



Pioneering policies and practices tackling educational inequalities in Europe

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## Content

1	Introduction	1
2	Overview of education systems	4
3	How research describes educational inequality	10
3.1	What is researched as educational inequality	10
3.2	Who is researched as disadvantaged	16
3.3	How educational inequality emerges across stages and transitions	28
4	Causes of educational inequality	39
4.1	Micro level	40
4.2	Meso level	45
4.3	Macro level	50
5	Measures against educational inequality	58
6	Conclusion	70
7	References	73

PIONEER ED

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# 1 Introduction

Educational inequalities remain deeply ingrained in European education systems. Reducing educational inequalities – and thus improving individual life chances, social justice, and sustainability – requires a profound, cross-national understanding of education systems and provisions, definitions and framings of educational inequalities, perceived causes of educational inequalities, and measures taken against such inequalities. The main objective of the RIA PIONEERED is to identify pioneering policies and practices to mitigate inequalities in the access to, uptake, and completion of education in both formal education and in educational settings outside the formal education system, and to propose research-informed policy measures with the potential to do just that. Mapping the state of research on educational inequalities lays the foundations for this task. Describing what is already known and debated in research provides a basis for improving the understanding of how educational inequality manifests and what underlying mechanisms produce or alleviate inequalities in different aspects of education.

The plethora of empirical research on educational inequalities conducted over the last few decades illustrates one thing above all: educational inequality is an inherently complex and multifaceted phenomenon. Educational inequality does not only take various forms; it also emerges at different points throughout an individual's educational trajectory, suggesting a multiplicity of drivers affecting inequality in the education system. Moreover, as processes taking place in education systems are embedded in multilayered fields of action including a variety of actors and institutional circumstances, the emergence and perpetuation of educational inequalities cannot be thoroughly understood without taking specific contexts into consideration.

An in-depth overview of the state of research on educational inequalities in European education systems is essential for identifying pioneering policies and practices aimed at mitigating educational inequalities. This report therefore maps the current state of research in all PIONEERED countries and sheds light on the main topics debated in scholarly literature within each country. The aim of this report is to take different viewpoints to comprehensively describe the many facets of research on educational inequality. It does so by evaluating the extent of educational inequality at different stages and in different national contexts by identifying social groups commonly researched as susceptible to educational inequality and by describing various causes of, and measures taken against, educational inequality.

To pave the way for mapping the current state of research in PIONEERED countries, the underlying conceptual assumptions and methodical procedures of this report need to be addressed.

First, it needs to be clarified what is understood as educational inequality. Education is defined as a transformative process, which leads to acquiring and reworking knowledge, skills, competences, values, and norms through learning, individually and as a community. This process happens both within and outside formal education settings and throughout the life-course. Moreover, the process of education involves mainly, but not exclusively, learners,

educators, parents, peers, and policy. Educational inequality exists when forms of access to, uptake of, and participation within education, as well as the outcomes thereof, differ by ascribed characteristics. These ascribed characteristics include – but are not limited to – social, ethnic, or geographical origin; gender; and disability. Educational inequalities develop over the life-course and are shaped by the cultural, institutional, and micro-social context of the learner and other agents. That is, social and educational inequalities are inherently intertwined and affect each other mutually.

Second, PIONEERED starts out from an integrative methodological framework that serves as a heuristic for structuring the empirical findings covered in this state of research report. This framework, the MILC (Multilevel, Intersectionality, and Life-Course) approach, centres on a life-course perspective and incorporates multiple origins and levels of educational inequality and their intersections. It is assumed that educational advantages and disadvantages are likely to cumulate throughout the life-course and develop, not from one singular factor, but rather from a range of factors located at different analytical levels: the micro, meso, and macro level. Moreover, as educational inequality is structured along different axes of inequality, such as gender or social origin, specific disadvantages arise where these axes of inequality intersect. PIONEERED applies this approach in an open and exploratory manner and places the focus, not on educational inequality in general, but rather on specific disadvantages related to educational inequality that emerge in different ways, as well as on how these disadvantages can be reduced.

Third and last, narrowing the scope of this report and reflecting on the basis upon which it has been created is a key prerequisite for assessing the state of research in an appropriate manner. The present state of research report is a product of collaborative efforts by all consortium members in the PIONEERED project. Between May and mid-June 2021, each project partner carried out a literature review on the current state of research within their respective country and drafted a country-specific report covering a variety of predefined aspects. Table 1 lists all contributors to the country-specific reports. The task leader, Universität Bern (UBERN), coordinated this process and compiled – in consultation with the project partners – the country-specific findings into the present state of research report. Information gathered from the country-specific reports is denoted with a country abbreviation (Table 1) in brackets after the relevant sources.

To obtain an up-to-date overview of the state of research on educational inequalities in PIONEERED countries, project partners were asked to focus their literature review on preferably scholarly and peer-reviewed publications published during the last decade. The mapping of educational inequalities across PIONEERED countries only draws on “grey literature”, such as government reports or policy statements, if important aspects of educational inequality in a country are not sufficiently covered by scholarly publications. Therefore, the present report will only selectively refer to seminal research conducted more than a decade ago. Furthermore, as the project partners themselves set thematic priorities, not all aspects of educational inequalities are covered by all countries to an equal amount.

Table 1: Contributions by country

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This state of research report is structured as follows. To put the state of research into perspective, the subsequent chapter provides a general overview of the education systems of the nine countries covered in this report. Chapter 3 describes cross-national understandings of educational inequality from different angles, shedding light on key topics debated in the empirical literature in PIONEERED countries. While Chapter 3.1 presents a wide range of aspects commonly used to describe educational inequality, Chapter 3.2 aims to identify groups that are researched as disadvantaged across several axes of inequality and their intersections. Subsequently, Chapter 3.3 adopts a longitudinal perspective and describes educational inequalities across educational stages and the transitions between these. Next, Chapter 4 addresses a variety of causes of educational inequality and relates these to one of three analytical levels. A selection of measures aimed at mitigating educational inequalities in PIONEERED countries is discussed in Chapter 5. Concluding remarks summarise and reflect upon the main topics debated in the current state of research.

## 2 Overview of education systems

### Summary

- To put the empirical findings discussed in the subsequent chapters into perspective, this chapter provides a brief overview of the general structure of the education systems in the nine PIONEERED countries. The characterisation of education systems is based upon different indicators of the way tracking is organised, a frequently considered yet not exhaustive category for comparing education systems.
- Based on descriptions of track differentiation and the age of first tracking, a distinct pattern emerges. While the education systems of Germany, Luxembourg, and Switzerland are characterised by extensive tracking, the more comprehensive education systems of the two Nordic countries – Finland and Norway – exhibit a low degree of tracking. Based on previous research, the latter are likely to be less prone to educational inequality. Hungary, Ireland, Lithuania, and Spain take an intermediate position between those two poles.
- This pattern does not hold when the relative importance of the vocational sector is considered as an indicator of the way tracking is organised. Next to other defining features of the organisation of tracking, the nine countries covered in this report are characterised by numerous country-specific policies and idiosyncrasies. Thus, while tracking characteristics allow for a heuristic categorisation of education systems, country specifics relevant to the aspects of education in question should always be considered.

When it comes to identifying pioneering policies and practices suited to tackling educational inequalities in Europe, the selection of countries studied is of great importance. The nine countries covered by PIONEERED were selected with the aim of achieving maximum contrast between countries, and thus between a broad range of education systems, societal contexts, and practices aiming at reducing inequalities in the education system. To put the state of research on educational inequality discussed in this report into perspective, this chapter provides a general overview of the education systems in these nine countries.

No two education systems are exactly alike. Each country has its own set of educational structures and policies, and must also address the differing educational needs of its student population. Still, numerous attempts have been made to group European education systems into different categories, as being able to rely on a complexity-reducing concept is a good starting point for characterising the general structure of a system. A promising approach that is widely relied upon to categorise education systems involves comparing the way tracking is organised. Tracking refers to the practice of separating students into different educational tracks with differing curricula and cognitive demands (Brunello and Checchi 2007, Skopek *et al.* 2019). As research commonly suggests, the organisation of tracking is closely associated with the overall extent of inequality in an education system (see Chapter 4.3). Hence, focusing on tracking as a defining feature of an education system allows for assessing what countries might be – in general – more or rather less prone to educational inequality.



When students are sorted into different education tracks according to their ability levels, this naturally increases disparities between low-achieving and high-achieving students. As advocates of tracking suggest, separating students into groups with similar ability levels allows schools to tailor curricula to specific educational needs, and thus to increase the efficiency of learning. This, in turn, improves the overall performance level. This trade-off, however, is not always supported by research, as learning in heterogeneous and comprehensive – meaning non-tracked – classrooms is found to both increase efficiency and decrease inequality in different aspects of education (Hanushek and Wößmann 2006, Skopek *et al.* 2019). Tracking is a multifaceted phenomenon and occurs in every education system at some point along the educational pathway. Yet, tracking is of much higher significance in some countries than in others. There are several, often interrelated characteristics for assessing the extent to which education systems track students according to their abilities and to which tracking is related with the observed degree of educational inequality. A selection of these characteristics will be discussed in more detail below.

A first characteristic looks at the number of tracks differentiated. Here, the focus is on secondary education, as tracking is introduced at some point of this stage in all PIONEERED countries. The degree of track differentiation is often referred to as stratification, and a higher number of tracks signifies a higher degree of stratification. As a broad body of research suggests, education systems with a higher degree of stratification are more prone to educational inequality, as the allocation to a track is highly dependent on a student's social background and other ascribed characteristics (Van de Werfhorst and Mijs 2010, Hadjar and Gross 2016). The two panels of Figure 1 depict the number of educational tracks that are differentiated in lower secondary education (ISCED 2) and upper secondary education (ISCED 3). Note that Figure 1 only considers tracks leading to upper secondary qualifications (Eurydice 2020).

There is considerable variation between countries when looking at the number of tracks in lower and upper secondary education. In Germany, Hungary, Ireland, Lithuania, Luxembourg, and Switzerland, tracking is introduced from the end of primary education onwards. In contrast, track differentiation only starts at the upper secondary level in Finland, Norway, and Spain. Regarding the number of tracks, Germany is especially noteworthy: five tracks are already differentiated in this country, starting from lower secondary education. Of the four other countries where tracking begins at lower secondary level, there are only two, respectively three differentiated tracks in the cases of Switzerland and Luxembourg. While Eurydice 2020 data indicates only two tracks for Luxembourg, a third low-aspiration level secondary school track needs to be distinguished within secondary vocational education. The overall lower degree of track differentiation at the lower secondary level is also due to the fact that, at this stage, no or only a few vocationally oriented tracks exist. The number of different tracks is substantially higher at the level of upper secondary education. Finland and Norway are the only countries with only two differentiated tracks at the upper secondary level, although the latter country offers programmes with specialised curricula in the general pathway that focus on different subjects. The education systems of Hungary, Ireland, Lithuania, and Spain exhibit a medium degree of stratification, with three differentiated tracks – four in the case of Hungary – at the upper secondary education stage. The highest degree of stratification at the upper secondary

level is found in Germany (seven tracks), Luxembourg (five tracks), and Switzerland (six tracks). In conclusion, when focusing on track differentiation, the Nordic countries (Finland and Norway) are characterised by a low degree of stratification, whereas Germany, Luxembourg, and Switzerland exhibit a high degree of stratification. The other four PIONEERED countries take an intermediate position between those two poles.

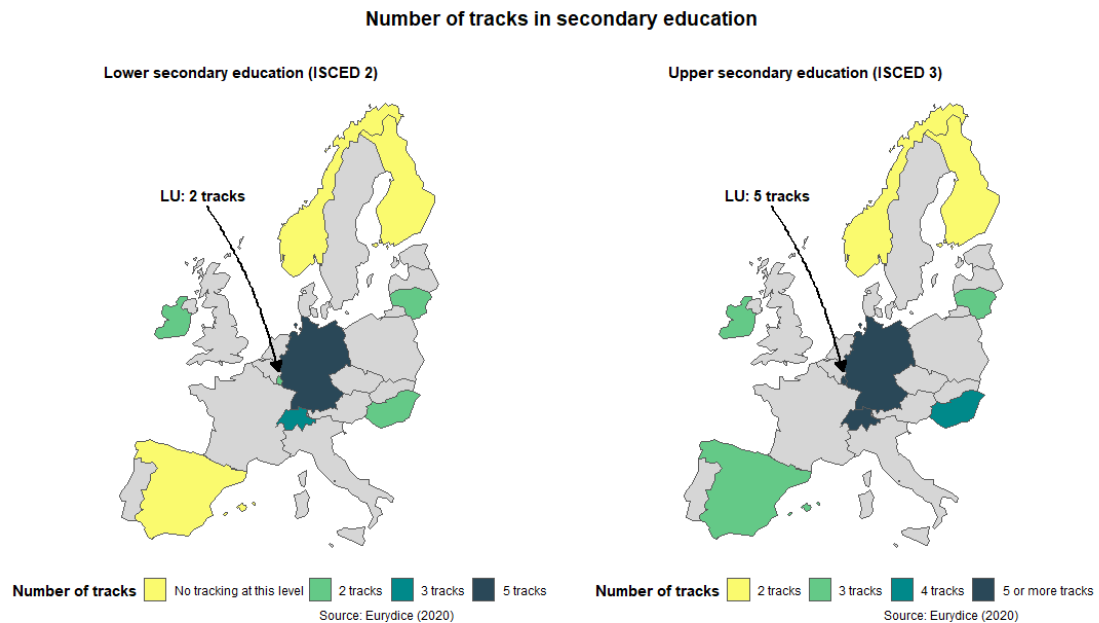
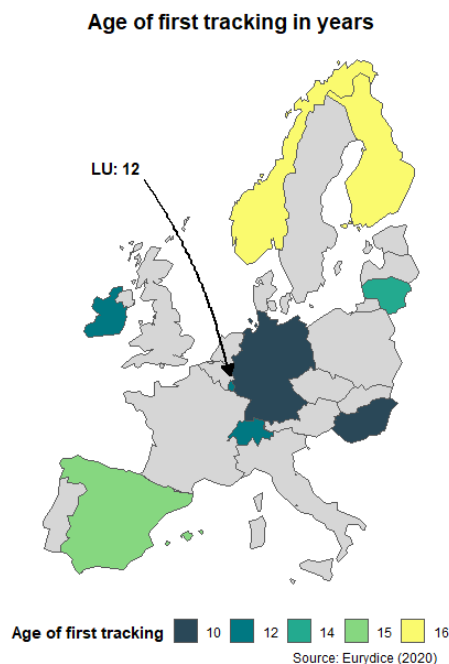


Figure 1: Number of tracks in secondary education

A second key indicator of the way tracking is organised in an education system is the age at which the separation of the student population into different tracks first occurs. As Figure 1 suggests, tracking takes place earlier in some countries than in others. There is robust empirical evidence that the earlier tracking occurs, the more pronounced gaps in educational outcomes between higher-achieving and lower-achieving students become (Van de Werfhorst and Mijs 2010, Skopek *et al.* 2019, Van de Werfhorst 2019). In other words, countries where tracking occurs at an early age are more prone to educational inequalities than countries where the allocation of students into differing educational pathways happens only at the end of, or beyond, compulsory education.

As Figure 2 illustrates, there is considerable variation between countries regarding the age of first tracking. Note that Figure 2 depicts the de facto age of tracking, which may not apply to students who entered formal education belatedly or who repeated a grade (Eurydice 2020). Again, the Nordic countries Finland and Norway stand out with an exceptionally high age of first tracking, namely at the age of 16. Spain (age 15) and Lithuania (age 14) fall only slightly behind the two Nordic countries. At the other extreme, the education systems of Germany and Hungary are characterised by exceptionally early tracking at the age of 10. Another group of countries – consisting of Ireland, Luxembourg, and Switzerland – also tends to track relatively early at the age of 12. Thus, a substantial part of compulsory education is affected by the separation of students into different ability groups in these five countries. Some exceptions notwithstanding,

disparities in the age of first tracking generally reflect the pattern already identified when comparing the degree of track differentiation.



*Figure 2: Age of first tracking in years*

When it comes to characterising and comparing education systems in PIONEERED countries based on tracking characteristics, the role of vocational education deserves special attention. While some countries have a long-lasting tradition of vocational education and training, education systems in other countries put strong emphasis on general programmes at the secondary stage. The relative importance of the vocational pathway in a country has implications for overall educational inequality and future life chances. On the one hand, vocational education can promote labour market readiness, which might be more suited to the specific educational needs of certain students. On the other hand, as vocational programmes often have lower ability requirements than general programmes, attending vocational education and training might divert certain students away from more prestigious educational options. This is especially the case when vocational programmes prevent students from entering the academic pathway of tertiary education directly (Brunello and Checchi 2007, Kleinert and Jacob 2019). The relative importance of vocational education is therefore a defining characteristic of an education system, yet whether a strong vocational sector is associated with higher or lower overall inequality in the education system remains an open empirical question.

Figure 3 illustrates the share of students enrolled in upper secondary education by programme orientation (Eurostat 2021). The share of students enrolled in the vocational sector differs substantially between PIONEERED countries. Overall, three clusters can be identified. The first cluster consists of countries where around two-thirds of upper secondary students are enrolled in a vocational programme. These countries are Finland (69 percent, although some students enrol into vocational programmes as a backup plan for higher education), Switzerland (62 percent), and Luxembourg (62 percent). Conversely, Ireland (28 percent in vocational

programmes), Lithuania (26 percent), and Spain (36 percent) are countries with a clear dominance of the general education sector in upper secondary education. Finally, in the education systems of Germany, Hungary, and Norway, students are nearly equally distributed across the vocational and general pathways. Interestingly, here the role of the vocational education sector does not coincide with the patterns identified regarding stratification and the age of initial tracking. This certainly highlights that, depending on the type of educational inequality studied, differential country grouping might be considered for comparative purposes.

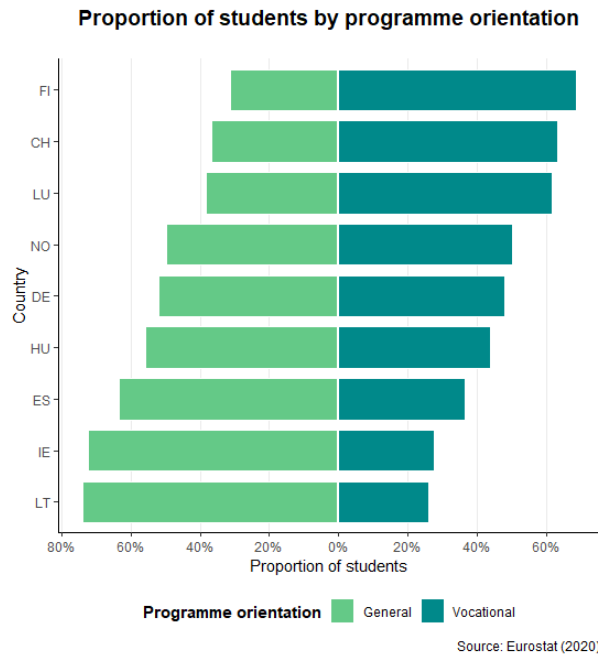


Figure 3: Proportion of students by programme orientation

The way an education system organises tracking during secondary education is a viable indicator of its general structure. When looking at the age of first tracking and the degree of stratification, a pattern of three clusters with similar characteristics emerges. Extensive tracking is a defining feature in Germany, Luxembourg, and Switzerland. Based on previous research, the education systems of these three countries are likely to exhibit a comparatively high degree of inequality in various aspects of education. Conversely, separating students based on their level of ability happens later and to a lesser extent in the two Nordic countries Finland and Norway. In these two countries, the principle of equality of treatment, chances, and outcomes has a long-lasting tradition. The four remaining PIONEERED countries – Hungary, Ireland, Lithuania, and Spain – cannot be assigned along either of the aforementioned poles and are likely to form an intermediate group.

However, this pattern does not hold when the relative importance of the vocational pathway is considered as a defining characteristic. In addition, the effects of tracking on educational inequality also depend on various other features. For instance, special attention should be given to the processes behind the allocation to different educational tracks. In some countries, the number of tracks students can attend during secondary education is determined by final grades or teacher recommendations that are sometimes even binding. In other countries, track

allocation depends on results in standardised tests or school entry exams (Bol and van de Werfhorst 2016, Skopek *et al.* 2019). Furthermore, some countries apply so-called “course-by-course tracking”, whereby students are placed in different learning groups for specific subjects according to their abilities even though they attend the same track (Chmielewski 2014).

Moreover, country-specific features and idiosyncrasies should not be overlooked when evaluating the state of research on educational inequality. This can be illustrated with the help of three examples, which will be discussed in further detail throughout this report. First, the structures and policies defining an education system may not be uniform, but may differ between sub-national entities of a country. This primarily applies to the federalist countries of Germany, Spain, and Switzerland, where regional policy is found to shape educational progress and inequality (see Chapter 4.3). Second, free school choice policies may weaken or, more likely, reinforce the inequality-inducing effects of separating students into different ability groups. Third, school choice might foster the emergence of homogeneously composed classrooms, thus undermining the benefits of comprehensive schooling during secondary education (see Chapter 4.3). Fourth and last, some distinctive features of a country – be it structural or compositional characteristics – might pose specific challenges with regard to educational inequality. For example, multilingual curricula in Luxembourgian schools make it particularly difficult for the many students speaking a foreign language at home not to fall behind their native peers in terms of educational achievement (Chapter 3.2).

### 3 How research describes educational inequality

Educational inequality is a multifaceted phenomenon that has attracted broad attention in scientific debate in recent years. To comprehensively map the state of research in PIONEERED countries, empirical findings on educational inequalities must be described from different, yet inherently interconnected angles. This chapter does so in three ways. The first part of this chapter provides an overview of the various aspects that are studied as manifestations of educational inequality. Chapter 3.2 describes which individuals or groups are researched as disadvantaged and face specific disadvantages in the education system. This rests on the notion of various axes of educational inequality and their intersectionalities. Lastly, Chapter 3.3 describes the state of research on educational inequalities across different educational stages and puts specific emphasis on transitions between those stages and educational trajectories.

#### 3.1 What is researched as educational inequality

##### Summary

- Educational inequality exists when forms of access to, uptake of, or agentic, potential-unlocking participation within education are unequally distributed across ascribed characteristics. This includes the three dimensions of inequality in terms of educational outcomes, access to education, and treatment within the education system. Recent research in PIONEERED countries has focused on a variety of aspects to describe and analyse inequalities in the education system.
- A vast number of studies describe educational inequality based on disparities in educational achievement and often rely on national or international large-scale assessment studies. In addition, some scholars discuss potential bias in teacher evaluations, which itself is considered as a manifestation of educational inequality.
- Educational inequality is further studied by comparing participation rates and educational attainment along specific axes of inequality. Research predominantly considers these figures for pre-compulsory and post-compulsory stages of education.
- The way students navigate the different stages of the education system is of prime interest in research and offers various ways to identify educational inequalities. Among others, many studies focus on how students end up on different educational pathways or drop out of school. More recently, notions of temporality have gained increased attention in the literature, highlighting the role of temporal norms when transitioning between educational stages.
- Educational inequalities go beyond straightforwardly measurable indicators and manifest themselves, among other things, in more personal forms, including educational aspirations, senses of wellbeing, or the quality of student–teacher interactions.
- Aspects of educational inequality not only apply to formal education, but also to learning in non-formal and informal settings. Although the interconnections between these different settings attract only limited attention in the literature, several studies focus on children’s home learning environment as well as on disparities in participation in extracurricular learning activities.

Educational inequality exists when forms of access to, uptake of, or agentic, potential-unlocking participation within education are unequally distributed across ascribed characteristics, including – but not limited to – those of social, ethnic, or geographical origin; gender; and disability. This key definition encompasses a variety of different aspects in terms of which educational inequalities can manifest themselves, but does not specify these in detail. First, aspects studied in the literature range from measurable indicators to so-called soft factors that empirical research only can approximate by applying and combining different methodologies. Second, what is studied as educational inequality differs in terms of the perspective at hand. Some aspects focus on horizontal or uneven disparities, whereas others are applied to represent vertical or unequal differences. Third, measures to determine educational inequality differ in their scope and precision. While some aspects convey a rather general perspective, implicitly subsuming a variety of other factors relevant to educational inequality, other measures aim to supply a more detailed picture of different aspects along the educational trajectory of an individual.

