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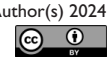

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Institutional characteristics of education systems and inequalities: Introduction III

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Abstract

This is the third and final of multiple themed issues of *International Journal of Comparative Sociology* (*IJCS*) dedicated to the question of how education systems shape educational inequalities in terms of systematic variations access to and uptake of education along certain axes of inequality such as social origin, gender, and immigrant background. While the previous introductions dealt with the research program, conceptual background, and methodological challenges in the study of the link between institutional characteristics of education systems and educational inequalities (Introduction I) as well as with the state-of-research (Introduction II), this third and final introduction is dedicated to discuss certain research desiderata in terms of an outlook with an eye on the latest major studies in this vibrant research field.

Keywords

Corruption, education system, overeducation, social inequality, stratification, tracking

Education systems and inequalities—rather "blind spots" in the state-of-research

While we already discussed the challenges of how to analyze the link between education system characteristics and educational inequalities adequately in the first introduction (Gross and Hadjar, 2021) and the state-of-research in the second introduction (Gross et al., 2022) we will now come back to the question of what is still missing in the state-of-research. We will focus on four key research desiderata that are related to content and methodology at the same time.

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Multilevel analyses covering education system, school, classroom, and individual level

The causal determinants of educational inequalities may be situated at different levels and also relate to the interplay between certain levels. Current research most often looks at one level only (e.g. individual-level characteristics of students and their families) or provide detailed two-level analyses of the education system level and the individual student level, the classroom level and the individual student level, or the school level and individual student level. This follows the multilevel conceptual frameworks that indicate linkages between the different levels, such as the structural individualism perspective (Coleman, 1986) centering on the macro level of the society (e.g. educational policies), the meso level of institutions (e.g. schools, universities as organizations), and the individual level (e.g. educational decisions by students or parents) (see also depictions by Becker, 2019: 7; Gross et al., 2016b: 19), or the multilevel framework of Bronfenbrenner (1979) distinguishing between individual, the micro system (e.g. family, peer group), and the meso system as sum of micro systems the child is embedded in, the exo system the socialization agents of the child are embedded in (e.g. work place), and the macro system (e.g. economic system, laws) and highlighting the importance of the developmental contexts, called "four worlds of childhood": family, friends, school, and work (Bronfenbrenner, 1986: 430). What is needed is a more complex analysis of the interplay between different factors on different levels (including all four relevant levels, i.e. student, school class, school, and education system) and how this affects advantages and disadvantages.

Longitudinal analyses and life course perspective

A second research desideratum are longitudinal studies, in particular panel studies following individual students during their educational stages and beyond. As we will argue below, there are some fascinating national attempts to monitor educational trajectories more closely; however, particularly international panel studies are missing. Generally, most studies focus on particular transitions between educational stages such as the transition from primary into secondary education or between lower secondary education and upper secondary (general or vocational) education. While this makes sense, as systematic disadvantages and advantages manifest particularly at these transitions, such hotspot analyses fail to provide information about the course of educational trajectories. A life course perspective appears to be highly fruitful here, as the reproduction of inequalities is often strongly related to the timing, duration, and sequence of activities and events in a person's lifetime (Mayer, 2002). The key issue are cumulative advantages and disadvantages that develop over time (DiPrete and Eirich, 2006), namely that life course trajectories are shaped by earlier resources and experiences (Mayer, 2002). Longitudinal analyses covering educational trajectories and the full complexity of transitions, continuities, and discontinuities may be more capable to provide a holistic picture of inequalities, as some inequalities may be compensated for at later stages (e.g. late acquisitions of university entrance certificates; Hillmert and Jacob, 2010) or may even become more pronounced (e.g. working-class graduates with a university entrance certificate who do not transition to tertiary education; Becker and Hecken, 2009).

