantly, while it is true that education explains a substantial part of the difference in proficiency between older and younger adults, the opposite is not: differences in proficiency among adults with different levels of education remain substantial, even after taking account of age (OECD, 2016b).

The same study found that the largest gaps in literacy proficiency are usually related to differences in educational attainment, with tertiary educated 25-65 year-olds scoring some 60 points higher than, on average, adults in this age group who have not attained an upper secondary qualification. The magnitude of the gap varies significantly between countries: Germany, Poland, France and Belgium (Flanders) has close to or over 70 score points, whereas Greece, Cyprus, Lithuania and Estonia have roughly 40 or even less score points. The proficiency advantage among highly educated adults is even more striking if one looks at proficiency in problem solving in technology-rich environments: only about 7% of low-educated adults scored at Level 2 or 3 on the problem-solving assessment, compared to 48% of adults who had attained tertiary education. There was substantial variation between countries at the bottom of the proficiency distribution, with more than 70% Poland and the Slovak Republic, to around 60% in Slovenia and Turkey, to more than 40% in Greece to below 20% in a large number of countries, including Norway and Sweden. Similarly, substantial variation between countries was observed at the bottom of the proficiency distribution when looking at highly educated populations: less than 30% of high-educated adults in Greece and Turkey scored at Level 2 or higher, to less than 40% in Poland, Lithuania and Estonia, compared with between 54% and 63% in ten other countries/economies, including the Netherlands, Norway, Czech republic, Finland, Denmark and Sweden (OECD, 2016b). These country fluctuations, then, indicate that the impact of education on individual abilities and skills is mediated by other important factors, such as education quality.

2.2. Education, income and socio-economic status

According to the Human Capital theory used by neoclassical economists, which seeks to explain differences in individuals' earning profiles over time, the **level of education directly impacts an individual's income** during their subsequent years (Guidetti and Rehbein, 2014). Individuals invest in as many years of education as they expect to profit from as they would otherwise have gained from any other alternative financial investment. Consequently, the earning profile of a worker depends on the amount of investment, and is influenced by two additional factors: individual ability, and background characteristics such as gender, parental status and income. According to the latest Eurostat data, in the

EU-28, persons with less than primary, primary and lower secondary education (levels 0-2) are **almost three times more likely to beat the risk of poverty or social exclusion** than those with tertiary education (ISCED levels 5-8).

Figure 5. People at risk of poverty or social exclusion by educational attainment level (population aged 18 and over in the EU-28, % of specified population) in 2015.



Source: Eurostat. Income and living conditions statistics. Online data code: *ilc_peps04*.

Similarly, GINI data showed a significant and positive relationship between education and income inequality (Salverda and Checchi, 2014). In general, higher cognitive skills are systematically related to higher wages in the 23 countries studied by LLLIGHTinEUROPE (Wiederhold and Woessmann, 2015). Similarly, this model was recently supported by a study that looked at the effects of innate ability, compulsory education (grades 1-9), and non-compulsory education (grades 10-12 and higher education) on inequality and intergenerational mobility of income in China (Yang and Qiu, 2016). According to their findings, although children from the wealthiest families are only 1.36 times 'smarter' that those from the poorest, the gap in human capital rises to 2.35 at the end of compulsory education and to 2.89 at the end of non-compulsory education. One important reason for the increase is that poor families invest relatively less in children's early education than do wealthy families. As a consequence, their children attend lower quality schools, which results in them being much less likely to participate in higher education.

Economic returns to early childhood education are also being emphasised in research on education (Karoly, 2016). One way to assess the value of preschool education programmes is to compare their upfront costs with the economic benefits they produce, measured by such outcomes as decreased need for special education services, improved high school graduation rates, higher earnings, and less criminal

activity in adulthood. According to this approach, it is estimated that for every \$1 spent on early childhood education, returns in the range of \$3 to \$4 can be realistically expected.