Furthermore, aspects of educational inequality are not bound to learning contexts within formal education. Rather, education as a transformative process also happens outside – but not always independent of – the formal education system. Learning processes in informal and non-formal educational settings therefore deserve nuanced attention as well. Non-formal educational settings are not situated within the formal education system and relate to organised and systematic educational activities of a more selective character, as these only involve distinct types of learning that are provided to particular subgroups. For instance, early childhood education and care (ECEC) is regarded as a form of non-formal education in some countries where the ECEC sector is part of the child and youth services rather than of compulsory education. Informal learning settings include families or non-institutional peer environments where learning takes place at all stages of the life-course. In informal settings, learning processes are not institutionalised and range from non-intentional and non-deliberate to explicit learning activities (Coombs and Ahmed 1974, La Belle 1982, Hadjar and Gross 2016).

In sum, research on educational inequality is an inherently multidimensional endeavour. To obtain a comprehensive understanding of inequalities in the education system, it is therefore crucial to account for a variety of different educational aspects and to map the interrelatedness of different forms of educational inequality. This operation becomes especially fruitful when empirical research considers different educational settings and uncovers the relations between them. In the following, various aspects of educational inequality commonly taken into view in academic research are described. The selection of aspects of education is not exhaustive, nor is it the aim to discuss the suitability of these indicators for studying educational inequality. Rather, the descriptions illustrate the complexity of the research on educational inequality, which should be kept in mind while evaluating findings on inequalities in different educational settings.

## Educational achievement

One of the most prominent educational aspects studied in empirical research is educational achievement. The widespread use of achievement measures is fuelled by national or international large-scale assessments studies such as PISA, TIMSS, PIRLS, or PIAAC. In most cases, researchers either use scaled competence measures in mathematics, literacy, or science (Cattaneo and Wolter 2012 [CH], Stadelmann-Steffen 2012 [CH], Olsen *et al.* 2013 [NO], Pekkala Kerr *et al.* 2013 [FI], Bernelius 2015 [FI], Csapó *et al.* 2015, Teltemann and Schunck 2016 [CH], Williams *et al.* 2018 [IE], Salmela-Aro and Chmielewski 2019 [FI], Perkins and Clerkin 2020 [IE]) or grades (Kiss 2010 [DE], Angelone and Ramseier 2012 [CH], Ouakrim-Soivio *et al.* 2017 [FI], Angelone 2019 [CH]) to study achievement gaps along different axes of educational inequality. Research on student performance is most commonly conducted for stages in compulsory education.

The suitability of grades for measuring educational achievement might be flawed, as research on teachers' assessment practices – including that of experimental type – finds evidence of systematic biases in evaluations. Bias in teacher evaluations is specifically debated in countries with a low degree of nationwide standardisation in terms of testing and track recommendation procedures. Still, bias in teacher evaluations is in itself a regularly applied measure to study inequality of treatment (Becker *et al.* 2013 [CH], Sprietsma 2013 [DE], Csüllög *et al.* 2015 [HU], Ouakrim-Soivio *et al.* 2017 [FI], Gentrup *et al.* 2018 [DE], Glock and Böhmer 2018 [DE], Wenz and Hoenig 2020 [DE]).

## Access, participation, and representation

Participation rates or enrolment rates in different educational stages are widely applied indicators to determine inequalities in the education system. These measures provide insight into whether some population groups are overrepresented or underrepresented along certain educational pathways. While nearly all students are enrolled in some educational stages, measures of participation are especially viable for stages at which a noticeable part of the population does not participate. Across PIONEERED countries, this mostly applies to early childhood education and care (ECEC) (Schmid *et al.* 2011 [CH], Burger 2012 [CH], Kotitschke and Becker 2013 [CH], Sibley *et al.* 2015 [NO], Pavolini and van Lancker 2018 [DE], Švietimo, mokslo ir sporto ministerija 2020 [LT], Hogrebe *et al.* 2021 [DE]) as well as tertiary education (Liskó 2009 [HU], Kivinen *et al.* 2012 [FI], Triventi 2013 [ES], Barañano and Finkel 2014 [ES], Troiano and Elias-Andreu 2014 [ES], Fehérvári and Szemerszki 2019 [HU], Garcia-Andreu *et al.* 2020 [ES]). Thus, unequal participation rates are mostly analysed for non-compulsory stages, especially where there is segmentation between tracks.

However, some research focuses on differences in educational attainment rather than on mere participation (Burkhart *et al.* 2011 [DE], Hyvärinen and Erola 2011 [FI], Hajdu *et al.* 2014 [HU], Lohmann and Feger 2014 [DE], Kallio *et al.* 2016 [FI], Abebe *et al.* 2019 [NO], Dollmann and Weißmann 2019 [DE], Combet and Oesch 2020 [CH], European Institute for Gender Equality (EIGE) 2020 [LU]). As some individuals do not successfully complete certain educational paths and therefore do not attain exploitable school leaving certificates or diploma, studying



inequalities in the education system based on educational attainment rather than mere participation might provide a more precise picture.

Another way to study the representation of social groups throughout different stages of the education system is looking at access to certain educational pathways. For instance, educational inequalities may unfold if parts of the population are underrepresented on certain educational pathways in terms of entitlement provided by previous educational attainment. While some studies mainly describe access (Vryonides and Lamprianou 2013 [NO], Griga 2014 [CH], Hajdu *et al.* 2014 [HU], Troiano *et al.* 2017 [ES], Daza Pérez *et al.* 2019 [ES]), others use non-realised access to identify social or institutional barriers in the education system (Lannert 2015 [HU], Buchmann *et al.* 2016 [CH], Smyth 2017a [IE], Becker and Glauser 2018 [CH], Scholz *et al.* 2018 [DE], Kapitány 2020 [HU], Nebe 2021 [DE]).

### **Educational trajectories**

The way students navigate through the different stages of the education system is of prime interest in research and offers various ways to identify educational inequalities. One of these deals with the allocation to different educational pathways. On the one hand, students might be allocated vertically to educational tracks or programmes with differing requirements and – most likely – future prospects. Focusing on vertical allocation seems especially pertinent in highly stratified education systems (see Chapter 2), where – for example – many studies focus on the allocation to vocational or general academic tracks (Bernardi and Requena 2010 [ES], Reimer and Pollak 2010 [DE], Buchmann *et al.* 2016 [CH], Horn *et al.* 2016 [HU], Kilpi-Jakonen *et al.* 2016 [FI], Dollmann 2017 [DE], Becker and Glauser 2018 [CH], Isopahkala-Bouret *et al.* 2018 [FI], Meyer and Sacchi 2020 [CH], Hadjar, Scharf, *et al.* 2021 [LU]) or the choice between research focused or practice-oriented higher education institutions (Griga 2014 [CH], Iannelli *et al.* 2016 [IE], Byrne and McCoy 2017 [IE], Heiskala *et al.* 2021 [FI]). On the other hand, some researchers look at horizontal allocation to different but equivalent educational programmes. As such, several studies focus on group-specific disparities of preferences for the field of study at the tertiary level (Kivinen *et al.* 2012 [FI], Triventi 2013 [ES], Troiano and Elias-Andreu 2014 [ES], Kilpi-Jakonen *et al.* 2016 [FI], Garcia-Andreu *et al.* 2020 [ES]). Another line of research examines the self-selection of certain social groups into private schools or church-funded schools, respectively, versus public schools (Hermann and Varga 2016 [HU], Berendes *et al.* 2019 [DE], Ercse and Radó 2019 [HU], MENJE 2020 [LU]). Horizontal allocation might come in more subtle forms. For example, research from Germany (Gerhards and Hans 2013 [DE], Lörz *et al.* 2016 [DE]) and Spain (Ariño *et al.* 2014 [ES]) provides evidence that children from more socioeconomically affluent households show a higher chance of studying abroad.

Given its high potential to be a risk factor for future social deprivation, non-completion and dropping out of school are the subjects of a broad range of research examining inequalities in the education system. The likelihood of dropping out and leaving school early is argued to be a viable indicator for identifying social groups facing disadvantages in the education system (Burkhart *et al.* 2011 [DE], Mellizo-Soto and Martínez García 2014 [ES], Alfageme-Chao and García-Pastor 2015 [ES], Genova 2015 [LT], Kallio *et al.* 2016 [FI], Vauhkonen *et al.* 2017 [FI],

Daehlen and Rugkåsa 2018 [NO], Dollmann and Weißmann 2019 [DE], Fehérvári and Szemerszki 2019 [HU], Growing Up in Ireland Study Team 2019 [IE], Pusztai *et al.* 2019 [HU]). Some studies more specifically look at young people who are not in education, employment, or training (NEET), a group with a very low chance of social mobility and which often results from early school leaving (Havas 2009 [HU], Laganà *et al.* 2014 [CH], Hauret 2017 [LU]). In a similar vein, some studies put forward grade repetition as a disruptive and potentially inequality-inducing element of an educational trajectory (Esch *et al.* 2011 [LU], Cordero Ferrera and Manchón-López 2014 [ES], Carabaña 2015 [ES], González-Betancor and López-Puig 2016 [ES], Hauret 2017 [LU], Méndez Mateo and Cerezo Ramírez 2017 [ES], Fehérvári and Szemerszki 2019 [HU], Pusztai *et al.* 2019 [HU]).

The amount of mobility between different educational stages and tracks is widely regarded as a viable indicator of the social permeability of an education system. To estimate the degree of educational mobility, many empirical studies focus on the transitions between stages and examine which students tend to enter a less or a more prestigious track. Other studies aim to evaluate the extent to which educational mobility is determined by previous educational choices. Worthy of note is that researching educational mobility is a particularly pertinent endeavour in highly stratified education systems such as Germany (Schneider and Tieben 2011 [DE], Schindler and Lörz 2012 [DE], Dollmann 2017 [DE]), Luxembourg (Backes and Hadjar 2017 [LU], Hadjar *et al.* 2018 [LU], Alieva and Hildebrand 2019 [LU]), or Switzerland (Falter 2012 [CH], Buchmann *et al.* 2016 [CH], Schnell and Fibbi 2016 [CH], Beck and Jäpel 2019 [CH], Glauser *et al.* 2019 [CH]). More recently, notions of temporality as a decisive aspect in one's educational trajectory have gained increasing attention. It is assumed that the temporal context – among other aspects, defined by age norms or temporal expectations – plays an important role in a student's wellbeing and the emergence of initial achievement disparities. Temporality in educational research is often exemplified by the timing of an individual entering an educational stage, and the duration of their stay in it (Liskó 2009 [HU], Bauer and Riphahn 2010 [CH], Kratzmann 2013 [DE], Lannert 2015 [HU], Hódi and Tóth 2016 [HU], Becker and Tuppatt 2018 [DE], Pavolini and van Lancker 2018 [DE], Schlimbach *et al.* 2018 [NO], Vogt 2018 [NO], Fehérvári and Szemerszki 2019 [HU], Kapitány 2020 [HU]).

### **Educational aspirations and wellbeing**

Looking at more individual aspects of education, disparities in aspirations and expectations regarding the further course of the educational trajectory are regularly put forward as potential manifestations of educational inequality. In recent research, two different frames of educational aspiration have emerged, despite the fact that both are closely interrelated. One strand of research emphasises the role of individual preferences and interests, which – as some studies argue – systematically differ along different axes of inequality (Iljina and Purbanekienė 2012 [LT], Hadjar and Aeschlimann 2015 [CH], Tjaden and Scharenberg 2017 [CH], Abrassart *et al.* 2020 [CH], Hadjar, Scharf, *et al.* 2021 [LU], Wicht *et al.* 2021 [DE]) (see Chapters 3.3 and 4.1). The other strand highlights underlying cost–benefit calculations, as well as self-evaluation of the likelihood of successfully completing a certain educational pathway (Roth and Salikutluk

2012 [DE], Keller 2013 [HU], Chykina *et al.* 2016 [LT], McCulloch 2017 [DE], Ditton *et al.* 2019 [DE], Langa-Rosado *et al.* 2019 [ES]).

A student's wellbeing in school is regarded as an important aspect of education, and at the same time as a prerequisite for several other aspects discussed above. While student wellbeing is a diverse and open category, three different topics seem regularly to be debated in PIONEERED countries. First, many studies cover different facets of school engagement, such as motivation, interest, or absenteeism (Esch *et al.* 2011 [LU], Kriesi *et al.* 2012 [CH], Kriesi and Buchmann 2014 [CH], Alfageme-Chao and García-Pastor 2015 [ES], Smyth 2018 [IE], Williams *et al.* 2018 [IE], Trakšelys and Martišauskienė 2019 [LT], Vanttaja *et al.* 2019, Bonal and González 2020 [ES], Ollila *et al.* 2020 [FI], Hadjar, Grecu, *et al.* 2021 [LU]). A second line of research puts forward a student's emotional wellbeing in school and the development of character traits beneficial to learning. Among others, studies conducted in this line of research focus on school climate and the quality of peer group relations (Hajdu *et al.* 2014 [HU], Széll 2015a [HU], Kende 2021 [HU]) or on the development of resilience and self-esteem (Skerytė-Kazlauskienė and Barkauskienė 2010 [LT], Øgård-Repål *et al.* 2017 [NO], Trakšelys and Martišauskienė 2019 [LT]). Third, some studies emphasise the quality of student–teacher relations, as well as of a student's experience of low expectations from their teachers (Esch *et al.* 2011 [LU], Tarabini *et al.* 2015 [ES], Smyth 2016a [IE], 2017b [IE], Pit-Ten Cate and Krischler 2018 [LU], Wagner and Hu 2020 [LU], Smyth and McCoy 2021 [IE]).

### **Education in non-formal and informal settings**

While the previously mentioned educational aspects primarily apply to formal education, educational inequalities also emerge in informal and non-formal settings. Despite their assumed importance for an individual's learning development, academic research in PIONEERED countries rarely considers learning activities outside the formal education system. Recent empirical investigation into education in non-formal and informal settings has frequently focused on three domains.

One part of this deals with privately organised – and often paid – learning activities aimed at enhancing educational achievement. These activities are commonly referred to as “shadow education” and may take different forms, such as private tutoring, cram schools, or exam preparation courses. Shadow education has long been a distinctive feature in far-eastern education systems, but has recently seen a rapid expansion in European countries (Entrich 2020 [CH], Zwier *et al.* 2020). Private one-to-one tutoring is regarded as a particularly common phenomenon in Spain, where between 50 and 60 percent of students in secondary education take part in these activities (Runte-Geidel 2014 [ES]). Also in Switzerland, it is estimated that, in 2012, around a third of students in secondary school used paid private tutoring services – an increase in participation rates of 10 percent compared to three years prior (Hof and Wolter 2014 [CH]). Evidence from Finland and Switzerland shows that shadow education activities are especially in demand among students from a higher socioeconomic background and with students living in urban areas (Hof and Wolter 2014 [CH], Jokila *et al.* 2019 [FI], Kosunen, Haltia,

*et al.* 2020 [FI]). Yet, for example, Zumbühl and colleagues (2020 [CH]) suggest that there is no clear-cut relation between private tutoring and gains in student achievement.

Another line of research on educational activities outside the formal education system focuses on learning in a child's home environment. Especially at earlier educational stages, learning in the home environment has been found to be of significance, as this is likely to have an impact on children's future skills development (Pérez Sánchez *et al.* 2013 [ES], Collet-Sabé 2014 [ES], Murray *et al.* 2016 [IE]). Yet, research suggests that families from a lower socioeconomic background often lack access to sufficient resources to support their children at home and to monitor their learning (Suárez *et al.* 2012 [ES], Pérez Sánchez *et al.* 2013 [ES], Castro *et al.* 2015 [ES], Fernández-Alonso *et al.* 2017 [ES], Jerrim *et al.* 2019 [ES], O'Toole *et al.* 2019 [IE]). Current studies on the effects of school closures during the ongoing COVID-19 pandemic imply that these inequalities have been enhanced. For instance, research shows that families from a higher economic background have invested more time in the home-schooling activities of their children and in communicating with teachers during the pandemic (Anger *et al.* 2020 [DE], Bonal and González 2020 [ES], Van Lancker and Parolin 2020 [DE], Dietrich *et al.* 2021 [DE]).

Disparities in terms of engagement in cultural extracurricular activities are also regarded as a token of educational inequality. Findings from various countries suggest that young people from a disadvantaged socioeconomic background are less likely to participate in leisure activities (Eckhardt and Riedel 2012 [DE], De Moll and Betz 2014 [DE], Nilsen and Lind 2014 [NO], Smyth 2016b [IE], Schmitz and Spieß 2019 [DE], Throndsen and Hatlevik 2019 [NO], Autorengruppe Bildungsberichterstattung 2020 [DE], Lamprecht *et al.* 2020 [CH]). Even in countries with programmes to incentivise engagement in extracurricular activities, socioeconomically influenced participation disparities in cultural leisure activities still prevail (Bartelheimer *et al.* 2016 [DE], Geene 2019 [DE], Švietimo, mokslo ir sporto ministerija 2019 [LT]) (see Chapter 5). The social disparity in engagement in extracurricular activities may further reinforce inequalities in formal education. Some studies show that participation in out-of-school activities is associated with higher achievement in school (Sletten *et al.* 2015 [NO], Sauerwein *et al.* 2016 [DE], Smyth 2016b [IE], McNamara *et al.* 2020 [IE], Vedøy and Vassenden 2020 [NO]), as well as with the development of pro-social behaviour in formal educational settings (Ziedelytė 2014 [LT], Sauerwein *et al.* 2016 [DE], Cortessis *et al.* 2019 [CH], Pitrėnaitė 2019 [LT]).

### 3.2 Who is researched as disadvantaged

#### Summary

- Educational inequalities are structured according to various axes of ascribed characteristics. These axes are commonly used to describe inequalities in terms of educational outcomes, access, or treatment. Focusing on characteristics along which educational inequalities unfold allows the identification of disadvantaged groups in the education system. Yet, an intersectionality approach challenges the separateness of different axes and puts emphasis on the specific, interrelated disadvantages that arise at the intersections of different forms of educational inequality.

- Social origin is an axis that has attracted great attention in research across PIONEERED countries. Lack of access to socioeconomic resources and its implications on an individual's agency is widely regarded as being a main driver of educational disadvantage. Consequently, all countries identify pupils and students from a lower socioeconomic background as particularly disadvantaged in a variety of aspects.
- Gender is another commonly researched axis shaping a diversity of aspects of educational inequality. Gender disparities – predominantly considered from a binary perspective – are frequently studied in terms of educational achievement and participation, with male students often falling behind their female peers in many regards. The role of gender is also reflected in processes of horizontal segregation between educational alternatives.
- Many countries, especially those with a large immigrant population, identify students with a migration background as disadvantaged in some form. However, while students with a migration background fall behind their non-immigrant peers in many respects relevant to educational inequality, a more complex picture emerges when educational aspirations are considered. Moreover, several studies report disparities between different immigrant communities.
- Some countries report that members of cultural or ethnic minority communities face particular disadvantages in the education system. The disadvantaged position of these minorities is often fuelled by discrimination or nonconforming characteristics, including language resources. Among other groups, Roma students are identified as disadvantaged in a number of countries, Hungary in particular.
- Regarding health as an axis of educational inequality, scholars from all PIONEERED countries debate students with disabilities as disadvantaged. Students with disabilities face barriers and challenges along the entirety of their educational trajectories and receive limited access to post-compulsory education. A particular strand of research investigates how the special educational needs of children with disabilities can be adequately addressed to achieve equity. Educational inequalities along the axis of health go beyond disabilities, with studies focusing on disadvantages faced by students with mental health issues or obesity, among others.
- Several studies from different countries consider the geographical embeddedness of a student's educational behaviour as an important axis of inequality. Within this line of research, scholars debate specific disadvantages arising from both limited opportunity structures in specific parts of a country and unfavourable social compositions in regions or neighbourhoods.
- The notion of intersectionality points to combinations of multiple characteristics linked to educational disadvantage, which often lead to specific disadvantages faced by some students at the intersections of different axes of inequality. The recent literature identifies several important intersections associated with educational inequality.

Educational inequalities come in a variety of forms. These are not static or finite in terms of one-time events during a life-course; instead, they relate to processes characterised by an accumulation of unequal treatments and outcomes and the resources linked to this (Skrobanek and Karl 2016). Educational outcomes are hardly explained by a learner's talent or effort alone, but rather are structured according to various ascribed characteristics. These ascribed characteristics can be understood as axes creating a multidimensional space of educational inequality.

However, individuals situated at certain positions on an axis of inequality cannot be regarded as a monolith, nor are the axes of inequality independent of each other. Therefore, intersectionality (Crenshaw 1991, Walby *et al.* 2012, Gross *et al.* 2016) is key for understanding inequalities in the education system, as it raises awareness of varying specific inequalities at the intersection of particular axes of inequality. An intersectional approach challenges the notion of the separateness of social categories by stating that inequalities often result from a (non-linear and non-constant) combination of the disadvantages along multiple axes – for example, working-class girls with a migration background.

In what follows, the findings from some of the most researched axes of educational inequality are presented. It is important to note that the selection of discussed axes is not exhaustive, but reflects the empirical research conducted in recent years. In addition, while some axes are general in nature, others apply only in specific educational contexts. This section also presents findings on some intersectional inequalities that have been identified in recent years.

### **Social origin**

Social origin is the axis of inequality that attracts most attention in the academic debate across PIONEERED countries. Moreover, social origin is deemed to be an axis along which educational inequality unfolds to a substantial extent. A lack of socioeconomic resources is widely regarded as one of the main drivers of educational disadvantage. Regardless of how social origin is measured – via household finances, parental education, social class, or a composite measure such as socioeconomic status – it is found to affect various aspects of educational inequality.

First, socioeconomic background is associated with educational achievement. A considerable number of studies conducted across all PIONEERED countries suggest that students from a socioeconomically disadvantaged background exhibit worse performance in school. Individuals from a lower socioeconomic background score lower in large-scale assessments, are more likely not to attain baseline proficiency, and are more likely to get lower test results and grades compared to their peers from a higher socioeconomic background (Weir and Archer 2011 [IE], Cordero Ferrera and Manchón-López 2014 [ES], Ferreira and Gignoux 2014 [NO], Martínez-García 2014 [ES], Quigley and Nixon 2016 [IE], OECD 2018 [DE], Williams *et al.* 2018 [IE], Heisig *et al.* 2020 [NO]). Many studies report significant social origin gaps in educational achievement, which tend to increase over time (Becker and Hecken 2009 [DE], Biedinger 2011 [DE], Angelone and Ramseier 2012 [CH], Becker 2012 [DE], Heath and Brinbaum 2014 [DE], González-Betancor and López-Puig 2016 [ES], Horn *et al.* 2016 [HU], Smyth 2016c [IE], Elias-Andreu and Daza-Pérez 2017 [ES], Schulz *et al.* 2017 [DE], Williams *et al.* 2018 [IE], Salmela-Aro and Chmielewski 2019 [FI], Dräger and Pforr 2020 [DE], ONQS 2020 [LU]) and emerge as early as seven months after birth (Passaretta *et al.* 2020 [DE], Skopek and Passaretta 2021 [DE]).