Intersectional inequalities

A traditional shortcoming of particularly quantitative educational research relates to key classifications and categories that are often used as if they were entirely homogeneous. While this

inter-categorical approach is needed to a certain extent to make systematic disadvantages or advantages visible, heterogeneity within these categories remains hidden. An illustrative example is the "failing boys" debate on the lower educational achievement and attainment of boys. Studies show that not all boys are disadvantaged in secondary school, but—in particular—the low socio-economic status (SES) boys. To consider this heterogeneity within categories may help to study the mechanisms behind educational inequalities in more detail and to come up with more targeted and more efficient measures. Following contemporary approaches such as the intersectionality approach (Crenshaw, 1991; Gross et al., 2016a), it appears to be meaningful to consider inequalities at the intersection of axes of inequality such as social origin and gender and to take into account the diversity within these social groups and the interdependencies between certain axes of inequality. Some classic studies have already considered intersectionalities implicitly—such as Dahrendorf (1965), who revealed the Catholic working-class girl originating from a rural area as being most disadvantaged regarding educational attainment in Germany, or Willis (1977), who analyzed working-class boys in Britain as a risk group in the education system. Further research should account for these intersections and confoundations using qualitative and quantitative approaches alike (Gross and Goldan, 2023).

Mixed-method studies

Finally, there are almost no mixed-method studies on educational inequalities. Most studies of the issue explicitly tapping on inequalities are quantitative, as this approach allows to reveal systematic differences. However, causes relating to individual student, parent, or teacher perceptions, attitudes, and beliefs as well as decisions and behavior may also require qualitative methods to gain a more holistic picture and maybe reveal factors that go beyond the frequently studied theory-driven aspects. While Kelle (2001) outlines three different forms of mixed-method research and the triangulation of findings—mutual validation of both findings, the triangulation of different perspectives, and a trigonometrical form resembling the original meaning of triangulation—the latter appears to be most fruitful. This applies particularly for multilevel studies—an important feature, we already highlighted above—to employ mixed-method triangulation in its trigonometrical sense, i.e. using different methodologies in a complementarist sense. Different methodologies may even relate to different levels of analysis: while policy analysis may be an adequate way to analyze the macro level context of educational processes, an institutional analysis of schools accompanied by expert interviews may be most adequate to study the meso level, and a quantitative survey may be meaningful to analyze educational inequalities in terms of systematic variations in the uptake of education between different student groups. A comprehensive picture of the causes of inequalities may only be derived by looking at these different levels via different methodologies, as none of these sub-studies alone will suffice in revealing the mechanisms of the reproduction of inequalities. Mixed-methods designs, however, come with certain challenges: they require more effort and related resources regarding time and money, collaboration between larger research groups, and extended skills—as most often researchers are experts only in one or the other methodological perspective. Mixed-method research proposals and publications may also be subject to more frequent rejection by funding organizations or journals, as there is a lack of mixed-method reviewers and excellent reasons need to be provided why mixed-methods make sense regarding the specific research questions. Finally, mixed-methods studies need to ensure that the different elements of a triangulation study have an overarching research question in common, and to really integrate the different parts into a consistent framework (Kuckartz, 2014: 157).

New perspectives: ongoing research and outlook

In this section, we will outline some of the latest trends and promising research designs that may facilitate the analysis of how education systems impact inequalities.

First of all, there is a lack of data that allows for comparative multilevel longitudinal analyses of this research issue. While there are some large multiple-country data sets like Programme for International Student Assessment (PISA) study and the European Social Survey (ESS) that may be used, they all relate to trend analyses. There is no international panel data set in this area, but promising national initiatives such as the National Educational Panel Study (NEPS) in Germany or the educational monitoring data of the Épreuves Standardisées (ÉpStan) in Luxembourg—we will outline these a little later. These data sets can be combined with education system or regional level characteristics to provide an improved base for analyses. To carry out complex studies into education systems and inequalities, data triangulation is a main requirement. However, existing data sets are often not available and often not visible for many researchers.