2.3. Education, health and quality of life

The areas of life affected by education inequalities are not limited to income and socioeconomic status. Another important area of life affected by education and education inequalities is health. Higher education levels are linked to higher self-rated health rates (SRH) and lower morbidity rates (Badley et al., 2015). Also, health returns to education are particularly elevated among those who come from disadvantaged families: education may be a health resource that compensates or 'substitutes' for lower parental socioeconomic status (Andersson, 2016). Furthermore, higher levels of education reduce the risk of adult depressive symptoms when childhood disadvantage is present in terms of lower levels of parental education or higher childhood financial strain (Andersson and Vaughan, 2017). Across the EU, the perception of being in good or very good health in 2012 was highest among people who had completed tertiary education (81.6 %). Only slightly more than half (55.1%) of those with at most lower secondary educational attainment shared this perception.5 Similarly, people with lower education have higher rates of self-reported unmet needs for medical examination. In 2015, 4.8% of those with less than primary, primary and lower secondary education (ISCED levels 0-2) in the EU-28 reported unmet needs for medical examination (because it was too expensive, too far to travel, or too long a waiting list), compared to 2.6% among those with upper-secondary and post-secondary non-tertiary education (ISCED levels 3 and 4), and only 1.9% among those with tertiary education (ISCED levels 5-8) (Eurostat data, 2017. Self-reported unmet needs for dental examination by sex, age, detailed reason and educational attainment level. Online code: hlth_silc_16).

Higher educational attainments are also linked to **higher life expectancy**. According to the latest Eurostat data on 16 European countries, in 2015 the average life expectancy for those with tertiary education (ISCED levels 5-8) was around 81.6 years, which was 5.6 years more than the average life expectancy of those with less than primary, primary and lower secondary education (ISCED levels 0-2).

⁵ Eurostat. Europe 2020 indicators. http://ec.europa.eu/eurostat/statistics-explained/index.php/Europe_2020_indicators____education.



Figure 6. Life expectancy (in years) at less than 1 year by educational attainment level in 16 European countries (Bulgaria, Czech Republic, Denmark, Greece, Italy, Hungary, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden, Norway, Former Yugoslav Republic of Macedonia, Turkey) in 2015.

Source: Eurostat. Health statistics. Online data code: *demo_mlexpecedu*.

A recent study assessed health inequalities based on the assumption that socioeconomic status is a 'fundamental cause', which embodies an array of resources that can be used to avoid disease risks (Mackenbach et al., 2015). The authors collected and harmonised mortality data by educational level on 19 national and regional populations from 16 European countries in the first decade of the 21st century. The age-adjusted Relative Risks of mortality among men and women aged 30-79 for 24 causes of death were calculated and classified into four groups: amenable to behaviour change, amenable to medical intervention, amenable to injury prevention, and non-preventable. Although the strength of the education-mortality relation was found to be highly variable between causes of death and populations, an overwhelming majority of Relative Risks indicated a **higher mortality risk among the lower educated**. Most importantly, inequalities in mortality between different education groups are generally larger for causes amenable to behaviour change, medical intervention and injury prevention than for non-preventable causes. Other recent studies supported this relationship between level of education and health (Giannoni et al., 2016; Viner et al., 2017; Crowley, 2016)

Education seems to affect several **quality of life** outcomes for individuals, for example, income, selfefficacy, social support network, mortality risk, perceived health status, and time spent in developmentally enriching activities with children (Edgerton et al., 2012). Numerous familial outcomes are also associated with level of educational attainment, including **household poverty, out-of wedlock childbearing, early parenthood, child nutrition, and child abuse** and neglect (Alderman and Headey, 2017; Vik et al., 2016; Cullinan and Cawley, 2016). All of these outcomes are less prevalent among high school graduates than among early school leavers.