Second, a diverse line of research refers to socioeconomic disparities in the way students navigate educational stages and transitions. Students from a disadvantaged socioeconomic background are found to participate less in ECEC (Kotitschke and Becker 2013 [CH], Martín Gimeno and Bruquetas Callejo 2014 [ES], Sibley *et al.* 2015 [NO], Kapitány 2020 [HU]). They are also more likely to drop out of compulsory school and to leave the education system early



without certified competences compared to their more affluent peers (Csapó 2009 [HU], Martínez-García 2011 [ES], Lohmann and Ferger 2014 [DE], Mellizo-Soto and Martínez García 2014 [ES], González-Ramírez and Pedraza-Navarro 2017 [ES], Growing Up in Ireland Study Team 2019 [IE]). During secondary education, socioeconomic inequalities unfold in relation to allocation to different tracks. Research suggests that students from a lower socioeconomic background are more likely to end up in less prestigious tracks with lower cognitive requirements. Whereas students from a privileged socioeconomic background tend to continue their education in academic tracks leading to university entry certificates, their counterparts from a lower socioeconomic background are more likely to enter vocational education (Liskó 2009 [HU], Bernardi and Requena 2010 [ES], Pekkala Kerr *et al.* 2013 [FI], Buchmann *et al.* 2016 [CH], Horn *et al.* 2016 [HU], Martin *et al.* 2016 [LU], Becker and Glauser 2018 [CH], Daza Pérez *et al.* 2019 [ES], Meyer and Sacchi 2020 [CH]). Moreover, students from a lower socioeconomic background fall behind their more affluent peers in terms of the uptake and attainment of tertiary education, further limiting their chances of social mobility later on (Kivinen *et al.* 2012 [FI], Trakšelys 2015 [LT], Martin *et al.* 2016 [LU], Smyth 2016a [IE], Byrne and McCoy 2017 [IE], OECD 2018 [DE], Hertel and Groh-Samberg 2019 [DE], Combet and Oesch 2020 [CH]).

Social origin is also reflected in educational attitudes and perceptions. As some studies show, individuals from a disadvantaged socioeconomic background feel less confident in their educational choices and tend to underestimate their performance more (Keller 2013 [HU], Trakšelys 2015 [LT]). Pupils and students from a disadvantaged socioeconomic background exhibit lower school engagement, feel less positive about school, show lower pro-social behaviour in class, and experience more socio-emotional problems (Russell *et al.* 2016 [IE], Williams *et al.* 2018 [IE], Trakšelys and Martišauskienė 2019 [LT]).

## Gender

Gender is another relevant axis along which a variety of educational inequalities can be observed. As yet, this axis is predominantly studied from a binary perspective on gender and gender identity. One of the most researched gender disparities in education involves educational achievement. Overall, female students outperform male students regarding competences. This finding is observable across PIONEERED countries (Smyth *et al.* 2011 [IE], Olsen *et al.* 2013 [NO], Prenzel *et al.* 2013 [DE], Bernelius 2015 [FI], Martínez-García 2021 [ES]). However, patterns of inequality in achievement are heterogeneous: this means female students generally outperform male students in reading, whereas males outperform their female peers in mathematics and science (Bos *et al.* 2012 [DE], OECD 2016 [DE], Wendt *et al.* 2016 [DE], Smyth 2018 [IE]). Notable exceptions are Lithuania and Finland, where females outperform males in science and mathematics as well (OECD 2019 [LT], Ahonen 2021 [FI]). These disparities in competences translate into school settings, with findings showing that female students tend to have better grades than male students (Fleischmann *et al.* 2010 [DE], Smyth *et al.* 2011 [IE], Novak *et al.* 2018 [LT]).

Second, there is evidence suggesting that male and female students differ in terms of their educational choices and aspirations – a finding that is especially apparent in countries with a

high degree of track differentiation at the secondary level. For instance, research from Switzerland suggests that young men enrol substantially more often in vocational programmes, whereas young females prefer school-based programmes in upper secondary education (Hupka-Brunner *et al.* 2010 [CH], Buchmann *et al.* 2016 [CH]). Further research suggests that male secondary students have stronger aspirations towards tracks leading to occupations with a lower occupational status, whereas females more often aspire to tertiary education (Smyth 2020, Hadjar, Scharf, *et al.* 2021 [LU], Wicht *et al.* 2021 [DE]). Gender is also a relevant axis of inequality regarding the stability of educational trajectories. While males show a higher propensity to leave school early (Constata-Amores *et al.* 2020 [ES]), women are more likely to stay in their secondary tracks. In addition, as for example Backes and Hajdar (2017 [LU]) show, male students are more likely to exhibit downward mobility in their educational trajectories. Gender disparities in participation are also found at the tertiary level. For a long time, females were excluded from, and underrepresented in, tertiary education in certain countries (Subirats 2016 [ES], Zangger and Becker 2016 [CH]). Nowadays, however, female participation rates in tertiary education increase at a faster pace than those of men, which even results in an overrepresentation of women in tertiary education in some countries (Kivinen *et al.* 2012 [FI], OECD 2019 [IE], European Institute for Gender Equality (EIGE) 2020 [LU]).

With regard to gender inequalities in education, research frequently points out the role of horizontal segregation. Especially during primary and lower secondary education, students begin to develop gender-typical occupational aspirations. These gender-typical aspirations translate into track allocation in upper secondary education, with women and men tending to choose educational pathways leading towards gender-typical occupations (Basler *et al.* 2021 [CH]). Horizontal segregation is also a recurring topic at the tertiary level. Studies show that men and women are unequally distributed among different higher education institutions and fields of study. Most prominently, women are underrepresented in science, technology, engineering, and mathematics (STEM) fields, but overrepresented in humanities and fields leading towards (often lower-paid) jobs in health-related and care-related occupations (Brunila *et al.* 2011 [FI], Blossfeld *et al.* 2016 [DE], Central Statistics Office 2016, Kilpi-Jakonen *et al.* 2016 [FI], Sáinz *et al.* 2017 [ES], Anger *et al.* 2018 [DE], Botella *et al.* 2019 [ES], Garcia-Andreu *et al.* 2020 [ES]).

Gender disparities become further apparent when studying educational attitudes and behaviours. Female students tend to exhibit greater school engagement and show more positive attitudes towards school than their male peers (Rupšienė 2001 [LT], Emilson and Johansson 2013 [NO], Chykina *et al.* 2016 [LT], Julià-Cano 2017 [ES], Smyth 2018 [IE], Hadjar, Grecu, *et al.* 2021 [LU]). These disparities are likely to emerge at an early age, with findings showing that female pupils find it easier to adapt to a student role when transitioning from ECEC to primary school (Kriesi *et al.* 2012 [CH], Kriesi and Buchmann 2014 [CH], Meland *et al.* 2016 [NO], Smyth 2018 [IE]). One issue that is frequently put forward in relation to gender-specific achievement disparities is that male students face lower expectations from their teachers. Some research suggests that some teachers have prejudice against boys and perceive them less favourably in terms of performance in school (Lorenz *et al.* 2016 [DE], Backes and Hadjar 2017 [LU], Glock and Böhmer 2018 [DE], Smyth 2018 [IE], Bonefeld *et al.* 2021 [DE]).



Research overwhelmingly examines gender disparities in education from a binary perspective on gender, overlooking the experiences of transgender and non-binary or gender nonconforming students. The lack of a more differentiated perspective on gender and gender identity might obfuscate the complexity of gender as an axis of educational inequality. After all, schools play an important role in perpetuating binary gender codes, leaving students who do not adhere to these norms at risk of unequal access, treatment, and outcomes. For instance, already during early childhood education, binary perspectives of masculinity and femininity seem to influence the communication between teachers and children what might be related to gender differences in engagement (Emilson and Johansson 2013 [NO]).

## Migration background

Students with a migration background may face various barriers and disadvantages in the education system throughout their educational careers, making this the third relevant axis of inequality frequently studied in PIONEERED countries. Indeed, in many (if not all) PIONEERED countries, a migrant background often coincides with lower socioeconomic status (Smyth *et al.* 2009 [IE], Hyvärinen and Erola 2011 [FI], Kilpi-Jakonen 2011 [FI], Ouakrim-Soivio *et al.* 2017 [FI], Pit-Ten Cate and Krischler 2018 [LU], Bernelius and Vilkkama 2019 [FI]). Different language resources and monolingual ideologies that pervade language teaching may cause students with a migration background to lag behind their native peers early on and, as their parents' language resources may not conform to the dominant languages used in the host country either, the parental support they receive in their home learning environments may not expand the language resources of migrant students as much or in the same way as for their native peers (Becker 2010 [DE], Svenkerud *et al.* 2012 [NO], Klein *et al.* 2014 [DE], Thomas and Breidlid 2015 [NO], Nordgren 2016 [NO], Sæbø *et al.* 2016 [NO], Darmody and Smyth 2018 [IE], Cibulskaitė 2019 [LT], Beiler 2020 [NO], ONQS 2020 [LU], Turjanmaa and Jasinskaja-Lahti 2020 [FI]). Moreover, there is evidence that students with a migration background are more often victims of bullying and frequently experience discrimination, both in the education system and in other areas of life (Clerkin and Creaven 2013 [IE], Kovalevskaja 2016 [LT]).

Educational research provides evidence that students with a migration background show weaker learning outcomes compared to their native peers. Several recent studies report that these students show lower performance when looking at test scores and grades (Zinovyeva *et al.* 2014 [ES], Ouakrim-Soivio *et al.* 2017 [FI], OECD 2018 [LU], Beck and Jäpel 2019 [CH], Dollmann and Weißmann 2019 [DE], Zimmermann 2019 [DE]). Yet, the differences in educational achievement between students with and students without a migration background can to an extent – although not entirely – be attributed to systematic differences in socioeconomic background (Kristen and Granato 2007 [DE], Dustmann *et al.* 2012 [DE], Becker *et al.* 2013 [CH], Rahona López and Morales Sequera 2013 [ES], McGinnity *et al.* 2015 [IE], Glauser 2018 [CH]).

Educational inequalities also exist between the educational trajectories of native and non-native students. First, students with a migration background are more at risk of leaving school early and exhibit higher dropout rates at both the upper secondary and tertiary levels (Burkhart

*et al.* 2011 [DE], Laganà *et al.* 2014 [CH], Daehlen and Rugkåsa 2018 [NO], Dollmann and Weißmann 2019 [DE], Constate-Amores *et al.* 2020 [ES], Bayona-i-Carrasco and Carrasco 2021 [ES]). Second, a significantly higher number of students with a migrant background experience unstable educational trajectories (Schnell and Fibbi 2016 [CH], Backes and Hadjar 2017 [LU], Beck and Jäpel 2019 [CH]) and are less likely to complete the more prestigious academic tracks during upper secondary education (Dollmann 2016 [DE], 2017 [DE], Alieva and Hildebrand 2019 [LU], Jacovkis *et al.* 2020 [ES]).

Some studies also point out migration-specific differences in educational attitudes and aspirations. Most prominently, many migrant families show positive dispositions towards school and place a great value on education (Darmody, Smyth, Byrne, *et al.* 2012 [IE], Salikutluk 2016 [DE], Abrassart *et al.* 2020 [CH]). In some countries, research posits (under the terms “immigrant optimism” or “ethnic choice effects”) that children of migrants make more ambitious educational choices than students of the majority group, with similar levels of achievement (Kilpi-Jakonen 2011 [FI], Tjaden and Hunkler 2017 [DE], Tjaden and Scharenberg 2017 [CH], Heisig and Schaeffer 2020 [DE]).

Research on this axis of inequality often calls for differentiation, as people with a migration background constitute a very heterogeneous category. The following examples illustrate this. First, there are substantial differences in educational outcomes between students with a migration background, depending on the country of origin. In Germany, for example, research documents that children of classic labour migrants, especially those of Turkish and Italian origin, show the lowest performance in the German education system, not only compared to native students but also to students with a migration background from other countries, more specifically from Poland and former Soviet Union countries (Kristen and Granato 2007 [DE], Stanat *et al.* 2012 [DE], Dollmann 2017 [DE], Miyamoto *et al.* 2020 [DE]). In Spain, also, students of Latin American and especially African origin show larger gaps with native students in terms of academic achievement and opportunities compared to other immigrant communities from Asian or European countries (Lorenzo Moledo *et al.* 2013 [ES], Álvarez de Sotomayor and Martínez-Cousinou 2016 [ES]). Similar results are presented in Luxembourg and Switzerland, where immigrants make up a large portion of the population (Laganà *et al.* 2014 [CH], Schnell and Fibbi 2016 [CH], Backes and Hadjar 2017 [LU], Tavares 2020 [LU]). Luxembourg is a noteworthy case in this regard, as around 15 percent of the total population – a third of the migrant population – is of Portuguese origin. Together with other low-status migrant groups, such as those of former Yugoslavian, Cap Verdean, or Italian origin, students whose parents immigrated from Portugal are found to struggle with official multilingualism in Luxembourg and fall behind their native peers in terms of academic achievement and access to the general tracks in secondary education (Mathä *et al.* 2011 [LU], OECD 2018 [LU], Tavares 2020 [LU]). However, whether systematic disparities among different immigrant groups exist is largely context-specific and often the result of an interplay between socioeconomic background, years of residence in the host country, and the quality of social networks within migrant communities (Bendixsen and Danielsen 2020 [NO], Turjanmaa and Jasinskaja-Lahti 2020 [FI]). In addition, given the disparities with regard to country of origin, the educational situation of students with a multicultural background deserves nuanced attention.

Second, recent but scarce research indicates that refugee children or unaccompanied minors face even higher barriers and disadvantages in the access to, and uptake of, education compared to second-generation immigrants (Kovalevskaja 2016 [LT], Zaleskienė and Kvederavičiūtė 2017 [LT], Abamosa *et al.* 2020 [NO], Bendixsen and Danielsen 2020 [NO], Magnussen 2020 [NO], Morris-Lange and Schneider 2020 [DE], Turjanmaa and Jasinskaja-Lahti 2020 [FI], Scholz 2021 [DE]).

Third and last, the so-called “returning migrants” or “returning diaspora” who return to their country of origin after having lived abroad should be considered separately, as research from Lithuania and Germany suggests. In Lithuania, on the one hand, children of returning migrants are of higher priority for policy makers, receiving specific support and other forms of assistance (Budginaitė and Mašidlauskaitė 2015 [LT]). However, teachers often lack appropriate knowledge and skills to work with such students, which hinders their integration into Lithuanian society (Mockus 2020 [LT]). In Germany, on the other hand, the returning diaspora, the so-called “*Spätaussiedler*”, receive their citizenship right after returning to their home country. On average, members of this group have higher qualification levels than classic labour migrants (Kristen and Granato 2007 [DE], Kogan 2011 [DE]).

### **Cultural and ethnic minority status**

Apart from immigrant communities, some countries identify ethnic or cultural minorities as disadvantaged in the education system. In Hungary, Roma students deserve special attention, as their educational situation is regarded as particularly disadvantaged. Even though schooling among Roma has increased significantly in recent years, their disadvantages compared to their non-Roma peers have grown. While more Roma complete compulsory school nowadays, they lag substantially behind non-Roma students in the acquisition of university entry certificates and, in turn, tertiary degrees (Havas 2009 [HU], Hajdu *et al.* 2014 [HU]). Roma pupils are also found to exhibit lower performance in school, although this gap in test scores is to a large extent explained by differences in socioeconomic background (Kertesi and Kézdi 2012 [HU]). The educational success of Roma students is further hindered by widespread anti-Roma sentiment, discrimination, and prejudice among teachers, discouraging them from school engagement and from setting ambitious educational goals (Erőss and Gárdos 2008 [HU], Csüllög *et al.* 2015 [HU]). Research also suggests that the prevalence of anti-Roma sentiment is an important factor behind increasing levels of ethnic school segregation in Hungary, which reinforces educational inequalities between Roma and their non-Roma peers (Szalai 2010 [HU], Kende 2021 [HU]).

In other countries, also, students of Roma origin face disadvantages in the education system. In Spain, for instance, Roma students are reported to have very high rates of truancy, school failure, and dropout in addition to marked school segregation (Alfageme-Chao and García-Pastor 2015 [ES]). In recent years, the schooling situation of Roma in Spain has improved slightly but remains particularly unfavourable for Roma women – an inverse pattern when compared with the rest of the Spanish population (Cárdenas-Rodríguez *et al.* 2019 [ES]). Similarly, Lithuanian research reports that Roma students face serious barriers preventing them from accessing quality education. While only a fifth of Roma youths in Lithuania have at least an

upper secondary degree, studies show that dropout and delayed school entry are more common among Roma compared to the majority population (Leončikas 2006 [LT], Petrušauskaitė 2014 [LT]).

Similar to those with a migration background, members of linguistic minorities tend to struggle in education due to language barriers. For instance, Lithuania has considerable Polish-speaking and Russian-speaking minorities, who increasingly fall behind in the education system. Since 2013, all schools – including separated schools for minority children where other languages are used for instructions – have been obliged to provide Lithuanian lessons and to use Lithuanian as the primary language of instruction for some subjects. This requirement puts minority students at a disadvantage as they lack Lithuanian language skills, partly due to lower-quality language education in minority schools (Dambrauskas 2020 [LT]), as well as because linguistic minority students use the Lithuanian language significantly less often at home and in their leisure time (Murauskaitė 2020 [LT]). In Finland, members of the Swedish-speaking minority are found to perform more poorly in PISA studies compared to their Finnish-speaking peers (Ahonen 2021 [FI]). As it is known that the socioeconomic status of the Swedish-speaking minority lies above the Finnish average, the mechanisms behind this achievement gap remain unexplored.

Furthermore, some countries identify members of cultural minorities other than Roma and linguistic minorities as disadvantaged in the education system. In Finland and Norway, for example, the Sami people are mentioned as potentially facing disadvantages. While little is known about how Sami students compare to majority students in terms of school performance and educational behaviours, some recent studies discuss the marginalisation of Sami culture and language and its recent inclusion in school curricula (Aamotsbakken 2015 [NO], Gjerpe 2017 [NO], Andersen and Olsen 2018 [NO], Dankertsen and Åhrén 2018 [NO]). In Ireland, members of the Irish Traveller community are the most disadvantaged among the minority groups. They report high levels of discrimination and are consistently left behind in education. Most children from the Irish Traveller community leave school before the end of upper secondary education (Watson *et al.* 2017 [IE]) and are particularly at risk in respect of absenteeism, leaving school early, and bullying (Lawrence 2017 [IE]).

### **Disability and health**

Turning to health as an axis of educational inequality, children with disabilities – whether those disabilities concern learning or physical impairments – are also discussed as disadvantaged in the academic literature in PIONEERED countries. These students may face many challenges and barriers throughout their educational careers. Research suggests that students with disabilities show high rates of early school leaving (Genova 2015 [LT], Limbach-Reich and Powell 2015 [LU], 2016 [LU]) and have limited access to secondary and tertiary education opportunities (Muižnieks 2017 [LT], McCoy *et al.* 2019 [IE], Powell and Pfahl 2019 [DE]). Moreover, studies indicate that students with disabilities feel less positive about school and evaluate themselves more negatively regarding academic, behavioural, and social aspects (Skerytė-Kazlauskienė and Barkauskienė 2010 [LT], McCoy and Banks 2012 [IE], Smyth 2018 [IE]).

Next to disability, other health-related factors are put forward as associated with disadvantages in the education system. For instance, young people with drug-related or mental health problems have further been related to experiences of exclusion in the education system (AHEAD 2016 [IE], Semb *et al.* 2016 [NO], Halvorsrud *et al.* 2018 [NO], Gerdin *et al.* 2019 [NO]). Some studies provide evidence that overweight students experience inadequate support (Akselbo and Ingebrigtsen 2015 [NO], Kippe and Lagestad 2018 [NO]) and are shown to experience a “weight penalty” in teachers’ evaluations (Dian and Triventi 2021 [DE]).

How education systems manage to address the special educational needs of students with disabilities appropriately is an issue that receives frequent attention in research. In particular, the area of tension between separated special education schools and inclusive schools in serving the assumed educational needs of those students is heavily debated. Research provides evidence that inclusive schooling performs better with regard to the wellbeing and skills development of students with special educational needs, especially when inclusive schooling is supported by professional special education teachers (Indrašienė and Suboč 2008 [LT], Bless 2014 [CH], Bliksvær *et al.* 2017 [NO], Department of Education and Skills 2019a [IE], Moser Opitz *et al.* 2020 [CH]). Moreover, a study from Switzerland suggests that including cognitively disabled children has no negative impact on the academic performance of non-cognitively disabled peers (Sermier Dessemontet and Bless 2013 [CH]). However, despite increasing efforts to provide inclusive schooling, not all schools are able to deliver appropriate support for students with special educational needs (Valančiūtė 2011 [LT], Csüllög *et al.* 2015 [HU], Platte 2015 [DE], Limbach-Reich and Powell 2016 [LU], Früh *et al.* 2017 [NO], Bock-Famulla *et al.* 2020 [DE], Ruškus 2020 [LT]).

### **Place of residence**

Students’ place of residence is debated as a relevant axis of inequality that cross-cuts the axes mentioned above. Place of residence is found to have a significant impact on various forms of educational inequality, particularly disadvantaging students living in economically underdeveloped or socioeconomically deprived parts of a country.

Restricted regional opportunity structures may hinder certain students in the uptake of, and participation in, educational activities. For instance, some regions face structural restrictions regarding the availability, accessibility, and affordability of ECEC institutions, leading to regional disparities in choice and, eventually, affecting enrolment rates (Scholz *et al.* 2018 [DE], Švietimo, mokslo ir sporto ministerija 2019 [LT], Nebe 2021 [DE]). Some studies suggest that schools in economically underdeveloped regions often lack funding and are thus unable to address the various educational needs of students living in these areas appropriately (Lannert 2015 [HU], Glauser and Becker 2016 [CH], European Agency for Special Needs and Inclusive Education 2020 [LT]). For example, a study from Rød and Karlsen Bæck (2020 [NO]) has found that schools in rural areas often have difficulties affording travel expenses to museums and other educational activities. Time is also an issue, as living in a remote location makes it more expensive and time-consuming to reach institutions, thus further limiting educational choices.

In addition to these regional opportunity structures, the socioeconomic composition of geographical areas is also found to have an impact on different aspects of education. Some schools differ substantially regarding their intake of socioeconomically disadvantaged students depending on the region or neighbourhood in which they are located (Martínez García 2017 [ES], Álvarez-Sotomayor *et al.* 2018 [ES], Romero-Sánchez *et al.* 2020 [ES], Vareide and Vareide 2020 [NO], Kende 2021 [HU]). Thus, neighbourhoods or school catchment areas are found to be mediating factors for educational inequality, as students in more affluent neighbourhoods – and thus students with more privileged peers – tend to exhibit higher learning outcomes compared to students in socioeconomically deprived neighbourhoods or school districts (Havas 2009 [HU], Bernelius 2011 [FI], Fehérvári 2015 [HU], Zangger 2015 [CH], Becker and Schober 2017 [DE], Hansen 2017 [NO], Isopahkala-Bouret *et al.* 2018 [FI], Bernelius and Vilkkama 2019 [FI], Hajdu *et al.* 2019 [HU], Helbling *et al.* 2019 [CH], Tikkanen 2019 [FI], Kosunen, Bernelius, *et al.* 2020 [FI]).

### **Other axes of inequality**

Other student characteristics are debated as relevant axes of educational inequality, but only sparsely find their way into empirical research. For example, some studies point to sexual orientation as a characteristic potentially linked to unequal treatment in educational settings. As some scholars suggest, widespread androcentrism and prevalent heteronormativity in some schools may have a negative effect on the wellbeing of students outside these norms (Lehtonen 2013 [FI], Valfort 2017 [IE], Svendsen *et al.* 2018 [NO], Álvarez-Sotomayor *et al.* 2018 [ES]). Furthermore, a variety of studies identify children from unstable or atypical households as disadvantaged in the education system. Among others, this applies to students with unemployed or divorced parents (Vaag Iversen and Bonesrønning 2013 [NO], Bernardi and Radl 2014 [NO], Lehti, Erola, and Tanskanen 2019 [FI], SDG Watch Europe 2019 [LU]) or to students living in institutional or foster care facilities (Lipinska 2010 [LT], Taljunaite *et al.* 2010 [LT], Zeller and Köngeter 2012 [DE], Samašonok 2013 [LT], Köngeter *et al.* 2016 [DE], Dæhlen 2018 [NO], Kliche 2021 [DE]).