Promising *longitudinal studies* that may allow for a life course perspective on educational inequalities and related inequalities in life chances are educational panel studies such as the NEPS from Germany, the study Growing Up in Ireland, the Transitions from Education to Employment (TREE) study, and the Competence and Context (COCON; the Swiss Survey on Children and Youth) study in Switzerland or the ÉpStan data in Luxembourg.

In the framework of the German NEPS (for more information, https://www.neps-data.de/Project-Overview), coordinated by the Leibniz Institute for Educational Trajectories (LIfBi), panel data on the development of competencies, educational processes, educational decisions, and returns to education in formal, non-formal, and informal contexts throughout the life span are generated. The multicohort sequence design includes age cohorts from newborns, kindergarten, primary schooling, lower secondary schooling, general and vocational upper secondary schooling, tertiary education, and lifelong education until adults in old age since 2009 (until date).

The Growing Up in Ireland study (for more information, https://www.growingup.gov.ie/) centers around two cohorts: the 1998 and the 2008 birth cohorts. The general objective of the study was to gain information on how children in Ireland develop, about typical and atypical trajectories, also taking into account the children's perspectives. The objective most explicitly related to inequality is about the identification of mechanisms behind social disadvantages and exclusion. Until now, available data cover the 1998 birth cohort between the ages of 9–13 and 17/18–20 years and the 2008 birth cohort between 9 months and 5 years of age as well as between 7/8 and 9 years of age, so that the panel data can also be used in sequential designs.

The TREE study is based at the University of Bern in Switzerland (for more information, https://www.tree.unibe.ch/index_eng.html). The first cohort started with the PISA study in 2000, namely with the Swiss sample of 15-year-olds. These young people were followed up for several times. Thus, the data cover not only educational transitions toward vocational and tertiary education but also the school-to-work transition and adult life including work career. The second TREE cohort started in 2016 with the Überprüfung der Grundkompetenzen (ÜGK) study, a national large-scale assessment in mathematics, focusing on 15-year-olds. These students were also followed up over their transitions into vocational or tertiary education and into the labor market. This study allows to compare the trajectories of these two distinct cohorts.

The COCON study (for more information, https://www.jacobscenter.uzh.ch/en/research/cocon/study/info.html), based at the Jacobs Center for Productive Youth Development in Zurich, covers the German- and French-speaking part of Switzerland and aims at the study of transitional patterns that children and adolescents experience from a life course perspective. The focus is on intra-individual human development regarding social competencies and education taking into account

the impacts of home, school, work, or peer environment on these transitional patterns. The study comprises both cross-sectional and longitudinal (panel) surveys focusing on three distinct developmental stages: middle childhood (6-year-olds), middle adolescence (15-year-olds), and late youth or early adulthood (21-year-olds). These three cohorts were surveyed in 2006 for the first time, with realized and planned follow-ups for the 15-year-olds until the age of 21 years (in 2021), and for the 6-year-olds until the age of 21 years (in 2021).

A unique data base to study educational inequalities from a longitudinal perspective is also the ÉpStan data base (for more information, https://epstan.lu/en/general-information/), provided by the Luxembourg Centre for Educational Testing (LUCET) at the University of Luxembourg. This educational monitoring tool focuses on the competence development, but also covers further key aspects of education such as teaching quality, classroom climate, and individual learning motivation. It also allows for complex analyses of educational inequalities along the axes of social origin, gender, and migration/language background. All students in Luxembourg are surveyed at the start of their Grade 1 (around 6–7 years of age), Grade 3 (around 8–9 years of age), Grade 5 (around 10–11 years of age) in primary schooling, and in Grade 7 (around 12–13 years of age) and Grade 9 (around 14–15 years of age) in secondary schooling. Via a pseudomised social security identifier, data of the different waves can be brought together to allow for the analysis of educational trajectories. While there are similarities between these data bases, using them for international comparisons is a challenge. What is still lacking is an international framework—like the PISA framework or the ESS framework that unfortunately relates to cross-sectional data sets—to carry out international longitudinal studies in educational inequalities.