CONCLUSIONS

This overview of recent studies emphasised that education inequalities both affect and are affected by a number of important areas of life. Parental background is a key determinant of education inequality, and families' low socio-economic status, income and parental education are some of the key factors in decreasing children's access to quality education. Recent evidence shows that children from disadvantaged socio-economic background often face significant psychological barriers related to levels of family support, self-esteem, and value attached to education, which contribute to education inequalities in later years. Similarly, the immigrant status and immigrant background is another key negative factor contributing to education inequalities; knowledge of the host country language was the single most important mediating factor in migrant educational attainment. In terms of disability and education inequalities, there is a positive trend in most of the EU countries that already have a large proportion of children in totally inclusive settings. However, there are also indications that some public policies produce and reproduce educational exclusion and inequity for disabled students by identifying, classifying and categorising 'difference' within (or outside) mainstream school settings. Similarly, some institutional settings in schools contribute to education inequalities: early tracking, lack of standardisation in curricula and assessment systems, regionalised funding, residential segregation, universal voucher programmes, and a pre-dominance of private schools. In terms of education and gender, early school leaving in Europe evidently varies significantly by gender, with boys (especially from lower socio-economic backgrounds) being at greater risk of ESL. Gender differences are also observed in reading and mathematics performance: girls outperform boys in reading literacy in all EU countries, while boys (with several exceptions) demonstrate better achievements in mathematics.

To conclude, key areas of life are dependent on the level of educational attainment, including individual skills, income level, socio-economic status, health and overall quality of life. Educational attainment has a very strong relationship to both proficiency in literacy and problem solving in technology, before and after accounting for the influence of other socio-demographic characteristics. Level of education also directly impact individuals' income and socio-economic status in later years: poorly educated Europeans are almost three times more likely to be at risk of poverty or social exclusion than those with tertiary education. Similarly, there is a strong link between higher levels of education and higher self-rated health rates, lower morbidity and better access to healthcare. Furthermore, the life expectancy of Europeans with tertiary education (ISCED levels 0-2). Finally, at the societal level, education-based upward social mobility is identified as one of the key preconditions, particularly among persons with immigrant background, for tackling political extremism, improving societal cohesion, integration and civic participation.

REFERENCES

Alderman, H.; Headey, D. D. (2017). How Important is Parental Education for Child Nutrition?, *World Development*, Vol. 94, pp. 448-464.

Andersson, M. A. (2016). Health returns to education by family socioeconomic origins, 1980–2008: Testing the importance of gender, cohort, and age, *SSM –Population Health 2*, pp. 549-560.

Andersson, M. A.; Vaughan, K. (2017). Adult health returns to education by key childhood social and economic indicators: Results from representative European data, *SSM - Population Health 3*, pp. 411-418.

Akyol, M. (2016). Do educational vouchers reduce inequality and inefficiency in education?, *Economics of Education Review 55*, pp. 149-167.

Armstrong, F. (2003). *Spaced Out: policy, differences and the challenge of inclusive education*. London: Kluwer Academic Publishers.

Badley, E. M.; Canizares, M.; Perryccio, A. V.; Hogg-Johnson, S.; Gignac, M. A. (2015). Benefits Gained, Benefits Lost: Comparing Baby Boomers to Other Generations in a Longitudinal Cohort Study of Self-Rated Health. *The Milbank Quarterly*, *93*(1), pp. 40-72. https://doi.org/10.1111/1468-0009.12105

Baglieri, S. (2016). Toward unity in school reform. What DisCrit contributes to Multicultural and Inclusive Education. In Annamma, S., Connor, D., Ferri, B. (Eds.). *DisCrit: Disability Studies and Critical Race Theory in Education*, New York: Teachers College Press.

Bericat, E.; Bermejo, E. S. (2015). Structural Gender Equality in Europe and Its Evolution Over the First Decade of the Twenty first Century, Springer Science+Business Media Dordrecht.

Bocci, F. (2016). I protagonisti dell'inclusione. In F. Bocci & A. Morganti (a cura di). *Didattica inclusiva per la scuola primaria*. Firenze: GiuntiEdu.