### **Intersectional inequalities**

Educational inequalities are not unidimensional, nor do educational disadvantages emerge solely along a singular axis of inequality. On the contrary, the combination of multiple characteristics linked to educational disadvantage often leads to particular vulnerabilities being faced by some students. In other words, educational inequality is a phenomenon that is often too complex to be reduced to a single axis of inequality. Employing an intersectional approach allows this perspective to be incorporated, as it challenges the notion of the singularity and separateness of different social categories. Recent research has identified several important intersections associated with educational inequality. A selection of these relevant intersections is discussed below.

The first major intersectional inequality identified in the literature is that between social origin and gender. Research suggests that the educational risks and benefits of social origin vary across genders, setting males at a particular disadvantage. Studies on educational pathways have



illustrated this on several occasions. Evidence from Spain, for instance, shows that male students from lower socioeconomic background are especially at risk of dropping out of compulsory school (Martínez-García 2011 [ES], Mellizo-Soto and Martínez García 2014 [ES]). Track allocation during secondary education is also found to differ across combinations of gender and social origin. While female students from a privileged social background are more likely to pursue an academic pathway, male students from a lower socioeconomic background are overrepresented in vocational programmes (Julià-Cano 2017 [ES], Zimmermann and Seiler 2019 [CH]). This finding could explain the significantly lower university access rates of male working-class students (Troiano *et al.* 2017 [ES], Garcia-Andreu *et al.* 2020 [ES]). Moreover, the intersectionality between social origin and gender is studied with regard to school engagement. Evidence from Ireland shows that working-class boys are at risk of becoming particularly disengaged with school, and that their level of school engagement significantly falls behind that of middle-class girls (Smyth 2017b [IE]). Kriesi and Buchmann (2014 [CH]) argue that girls profit more from a higher parental educational background and thus find it easier than boys to adapt to the student role and engage in school.

Second, the interplay between social origin and migration background is frequently highlighted in academic research. Although some studies provide evidence that the disadvantages along the axes of migration background and social origin cumulate when combined (McGinnity *et al.* 2015 [IE], Dollmann 2017 [DE], Bernelius and Vilkkama 2019 [FI], Bendixsen and Danielsen 2020 [NO]), a number of scholars argue that, as socioeconomic and migration background often overlap, differences in the educational outcomes of students with a migration background can be attributed to the fewer socioeconomic resources available to some immigrant communities rather than to the intersection between these characteristics (Kristen and Granato 2007 [DE], Dustmann *et al.* 2012 [DE], Becker *et al.* 2013 [CH], Glauser 2018 [CH], Pit-Ten Cate and Krischler 2018 [LU]). This intersection certainly calls for further inquiry, particularly as the relations between the two axes of inequality have not yet been fully established.

Third, some evidence exists regarding the intersection of gender and a migration background. For example, Fleischmann and colleagues (2014 [DE]), as well as Martínez-García (2017 [ES]), report that, while gender gaps in academic achievement are observable among students with a migration background, the extent of the female advantage seems to vary between different immigrant groups. According to the authors, this is likely to be explained by origin-specific characteristics and parenting styles. Research from Spain indicates that male students with a migration background are particularly disadvantaged, as they face higher risks of leaving school early (Constata-Amores *et al.* 2020 [ES]) or grade repetition (Méndez Mateo and Cerezo Ramírez 2017 [ES]).

A fourth group of intersections highlighted in the literature are combinations between ethnic minority membership and other axes of inequality. In many cases, this strand of research focuses on Roma students, as they are of particular importance in certain countries. Roma students face specific disadvantages, as they often originate from a lower socioeconomic background. This overlap often coincides with restricted access to education, a higher likelihood of leaving school early, and lower student wellbeing, as findings from Hungary and Lithuania

suggest (Leončikas 2006 [LT], Horn *et al.* 2016 [HU], Kende 2021 [HU]). Moreover, Roma families in Hungary are more likely to reside in economically underdeveloped regions of the country. Thus, Roma children often attend lower-quality schools with limited funding, less trained teacher personnel, and fewer high-achieving peers (Hajdu *et al.* 2019 [HU]). According to findings from Spain, although the Roma schooling situation has slightly improved in recent years, it remains particularly unfavourable for female Roma students (Cárdenas-Rodríguez *et al.* 2019 [ES]).

### 3.3 How educational inequality emerges across stages and transitions

#### Summary

- Educational inequalities are likely to accumulate throughout the life-course, beginning as early as pre-school age. Transitions between educational stages play a pivotal role in the accumulation of educational advantages and disadvantages, as they enable or foreclose educational opportunities. Therefore, the institutional features of education systems must be taken into consideration when evaluating the state of research across different educational stages.
- The ECEC stage is widely regarded as crucial for integrating individuals into the education system and mitigating early childhood disadvantages. The literature frequently debates two topics regarding ECEC. On the one hand, several studies point to participation disparities along different axes of inequality. On the other hand, scholars debate social disparities in terms of access to high-quality ECEC services, emphasising the role of residential segregation.
- Overall, the stage of primary education receives less attention in recent research than the stage of secondary education. Regarding primary education, research frequently focuses on achievement disparities or on the role of social segregation. Furthermore, a specific line of research sheds light on disparities when entering primary education and adapting to the student role.
- Secondary education is the most widely studied stage in PIONEERED countries. As secondary education includes both the completion of compulsory education and the transition into post-compulsory education, scholars stress the long-lasting implications of educational inequalities unfolding at this stage. Among other topics, research frequently considers factors influencing the transition into different programmes of upper secondary education, highlighting the far-reaching impact of social origin. In addition, the extent of achievement disparities and how these emerge receive frequent attention in the literature.
- Educational inequalities at the stage of tertiary education frequently comprise disparities in terms of access. Research identifies several groups, such as people of immigrant origin or from a lower socioeconomic background, as underrepresented and disadvantaged in tertiary education. A different line of research focuses on processes of horizontal segregation in higher education – a topic that is particularly debated in terms of gender. In countries with a dual system of higher education, social gaps in entry rates between higher education institutions have recently received attention in the literature.



Educational advantages and disadvantages are likely to accumulate throughout the life-course, beginning as early as pre-school age (DiPrete and Eirich 2006). To capture educational inequality in a comprehensive manner, it is necessary to discuss how educational inequality emerges at different educational stages and how disadvantages accumulate over a learner's educational trajectory. Previous research has covered the role of transitions between educational stages extensively, as these transitions play a pivotal role in enabling or foreclosing educational opportunities. In this regard, it is especially important to consider the connections between educational policy and individual learning outcomes, because the institutional features of an education system determine the extent to which educational disadvantages are carried over or even reinforced from one educational stage to another (see Chapter 4.3). Thus, as institutional features of education systems differ between contexts, so does the severity and long-term nature of inequalities emerging at different stages of an educational trajectory. The following section discusses findings on educational inequalities across different educational stages, with a special focus on transitions between stages and cumulative processes. It is important to recapitulate that, as not all educational stages are structured equally across countries (see Chapters 2 and 4.3), findings from one country cannot necessarily be applied to other countries.

### Early childhood education and care

Early childhood education and care (ECEC) is widely regarded as crucial for integrating individuals into the education system and for mitigating early childhood disadvantages, which would in some cases otherwise endure throughout the entire educational career. Participation in ECEC has observable, yet not uncontested, positive effects on children's cognitive and language development, and this is especially important for the educational mobility of children facing disadvantages (Bauer and Riphahn 2010 [CH], Cebolla *et al.* 2014 [ES], Sibley *et al.* 2015 [NO], Roth and Klein 2018 [DE]). Therefore, access to, and participation in, ECEC might be a good first indicator of an education system's ability to mitigate educational inequality.

Many countries in the PIONEERED consortium have attained near-universal participation rates – especially among 3-to-5-year-olds, with 0-to-2-year-olds falling behind – following several efforts to expand ECEC and to increase participation over the last decades (Utdanningsdirektoratet 2019 [NO], Autorengruppe Bildungsberichterstattung 2020 [DE], OECD 2020 [HU]). Switzerland is the only notable exception in this regard, as only around three out of four children take part in ECEC (OECD 2021). However, empirical evidence from some countries indicates that, despite improvements, participation in ECEC among certain groups has not fully converged with the expansion of this stage. Children from families with a higher socioeconomic status are more likely to participate in ECEC (Schmid *et al.* 2011 [CH], Burger 2012 [CH], Kotitschke and Becker 2013 [CH], Martín Gimeno and Bruquetas Callejo 2014 [ES], Sibley *et al.* 2015 [NO], Murray *et al.* 2016 [IE]). More specifically, children from a less advantaged socioeconomic background participate later in life in ECEC and for shorter periods, meaning that they are especially underrepresented in the group of children aged three years and under (Becker 2012 [DE], Schober and Spiess 2013 [DE], Lannert 2015 [HU], Hódi and Tóth 2016 [HU], Pavolini and van Lancker 2018 [DE], Lozano-Díaz 2019 [ES], Kapitány 2020 [HU], Konrad-Ristau and Burghardt 2021 [DE]). Children with a migration background are also found to participate

less in ECEC, although this is moderated to a large extent by their socioeconomic status (Schlanser 2011 [CH], Schober and Stahl 2014 [DE], OECD 2018 [DE], Roßbach and Spieß 2019 [DE], Russell *et al.* 2021 [IE], Statistics Norway 2021 [NO]).

Inequalities at the ECEC stage not only arise due to differences in participation, but also due to disparities in access to high-quality ECEC services. On the one hand, availability, accessibility, and affordability might be limited due to structural restrictions in certain regions. Some studies point out regional disparities in access to ECEC, often with fewer and lower-quality ECEC facilities in rural and economically less developed regions (Meiner 2014 [DE], 2015 [DE], Keller 2018 [HU], Švietimo, mokslo ir sporto ministerija 2019 [LT], Kapitány 2020 [HU], Nebe 2021 [DE]). On the other hand, high social segregation within ECEC facilities – which, among other reasons, is driven by residential segregation and parental choice (see Chapter 4.3) – might create less favourable learning environments, hindering the cognitive development of children attending such facilities. For instance, research from Germany suggests that children with a migration background are more frequently attending lower-quality ECEC services (Stahl *et al.* 2018 [DE]) or those catering to higher numbers of migrant children (Hogrebe *et al.* 2021 [DE]). Moreover, some scholars suggest that individuals with specific educational needs, such as children with disabilities (Platte 2015 [DE], Bock-Famulla *et al.* 2020 [DE]) or those in care (Mazolevskienė and Morkvėnienė 2016 [LT]), might be disadvantaged when attending separated ECEC facilities.

In primary education, inequalities already emerge during the transition from ECEC. While some children feel well prepared and find it rather easy to adapt to the student role, others struggle more when entering school. Evidence suggests that parental cultural capital and education background is highly influential for school-preparatory skills, and is also found effective in the transition processes into primary school (Helsper *et al.* 2009 [DE], Mierendorff *et al.* 2015 [DE], Betz *et al.* 2020 [DE]). Girls seem to benefit especially from having higher-educated parents, which makes for an easier transition into primary school for them than for boys (Kriesi *et al.* 2012 [CH], Kriesi and Buchmann 2014 [CH]). Conversely, children from a disadvantaged background are found to experience more difficulties when entering primary school (Faust and Roßbach 2014 [DE], Smyth 2018 [IE]). In Germany, for example, toddlers with a migration background are more likely to enter school later than the cut-off date (Kratzmann 2013 [DE], Becker and Tuppatt 2018 [DE]) and are sometimes even diverted into special educational needs programmes when they are found to be unable to meet the language requirements for primary school (Gomolla 2013 [DE], Kornmann 2013 [DE]).

Social segregation between primary schools is another topic that frequently receives attention in the academic literature in some countries. Given the (perceived) benefits of schools with higher numbers of socioeconomically advantaged students and more available resources (see Chapter 3.3), parents with a higher socioeconomic status – especially those living in urban areas – are found to utilise school choice more often, or even to change residence in order to send their children to a primary school they regard as more appropriate for their children’s educational needs (Bernelius 2011 [FI], Seppänen *et al.* 2012 [FI], Horn *et al.* 2016 [HU], Radó 2018 [HU], Berendes *et al.* 2019 [DE], Bernelius and Vilkkama 2019 [FI]). This, however, also leads

to schools with a more disadvantaged student intake, which is believed to foster disparities in cognitive development and educational achievement (Smyth *et al.* 2009 [IE], Byrne *et al.* 2010 [IE], Rød and Karlsen Bæck 2020 [NO]).

Another strand of research focuses on the inequality of educational achievement that emerges during primary education. Again, findings suggest that these disparities closely follow the axes of educational inequality. First, evidence suggests that social origin is of prime importance regarding achievement disparities in primary education. Pupils from a lower socioeconomic background tend to underperform and show poorer skills in literacy and mathematics compared to their peers from a higher socioeconomic background (Williams *et al.* 2018 [IE], Gbohoui 2019 [LU], McNamara *et al.* 2020 [IE]). Moreover, as two studies from Switzerland indicate, students from more affluent and more highly educated households experience steeper improvements in academic performance during primary school, further increasing educational inequality (Angelone and Ramseier 2012 [CH], Helbling *et al.* 2019 [CH]). Second, female students already outperform their male counterparts at the primary education level and are also shown to exhibit higher school engagement (Bernelius 2015 [FI], Smyth 2018 [IE]). Third, some studies provide evidence for achievement gaps between pupils without and with a migration background, with the latter falling behind (Becker *et al.* 2013 [CH], Tavares 2020 [LU]).

### Primary education

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## Secondary education

At the secondary education stage, the amount of research conducted and the thematic priorities set by scholars vary considerably between the countries of the PIONEERED consortium. This is certainly partly due to the specific characteristics of the education systems. Whereas much research in highly stratified systems with early tracking – such as Germany, Luxembourg, or Switzerland (see Chapter 2) – revolves around the transitions from primary education to lower secondary education and from lower secondary education to upper secondary education, research in countries with comprehensive systems focuses on how educational behaviour develops until the end of compulsory school. Thus, considering the conditions given by the structure of the education system seems even more important when discussing the state of research on secondary education.

Four lines of research frequently emerge with regard to secondary education. First, as is also the case with other educational stages, one line of research devotes frequent attention to disparities in academic performance. Within this line of research, some studies identify systematic variations in academic achievement along different axes of inequality. Among others, studies mentioned previously focus on disparities between genders (Novak *et al.* 2018 [LT], Perkins and Clerkin 2020 [IE]), between students with or without migration background (Zinovyeva *et al.* 2014 [ES], Backes and Hadjar 2017 [LU]), and between students of different socioeconomic background (Martínez-García 2014 [ES], Elias-Andreu and Daza-Pérez 2017 [ES], Broer *et al.* 2019 [LT]). Other studies emphasise the cumulative nature of educational achievement gaps during secondary education by showing that student performance is not only associated with prior achievement during primary school, but also affected by differing achievement gains depending on the school type attended (Angelone 2019 [CH], Daza Pérez *et*

*al.* 2019 [ES]). Student achievement during secondary education has far-reaching consequences in many countries, as grades and school leaving certificates enable or foreclose subsequent options in the education system or the labour market. In Ireland, for instance, the results of the high-stakes leaving exams affect access to higher education and to particular prestigious fields of study within higher education (Smyth 2016a [IE], Growing Up in Ireland Study Team 2019 [IE]). Additionally, the chances of entering company-based vocational education in a business sector with favourable labour market prospects is largely determined by the relative quality of one's school leaving certificate, as, for example, research from Germany suggests (Schneider and Tieben 2011 [DE], Solga *et al.* 2014 [DE], Protsch and Solga 2016 [DE]).

A second line of research focuses on educational attainment and how school leaving certificates are distributed across the student population. Some studies indicate that students with a migration background, as well as students from a lower socioeconomic background, tend to fall behind with regard to upper secondary completion rates (Kristen and Granato 2007 [DE], Bellin 2009 [DE], Bernardi and Requena 2010 [ES], Kilpi-Jakonen 2011 [FI], Laganà *et al.* 2014 [CH], Dollmann 2016 [DE], 2017 [DE], Smyth 2016a [IE], Backes and Hadjar 2017 [LU], Fehérvári and Szemerszki 2019 [HU], Pusztai *et al.* 2019 [HU]). Evidence from Lithuania and Spain further shows that dropping out in upper secondary education occurs more often among students following the vocational track compared to their counterparts following the general academic track (Dæhlen 2018 [NO], Cerda-Navarro *et al.* 2019 [ES], Švietimo, mokslo ir sporto ministerija 2020 [LT]). The focus of many studies within this line of research lies with those students who fail to complete compulsory education successfully and who leave the education system early, which has far-reaching implications for future life chances. The research identifies several groups that are at risk of leaving education early without school leaving certificates. In many countries, early school leavers are disproportionately from a disadvantaged background. In particular, students of low socioeconomic status are more likely to leave school early without obtaining certificates (Bernardi and Requena 2010 [ES], Lohmann and Ferger 2014 [DE], Growing Up in Ireland Study Team 2019 [IE]). Two studies from Spain suggest that male students with a low socioeconomic status are even more at a disadvantage regarding leaving school early than their female counterparts (Martínez-García 2011 [ES], Mellizo-Soto and Martínez García 2014 [ES]). Research also finds that students with a migration background show higher dropout rates from compulsory education (Burkhart *et al.* 2011 [DE], Dollmann and Weißmann 2019 [DE], Romero-Sánchez *et al.* 2020 [ES], Bayona-i-Carrasco and Carrasco 2021 [ES]). Lastly, Roma in Hungary and Lithuania are found to be particularly at risk of dropping out of school early (Hajdu *et al.* 2014 [HU], Petrušauskaitė 2014 [LT], Muižnieks 2017 [LT]).

Third, broad academic interest is attracted by the role of transitions into and within secondary education and how students end up following different tracks. The way in which students are allocated to different tracks in secondary education has a substantial impact on social selectivity and varies considerably between education systems (see Chapters 2 and 4.3). It should not be overlooked, however, that other factors also affect the choices made during the transitions at the secondary level. For instance, research from Germany and Switzerland shows that regional labour market structures have an influence on the likelihood of entering vocational education and training (Helbig and Nikolai 2015 [DE], Glauser and Becker 2016 [CH]).

Regarding track allocation, a large amount of research focuses on the transition to upper secondary education, when students enter either a general academic programme or a vocationally oriented programme. There is considerable evidence that students from a lower socioeconomic background are more likely to enter the vocational pathway, whereas their high-status peers are overrepresented in general academic tracks, leading to university entry certificates. Nonetheless, it is important to stress that vocational programmes also allow entry to tertiary education in some countries. Still, this is regarded as crucial, as socioeconomic patterns of entering the vocational pathway give way to processes of (self-) diversion away from higher education among students from a low socioeconomic background (Kristen *et al.* 2008 [DE], Liskó 2009 [HU], Bernardi and Requena 2010 [ES], Reimer and Pollak 2010 [DE], Schindler and Lörz 2012 [DE], Keller 2013 [HU], Glauser 2015 [CH], MENJE 2015 [LU], Borgna 2017 [NO], Becker and Glauser 2018 [CH], Alieva and Hildebrand 2019 [LU], Gbohoui 2019 [LU], Hajdu *et al.* 2019 [HU], Lehti, Erola, and Karhula 2019 [FI], Zimmermann and Seiler 2019 [CH], Dräger and Müller 2020 [DE], Jacovkis *et al.* 2020 [ES]). For instance, in the Irish system, which is predominantly general in nature (see Chapter 2), the small proportion of students who enter an alternative programme with a strong practical and vocational emphasis and no direct access to higher education primarily consists of individuals from a disadvantaged socioeconomic background (Banks *et al.* 2018 [IE]).

Findings on diverging track allocation patterns between those with and those without a migration background seem to depend on the country-specific context. For instance, research from Finland suggests that immigrant-originating and Finnish-originating students seem to have similar post-comprehensive plans when socioeconomic background and school performance are controlled for (Kalalahti *et al.* 2017 [FI]). However, some immigrant communities seem to favour one or the other; students with origins in sub-Saharan Africa tend to favour the general path, whereas students with origins in former Yugoslavian countries tend to favour the vocational path (Kilpi-Jakonen 2011 [FI]). Studies from Switzerland and Germany provide evidence that students with a migration background are more likely to end up in general academic rather than vocational programmes, given that their previous study achievement permits them to enrol in them (Relikowski *et al.* 2012 [DE], Murdoch *et al.* 2016 [CH], Dollmann 2017 [DE], Tjaden and Hunkler 2017 [DE], Tjaden and Scharenberg 2017 [CH], Zimmermann 2019 [DE]). Conversely, Jacovkis and colleagues (2020 [ES]) show for Spain that students with a migration background have a lower likelihood of entering the academic path of upper secondary education.

Students not only choose between a general academic and a vocational pathway; they also choose between different alternatives within vocational education. Research on this topic has been frequently conducted in Switzerland and Germany, as both countries have a dual education system and a historically grown importance of the vocational education sector. In Germany, the chance of transitioning to company-based vocational training differs between holders of different school leaving certificates. More precisely, the chance of attaining company-based vocational training has decreased for holders of a lower secondary certificate, since an increasing number of companies prefer to hire individuals with an upper secondary certificate (Schneider and Tieben 2011 [DE], Solga *et al.* 2014 [DE], Protsch and Solga 2016 [DE]).



Findings from Switzerland suggest that male and female students differ regarding their enrolment in vocational programmes. While young men are substantially more likely to enter company-based programmes, young women prefer school-based vocational programmes, which can provide access to particular strands of tertiary education (Hupka-Brunner *et al.* 2010 [CH], Buchmann *et al.* 2016 [CH]). However, young women having completed a company-based programme show a slightly lower chance of entering professional education than young men (Sander and Kriesi 2021 [CH]). Meyer and Sacchi (2020 [CH]) also show that entry selection into basic vocational programmes with restricted academic demands (see Chapter 5) is determined less by skills and previous achievement and more by characteristics of social origin. Low-status second-generation immigrants, too, are found to be more likely to enter these basic vocational programmes (Laganà *et al.* 2014 [CH]).

A number of studies further highlight students' educational mobility throughout secondary education. Grade repetition is an aspect frequently studied in this regard. While grade repetition during secondary education is a rare phenomenon in some countries, such as Lithuania (OECD 2019 [LT]) or Hungary (Hajdu *et al.* 2019 [HU]), school systems in other countries place greater emphasis on repetition as a tool to ensure the attainment of basic competences. Most notably, in Luxembourg, repetition is a very normalised phenomenon: roughly 18 percent of students have to repeat a secondary grade at least once (Martin *et al.* 2016 [LU]). Research suggests, however, that students from a lower socioeconomic background are substantially more likely to be affected by repetition in Luxembourg (Martin *et al.* 2011 [LU], 2016 [LU], Klapproth and Schaltz 2015 [LU], Hadjar *et al.* 2018 [LU]). In Spain, too, a country with an above-average rate of grade repetition in secondary education, students from families with a lower educational and socio-professional status are significantly more likely to experience grade repetition at this stage (Cordero Ferrera and Manchón-López 2014 [ES], González-Betancor and López-Puig 2016 [ES]). This is especially true for male students and students with a migration background (Méndez Mateo and Cerezo Ramírez 2017 [ES], Romero-Sánchez *et al.* 2020 [ES]). Moreover, as Germany has reduced the length of upper secondary education while increasing instruction time (which has been found to increase the workload and pressure on students) (Homuth 2017 [DE]), an upward trend in repetition rates has been noticeable (Huebener and Marcus 2017 [DE]).