Another most promising field that was already briefly mentioned is the linkage between survey and register data. While this is a common practice in some countries where certain identifiers such as the Luxembourgish social security number allow to combine, for example, data of the educational monitoring with register data on regional social structures, school marks, and school track recommendations, in other countries such as Germany, the concerns of data protection often inhibit an efficient combination of data files.

Finally, considering the need for more mixed-methods studies to approach the links between education systems and inequalities in a more comprehensive way, the PIONEERED project—funded by the Horizon 2020 scheme and running from 2021 to 2024—may serve as an example. *PIONEERED is about researching policies and practices to tackle educational inequalities*. This project, being initiated by researchers at the University of Luxembourg and Luxembourg Institute of Socio-Economic Research (LISER), centers around 13 partners (research universities, research and policy institutes, and a research-facilitating agency) in Finland, Germany, Hungary, Ireland, Lithuania, Luxembourg, Norway, Spain, and Switzerland (Hadjar et al., 2022). The main objectives of this research project were to map social mechanisms behind educational inequalities over the course of educational careers from early childhood to tertiary education; to map responses to inequalities in terms of pioneering policies and practices in formal, non-formal, and informal settings from a comparative perspective, and to synthesize these findings and select the most promising tools, pioneering policies, and practices that may be useful for specific European countries or even beyond. The methodological approach centers around a multilevel perspective taking into account the macro level (policies on country or regional level), meso level (institutional settings such as schools), and micro level (teachers, students, parents); a life course perspective taking into account trajectories and transitions as well as cumulative disadvantages; and an intersectionality perspective focusing on specific (dis)advantages that relate to intersections (e.g. male working-class students).

While the project already succeeded in bringing together researchers from different disciplines and methodological backgrounds and in broadening mindsets toward a more comprehensive

perspective, the challenging synthesis of the different findings still lies ahead. A comprehensive framework on how to adequately triangulate findings in mixed-methods studies is still a research desideratum.

Contributions in this themed issue

This third themed issue focuses on the role of education systems and inequalities focusing on corruption in public schools (Wysmułek in this volume), the prevalence of overeducation (Capsada-Munsech in this volume), and long-term labor market outcomes (Schindler et al. in this volume). While all three contributions are comparative in their nature, the contributions of Wysmułek and Capsada-Munsech use cross-sectional data and apply multilevel models while Schindler et al. compare the data of six countries in-depth using life course data.

Wysmułek (in this volume) is one of very few researchers to analyze the role of education systems on bride-giving behavior and perceived corruption in public schools. By combining publicly available data at the country level including characteristics of education systems with a newly harmonized data set on corruption in education, she generates new insights on a highly relevant topic. Her results indicate that perceived corruption is higher for lower levels of government expenditure on education and a high pupil–teacher ratio, whereas bride-giving behavior is more likely for low levels of educational staff compensation.

The contribution of *Capsada-Munsech* (in this volume) examines if and how secondary education systems impact the probability of university graduates being overeducated and if there is a variation by social background and field of study. Combining REFLEX/HEGESCO data with macro data on secondary education systems, she shows that in countries with greater vocational orientation at secondary level, social origin is less important for overeducation, while in countries with comprehensive education systems, social origin affects the labor market entrance more strongly.

The joint contribution of *Schindler, Bar-Haim, Barone, Birkelund, Boliver, Capsada-Munsech, Erola, Facchini, Feniger, Heiskala, Herbaut, Ichou, Karlson, Kleinert, Reimer, Traini, Triventi, and Vallet* (in this volume) analyzes how tracking and social origin affect labor market outcomes in later life from a life course perspective. They compare national panel data of six European countries, strongly varying in tracking. The data allow analyses of a longer timeframe reaching from secondary education until occupational maturity. In doing so, they show education systems' external differentiation to mediate the relationship between social origin and long-term labor market outcomes in all six countries to a high degree; however, they also show variation between countries, that they cannot completely explain.

We expect these three contributions (and also the three themed issues) to add profoundly to the literature on how education systems shape social inequalities and encourage further research on this core topic of social stratification and mobility.

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