Borgna, C.; Contini, D. (2014). Migration, Education, and Inequality Which European Educational Systems Provide Fair Opportunities to Learn, *Mitteilungen Heft 146*.

Burger, K. (2016).Intergenerational transmission of education in Europe: Do more comprehensive education systems reduce social gradients in student achievement?, *Research in Social Stratification and Mobility 44*, pp. 54–67.

Communication From The Commission To The European Parliament, The Council, The European Economic And Social Committee And The Committee Of The Regions supporting the prevention of radicalisation leading to violent extremism, Brussels, 14.6.2016 COM(2016) 379 final.

Council conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training ('ET 2020').

Crowley, E. P. (2016). The Abuse and Neglect of Children with Disabilities: The Extent of the Problem. In *Preventing Abuse and Neglect in the Lives of Children with Disabilities*, Springer International Publishing, pp. 3-28, <u>https://doi.org/10.1007/978-3-319-30442-7_1</u>.

Cullinan, J.; Cawley, J. (2017). Parental misclassification of child overweight/obese status: The role of parental education and parental weight status, *Economics & Human Biology*, Vol. 24, February 2017, pp. 92-103.

D'Alessio, S. (2013). Disability Studies in Education: implicazioni per la ricerca educative e la pratica scolastica italiane. In Medeghini, R., D'Alessio, S., Marra, A., Vadalà, G., Valtellina, E. (Eds.), *Disability Studies. Emancipazione, Inclusione Scolastica e Sociale, Cittadinanza*. Trento: Erickson, pp. 89-124.

D'Alessio, S. (2014). Le normative sui bisogni educativi speciali in Europa e in Italia. Verso un'educazione inclusiva? La prospettiva dei Disability Studies in Patrizia Gaspari (Ed.) *Pedagogia speciale e BES*. Anicia: Roma, pp. 217-244.

De Hauw, Y.; Grow, A.; Van Bavel, J. (2017). The Reversed Gender Gap in Education and Assortative Mating in Europe.

Edgerton, J. D.; Roberts, L. W.; Below, S. von (2012). 'Education and Quality of Life', Handbook of Social Indicators and Quality of Life Research, Chapter: Education and the Quality of Life, Publisher: Springer, Editors: Kenneth C. Land, Alex C. Michalos, M. Joseph Sirgy, pp. 265-296.

Erola, J.; Jalonen, S.; Lehti, H. (2016). Parental education, class and income over early life course and children's achievement. *Research in Social Stratification and Mobility*, Vol. 44, pp. 33–43. https://doi.org/10.1016/j.rssm.2016.01.003

European Agency for Development in Special Needs (2009). *Multicultural Diversity and Special Needs Education. Summary Report.* Brussels, Belgium.

European Commission (2014). *Tackling Early Leaving from Education and Training in Europe: Strategies, Policies and Measures,* Eurydice and Cedefop report. Available online <u>http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/175EN.pdf</u>.

European Commission (2016). *Education and Training Monitor* 2016.

European Commission/EACEA/Eurydice (2016). *Promoting citizenship and the common values of freedom, tolerance and non-discrimination through education: Overview of education policy developments in Europe following the Paris Declaration of 17 March 2015*. Luxembourg: Publications Office of the European Union.

Eurydice (2009). Gender Differences in Educational Outcomes: Study on the Measures Taken and theCurrentSituationinEurope.Availableonlinehttp://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/120EN.pdf.

European Parliament resolution of 19 January 2016 on the role of intercultural dialogue, cultural diversity and education in promoting EU fundamental values, <u>http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+TA+P8-TA-2016-0005+0+DOC+PDF+V0//EN</u>.