Some studies focus more closely on the extent to which students in secondary education change educational pathways. Although some education systems tend to be rigid, limiting the chances of and incentives for switching between different educational alternatives at the secondary stage, empirical evidence identifies specific mobility patterns among certain groups of students. In Germany, for instance, lower socioeconomic status students, who are in general more likely to attend vocationally oriented tracks, are found to have lower chances of upgrading to general tracks compared to students from a more advantaged socioeconomic background (Reimer and Pollak 2010 [DE], Dollmann 2017 [DE]). This is supported by findings from Luxembourg, showing that students from a disadvantaged background are more likely to experience immobile educational careers in less prestigious tracks; if they switch tracks, they are found to be more often downwardly mobile than their peers from a higher socioeconomic background (Backes and Hadjar 2017 [LU]). A study from Switzerland, however, argues that the impact of social

origin on the chances of mobility between secondary tracks is less pronounced for very low-skilled, as well as for very high-skilled, students (Falter 2012 [CH]). Even though many students with a migration background tend to originate from households with fewer socioeconomic resources, research suggests that some descendants of immigrant families experience more mobility within secondary education. Findings from Switzerland show that, although second-generation immigrants are less likely to follow constant educational pathways, they are more likely to be upwardly mobile than to move downwards within the education system, with the latter being a pattern more common among students of Swiss origin (Schnell and Fibbi 2016 [CH]). Backes and Hadjar (2017 [LU]) argue that educational mobility during secondary education among students of immigrant origin is highly dependent on their socioeconomic background. While students from high-status immigrant families are more likely to benefit from upwardly mobile pathways, low-status migrant groups tend to exhibit more downward mobility, further increasing the gaps between those groups (SGI 2021 [LU]).

A fourth and final line of research aims to determine the extent to which educational success during secondary education is predetermined by prior achievement and previous educational choices. These studies stress the cumulative dimension of educational success and emphasise that inequalities occurring upon entering secondary education require special attention. Research provides compelling evidence that educational inequality is likely to continue from one educational stage to another, with the secondary stage playing a pivotal role. Social inequalities in students' performance at the end of primary education translate into track admissions or ability grouping at the secondary level (Martin *et al.* 2016 [LU], Smyth 2016a [IE], Alieva and Hildebrand 2019 [LU]). Moreover, students experiencing difficulties at the start of secondary education tend to fall increasingly behind their better-performing peers (Julià-Cano 2017 [ES], Smyth 2017a [IE], McCoy *et al.* 2019 [IE], Garcia-Andreu *et al.* 2020 [ES]). However, and also with regard to the transition into upper secondary education, research from highly stratified education systems suggests that the choices made at this transition – including social selectivity – are to a large extent determined by the pathway followed throughout lower secondary education (Schneider and Tieben 2011 [DE], Buchmann *et al.* 2016 [CH], Becker and Glauser 2018 [CH], Castejón *et al.* 2020 [ES]). The cumulative nature of educational inequalities also seems to affect students, as they are found to adapt their educational aspirations according to their current educational position and their perceived chances of educational mobility later on (Iljina and Purbaneckienė 2012 [LT], Borgna 2017 [NO], Schlimbach *et al.* 2018 [NO], Langa-Rosado *et al.* 2019 [ES], Hadjar, Scharf, *et al.* 2021 [LU]).

### **Tertiary education**

Increasing access to tertiary education has been one of the main pillars of educational expansion during the last decades in many European countries. Indeed, increased access to higher education has led to an overall decrease in educational inequality, as participation rates grew and previously excluded groups found it easier to enrol in tertiary education (Breen *et al.* 2010 [CH], Di Paolo 2012 [ES], Becker and Zangger 2013 [CH], Barone and Ruggera 2018 [CH]). Yet, several recent studies report that there has been a stagnation in overall access rates, as



well as a stabilisation in inequalities by social origin, since the turn of the millennium (Kivinen *et al.* 2012 [FI], Troiano *et al.* 2017 [ES], Falcon 2020 [CH]).

Women have been among the main beneficiaries of the educational expansion, and have not only closed the gender gap in access to tertiary education but also surpassed men in many educational outcomes at this stage (Vryonides and Lamprianou 2013 [NO], Subirats 2016 [ES], Zangger and Becker 2016 [CH], European Institute for Gender Equality (EIGE) 2020 [LU], Garcia-Andreu *et al.* 2020 [ES]) (see Chapter 3.2). However, patterns of female participation in tertiary education are still found to differ from those of men in some regards. A broad line of research points out that greater access for women to higher education coexists with a significant degree of horizontal segregation, as men and women in many countries are unequally distributed across different fields of study. In Spain, for instance, women are more likely to study in fields leading to care-related careers and to be in the minority in fields providing more favourable labour market prospects, such as STEM (Botella *et al.* 2019 [ES]). This binary segregation by gender is found to be more prevalent among students from a lower socioeconomic background (Garcia-Andreu *et al.* 2020 [ES]). Research from Finland provides a more differentiated picture in this regard. While it seems that, on average, female students still choose less prestigious tertiary education programmes compared to male students (Kilpi-Jakonen *et al.* 2016 [FI]), they are found to increasingly participate in traditionally male-dominated disciplines, but the opposite has not happened in traditionally female-dominated disciplines (Kivinen *et al.* 2012 [FI]). Moreover, research from Switzerland suggests that, while no gender gap regarding either the choice of university type (Buchmann *et al.* 2016 [CH]) or academic achievement in universities (Combet and Oesch 2020 [CH]) can be observed, women are slightly less likely to continue their studies at Master's level compared to men (Glaser *et al.* 2019 [CH]).

Empirical research on education at the tertiary level further frequently focuses on groups that are still underrepresented, or that differ in their educational behaviours at this stage. Higher education is characterised by extensive social selectivity. More specifically, individuals from families of low socioeconomic status are significantly underrepresented at the tertiary level (Barañano and Finkel 2014 [ES], Central Statistics Office 2017 [IE], Department of Education and Skills 2019b [IE], Fehérvári and Szemerszki 2019 [HU], OECD 2021). This underrepresentation of students from a disadvantaged socioeconomic background is mainly regarded to be a consequence of previous educational transitions. During secondary education, students from a lower socioeconomic background more often end up following educational pathways that do not grant them direct university admission, such as vocational education, which diverts them away from higher education (Powell and Solga 2011 [DE], Bol and van de Werfhorst 2013 [DE], Borgna 2017 [NO], Troiano *et al.* 2017 [ES], Banks *et al.* 2018 [IE], Daza Pérez *et al.* 2019 [ES]). Those low-status students who do enter tertiary education are still found to differ from high-status students in various regards. As, for instance, Daza-Pérez and colleagues (2019 [ES]) have shown, students from lower social strata are more sensitive to the effects of prior educational performance when considering university studies. This could be one reason why low-status students tend to enrol in less prestigious university programmes in Spain, which contributes to marked differences in the social composition among different disciplines (Triventi 2013 [ES], Troiano and Elias-Andreu 2014 [ES], Garcia-Andreu *et al.* 2020 [ES]). With regard to mobility,

individuals from a lower socioeconomic background are less likely to study abroad (Gerhards and Hans 2013 [DE], Ariño *et al.* 2014 [ES], Lörz *et al.* 2016 [DE]) or to continue their studies at the Master's level (Neugebauer *et al.* 2016 [DE], Glauser *et al.* 2019 [CH]). Moreover, individuals with low-status parents show higher dropout rates from tertiary education (Müller and Schneider 2013 [DE], González-Ramírez and Pedraza-Navarro 2017 [ES]).

In some countries, likewise, there is evidence that students with a migration background are underrepresented in higher education (Griga 2014 [CH], Griga and Hadjar 2014 [DE]) and show higher dropout rates compared to their counterparts without a migration background (Burkhart *et al.* 2011 [DE], Dollmann and Weißmann 2019 [DE], Constate-Amores *et al.* 2020 [ES]). However, some scholars provide evidence indicating that the patterns of participation in tertiary education of students with a migration background may be more complex. For example, Griga (2014 [CH]) shows for Switzerland that, while second-generation immigrants are less likely to hold university entrance certificates than those without a migration background, they are more likely than natives to enter higher education if they are entitled to do so. Moreover, Kagan (2019 [NO]) shows for Norway that second-generation immigrants have steadily increased their participation over time, but also that this trend has been reversed for first-generation immigrants during the last decade. Further, students of Norwegian origin are slightly underrepresented at the PhD level. Other disadvantaged groups are also found to be less likely to progress to higher education. As some studies suggest, this holds true for individuals with disabilities or those with special educational needs more generally (Žalimienė *et al.* 2011 [LT], McCoy, Smyth, *et al.* 2014 [IE], Muižnieks 2017 [LT], Department of Education and Skills 2019a [IE], Powell and Pfahl 2019 [DE]), people growing up in foster or residential care (Zeller and Köngeter 2012 [DE], Köngeter *et al.* 2016 [DE]), students living in rural environments (Nori 2011 [FI], Vareide and Vareide 2020 [NO]), and minorities such as Roma or Traveller in Ireland (Hajdu *et al.* 2014 [HU], Council of Europe 2017a [LT], Department of Education and Skills 2019a [IE]).

A recurring topic in countries with a dual higher education system with both traditional research-oriented universities and universities of applied sciences is the way students enter these respective higher education institutions. Despite the fact that dual higher education systems tend to lower overall educational inequalities by increasing the social permeability via new educational pathways (Kilpi-Jakonen *et al.* 2016 [FI], Murdoch *et al.* 2016 [CH], Jäpel 2017 [CH], Isopahkala-Bouret *et al.* 2018 [FI]) (see Chapter 5), the division into more research-intensive universities and universities of applied sciences may also increase social segregation by pushing students from a disadvantaged social background away from elite institutions. For instance, research from Finland indicates a substantial social origin gap in enrolment for traditional universities, but not for universities of applied sciences (Nori 2011 [FI], Kivinen *et al.* 2012 [FI], Heiskala *et al.* 2021 [FI]). This finding is supported by evidence from Switzerland (Buchmann *et al.* 2016 [CH], Combet and Oesch 2020 [CH]) and from Ireland, where students from a disadvantaged social background are less likely to enter universities and rather enter colleges or institutes of technology (McCoy and Smyth 2011 [IE], Iannelli *et al.* 2016 [IE], Byrne and McCoy 2017 [IE]).

## 4 Causes of educational inequality

Educational inequalities do not develop from one singular factor; rather, they develop from a range of factors situated at different analytical, hierarchically structured levels. Employing a multilevel perspective (Bronfenbrenner 1979, Coleman 1986) therefore implies searching for drivers of educational inequality at different levels, including the micro level (the individual level, such as students, parents, or peers), the meso level (the institutional level, such as schools or classes), and the macro level (the societal level, such as educational policy or social norms). The discussion of potential drivers of educational inequality in this section is structured in accordance with these three levels. However, this is not to say these three levels are not closely interrelated and that educational inequalities are not due to a multiplicity of reasons. It is also important to stress that there are different theoretical reasonings behind the assignment of analytical levels and that the distinctions between these levels, especially the meso and macro levels, might differ across the research landscape.

Recent research on educational inequality in PIONEERED countries applies a variety of theories to explain inequality in the education system. Two seminal approaches are often referred to when explaining the emergence and perpetuation of educational inequality. Both focus on individual advantages and disadvantages and – sometimes implicitly – relate to the levels situated above the micro level.

Educational inequalities can be studied by employing the conceptual framework of Boudon (1974) on primary and secondary effects of social origin. While primary effects refer to differences in educational achievement structured according to social origin, secondary effects relate to social background-specific decisions made at certain points during an educational trajectory. In its classical conceptualisation, individuals originating from a disadvantaged social background lack access to the financial, social, and cultural resources necessary to facilitate learning, which, in turn, is associated with lower educational achievement. This lack of access to resources is accompanied by a lower perception of the benefits of higher educational tracks and a greater tendency towards risk aversion, which alters educational aspirations and decision making processes. A recent extension of Boudon's (1974) framework relates to so-called tertiary effects (Esser 2016). Tertiary effects refer to stereotype-biased expectations and evaluations of teachers that affect a student's educational attainment beyond primary and secondary effects.

A distinct approach to the explanation of educational inequalities is proposed by Bourdieu (Bourdieu and Passeron 1977, Bourdieu 1986), which focuses on both group-specific resources and processes of socialisation, institutional selection, and social reproduction. Similar to Boudon's framework, students need access to – unequally distributed – resources that facilitate learning processes. These resources are differentiated in economic capital (e.g., to pay educational expenses), cultural capital (e.g., literate parents who can stimulate their child's learning), and social capital (e.g., supportive peers and relatives). However, Bourdieu's approach challenges a mere resource deficit perspective underlined by the concept of habitus. Habitus is defined as a system of durable embodied attitudes and values towards education and behavioural patterns that are socialised in families, but also in other contexts, such as peer

groups. As educational institutions – most notably schools – have certain demands regarding student habitus, some groups can fulfil these demands to a lesser extent than others. A mismatch between student habitus and these demands can limit educational opportunities, resulting in disparities in various aspects of education (Helsper *et al.* 2014 [DE]).

The following three chapters present a selection of drivers of educational inequality that have been identified across PIONEERED countries. In doing so, the factors linked to educational inequality are located at their respective analytical level – the micro level, the meso level, or the macro level.

#### 4.1 Micro level

##### Summary

- Employing a multilevel perspective, research in PIONEERED countries identifies a vast number of drivers of educational inequality located at different analytical levels. At the micro level, the research has identified a variety of factors affecting individual learning outcomes.
- Under the term of primary effects of social origin, the research debates whether students from higher social classes – as their parents or caregivers have more resources to support their educational development – outperform students from a disadvantaged social background in school. A number of studies find support for this thesis, highlighting the importance of a student’s home learning environment.
- The notion of secondary effects reflects the role of class-based patterns of educational decision making during transitions. It is argued that, depending on social origin, students evaluate the risks and benefits of educational alternatives differently, which in turn fosters processes of social segregation between educational programmes. Research in PIONEERED countries indeed provides evidence of class-based educational decision making independently of prior achievement. Several studies extend this view to the axis of migration background by showing that students with a migration background hold particularly optimistic beliefs about their educational success and make more ambitious educational choices compared to their native peers.
- Several studies point to parental cultural capital as a crucial driver of educational inequality. Parental cultural capital is not only related to their degree of involvement in a student’s educational development; it is also found to shape a student’s educational preferences and aspirations. Moreover, educational inequality also depends on parents’ social capital. Among others, parents make use of their social networks to gain information and privileged access to certain parts of the education system.
- A number of studies put forward personal factors and character traits as potential drivers of educational inequality at the micro level. Among others, the literature identifies traits such as a positive self-concept or conscientiousness as factors associated with several aspects of educational inequality. The research also finds that stereotypes and pressure to adapt to dominant norms affect the wellbeing of students in school, which in turn may foster educational inequality.

## Primary effects

Primary effects are widely regarded as essential when explaining inequality in educational outcomes. Primary effects are defined as those effects that are expressed via an association between students' social origin and their academic performance. In theory, students from an advantaged socioeconomic background would outperform their less affluent peers in terms of academic achievement, as their parents have more resources to support their educational development. Indeed, several studies support the notion of primary effects by showing that students from higher social classes perform better in school (Becker and Hecken 2009 [DE], Becker 2012 [DE], Kertesi and Kézdi 2012 [HU], Becker *et al.* 2013 [CH], Heath and Brinbaum 2014 [DE], Schulz *et al.* 2017 [DE], Helbling *et al.* 2019 [CH], Pusztai *et al.* 2019 [HU]). For example, Dräger and Pforr (2020 [DE]) provide evidence of an independent effect of parental wealth on children's academic abilities. However, achievement disparities resulting from parents' educational background are shown to be larger than those resulting from parental financial resources.

Research further provides insights on where these primary effects stem from. Insufficient parental resources have a detrimental effect on learning opportunities and are often associated with additional factors hindering a child's educational development. Lack of encouragement and cognitive support from parents, lack of a stimulating home learning environment, financial deprivation that prevents parents from a lower socioeconomic background to invest in their child's cognitive development, and the presence of various health related risk factors (such as limited access to healthcare, mental burden, or poor diet) are factors that impede learning and are more common among families from a disadvantaged socioeconomic background (Meyers and Houssemand 2011 [LU], Kertesi and Kézdi 2012 [HU], Csüllög *et al.* 2015 [HU], Dearing *et al.* 2018 [NO], O'Toole *et al.* 2019 [IE]). Moreover, research stresses the importance of cumulative advantages and disadvantages in this regard. Disparities in educational achievement that emerge during early childhood do not completely vanish thereafter and are likely to impact future educational outcomes and skills development (Murray *et al.* 2016 [IE], Passaretta and Skopek 2020 [DE], Passaretta *et al.* 2020 [DE]). In contrast, students benefiting from initial achievement advantages are found to experience steeper improvements in learning outcomes along their educational trajectory, which in turn increases the achievement gaps based on social origin (Angelone and Ramseier 2012 [CH], Borgna 2017 [NO]).

Language barriers faced by students of immigrant origin are sometimes regarded as a special case of primary effects. Students with a migration background who have limited opportunities to properly acquire the school's language(s) of instruction – in many cases because they speak a foreign language at home – are found to face more difficulties in school and, in turn, to exhibit lower academic achievement (Leončikas 2006 [LT], Svenkerud *et al.* 2012 [NO], Budginaitė and Mašidlauskaitė 2015 [LT], Kempert *et al.* 2016 [DE], Zaleskienė and Kvederavičiūtė 2017 [LT], Miyamoto *et al.* 2020 [DE]). Primary effects in terms of language are found to be especially important in multilingual education systems. Luxembourg, on the one hand, uses up to three instructional languages in school, which makes it particularly demanding for students who speak another language at home (Martin *et al.* 2016 [LU], Gbohoui 2019 [LU]). In Norway, on the other

hand, the growing use of English in schools may further disadvantage increasing numbers of students with a particular migration background (Thomas and Breidlid 2015 [NO]).

## Secondary effects

Boudon (1974) distinguishes primary from secondary effects, which receive frequent attention in the academic literature too. Secondary effects are expressed by socioeconomic disparities in educational choices that students make during transitions between stages and within a range of options that their previous performance allows them to access. The notion of secondary effects reflects the role of class-based patterns of anticipation and educational decision making.

In this regard, recent empirical research has focused primarily on socioeconomic background and migration background as potential drivers behind group-specific educational choices. On the one hand, social origin is found to influence educational choices independently when educational achievement is controlled for. Research shows that students from a privileged socioeconomic background are more likely to pursue general academic tracks leading to higher education entry certificates, whereas students from a lower socioeconomic background are more likely to end up in vocational programmes (Iljina and Purbaneckienė 2012 [LT], Buchmann *et al.* 2016 [CH], Dollmann 2017 [DE], Becker and Glauser 2018 [CH], Zimmermann and Seiler 2019 [CH]). These findings are attributed to socioeconomic disparities in educational decision making. Socioeconomic background plays a large part in the self-assessment of students, with students of lower socioeconomic status underestimating their performance more often (Keller 2013 [HU]). In addition, students from a lower socioeconomic background exhibit greater aversion to the risks of academic education due to uncertainty about its benefits and the anticipation of major obstacles (Hricsovinyi and Józsa 2018 [HU], Langa-Rosado *et al.* 2019 [ES]). Thus, the role of social origin on student's decision making is less pronounced for high-achieving students, as they experience less uncertainty about their chances of success (Falter 2012 [CH], Bernardi and Cebolla 2014 [ES], Troiano *et al.* 2017 [ES]).

On the other hand, the literature frequently discusses different patterns of educational decision making between students with and without migration background. As research suggests, students with a migration background – despite various disadvantages they face throughout their educational careers – often tend to make more ambitious educational choices than their native peers, thanks to supporting networks (Jonsson and Rudolphi 2011 [DE], Relikowski *et al.* 2012 [DE], Darmody, Merike, McGinnity, Frances, Kingston 2016, Kindt 2017 [NO], Tjaden and Hunkler 2017 [DE], Tjaden and Scharenberg 2017 [CH], Beck and Jäpel 2019 [CH], Zimmermann 2019 [DE], Vedøy and Vassenden 2020 [NO]). This phenomenon is sometimes termed “immigrant optimism”, meaning that immigrant groups may hold particularly optimistic beliefs about their prospects for educational success (Kao and Tienda 2004 [DE], Salikutluk 2016 [DE], Dollmann 2017 [DE], Abrassart *et al.* 2020 [CH]). However, as students with a migration background often fall behind their counterparts without a migration background regarding educational achievement (see Chapter 3.2), this optimism does not always become reality. This situation is sometimes referred to as the “aspiration–achievement paradox”, meaning that students of immigrant origin might make too ambitious educational choices for their



educational performance due to unfamiliarity with the education system or beliefs that viable vocational alternatives are less desirable (Hill and Torres 2010 [DE], Kalalahti *et al.* 2017 [FI], Tjaden and Hunkler 2017 [DE]).

### **Cultural and social capital**

Parental resources influence children's educational behaviours way beyond the often-referred to primary and secondary effects. In this case, it is expedient to think of household resources as forms of capital that are related to systems of durable embodied attitudes and values towards education and behavioural patterns that are socialised in families and other contexts as well (Helsper *et al.* 2014 [DE]).

The importance of parental education – or their cultural capital – in advancing students' educational opportunities has been repeatedly stressed in the literature (Pfeffer and Hertel 2015 [DE], Jæger and Breen 2016 [DE]). On the one hand, parental education may help families realise and execute educational strategies, granting them privileged access to information about the education system (Baker and Stevenson 1986 [DE], Lareau 1989 [DE], Pfeffer 2008 [CH]). On the other hand, parental education provides a point of reference for educational aspirations and attitudes. Individual students' attitudes and aspirations are not the only things that matter for their educational success (McCulloch 2017 [DE], Ditton *et al.* 2019 [DE]); how parents value their children's education has also been found to be of importance for educational inequality (Feliciano and Lanuza 2016 [DE], Roth 2017 [DE], Plenty and Jonsson 2021 [DE]). The fit or mismatch regarding cultural capital between schools and students respectively their families is an important mediator that affects educational opportunities and might promote unequal treatment of students (Werler and Færevaaag 2017 [NO], Wolf 2019 [NO]).

In this regard, several studies focus on parental involvement in their children's education and parents' pedagogical support (Suárez *et al.* 2012 [ES], Pérez Sánchez *et al.* 2013 [ES], Carabaña 2015 [ES], Castro *et al.* 2015 [ES], Fernández-Alonso *et al.* 2017 [ES], Vanttaja *et al.* 2019, Turjanmaa and Jasinskaja-Lahti 2020 [FI]). For instance, negative attitudes towards education held by parents were found to be detrimental to educational achievement, especially for male students (Bernelius 2015 [FI]). Research from Norway suggests that the subjective understanding of class background plays a part in how parents are involved in their children's educational careers. Focusing on children of immigrants, Kindt (2017 [NO]) shows that students whose parents have a high social status in their home country experience parental involvement similar to that of middle-class Norwegians, even though their parents have a low socioeconomic status in Norway. However, these studies tend to reach very heterogeneous conclusions, as said effects are not independent of other factors, such as children's previous educational trajectory or classroom composition (Alonso-Carmona 2014 [ES], Collet-Sabé 2014 [ES]). Furthermore, as Bendixsen and Danielsen (2020 [NO]) suggest, setting too high expectations on parental involvement in school contexts may increase existing socioeconomic disparities in several aspects of education.

Apart from parents' cultural capital, their social capital is also found to have an influence on their children's educational outcomes and their access to different educational opportunities.



Parents can use their social networks to gain additional information about the education system, as well as privileged access to learning opportunities for their children. For example, Roth (2018 [DE]) shows that parents' social networks have an effect on young individuals' chances of finding a position in company-based vocational training. To some extent, social capital can also compensate for the negative effects of low parental education. Research from Finland shows, for instance, that the influence of parental education on educational choices in secondary education is smaller when students are also regularly exposed to grandparents or highly educated extended family members (Lehti and Erola 2017 [FI], Lehti, Erola, and Tanskanen 2019 [FI]). Parental social networks are also found to affect parents' educational expectations and attitudes towards education by providing information about the education system and other resources, which are later reflected in children's educational outcomes (Roth and Salikutluk 2012 [DE]).

### **Personal factors and character traits**

Lastly, a diverse strand of research emphasises the role of personal features and traits as potential factors mediating educational inequality. Without a doubt, cognitive skills and capabilities play a crucial part in shaping learning outcomes (Audas and Willms 2001 [LU], Traag and Van der Velden 2008 [LU]). Moreover, the role of genetic prerequisites cannot be overlooked as they influence cognitive abilities, especially during adolescence (Schulz *et al.* 2017 [DE]). Twin studies, however, show that genetic influences cannot fully or independently explain children's educational outcomes without taking environmental effects into consideration, as favourable learning environments are needed to realise genetic potential (Baier and Lang 2019 [DE]).