Ganguli, I. (2013). Fact or Fiction? The Reversal of the Gender Education Gap across the World and the Former Soviet Union, FREE Policy Brief Series. Available at: <u>http://freepolicybriefs.org/2013/03/04/fact-or-fiction-the-reversal-of-the-gendereducation-gap-across-the-world-and-the-former-soviet-union/</u>

Ganguli, I.; Hausmann, R.; Viarengo, M. (2011). The Closing of the Gender Gap in Education: Does It Foretell the Closing of the Employment, Marriage, and Motherhood Gaps? Harvard University CID

Working

Paper.

programs/centers/wappp/research/closing/education-gap-1.pdf

http://www.hks.harvard.edu/var/ezp_site/storage/fckeditor/file/pdfs/centers-

Available

at:

Giannoni, M.; Franzini, L.; Masiero, G. (2016). Migrant integration policies and health inequalities in Europe, BMC Public Health (2016) 16:463.

Green, A.; Green, F.; Pensiero, N. (2015). 'Cross-Country Variation in Adult Skills Inequality Why Are Skill Levels and Opportunities So Unequal in Anglophone Countries?', Comparative Education Review, Vol. 59, No. 4, pp. 595-618.

Guidetti, G.; Rehbein, B. (2014). Theoretical Approaches to Inequality in Economics and Sociology. A Preliminary Assessment, Transcience Vol. 5, Issue 1.

Harry, B.; Klingner, J. (2014). Why are so Many Minority Students in Special Education? Understanding race & disability in schools. 2nd Ed. New York: Teachers College Press.

Harte, E.; Herrera, F.; Stepanek, M. (2016). Education of EU migrant children in EU Member States. RAND Corporation, Santa Monica, Calif., and Cambridge, UK.

Janta, B.; Harte, E. (2016). Education of migrant children [Product Page]. Retrieved 9 June 2017, from https://www.rand.org/pubs/research_reports/RR1655.html

Jehles, N. (2017). 'Development of participation in early childhood education and care in Europe in relation to social inequality and migration' in The New Diversity of Family Life in Europe edited by Banu Çitlak.

Jury, M; Smeding, A.; Stephens, N. M; Nelson, J. E.; Aelenei, C.; Darnon, C. (2017). 'The Experience of Low-SES Students in Higher Education: Psychological Barriers to Success and Interventions to Reduce Social-Class Inequality', Journal of Social Issues, Vol. 73, No. 1, pp. 23-41.

Karoly, L. A. (2016) The Economic Returns to Early Childhood Education, The Future of Children, Vol. 26, No. 2, Starting Early: Education from PreKindergarten to Third Grade (Fall 2016), pp. 37-55.

Kearney, M. S.; Levine, P. B. (2016). Income Inequality, Social Mobility, and the Decision to Drop Out of High School, Brookings Papers on Economic Activity, (SPRING 2016), pp. 333-380.

Klasen, S.; Minasyan, A. (2017). Gender Inequality and Growth in Europe, Intereconomics.

Klein, O.; Becker, B. (2017). Preschools as language learning environments for children of immigrants. Differential effects by familial language use across different preschool contexts, Research in Social Stratification and Mobility 48, pp. 20-31.

Lynch, K.; Feeley, M. (2009). Gender and education (and employment): gendered imperatives and their implications for women and men: lessons from research for policy makers, an independent report submitted to the European Commission by the NESSE networks of experts.

Macaluso, A. (2016). From Countering to Preventing Radicalization through Education: Limits and *Opportunities,* the Hague Institute for Social justice.

Mackenbach et al. (2015). Variations in the relation between education and cause-specific mortality in 19 European populations: A test of the 'fundamental causes' theory of social inequalities in health, Social Science & Medicine 127, pp. 51-62.

Marginson, S. (2016). *The Dream Is Over: The Crisis of Clark Kerr's California Idea of Higher Education*, University of California Press, p. 153.

Meer, N.; Modood, T. (2016). ,Muslim-State Relations in Great Britain: An Evolving Story in Robert Mason (ed.) *Muslim Minority-State Relations, The Modern Muslim World*.

Migliarini, V., D'Alessio, S., Bocci, F. (2017). *SEN Policies and Migrant Children in Italian Schools: towards a real educational opportunity?* Paper presented at the 2017 Annual Meeting of the American Educational Research Association.