Non-cognitive features and traits are also found to be of importance when explaining educational inequality. For instance, traits such as a positive social self-concept or conscientiousness have a positive impact on learning outcomes (Kriesi *et al.* 2012 [CH], Kriesi and Buchmann 2014 [CH], Smyth 2015 [IE]), whereas research identifies poor mental wellbeing, drug consumption, or joining dysfunctional peer groups as risk factors for poor academic performance and eventually dropping out of school (Skerytė-Kazlauskienė and Barkauskienė 2010 [LT], Meyers and Houssemand 2011 [LU], Hauret 2017 [LU], Abebe *et al.* 2019 [NO]). However, the literature suggests that personal features relevant to educational outcomes are unequally distributed across different axes of inequality, further increasing the disadvantages faced by some students.

With regard to gender, stereotypes triggered by students' performance (Heyder and Kessels 2015 [NO]) have been linked to unequal treatment across genders, even from a young age, which is found in turn to lower the self-esteem of male students (Emilson and Johansson 2013 [NO]). Pressure to collaborate and to belong to peer groups, coupled with certain body ideals, have been related to gender differences in terms of emotional wellbeing, with girls experiencing feelings of depression and stress more often than boys (Øgård-Repål *et al.* 2017 [NO]). Furthermore, systematic variations in the willingness to compete between genders is identified as one factor fostering horizontal gender segregation in higher education (Buser *et al.* 2017

[CH]). Students with a disability are found to be especially disadvantaged in this regard, as they are more likely to exhibit low self-esteem and poor self-evaluation (Skerytė-Kazlauskienė and Barkauskienė 2010 [LT], Banks *et al.* 2016 [IE], Abebe *et al.* 2019 [NO]). In addition, a disadvantaged socioeconomic background is associated with personal features and traits negatively affecting educational outcomes. For example, students from a lower socioeconomic background who drop out of school report significantly more mental health problems, negative school experiences, and difficulties in family functioning (Esch *et al.* 2011 [LU]). Moreover, school engagement and intrinsic motivation for school – both being key factors for student achievement and skills acquisition (see Chapter 3.1) – are found to be related to social status, with students from more affluent households exhibiting higher degrees of school engagement and motivation (Vanttaja *et al.* 2019, Ollila *et al.* 2020 [FI], ONQS 2020 [LU]).

## 4.2 Meso level

### Summary

- At the meso level, recent research mostly focuses on the role of teachers and schools.
- Teachers take on the role of gatekeepers in many respects and constitute an important source of inequality in treatment. On the one hand, under the term of tertiary effects, the research discusses bias in teaching practices based on stereotypes or prejudice against certain students. Overall, evidence provided by scholarly literature regarding bias in teacher evaluations remains inconclusive. The same applies to the idea that biased teaching practices depend on the fit or mismatch between a teacher and a student's characteristics. On the other hand, several studies provide evidence that a teacher's characteristics and beliefs are reflected in their taught activities, which affects both the wellbeing of students and the quality of student–teacher interactions. Additionally, research in some countries reports deficiencies in teacher training that leave some teachers ill-prepared to address the specific educational needs of students facing disadvantages in the education system.
- The importance of schools for educational inequality is predominantly debated from two perspectives: the role of classroom composition and peer group interactions. Research suggests that homogeneously composed classes often influence educational outcomes in a cumulative manner and thus increase educational inequality. From a theoretical point of view, many scholars argue that students adapt their educational behaviour with reference to their peers. Next to social composition, a school's climate is also found to affect various aspects of educational inequality. While a positive and supportive school climate has beneficial effects on a student's wellbeing and social inclusion, the prevalence of specific norms might contribute to the alienation of students not adhering to these norms.

### Tertiary effects

Teachers take on the role of gatekeepers through their grading and track recommendations (which are binding in some countries at some stages), with far-reaching consequences for an individual student's educational trajectory. If a teacher's evaluations are biased based on

stereotypes or prejudice, this could reinforce existing disadvantages and thus increase overall educational inequalities. The stereotype-biased expectations, efforts, and evaluations of teachers who treat, diagnose, and decide on students differently in school are commonly referred to as tertiary effects, a term coined with reference to Boudon's (1974) concepts of primary and secondary effects (Esser 2016).

Without a doubt, the empirical assessment of stereotype-biased teacher evaluations is non-trivial and often methodologically problematic. Nonetheless, several empirical endeavours have tried to identify tertiary effects in European schools. Empirical evidence on tertiary effects remains mixed. While some studies do not find indications that students are graded differently based on ascribed characteristics (Kiss 2010 [DE], Becker *et al.* 2013 [CH]), some studies indeed present evidence for biased teacher evaluations based on prejudice. As for example Csüllög and colleagues (2015 [HU]) point out, students from a disadvantaged socioeconomic background tend to receive prejudiced evaluations and less support from teachers if they and their parents do not act in conformity with majority cultural practices. They found that only around 40 percent of numerical grading is explained by test scores and that the rest of it is subject to teachers' perceptions of how much the student fulfils the expectations of the social environment. Furthermore, according to Schneider (2011 [DE]), social origin is associated with teacher recommendations via the educational aspirations of parents for their children of which teachers may be aware. In Ireland, teachers report less close and more conflictual relationships with working-class five-year-olds than with their middle-class peers (Smyth 2018 [IE]). Teacher evaluations do not necessarily reinforce existing inequalities as, for instance, findings from Ouakrim-Soivio and colleagues (2017 [FI]) suggest. In their study, some discrepancies were found when comparing scores of a national assessment and teacher-given grades in lower secondary schools between immigrant-origin and Finnish-origin students. On average, students of immigrant origin received relatively higher grades, but there was also significant teacher-based variation in the direction of the effect.

The extent of educational inequality caused by biased teacher evaluations could depend on the "mismatch" between teacher and student characteristics, for example when teachers do not have the same ethnicity, gender, or sexual orientation as their students (Neugebauer *et al.* 2011 [DE]). Research in some countries, for instance Germany, does not support this thesis (Neugebauer *et al.* 2011 [DE], Neugebauer and Klein 2016 [DE]). In contrast, qualitative evidence suggests not only that different cultural and social backgrounds are acknowledged by teachers' taught activities, but that this is also influenced by a teacher's habitus (Hestholm and Jobst 2020 [NO], Thorjussen and Sisjord 2020 [NO]). For instance, Jortveit (2018 [NO]) shows that a teacher's understandings of inclusion is linked to their pedagogical practices in multicultural schools.

While the existence of tertiary effects in teacher evaluations and grading is subject to debate, some research suggests that teachers hold different expectations for different groups of students. For example, teachers are shown to hold lower expectations for male students in terms of language performance, but higher expectations in terms of mathematics (Gentrup *et al.* 2018 [DE]). Negative bias in teacher expectations has been identified for students from

socioeconomically disadvantaged families, for ethnic minority students, or for students classified as female and male in gender-untypical domains (Tarabini *et al.* 2015 [ES], Kiss 2016 [HU], Lorenz *et al.* 2016 [DE], Castejón Company 2017 [ES], Holder and Kessels 2017 [DE], Pit-Ten Cate and Krischler 2018 [LU], Wagner and Hu 2020 [LU]). The concepts of the self-fulfilling prophecy and, more specifically, the “Pygmalion effect” are commonly referred-to mechanisms that link bias in teacher expectations to actual student performance development (Rosenthal 2002, Rist 2009, Van Houtte 2011).

### **Teacher characteristics and teaching styles**

At the meso level, the teaching profession – especially the perspectives, understandings, and pedagogical practices of teachers in relation to the recognition of the diverse social and cultural backgrounds of their students – is seen as an important factor that makes a difference when assessing educational inequality. It is widely agreed that teacher characteristics affect their pedagogical practices and that teachers acknowledge students’ social and cultural backgrounds in their taught activities (Jortveit 2018 [NO], Hestholm and Jobst 2020 [NO], Thorjussen and Sisjord 2020 [NO]). For instance, research from Hungary indicates that some teachers hold indifferent attitudes towards educational inequality and have the opinion that inclusive schooling makes their job more difficult, which could likely lead to disregarding the specific educational needs of disadvantaged students (Dupcsik 2012 [HU], Feischmidt 2013 [HU], Nahalka and Zempléni 2014 [HU]). Furthermore, Makarova and Herzog (2015 [CH]) provide evidence that, in some cases, the gender-stereotypical beliefs of science and mathematics teachers in secondary schools mediate the salience of gender-stereotypical views regarding STEM fields among their students.

Moreover, it is found that student wellbeing and engagement at school is strongly influenced by the quality of student–teacher interactions (McCoy and Smyth 2011 [IE], Smyth 2016a [IE]). Head teachers play the most important role in ensuring the quality of student–teacher interactions and for providing support for specific educational needs of some students. For example, Indrašienė and Suboč (2008 [LT]) show that students experiencing learning difficulties highlight the role of head teachers specifically, and that these students also find it easier to develop trust with head teachers than with other educators and staff. The quality of student–teacher interactions and teachers’ awareness of students’ specific educational needs is found to be influenced by teacher training. In other words, deficient teacher training might lead to a lack of appropriate skills when dealing with students facing educational disadvantages (Budginaitė and Mašidlauskaitė 2015 [LT], Kereszty and Hunyady 2018 [HU]). As studies from Luxembourg suggest, more than half of teachers consider their teacher training to have insufficiently prepared them for inclusive practices. As a result, recently trained teachers report higher levels of implicit negative or biased attitudes towards students of immigrant origin compared to more experienced teachers, as well as reporting a high degree of insecurity regarding diversity in schools (Glock *et al.* 2015 [LU], Pit-Ten Cate and Krischler 2018 [LU], Wagner and Hu 2020 [LU]). Deficits in teacher training intensifies educational inequality via both teaching practices and via selection effects. As Kárpáti (2009 [HU]) shows, as well as Nahalka and Zempléni (2014 [HU]) using the example of Hungary, well-trained and experienced teachers

are often selected by elite schools with a more privileged student intake, whereas teachers with less methodological knowledge and motivation are more likely to teach in schools with a more disadvantaged student intake. Therefore, students most in need of quality education provided by well-trained staff are left with adversely selected teachers who may not possess the necessary pedagogical tools to address their educational needs appropriately.

### **School composition and peer group effects**

In terms of the influence of schools and classrooms on educational inequality, the role of social composition receives broad attention in the literature. From a theoretical point of view, reference group effects, among others, are frequently put forward as a potential mechanism shaping educational outcomes in differently composed schools and classes. The general idea behind reference group effects is that students are likely to adapt their academic self-concept, educational attitudes, and aspirations to those of their peers. On the one hand, this may arise via a contrasting effect, which is often referred to as the “big-fish-little-pond effect” (Marsh and Parker 1984, Marsh 1987). This effect states that students at an equal achievement level will exhibit a lower academic self-concept in classes with many higher-achieving peers compared to classes with many lower-achieving peers as they feel discouraged – and vice versa. On the other hand, the so-called “basking-in-reflected-glory effect” (Cialdini *et al.* 1976, Marsh *et al.* 2000) implies a mechanism of assimilation. According to this, students will experience a positive influence on their academic self-concept if they can compare themselves to more high-achieving peers. Conversely, students are also expected to lower their academic self-concept when exposed to a majority of peers with low academic self-concept.

Class composition is found to shape the general learning environment of students. The more homogenous a class, the greater the effect on various aspects of educational inequality is believed to be. Some scholars even argue that the student composition in schools and classes has a more significant impact on a student’s learning outcomes than their home learning environment (Lannert 2018 [HU]). Homogeneously composed classes often influence educational outcomes in a cumulative manner and thus increase educational inequality. Conversely, more heterogeneous social compositions are related to higher equity in educational outcomes. A number of studies focus on compositional effects with regard to social origin. Several of these provide evidence that, when controlling for individual characteristics, classes with higher proportions of students from a privileged socioeconomic background show overall better student performance (Bernelius 2011 [FI], 2015 [FI], Benito Pérez and González-Balletbó 2013 [ES], McCoy, Quail, *et al.* 2014 [IE], Becker 2019 [DE], Lasso De La Vega *et al.* 2020 [NO]). Students therefore seem to benefit to some extent from having high-achieving peers in the classroom (Zangger 2015 [CH], Angelone 2019 [CH], Dollmann and Rudolphi 2020 [DE]). However, students who underperform in high-achieving contexts seem to experience stress and exhibit a lower academic self-concept, and vice versa (Zurbriggen 2016 [CH]).

In contrast, there is evidence that classes with high numbers of students from a disadvantaged background discourage academic aspirations. Students in classes with a high percentage of classmates from a socioeconomically disadvantaged background are found to be less likely to

be oriented towards academic tracks (Charmillot and Felouzis 2020 [CH]) and more likely to enter the labour market upon leaving compulsory school instead of continuing to higher education (Smyth and Banks 2012 [IE], McCoy, Smyth, *et al.* 2014 [IE], Smyth and McCoy 2021 [IE]). Wicht (2016 [DE]) shows that Turkish students in Germany who attend schools with high numbers of students with a migration background seem to lower their educational and occupational aspirations because they feel less need to overcompensate for their disadvantaged position in the host society with their relatively high aspirations. Moreover, for example Kertesi and Kézdi (2009 [HU], 2012 [HU]) report that homogenous low-status classes are likely to develop resistant subcultures for which learning and school performance do not possess high value.

Compositional effects on aspects of educational inequality are not only studied with regard to social origin and migration background; they are also seen as relevant for other axes of inequality. A study by Eisenkopf and colleagues (2015 [CH]), for example, focuses on a region in Switzerland where some single-sex lower secondary classes exist by default. They find that female students in single-sex classes perform better in mathematics and have strengthened self-confidence in this field compared to female students in mixed classes. Findings from Ireland suggest that differences in performance between single-sex classes and mixed classes are due to variations in socioeconomic composition (Smyth 2010 [IE]). However, especially during adolescence, besides composition effects, friendship networks in classes are also found to have an independent effect on educational aspirations (Raabe and Wölfer 2019 [DE]), as well as on the transformation of students' academic habitus (Helsper *et al.* 2014 [DE]).

### School climate

Next to composition, a school's climate might also influence student experiences. School climate could compensate for existing inequalities to some extent, or even reinforce them. A positive school climate has a beneficial effect on student performance, as well as on their resilience and wellbeing in school (McCoy, Quail, *et al.* 2014 [IE], Csüllög *et al.* 2015 [HU], Széll 2015a [HU]). For instance, the presence of a principal who is committed to diversity and integration is regarded as essential in creating an inclusive atmosphere and trust-based relationships with families (Liskó 2001 [HU], Dupcsik 2012 [HU], Széll 2015b [HU]). Moreover, positive and supportive relationships between students and teachers are associated with better academic achievement and lower school alienation among students (Feischmidt 2013 [HU], Lindfors *et al.* 2018 [FI]). Conversely, exclusionary school climates are found to affect the wellbeing of certain students negatively. While some schools keep up heteronormativity, which might disadvantage students who find themselves outside dominant norms (Lehtonen 2013 [FI]), other schools are arguably more attentive to the educational needs of female students rather than to those of male students (Rupšienė 2001 [LT]). In tertiary education, Pusztai and colleagues (2019 [HU]) have found that the dominance of an elitist atmosphere in certain universities might contribute to alienation and eventual failure or dropout among lower-status students.

### 4.3 Macro level

#### Summary

- Empirical research in PIONEERED countries puts great emphasis on identifying factors at the macro level that influence and maintain educational inequalities. The academic debate in this regard revolves to a large extent around factors related to educational policy and the contextual affecting conditions education systems.
- The degree of tracking and stratification in education systems is widely regarded as an essential feature determining the overall amount of educational inequality in a country. A high degree of stratification is generally associated with a higher degree of educational inequality. Moreover, the timing of selection into different educational tracks tends to reinforce the inequality increasing effects of high stratification.
- In some countries, policies exist allowing parents to choose freely the schools or types of school they perceive as particularly suited to the educational needs of their children. Research from countries with such policies suggests that higher-status families utilise school choice more often. As the unequal use of school choice increases segregation, this feature of an education system is regarded as an important factor when explaining educational inequalities in these countries.
- Educational policy is not always universal within a country, but can differ between regions of sub-national entities. Research from some countries indicates that disparities regarding educational inequality between regions can to some extent be attributed to regionally different educational policy. This line of research receives particular attention in the literature of countries with a federalist organisation of education.
- Regionally different degrees of educational inequality go beyond differences in educational policy. A diverse strand of research suggests that spatial inequalities and regional opportunity structures should be considered when explaining intranational variation of educational inequality. For instance, a number of studies highlight how restricted regional opportunity structures, especially in rural regions, affect both the participation and educational choices of students.
- Drivers of educational inequality are also identified in the greater societal context. While some studies highlight the role of societal beliefs and norms, which guide both educational behaviours and the treatment of certain groups of students, other studies provide evidence that educational inequalities are exacerbated during external shocks (such as the 2008 economic recession or the COVID-19 pandemic).

#### Tracking and vertical differentiation of education systems

At the macro level, some features of education systems are often put forward as factors influencing and maintaining educational inequalities. The literature unanimously suggests that the degree of stratification of an education system, as well as the timing of tracking, have a major influence on educational inequality. Unsurprisingly, a broad spectrum of research considers these two features when explaining educational inequality. It is important to note that these features are often interconnected and have mutually reinforcing effects on educational inequalities. Stratification and the timing of selection into different tracks are frequently used features to classify and compare education systems (see Chapter 2).



Tracking occurs when the student population is divided by academic ability across certain study pathways, schools, classes, or curricula within a school. Ability grouping can also occur informally within classes (see Chapter 2). The more tracks students are separated into, the higher the degree of stratification or vertical differentiation. In many countries, tracking is regarded as a major cause of educational inequality. Tracking fosters segregation among students, which alters the general learning environment and reduces low-achieving students' chances of exposure to high-achieving peers (see Chapter 4.2). Moreover, with a higher degree of stratification within an education system, the influence of group-specific educational choices becomes even more important (see Chapter 4.1). The tracking of students according to their academic abilities is found to increase achievement disparities resulting from track-specific achievement gains, with higher ability tracks having steeper achievement gains (Hupka-Brunner *et al.* 2010 [CH], Horn *et al.* 2016 [HU], Smyth 2017a [IE], Van de Werfhorst 2018 [LU], Angelone 2019 [CH]). As students from a higher socioeconomic background are more likely to enter more demanding tracks, this increases overall educational inequality (Bol and van de Werfhorst 2013 [DE], Griga and Hadjar 2014 [DE], Buchmann *et al.* 2016 [CH], Becker and Glauser 2018 [CH], Reichelt *et al.* 2019 [NO]). However, this finding is not unequivocal. A more recent study suggests that tracking does not necessarily widen socioeconomic achievement gaps that already exist before selection into different tracks, emphasising the long-lasting influence of social origin gaps in educational achievement emerging during early childhood (Passaretta and Skopek 2020 [DE]). Furthermore, especially when disadvantaged students are concentrated in the same tracks, this greatly impedes their chances of catching up with their higher-achieving peers (McCoy and Smyth 2011 [IE], Bliksvær *et al.* 2017 [NO]).

The timing of selection into different educational tracks tends to reinforce the inequality-increasing effects of tracking. The timing of selection into different tracks varies considerably between PIONEERED countries, with tracking occurring as early as the age of 10 in Germany and Hungary (see Chapter 2). The earlier selection happens, the more extensive the effects of tracking in educational inequality are likely to become. Put differently, education systems with early tracking and a high degree of vertical track differentiation are more likely to consolidate and reinforce educational inequalities (Pekkala Kerr *et al.* 2013 [FI], Buchmann *et al.* 2016 [CH], Ferge 2017 [HU], Alieva and Hildebrand 2019 [LU]). In tracked systems, the possibilities for students to switch between tracks are often limited. Thus, initial track placement strongly predicts educational attainment, as well as track placement at later educational stages (Martin *et al.* 2011 [LU], Glauser 2015 [CH], Klapproth and Schaltz 2015 [LU], Hadjar *et al.* 2018 [LU], Lambert 2019 [LU]). Moreover, initial track placement channels students into different educational pathways, which limits the educational options at later transitions and often provides little incentive to change tracks (Bol and van de Werfhorst 2013 [DE], Imdorf *et al.* 2014 [CH], Backes and Hadjar 2017 [LU], Borgna 2017 [NO]). However, when switches between tracks occur, this could also have negative effects on a student's wellbeing. As, for example, a recent study from Hadjar and colleagues (2021 [LU]) shows, frequent switches between tracks are associated with school alienation and makes maintaining an inclusive learning environment even more dependent on teachers' abilities.

## School choice policies

Another feature of education systems to which frequent attention is drawn in the academic literature is school choice. The ability of families to choose a school for their child to attend freely instead of being bound to geographically determined school catchment areas is regarded as major driver of educational inequality in some countries. Many studies within this strand of research argue that, with the possibility of school choice, families will seek out what they perceive as high-quality schools and schools that fit the particular educational needs of their child. However, as the degree of resources available to families – whether social capital or financial resources – varies, not all families are equally able to utilise school choice to its full extent. As a cumulative result of individual choices, the possibility of school choice is likely to increase segregation between schools and reinforce the inequalities that arise from school segregation (see Chapter 4.2).

Research from Ireland suggests that existing educational inequalities are underscored by school choice practices. Especially in secondary education, around half the cohort does not attend their local school. More socioeconomically advantaged parents tend to exercise more active choice, trying to select what they perceive as the best school for their child. This process is found to reproduce educational inequalities, as it results in school segregation by social class and prior achievement (Alegre Canosa and Benito Pérez 2012 [ES], Darmody, Smyth, and McCoy 2012 [IE], Smyth 2016a [IE]). In Finland, also, upper-class families are more likely to utilise school choice than families from a socioeconomically disadvantaged background (Kosunen and Seppänen 2015 [FI]). Moreover, some middle-class families in Finland are found to avoid sending their children to the same schools as upper-class families with high-achieving children in order to save their children from social pressure, competitiveness, and stress (Ramos Lobato *et al.* 2018 [FI]). Similar findings are also presented in the Hungarian literature (Feischmidt 2013 [HU], Szalai 2013 [HU], Horn *et al.* 2016 [HU], Kiss 2016 [HU]). For example, Horn and colleagues (2016 [HU]) emphasise that, in the long run, school choice creates a vicious cycle. Schools in danger of segregation (with a majority of Roma or students from a low socioeconomic background) become increasingly unattractive for wealthier families, which opt to choose a different school for their child, as well as for teachers who are also likely to change into schools with a higher-status student body.

## Regional education policies and federalism

On a final note regarding the effects of education system features on educational inequality, it is important to consider that education policy does not always apply nationwide but can differ between regions or sub-national entities. In some cases, even when it does apply nationwide, educational policy is not implemented in all schools across a country. For example, in the Finnish education system, so-called “emphasised classes” – which emphasise specific subjects in the curriculum, and to which pupils need to apply through an entrance exam – are offered in some, but not in all, comprehensive schools. More precisely, emphasised classes are most often available in urban areas with a high average socioeconomic status, which further strengthens socioeconomic school segregation (Seppänen *et al.* 2012 [FI]). Likewise, in Spain, bilingual

programmes in compulsory education are more common in certain, more affluent regions of the country. Overall, these bilingual programmes are more popular among families of higher social status and are found to widen learning gaps based on family cultural capital (Anghel *et al.* 2016 [ES], Murillo *et al.* 2021 [ES]).

Especially in countries with a federalist organisation of education – such as Switzerland, Germany, and Spain – the way the education system is structured might differ altogether across sub-national entities. In some federal states of Germany, for instance, track recommendations given to the families at the end of primary school are binding, meaning that students cannot make a transition to a secondary school type other than the recommended one. Some studies argue that educational inequalities by social origin would be smaller in these systems, where track allocation is mainly determined by student performance and not by the choice of families (Neugebauer 2010 [DE], Dollmann 2016 [DE], Stamm 2017 [DE]), while other studies do not find empirical support for this assertion (Jähnen and Helbig 2015 [DE], Roth and Siegert 2015 [DE], 2016 [DE]). Therefore, there is no consensus in the literature as to whether these different modes of tracking translate into different degrees of educational inequality across German federal states.