OECD (2010). Closing the Gap for Immigrant Students: Policies, Practice and Performance, Paris: OECD. Available online: <u>http://www.oecd.org/edu/school/oecdreviewsofmigranteducation-</u> closingthegapforimmigrantstudentspoliciespracticeandperformance.htm

OECD (2012). *Special Educational Needs (SEN)*. Child well-being module. [Available at: www.oecd.org/els/social/family/database/CWBM].

OECD (2014). *International Migration Outlook 2014*, OECD Publishing, Paris. DOI: <u>http://dx.doi.org/10.1787/migr_outlook-2014-en</u>

OECD (2016a). PISA 2015 Results (Volume II): Policies and Practices for Successful Schools. PISA, OECD Publishing, Paris.

OECD (2016b). *Skills Matter: Further Results from the Survey of Adult Skills*, OECD Skills Studies, OECD Publishing, Paris.

OECD (2017). Reading performance (PISA) (indicator). doi: 10.1787/79913c69-en (Accessed on 06 June 2017).

OECD/EU (2014). *Matching Economic Migration with Labour Market Needs*, OECD Publishing, Paris. DOI: <u>http://dx.doi.org/10.1787/9789264216501-en</u>

OECD/EU (2015). *Indicators of Immigrant Integration 2015: Settling In*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264234024-en

Plewis, I.; Bartley, M. (2014). 'Intra-generational social mobility and educational qualifications', *Research in Social Stratification and Mobility 36*, pp. 1-11.

Roosmaa, E.-V.; Aavik, K. (2016). Gender Gaps in Participation in Adult Learning: Estonia Compared with Other European Countries, in T. Roosalu et al. (eds.), *Rethinking Gender, Work and Care in a New Europe*.

Ruhose, J.; Schwerdt, G. (2016). Does early educational tracking increase migrant-native achievement gaps? Differences-in-differences evidence across countries, *Economics of Education Review 52*, pp. 134-154.

Salverda, W.; Checchi, D. (2014). Labour-Market Institutions and the Dispersion of Wage Earnings, *Discussion Paper No. 8220*, pp. 30-47. Available online <u>http://ftp.iza.org/dp8220.pdf</u>

Sirniö, O.; Martikainen, P.; Kauppinen, T. M. (2016). Entering the highest and the lowest incomes: Intergenerational determinants and early-adulthood transitions, *Research in Social Stratification and Mobility*, *44*, pp. 77-90.

Tomlinson, S. (2017). *Sociology of Special and Inclusive Education. The manufacturing of ability*. London: Routledge.

Triventi, M.; Panichella, N.; Ballarino, G.; Barone, C.; Bernardi, F. (2016). 'Education as a positional good: Implications for social inequalities in educational attainment in Italy', *Research in Social Stratification and Mobility 43*, pp. 39-52.

Vik, F. N.; Te Velde, S. J.; Van Lippevelde, W. et al. (2016). Regular family breakfast was associated with children's overweight and parental education: Results from the ENERGY cross-sectional study, *Preventive Medicine, Vol. 91*, pp. 197-203.

Viner, R. M.; Hargreaves, D. S.; Ward, J.; Bonell, C.; Mokdad, A. H.; Pattond, G. (2017). The health benefits of secondary education in adolescents and young adults: An international analysis in 186 low-, middle- and high-income countries from 1990 to 2013, *SSM - Population Health 3*, pp. 162-171.

Wiederhold, S.; Woessmann, L. (2015). European Economies Benefit Greatly From a Higher-Skilled Workforce, *Policy Brief*, p. 2 (figure 1). Available online: <u>http://www.lllightineurope.com/fileadmin/lllightineurope/download/LLLight Benefits of Higher Skille</u> <u>d Workforce policybrief C6 20150922.pdf</u>

Yang, J.; Qiu, M. (2016). The impact of education on income inequality and intergenerational mobility, *China Economic Review 37*, pp. 110-125.