Regarding federalism, Switzerland occupies a special place in the PIONEERED consortium. Switzerland's education system is highly federalist, as it is primarily organised at the level of 26 cantons – three of which, notably bilingual cantons, even have separate education systems in the French and German speaking part. There are notable disparities between cantons, among others with regard to tracking age, tracking procedure, and stratification at the lower secondary level. It is widely agreed that cantonal school structures moderate the influence of lower-level causes of educational inequality and that, in turn, some cantonal systems are more inegalitarian than others (Stadelmann-Steffen 2012 [CH], Felouzis and Charmillot 2013 [CH], Combet 2019 [CH]). Moreover, it is shown that specific patterns of track choice based on social origin prevail in more stratified cantonal systems, whereas cooperative and integrated cantonal school systems seem to enable an easier and less socially dependent transition into upper secondary education (Scharenberg *et al.* 2017 [CH], Charmillot and Felouzis 2020 [CH]). However, a more recent study (Combet 2019 [CH]), despite being able to generally confirm the findings described above, points out that disentangling the effects of specific features of cantonal education systems from compositional and structural disparities is far from being as clear-cut as other studies might suggest.

### **Spatial inequalities and regional opportunity structures**

While school system features play an important role in understanding how educational inequalities emerge and are maintained at the macro level, it is relevant to consider the contextual conditions in which education systems are embedded and under which students, parents, teachers, and schools act.

Spatial inequalities and the conditions that arise from these must be considered when investigating educational inequalities. Within this group of macro-level factors, one strand of research focuses on local or regional opportunity structures and how these could influence

educational behaviour. How well educational resources are developed varies considerably between regions in some countries. In regions with restricted educational resources, educational choices are found to be limited, which can increase or consolidate the amount of educational inequality in these regions. Especially in rural and economically underdeveloped parts of a country, opportunity structures are likely to be limited. For instance, evidence from Norway and Finland suggests that students living in rural regions are often confronted with larger travel distances between educational institutions, which makes certain educational options less feasible (Bernelius 2011 [FI], 2015 [FI], Seppänen *et al.* 2012 [FI], Isopahkala-Bouret *et al.* 2018 [FI], Rød and Karlsen Bæck 2020 [NO]). Considering structural restrictions regarding the availability, accessibility, and affordability of ECEC, enrolment processes and the distribution of places in different municipalities are coming into sight more often as drivers of unequal access in Germany (Nebe 2021 [DE]). Previous research indicates that more affluent families are less affected by these municipal disparities and that these families benefit from locally different place allocations as it implies more choice between ECEC facilities (Lannert 2015 [HU], Keller 2018 [HU], Scholz *et al.* 2018 [DE]). Research from Switzerland provides evidence that restricted regional opportunity structures are related to a higher probability of attending vocational programmes instead of general academic programmes during upper secondary education (Glaser and Becker 2016 [CH]) and that the regional structure of the labour market significantly affects the uptake of higher education upon completing vocational education and training (Grønning and Trede 2019 [CH]).

Another strand of research puts forward the role of neighbourhoods and their social composition for educational inequality. There are two lines of argument on the influence of neighbourhoods on educational outcomes. On the one hand, the social composition of neighbourhoods greatly affects schools' intake of students from different social strata. This leads to a situation where some schools have a more favourable student composition than others (see Chapter 4.2). In this regard, recent research shows that high-status parents even move to other neighbourhoods if they do not find the schools in their neighbourhood suitable for their child's educational development – these findings, however, primarily apply in places and stages with limited school choice and predefined school catchment areas (Kiss 2016 [HU], Bernelius and Vilkama 2019 [FI], Oeltjen and Windzio 2019 [DE]). On the other hand, neighbourhoods might directly influence learning outcomes through social integration into locally different peer networks and exposure to locally different social milieus. In more affluent neighbourhoods, children get to spend time with other children with high cognitive abilities, which is shown to positively affect their own cognitive development (Becker and Schober 2017 [DE]). Empirical evidence from Switzerland supports this claim, although neighbourhood effects are modest in comparison with the effects of classroom composition (Zangger 2015 [CH]). It is further argued that the impact of neighbourhoods becomes even more important in places with a high degree of social segregation between neighbourhoods (Alegre Canosa and Benito Pérez 2012 [ES], Bonal *et al.* 2019 [ES]).

## Socio-structural context

Some scholars further point out that the context in which schools and educational facilities operate also influences the amount of inequality in an education system. In this respect, the role of funding and the financial resources available to educational institutions must be highlighted. Some studies argue that insufficient financial resources can hinder educational institutions in their ability to address the specific educational needs of certain disadvantaged students. While empirical evidence on the role of financial resources remains mixed overall, some studies point out that resources available to schools can be relevant to the performance of the most disadvantaged students, so that greater provision of funds would reduce school inequalities (Castejón 2018 [ES]). In Ireland, for instance, there is a disparity between the government funds available and the costs to be covered by different kinds of secondary schools. Some school types are more reliant on other sources of income, such as fundraising or voluntary contributions by parents, putting them at a disadvantage compared to other school types regarding their financial opportunities (Darmody and Smyth 2013 [IE]). Additionally, research from Germany points out that the proportion of the costs covered by public funds for the ECEC sector differs between states and to some degree even between districts, which is found to translate to some extent into the level of fees to be covered by parents (Meiner 2014 [DE], 2015 [DE]). The role of funding is also relevant at a system level. In Hungary, for instance, scholars emphasise the insufficiencies in the teacher training system and the lack of practical training, especially when dealing with children with higher educational needs (Kárpáti 2009 [HU]). In addition, the salaries and working conditions of teachers in Hungary are far from attractive, which might foster adverse self-selection among young adults who aspire to teaching careers (Hajdu *et al.* 2019 [HU], OECD 2019 [HU], 2020 [HU]).

Other research points to the competitiveness of different educational alternatives as a potential factor influencing educational inequality. In many European countries, economic transformations – such as liberalisation, the restructuring of labour markets, or digitalisation – are driving greater demand for a highly educated labour force, which in turn lowers the prospects of young people with a low level of education and skills (Vogt *et al.* 2020 [NO]). Against this backdrop, certain school types or private education providers have gained in importance for ensuring future labour market prospects. In particular, the sometimes pricey private educational offerings are likely to put individuals from a lower socioeconomic background at a disadvantage. In Finland, for example, the need for privately organised preparation courses, which is fuelled by increased competitiveness due to limited higher education admissions, particularly in the most popular and prestigious disciplines, has repeatedly been identified as a source of educational inequality (Jokila *et al.* 2019 [FI], Kosunen, Haltia, *et al.* 2020 [FI]). In Spain, doubts about the quality of public education have led to an increased demand for private schools, especially among high-status families (Roger-García and Andrés-Candelas 2015 [ES]). Despite the fact that differences in quality between public and private schools are minimal once the effect of the social and ethnic composition of the student body has been isolated (Choi and Calero 2012 [ES]), the rise of private schools in Spain, especially in wealthier regions of the country, is found to increase social segregation between schools (Murillo and Martínez-Garrido 2018 [ES]). Something similar applies to Hungary, where

the church school system has expanded in parallel with the centralisation of public schooling following the 2011 reforms (see Chapter 5). Especially in economically underdeveloped regions, church schools have been in high demand among high-status families, increasing school segregation and leaving public schools composed of a high number of socioeconomically disadvantaged students (Hermann and Varga 2016 [HU], Ercse and Radó 2019 [HU]).

Educational inequality does not emerge in a self-contained education system. Rather, education systems are embedded in a broader societal context and are thus affected by a variety of societal developments, which alter the way individuals within the education system act. Moreover, the role of historical legacies and hard-to-overcome path dependencies – such as the post-communist transition in Lithuania (Dambrauskas 2020 [LT]) – should not be underestimated when assessing the influence of the societal context on educational inequality. To contextualise this, it is important to provide some examples concerning how societal developments could influence educational inequality.

Societal prejudice and discrimination against certain groups is likely to translate into educational contexts leading to the unequal treatment of certain students and negatively affecting educational behaviours of students belonging to a group experiencing discrimination. For example, evidence from Lithuania suggests that students from socioeconomically disadvantaged families experience discrimination from other students and teachers, which is fuelled by societal prejudice (Trakšėlyš 2015 [LT]). Furthermore, prejudice against socioeconomically disadvantaged students results in increased stress, anxiety, negative self-evaluations, and passive behaviour, which poses a significant challenge for their inclusion and integration to education and society (Miltenienė 2008 [LT], Skerytė-Kazlauskienė and Barkauskienė 2010 [LT], Zaleskienė and Kvederavičiūtė 2017 [LT]). Prejudice and traditional discriminatory power are often exerted through segregation and forced assimilation practices, through which educational inequality is maintained (Andreassen 2013 [NO], Lund and Moen 2013 [NO], Goth *et al.* 2017 [NO]). To illustrate this, the Hungarian literature focusing on the educational situation of Roma students suggests that their educational segregation is maintained and reinforced by non-Roma families intending to keep their distance from Roma (Szalai 2010 [HU]), among other factors. Studies show that non-Roma parents are likely to take their children out of schools with growing proportions of Roma pupils (Havas 2009 [HU], Kende 2021 [HU]). A study from Kiss (2016 [HU]) suggests that even the prospect of a growing number of Roma students is enough to convince non-Roma parents to take their children to another school. This process is fuelled by prejudice against and negative opinions of Roma, and cements ethnic school segregation in Hungary.

Other societal beliefs are relevant to educational inequality as well. There is, for instance, an emerging strand of research focusing on existing age norms, as well as on temporal expectations regarding the duration of school and the timing of school-to-work transitions and how these factors relate to educational outcomes. Against the backdrop of increasing destandardisation and insecurity regarding transitions to and from different educational stages, it is stated that a mismatch between transition norms and practices produces misperceptions and stigmatisation

of those who do not fit into these normative expectations (Baethge *et al.* 2007 [NO], Schlimbach *et al.* 2018 [NO], Vogt 2018 [NO]).

Educational behaviours are further affected by societal trends. These effects become especially apparent in the case of external shocks. For instance, the expansion of the real-estate bubble in Spain generated high demand for low-skilled employment. During this period, early dropout rates grew, especially among working-class males and in regions where the productive structure demanded a large amount of low-skilled labour due to the pre-eminence of the tourism and construction industry (Martínez García 2017 [ES]). However, since the economic crisis and the contraction of job opportunities, dropout rates have considerably declined (Bayón-Calvo 2018 [ES]). Nixon and colleagues (2019 [IE]) for Ireland also reported worsening of child conduct and emotional symptoms during the economic recession, which was associated with lower test scores in schools. In addition, preliminary findings on the effects of school closures during the ongoing COVID-19 pandemic imply that educational inequalities have grown. Students from a lower socioeconomic background are especially found to fall behind their more affluent peers with regard to learning outcomes and school engagement. Some scholars argue that these disparities could be traced back to social inequalities in home learning environments, as families from a higher socioeconomic background have been able to invest more time in home learning activities with their children and to communicate more closely with teachers (Anger *et al.* 2020 [DE], Bonal and González 2020 [ES], Darmody *et al.* 2020 [IE], Van Lancker and Parolin 2020 [DE], Dietrich *et al.* 2021 [DE]).



## 5 Measures against educational inequality

### Summary

- Numerous measures have been taken to reduce educational inequalities in the education systems of PIONEERED countries. Both the intentions and the effectiveness of such measures have received frequent attention in the academic literature. While some measures are evaluated as successful, others may not fully realise the objectives or are accompanied by unintended consequences. This chapter sheds light on this debate by presenting a selection of measures against educational inequality.
- A first domain of such measures consists of structural changes in the way education systems in PIONEERED countries are organised. This includes both fundamental reforms and the introduction of new educational pathways.
- A second domain of measures includes overarching programmes within the education system that aim to mitigate specific educational inequalities arising at certain stages. Many of these are targeted measures addressing the specific educational needs of certain groups of students that face disadvantages. This domain includes measures aimed at reducing the financial burden of education; enhancing access to, and the permeability of, higher education; preventing early school leaving; or offering specific schooling forms for disadvantaged students.
- A third domain of measures aims at enhancing the everyday school life, particularly for students facing disadvantages. While in some PIONEERED countries schools offer additional courses for disadvantaged students, other countries apply measures individualising learning objectives for certain students altogether. Other measures in this domain aim at enhancing the social inclusion of groups facing disadvantages in the education system. Among other aspects, this includes measures to enhance participation in out-of-school learning activities, as well as programmes for teachers to improve competences in dealing with vulnerability in the education system.

Educational inequalities have long been debated and researched. Several measures have consequently been taken in order to reduce inequalities in European education systems. A comprehensive overview and evaluation of measures aiming to reduce inequalities in the education system is beyond the scope of this chapter. Rather, it presents selected examples from countries participating in PIONEERED, highlighting a broad spectrum of measures against educational inequality that ranges from structural changes in the way education systems work to targeted programmes aiming to mitigate the effects of educational disadvantage in everyday school life. In some cases, equivalents also exist of the measures presented here in other PIONEERED countries that have not been included in this report.

### Structural reforms of the education system

Given the various ways rigid school systems shape educational trajectories and consolidate educational inequality (see Chapter 4.3), some countries have implemented fundamental reforms changing the general structure of, and the logic behind, these very education systems.

In Norway, several educational reforms have been implemented over the last three decades. Through “Reform 94”, the law grants every Norwegian who has completed lower secondary

school the right to enrol in upper secondary school. Through “Reform 97”, primary school has been extended by one year to account for social changes such as an increased number of single parents, dual-earner couples, and immigrants (NOU-2003 2003 [NO]). Both these reforms have standardised the curricula to secure “a common, nationally given foundation of knowledge, value and culture in the population” (Kunnskapsdepartementet 2013 [NO]). As such, the reforms of the 1990s, as well as the Education Act of 1998, formulated the ideals of an “adapted education”, a concept developed by Hernes (1974 [NO]) that was presumed to enable equality of outcomes. Before the introduction of Reform 94, pupils in vocational programmes in upper secondary school were increasingly dropping out. Thus, the reform sought to minimise differences between general and vocational education and to increase the flow through upper secondary education (Lindbekk 2012 [NO]). This led to better educational progression among newcomers from primary and lower secondary school, but did not result in an increase in achieved vocational competence or higher education admission certification (Støren *et al.* 2007 [NO]). Furthermore, it led to increased dropout rates among boys from a lower social background (Hansen and Mastekaasa 2010 [NO]). Additionally, evaluations of Reform 97 show that “adapted education” did not provide better outcomes for minority pupils (NOU-2003 2003 [NO]). Thus, the next major reform, the Knowledge Promotion Reform 2006 (LK06), sought to strengthen learning outcomes and increase the level of knowledge among all pupils (independent of factors such as family background and gender) by formulating clear goals and deregulating the curricula and methods of teaching (Bakken and Elstad 2012 [NO]). Assessments of pupils, teachers, and schools were vastly expanded. Studies have indicated that teachers believe assessment practices have improved along with the reform (Olsen *et al.* 2013 [NO]). However, analyses by Bakken (2009 [NO], 2010 [NO]) show significant differences between schools. Gender, minority status, and parental educational level have had less of an impact on students’ performances, but predominantly at schools with a good learning environment. Additionally, grades among different socioeconomic groups remained largely unchanged after LK06 was implemented. In 2020, LK20, a renewal of LK06, was implemented in primary, lower secondary, and upper secondary schools. The reform aimed to strengthen the core values of the curriculum, as well as the core elements in each subject, while simultaneously reducing the scope of the curriculum (Kunnskapsdepartementet 2016 [NO], 2018 [NO]). As such, the number of competence aims has been reduced in several subjects, including natural science and social studies (Sætre 2021 [NO]).

The Finnish education system, with its nine years of compulsory comprehensive schooling for which all expenses are covered and no early selections and diverging tracks exist, has proven to be an excellent tool for keeping educational inequalities low (Pekkala Kerr *et al.* 2013 [FI], Salmela-Aro and Chmielewski 2019 [FI]). In 2021, compulsory education has been expanded to include all children and adolescents under the age of 18, thus extending it to upper secondary grades, guaranteeing education and covering all expenses. Furthermore, all stages of tertiary education in research-intensive universities and universities of applied sciences in Finland are tuition-free.

In Spain, the 1990 Organic Law for the General Organisation of the Spanish Education System (LOGSE) opted to overhaul the education system by introducing comprehensive education. This

reform increased compulsory schooling by two years through the creation of a single-track lower secondary education. In addition, this reform aimed to upgrade vocational training and education by increasing the access requirements to the level of compulsory education – the same requirements for entering the academic branch of upper secondary education. Instead of reducing educational inequality, the results of this reform were disappointing. The two additional years required to obtain a compulsory education diploma increased school failure rates, and the higher requirements for entering vocational education and training meant that more students dropped out from the education system early. Students from a lower socioeconomic background were particularly affected by both phenomena. Moreover, the increased social heterogeneity in lower secondary education, which resulted from the unification into a single track, caused a massive flight of middle and upper classes to private education further increasing segregation between schools (Fernández Llera and Muñiz Pérez 2012 [ES], Carabaña 2013 [ES], Martínez García 2017 [ES]).

While Spain's extension of compulsory education was found to increase the extent of educational inequality, Germany has seen two reforms in recent years that have shortened the length of time spent in education. First, the so-called "G8-Reform" in the first decade of the 21st century reduced the number of school years until the end of upper secondary education from 13 to 12, while increasing instruction hours to provide the same overall instruction time. The new system was criticised because it increased the workload of, and pressure on, students, which could also potentially increase educational inequality (Homuth 2017 [DE]). Research shows an upward trend in grade repetition rates and a decrease in the grade-point average of students due to the new system (Huebener and Marcus 2017 [DE]), while no significant effects from reducing the length of time spent at school on social origin-specific differences when attending upper secondary schools were found (Roth 2019 [DE]). Second, the implementation of the Bologna process at the tertiary level decreased the length of undergraduate degrees. Shortening the length of undergraduate programmes, however, did not result in higher completion rates in these programmes of students from a lower socioeconomic background (Neugebauer 2015 [DE]), nor did it decrease the social origin gap regarding the probability of continuing to post-graduate degrees (Neugebauer *et al.* 2016 [DE]).

Luxembourg, Hungary, and Germany saw substantial expansions of ECEC in order to mitigate the development of educational inequalities at an early age. In Luxembourg, participation in pre-school education from the age of four has been obligatory since 2009. To support language learning in both French and Luxembourgish (see Chapter 3.2), the country has guaranteed 20 hours free of charge in nurseries since 2017 (MENJE 2017 [LU]). Hungary introduced mandatory enrolment in kindergarten from the age of three in 2015. Although ECEC enrolment was high even prior to this reform, it has grown further since. Still, the quality of these services is inconsistent due to a shortage of professional personnel, despite governmental efforts to increase the number of professional ECEC teachers and to extend teacher training (Kende 2021 [HU]). Germany has made far-reaching investments aimed at expanding both the quantity and quality of ECEC facilities. Despite consensus on the overall positive effects of higher participation in ECEC, research results are ambivalent regarding the effectiveness of the expansion in decreasing educational inequalities (Anders *et al.* 2012 [DE], Stamm and Edelman

2013 [DE], Lehl *et al.* 2014 [DE], Becker 2016 [DE], Anders 2017 [DE], Roth and Klein 2018 [DE]). Not all children seem to benefit from the expansion, as the differences in participation rates between children with and children without a migration background have not converged, and have even tended to increase in some regions (Schober and Stahl 2014 [DE]).

Two countries with previously rather fragmented and decentralised education systems – Lithuania and Hungary – have recently implemented reforms aiming to increase the standardisation of school curricula. Lithuania introduced a unified language curriculum and nationwide state exams in order to ensure greater inclusion of the two large linguistic minorities in Lithuanian society (see Chapter 3.2). However, these reforms have had inadvertently negative impacts on the inclusion of linguistic minority students, as the increased language requirements put them at a disadvantage (Advisory Committee on the Framework Convention for the Protection of National Minorities 2018 [LT]). Furthermore, only limited support was provided to schools serving linguistic minority students during the implementation of this reform (Šliavaitė 2018 [LT]). In Hungary, the 2011 Public Law on Education created a centralised public school system, which included the homogenisation of curricula and schoolbooks as well as a substantial reduction in schools' autonomy in terms of expenditures. While inequalities between schools were high before this reform due to discrepancies between local government resources, the centralisation of school funding and the standardisation of school curricula, which it was hoped would reduce inequalities in the Hungarian education system, did not have the expected result (Ferge 2017 [HU]). Moreover, the parallel expansion of (privately funded) church schools is argued to have created an alternative only accessible to higher-status families, which has further increased school segregation in Hungary (Ercse and Radó 2019 [HU]).

### **New educational pathways**

Another option to tackle educational inequality is to introduce new educational pathways aiming at increasing the overall social permeability or preventing early. A dual model of higher education, which can be accessed via both the general academic and the vocational path, is regarded as a potentially successful way of tackling the underrepresentation of students from a disadvantaged socioeconomic background in higher education. The introduction of a dual model of research universities and universities of applied sciences in Finland, although it has been found to have created new inequalities (see Chapter 3.3), has also turned out to be a promising measure for widening accessibility to higher education (Kivinen *et al.* 2012 [FI], Heiskala *et al.* 2021 [FI]). Furthermore, the indirect path to research universities via universities of applied sciences or vocational schools is an important opportunity for students from a disadvantaged socioeconomic background (Kilpi-Jakonen *et al.* 2016 [FI], Isopahkala-Bouret *et al.* 2018 [FI]). Also in Switzerland, the introduction of the so-called Federal Vocational Baccalaureate, a new vocational degree allowing access to universities of applied sciences and research universities afterwards, is regarded as a promising measure against educational inequality as it has increased the overall social permeability of the education system (Jäpel 2017 [CH]). As Murdoch and colleagues (2016 [CH]) argue, the introduction of the Federal Vocational Baccalaureate has to some extent especially compensated for the disadvantages faced by second-generation immigrant students from low-status migration groups.

To prevent students from leaving school without adequate qualifications, some countries have introduced short-term vocational training opportunities. Spain has introduced a programme called Basic Vocational Training, a vocational pathway in upper secondary education that allows students both to obtain a basic qualification certificate and to access post-compulsory vocational education (Fernández-García *et al.* 2019 [ES]). Evaluations suggest that the programme is a viable opportunity for many young people at risk of leaving school early to obtain a basic qualification. Yet, there are also drawbacks to Basic Vocational Training: it might favour segregation, as it diverts disruptive students away from mainstream education (Amores Fernández and Ritacco Real 2015 [ES]). In Ireland, the Youthreach programme provides two-year integrated education targeting early school leavers without qualifications or training. In evaluating the programme, Smyth and colleagues (2019 [IE]) show that Youthreach helps early school leavers gain a positive experience of teaching and learning, effectively supports the development of their skills, and offers them enhanced access to further education, training, or employment. In Switzerland, the short-term vocational education and training programme EBA, which offers a less demanding and more practically oriented curriculum, is regarded as an efficient tool to ensure the completion of upper secondary education and to integrate youth at risk of social exclusion into the labour market (Schmid *et al.* 2021 [CH]).

### **Financial support and reducing financial burdens**

Structural reforms of the education system and the introduction of new educational pathways are found to be viable measures to mitigate educational inequalities, if at the cost of high political efforts and perhaps trade-offs in terms of unintended consequences. Instead of altering the structure of the education system, adjusting measures targeting specific groups at specific points in their educational trajectory are implemented more often throughout PIONEERED countries.

A first group of such measures aims at reducing financial burdens that might hinder participation in education, especially at stages where participation is particularly socially selective. At the level of ECEC, subsidies and extensive reductions in fees are possible measures to mitigate the unequal use of ECEC in certain countries. For example, Germany, following an extensive quantitative and qualitative expansion of ECEC (Stamm and Edelmann 2013 [DE], Lehl *et al.* 2014 [DE], Becker 2016 [DE]), has implemented various measures to decrease ECEC fees in order to provide poorer families with better access to such services. As Meiner (2014 [DE], 2015 [DE]) points out, measures to decrease ECEC fees in Germany underlie substantial regional variations and thus result in strongly differing financial burdens for poorer families in different parts of the country. In a similar vein, in 2009, Luxembourg introduced a universal voucher system to promote access to affordable childcare services. Despite limitations due to capacity constraints, Bousselin (2021 [LU]) finds that maternal employment has increased under this new policy, highlighting the broader societal implications of such reforms.

For tertiary education, scholarships are one way to enable access for young people from a lower socioeconomic background. In Spain, for instance, one region has introduced salary scholarships, which enable low-income students to claim cash transfers depending on university

enrolment and academic achievement. Evaluations show that this not only reduces opportunity costs, but also has important subjective effects on the “feeling of debt” experienced by this type of student with respect to their families when they decide to extend their studies (Río Ruiz and Jiménez Rodrigo 2014 [ES], 2015 [ES]). The financial burden of tertiary education is also determined by the amount of tuition fees. In Germany, for example, higher education in public universities was free of charge until tuition fees were introduced in 2005. While some studies show that the introduction of tuition fees reduced university enrolment (Hübner 2012 [DE], Bietenbeck *et al.* 2020 [DE]), others find small or no effects on enrolment (Baier and Helbig 2014 [DE], Bruckmeier and Wigger 2014 [DE]).

### **Enhancing access to tertiary education**

A second group of targeted programmes implemented to reduce inequalities in the education system are those aiming to enhance access to tertiary for individuals facing disadvantages. In Finland, for example, where tertiary education is tuition-free, access to higher education has been considered an issue as both the chance of higher education admissions and attending university preparatory courses (found to be necessary in many competitive fields of study) are influenced by socioeconomic status and place of residence (Jokila *et al.* 2019 [FI], Kosunen, Haltia, *et al.* 2020 [FI]). Policy changes have recently been made in higher education admissions, but no research has been published to date about their impact on educational inequalities.

Spain has implemented a variety of gender equality policies to increase female participation in higher education. Although gradual improvements in the participation and equity of women in higher education have been made in recent years, the rate of progress has been unequal across the Spanish university landscape, proving some universities to be very resistant to change (Pastor Gosálbez *et al.* 2019 [ES], Lombardo and Bustelo 2021 [ES], Castaño and Vázquez-Cupeiro (in press) [ES]). Furthermore, many programmes aiming to enhance the situation of women in higher education have seen advances and setbacks as changes in government have occurred (Zufiaurre *et al.* 2010 [ES]).

Ireland has introduced two separate programmes to enhance access to higher education targeting different beneficiaries. On the one hand, the Higher Education Access Route (HEAR) programme is an admissions scheme for students from a socially disadvantaged background. The scheme aims to improve access to colleges for school leavers from a lower socioeconomic background. Under the HEAR scheme, a number of university admission places with reduced entry requirements are reserved for school leavers. Students in the HEAR programme are also offered a range of support while studying at college, such as an orientation programmes, extra tuition, study skills workshops, and mentoring. The supports available vary from college to college. On the other hand, the Disability Access Route (DARE) programme provides access to universities for students with a disability or significant ongoing illness. An evaluation of the HEAR and DARE supplementary admission routes to higher education has found that higher education institutions in Ireland differ markedly in terms of participation in these schemes, groups targeted, access quotas, and the range of access activities on offer during the college experience. Furthermore, the profile of DARE applicants suggests the scheme is not reaching its



potential in terms of targeting students with disabilities in secondary schools (Byrne *et al.* 2013 [IE]).

Another example comes from Hungary. Prior to 2013, students who fell under the official definition of disadvantaged groups throughout their entire public education career and who had not worked after finishing secondary education were able to apply and receive extra points in their higher education admission procedure. As this measure was abolished, the chances of low-status students being admitted to universities decreased (Ferge 2017 [HU], Fejes and Szűcs 2018 [HU], Proity 2021 [HU]).

### **Special schools for disadvantaged students**

In order to mitigate the negative effects faced by students from a disadvantaged background, some countries have introduced specialised schools or learning opportunities for young people at risk. As an example, Spain introduced so-called Escuelas de Segunda Oportunidad (Second Chance Schools), a private initiative that mainly targets unemployed young people who did not successfully complete secondary education. These centres aim to foster the social and professional integration of their beneficiaries by combining individualised support and teaching of both academic school knowledge and applied skills (Tarabini 2018 [ES]). Luxembourg offers an equivalent initiative, the so-called École Nationale pour Adultes (National School for Adults), which focuses on young adults who left education without diplomas. Similarly, Hungary founded the Network of Christian Roma Special Colleges to prevent Roma students who will enter, or have entered, higher education from dropping out. These centres cooperate with higher education institutions and offer training programmes specifically focusing on the disadvantages Roma students might face during tertiary education (Cserti Csapó 2019 [HU]).

Measures in this category do not necessarily imply the creation of separated schools, as the Irish Delivering Equality of Opportunity in Schools (DEIS) programme illustrates. Instead of separating disadvantaged students in different schools, the DEIS programme took another approach by providing additional funding, staffing, and other support to schools serving socioeconomically disadvantaged populations. In order to measure the effectiveness of the programme, three evaluations have been carried out over the years (Department of Education and Skills 2011a [IE], 2011b [IE], Weir and Archer 2011 [IE]). All three reports showed the DEIS programme was having a positive effect on tackling educational disadvantage. In particular, there was improvement in the learning achievements of pupils in DEIS primary schools in socioeconomically disadvantaged urban areas. The evaluations indicated greater increases for literacy than for numeracy over time. Attendance rates improved for most of the primary schools and nearly half of the secondary schools participating in the programme. A more recent evaluation of DEIS has pointed towards the continuing concentration of disadvantaged students in DEIS schools, calling for the need for continued support in such schools (Smyth, McCoy, *et al.* 2015 [IE]).

As a response to the increased influx of refugees in recent years, Switzerland adopted a new pre-vocational programme aiming to prepare refugees and temporarily admitted persons aged 16 to 35 for an apprenticeship in 2018. A recent study evaluated the implications of this new



pre-vocational programme using a sample of over 500 participants. Overall, the authors provided evidence that the programme seems to contribute successfully to refugees' competence development and preparation for subsequent vocational education and training programmes. More precisely, the programme showed a positive effect on both the development of language proficiency, as well as of practical skills. Yet, the data does not allow assessment of whether participation in this pre-vocational programme facilitates entry into regular vocational education and training programmes (Stalder *et al.* 2021 [CH]).

### **Preventing early school leaving**

A fourth group of programmes aim at reducing the risk of early school leaving, as this is widely regarded as a major determinant of persistent social inequalities. Unlike special schooling forms, which also aim to prevent dropping out of school, the three exemplary measures presented below are implemented within regular schools.

In Ireland, for instance, there is the School Completion Programme (SCP), a targeted programme of support for primary and secondary children and young people who have been identified as potentially at risk of leaving school early or who are out of school and have not successfully transferred to an alternative learning site or employment. A review of the programme has highlighted variations in the conceptualisation of the programme between primary and secondary schools, with the former focusing on school engagement and the latter on attendance and student retention. Overall, the SCP has been considered beneficial in enhancing student engagement and in supporting those at risk of early school leaving. The uniqueness of the programme lies in its use of both in-school and out-of-school measures to support student engagement (Smyth, Banks, *et al.* 2015 [IE]).

In Switzerland, students who are unable to enter vocational education and training directly after graduating from lower secondary education are particularly at risk of not acquiring an upper secondary degree (Hupka-Brunner *et al.* 2010 [CH]). With a view to mitigating negative effects of this, the Swiss education system offers so-called “bridging solutions”, usually one-year programmes, which aim to facilitate access to vocational education and training. A study conducted by Sacchi and Meyer (2016 [CH]) suggests that students attending a “bridging solution” are twice as likely to successfully complete upper secondary education compared to those who were unable to enter vocational education and training directly but did not attend a “bridging solution”. While “bridging solutions” do indeed have a favourable impact on the completion of upper secondary education, they still do not guarantee complete compensation of the negative effects of not entering an upper secondary programme directly.

Lastly, Lithuania introduced a promising programme tailored to a group of disadvantaged students specific to the Lithuanian context: returning migrants (see Chapter 3.2). This programme recognises various risk factors that contribute to educational inequality and poor academic performance and tackles them with specific measures designed to prevent returning migrants from dropping out of school (Lietuvos Respublikos Vyriausybė 2008 [LT]). A study on pathways from education to the labour market shows that students targeted by this programme were indeed more likely to complete their education. Despite this, many inequalities faced by

returning migrants still remain and are especially pronounced between urban and rural areas (Brazienė and Mikutavičienė 2013 [LT]).

### **Additional courses for disadvantaged students**

Unlike reforms of the education system or overarching programmes, a variety of measures against educational inequality have been implemented across all countries participating in PIONEERED aiming at mitigating the inequalities in everyday school life. One way to address disadvantages faced by specific groups of students is the provision of additional courses to counteract, or even to prevent, the emergence of cumulative disadvantages.

In particular, multilingual students with a migration background often fall behind in school, as they have more difficulties in meeting the necessary language requirements (see Chapter 3.2). In view of this, some countries offer language support programmes, which sometimes start in early childhood. For instance, Germany implemented language support programmes aimed in particular at improving the language skills of multilingual children. Despite a substantial amount of heterogeneity between these programmes, evaluation studies often fail to confirm the intended reduction of language-related inequalities empirically (Wirts 2014 [DE], Wildgruber and Griebel 2016 [DE], Anders 2017 [DE]). Yet, as Kirsch and Seele (2020 [LU]) suggest with regard to the Luxembourgian context, successful multilingual approaches during early childhood aimed at reducing persistent inequalities go far beyond additional language courses and should also consider other language-promoting factors, such as “translanguaging” in children’s books.

### **Individualised learning objectives**

Instead of providing additional courses to support disadvantaged students, several countries have implemented measures to treat disadvantaged students intentionally differently in formal education to achieve equity. Individual learning plans that are tailored to the capabilities and educational needs of specific students is one of the most widespread measures for this purpose.

Lithuania has introduced such plans, which are prepared by schools in cooperation with the student and target both underachievers and high achievers in academic terms. Individual learning plans are compulsory for students with special educational needs, first-generation migrants, and students attending separated minority schools (Švietimo, mokslo ir sporto ministerija 2019 [LT]). Evaluations suggest that this measure is more positively perceived by teachers than by targeted students (Ališauskas and Jomantaitė 2008 [LT]), and that in practice many individual learning plans tend to be rather similar regardless of the specific needs of an individual student (Žigas 2010 [LT]).

Likewise, Spanish education laws allow separate learning plans for certain students. In theory, these plans aim to prevent leaving school early by individually adapting learning objectives and simplifying contents in school. However, as research suggests, the chances of students targeted by these measures continuing post-compulsory education remain very low (Rujas Martínez-Novillo 2017 [ES], Tarabini 2018 [ES]).

Switzerland has adopted similar measures and implemented two different instruments to satisfy the specific capabilities and educational needs of certain students. One of these instruments, the so-called Reduced Individual Learning Objectives (RILO), is tailored to children with low achievement potential and is comprised of individual adaptations of the school curriculum and performance requirements. The second instrument, Compensation For Disadvantages (CFD), is aimed at students with regular or high achievement potential but who face explicit cognitive disadvantages or disabilities. Unlike RILO, CFD does not adapt the learning objectives individually but alters the conditions under which a targeted student's academic achievement is assessed – this could be, for example, by providing more time for exams, or by allowing for the use of auxiliary devices. Findings show that RILO is perceived rather negatively, as it is more strongly associated with stigmatisation and negative effects on the motivation and self-esteem of targeted students. Conversely, CFD is perceived more positively, as a measure with high potential for equality of opportunity during both primary (Sahli Lozano, Simovic, *et al.* 2020 [CH]) and secondary education (Sahli Lozano, Brandenburg, *et al.* 2020 [CH]).

### Enhancing participation in out-of-school activities

Out-of-school learning activities are assumed to be of crucial importance for various educational outcomes (see Chapter 3.1). In other words, limited parental support in one's home learning environment, or limited access to extracurricular activities, may further increase educational inequalities if students from a disadvantaged background show less engagement in out-of-school learning activities. Some countries have adapted ways to address this issue by implementing measures aimed at reducing inequalities in non-formal and informal educational settings.

On the one hand, unequal resources in home learning environments may be mitigated by offering publicly available spaces where students can spend time after school. In Germany, for example, different types of all-day schools have been introduced, primarily aimed at reduce socioeconomic achievement gaps. Since the organisation of all-day schools is the responsibility of each of the 16 Federal States, they vary substantially in terms of availability, structure, and students' obligation to participate. Despite these differences, they all provide homework support, extra tuition, and possibilities to participate in organised leisure activities. Findings show that, in compulsory all-day schools where participation in extracurricular activities is mandatory, the relationship between socioeconomic background and school performance is less pronounced (Fischer *et al.* 2014 [DE]). Similarly, students in Hungary may spend time in so-called *Tanodas* (study halls), one of the oldest and most widespread forms of supplementary programmes in the country. *Tanodas* are places where disadvantaged, and specifically Roma, children can voluntarily spend time after school to do their homework, take remedial courses, or learn new skills. *Tanodas* are found to have a positive impact on the motivation of pupils, improving their self-confidence and counterbalancing the anti-learning subculture often prevalent in disadvantaged communities. However, as Szűcs and Fejes (2021 [HU]) point out, these study halls do not remedy the underlying selection mechanisms inherent in the Hungarian education system and cannot compensate for the lack of large-scale innovative pedagogy and inclusive activities.

On the other hand, some countries have opted for ways to enhance participation in extracurricular activities by reducing the financial burden parents would normally bear. Both Lithuania and Germany have implemented similar programmes. In Lithuania, municipalities provide around EUR 15 per month for each student. These funds are transferred to providers of extracurricular activities – such as music and sports schools, art classes, or camps offering non-formal educational activities – to subsidise them. Students from a disadvantaged background are often given priority to participate in these subsidised activities, or can get additional discounts (Švietimo, mokslo ir sporto ministerija 2012 [LT]). In 2011, Germany implemented the so-called “Bildungs- und Teilhabepaket” (Education and Social Inclusion Pact), a demand-based voucher system to enhance the participation of children from a lower socioeconomic background in music schools, sports clubs, or other extracurricular educational activities. Evaluations showed that only half of potentially eligible families applied for these vouchers, mainly due to a lack of knowledge and bureaucratic obstacles. Overall, the equalising effects of the “Bildungs- und Teilhabepaket” are commonly doubted, as most of the vouchers were spent on school lunch fees and only eight percent of them on out-of-school learning activities (Bartelheimer *et al.* 2016 [DE], Geene 2019 [DE]).

### **Improving competences in dealing with disadvantaged students**

As the findings on the causes of educational inequality at the meso and macro level suggest (see Chapter 4.3), disadvantaged students often face prejudice and experience unequal treatment by teachers and authorities. For this reason, several countries have considered ways to improve the competences of actors in gatekeeper positions when dealing with disadvantaged individuals in the education system.

One starting point could be explicit reference to disadvantaged groups in educational policy, increasing salience and paving the way for specific measures. For example, the National Access Plan in Ireland contains targets for specific categories of students who are underrepresented, including students from a lower socioeconomic background, students with special educational needs, and members of the Traveller community (Department of Education and Skills 2019a [IE]). Recent changes in Hungarian educational policy illustrate, however, that this is not unilateral. Since 2010, concepts of equity, equality of opportunities, integration, and segregation have disappeared from the vocabulary of educational policy (Ferge 2017 [HU]). Moreover, the term “Roma” has disappeared from educational policy documents as well, denying the existence of far-reaching educational inequalities of members of the Roma community in Hungary (Kende 2013 [HU], 2018 [HU]).

In other countries, specific measures and recommendations exist that aim at improving competences when dealing with vulnerability in the education system. In Lithuania, the Action Plan for Roma Integration into Lithuanian Society for 2015–2020 is worth mentioning. This programme focused on improving the competences of teachers to support the integration of Roma students. Among other measures, this strategy included the organisation of more non-formal activities for young Roma in the education system (Council of Europe 2017b [LT]). Evaluations show that the inclusion of Roma in non-formal education projects might indeed be

key for inclusion (Malinauskaitė 2007 [LT]), but that such projects were rare and sporadic (Leončikas 2006 [LT]). Similar anti-bias programmes were implemented in Germany to reduce prejudice and institutional discrimination (Wagner 2017 [DE]). However, these programmes have scarcely been evaluated. Anti-bias programmes could also be fruitful in Finland, as Ouakrim-Soivio and colleagues (2017 [FI]) suggest, whereas other Finnish scholars see potential in programmes to inform parents belonging to disadvantaged groups better about their choices and alternatives within the education system (Kilpi-Jakonen 2011 [FI], Kosunen and Seppänen 2015 [FI], Kosunen, Bernelius, *et al.* 2020 [FI]).

## 6 Conclusion

Analysing diverse manifestations and causes of educational inequality is an ambitious and often interdisciplinary endeavour. Given the deep-rootedness and various dynamics of inequality in European education systems, it is not surprising to see a vast amount of empirical research being conducted on the subject in recent years. With PIONEERED's main objectives of identifying pioneering policies and practices to mitigate educational inequalities and of proposing research-informed policy measures, drawing together a current state of research creates a fruitful basis for the subsequent steps in pursuing this objective. The aim of the present report has been to describe this current state of research on educational inequality in the nine countries covered by PIONEERED. It has done so by shedding light on the groups that are researched as disadvantaged, the extent of inequality across educational stages, and the drivers of educational inequality at different analytical levels, and by analysing selected measures aimed at reducing inequality in the education system. This state of research report is a product of collaborative efforts by all consortium members in the PIONEERED project, who have carried out extensive literature reviews in their respective countries.

The present report can rely on the broad expertise of its contributors on educational inequality. With its focus on research published during the last decade, it provides an extensive overview of the contemporary debate in the academic literature and identifies various domains regarded as important in the nine countries participating in PIONEERED. Moreover, the report highlights and reflects upon the diverse nature of current research in terms of a plurality of aspects relevant to educational inequality and the diversity of contextual conditions under which educational inequality develops. However, this report does not come without its limitations. First, as this report focuses on research conducted during the last decade, little attention is paid to seminal research and, thus, to the discussions upon which current research builds. Second, given the vast amount of research covered in this report, it is not possible to provide a comprehensive description of the contextual conditions – such as education system features or country specifics – under which the presented findings apply. Thus, while this report provides numerous findings, it does not assess whether, or to what extent, these findings can be generalised to other countries. Third, the present state of research report does not allow critically reflecting upon the methodological procedures and theoretical assumptions that underlie the evidence presented. Providing a thorough analysis of the theoretical and methodological foundations of research on educational inequality is beyond the scope of this report and will be covered in other deliverables of the PIONEERED project.

The description of the state of research has commenced with a brief and general overview of the nine education systems covered in PIONEERED (see Chapter 2). Focusing on different characteristics of how tracking is organised in PIONEERED countries is one of several ways of illustrating the general structure of education systems. While no two education systems are exactly alike, there are clusters of countries with similar approaches of organising tracking. Whereas the traditionally comprehensive education systems of Finland and Norway are characterised by only limited stratification, the education systems of Germany, Luxembourg, and Switzerland rely on extensive tracking and are thus more prone to some aspects of

educational inequality. Hungary, Ireland, Lithuania, and Spain exhibit features of both poles on this continuum and are likely to take a middle position with regard to tracking. Yet, this illustration of the features of the education systems calls for a well-reasoned clustering of countries that is tailored to specific scientific needs when contextualising and comparing findings.

Empirical evidence on the extent of educational inequality has been approached from three angles. First, research has considered a variety of aspects concerning educational inequality (see Chapter 3.1). These include different forms of outcome, access, participation, and treatment, which are unequally distributed across ascribed characteristics. As educational inequality is an inherently multidimensional phenomenon, future research is urged to consider multiple aspects and to try further map the interrelatedness of different manifestations of educational inequality. Second, empirical research has pointed to several axes along which educational inequality is structured (see Chapter 3.2). While some axes – such as social origin, gender, or health – apply to all PIONEERED countries, some countries refer to disadvantaged groups that are specific to their national context. Who is researched as disadvantaged in the education system closely reflects the general social structure and culture of a country. The notion of intersectionality challenges the separateness of different axes of inequality and provides a promising framework for addressing the inherent complexity of educational disadvantage. Third and last, as educational inequalities are likely to cumulate throughout the life-course, the specific forms of educational inequality at different stages, as well as the role of transitions between stages, deserve close attention (see Chapter 3.3). How educational inequality emerges at different stages largely depends on the institutional features of a country's education system. Nonetheless, a number of topics and phenomena are debated across several PIONEERED countries.

Educational inequalities do not develop from a singular factor, but rather from a range of factors. Employing a multilevel perspective allows for locating the many drivers of educational inequality identified in the literature at an analytical level (see Chapter 4). While research has emphasised the role of different resources as factors associated with educational inequality at the micro level, scholars have identified teachers and schools as the main drivers at the meso level. Among other elements, current research frequently refers to the significant role of peer composition in learning environments. At the macro level, research conducted in PIONEERED countries puts great emphasis on factors relating to educational policy. Yet, as education systems are embedded in a broader societal context, empirical research requires consideration of societal beliefs, processes of power, and potential confounders induced by societal transformations.

This present state of research report has further provided insights into some of the ways educational inequalities are tackled across PIONEERED countries (see Chapter 5). These range from fundamental reforms of the structure of education systems to targeted programmes aiming to enhance the educational situation of particular students. The selected measures highlight the complexity of reducing educational inequalities. While some measures were found to be effective and successful in mitigating the negative effects of educational inequality, others



failed to fully realise the set objectives or were accompanied by unintended consequences. This underlines the need for further inquiries aiming to identify promising policies and practices against inequalities in the education system.

This report has covered a broad spectrum of research and identified numerous topics often discussed in the academic literature. Despite this, several gaps and insufficiently studied areas continue to exist, which call for further investigation. One of these relates to learning in informal or non-formal educational settings. Learning processes in settings other than that of formal education receive limited attention in scholarly research. While evidence already exists on some topics within this domain – such as shadow education or participation in extracurricular learning activities – the interplay between different educational settings remains underexplored. With this in mind, studying the extent to which processes in informal or non-formal settings affect educational inequalities in formal education might be a promising endeavour for further research. Furthermore, the approach of intersectionality deserves closer attention. Explicit reference to the concept of intersectionality in education research remains an exception, although a number of studies provide evidence for specific disadvantages that arise at the intersections of different axes of inequality. Not much is known about the underlying processes and mechanisms of intersectional inequalities in the education system. A more explicit consideration of intersectionality, along with a more thorough theoretical consideration of the circumstances under which intersectional inequalities emerge in education systems, could constitute one way to address this research gap. In a similar vein, this report suggests that recent research has rarely paid attention to the underlying complexity of the axes of inequality. For instance, only a few studies consider the axis of gender beyond a binary perspective or include consideration of sexual or multicultural identities. Especially against the background of the intersectional approach, future research should consider the axes of inequality beyond a binary construction and should be aware of reification processes taking place through research. Another potential shortcoming in some parts of the current state of research is its unidimensionality. As this report illustrates, educational inequality manifests itself in a variety of forms. However, many studies focus on singular aspects of educational inequality, leaving open questions regarding the extent to which different aspects of educational inequality might be interrelated. Addressing multiple aspects of education at once and examining how different aspects of education affect each other might be one way to gain a more comprehensive understanding of educational inequality. In addition, the current state of research only rarely discloses the interactions between stakeholders, policy makers, and academia when evaluating measures introduced to mitigate educational inequality. Studying the rationales behind the design of such measures, assessing the extent to which these measures are research-informed, and identifying potential deviations in practical implementation – for instance with regard to school management – deserve more nuanced attention as well.

The present report has opened different perspectives on how educational inequalities are studied in academic research, and has pointed to specific topics receiving frequent attention in the literature. Thus, this state of research report can function as a point of reference for further inquiries in the course of the PIONEERED project.

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