

Patterns of school segregation in Europe

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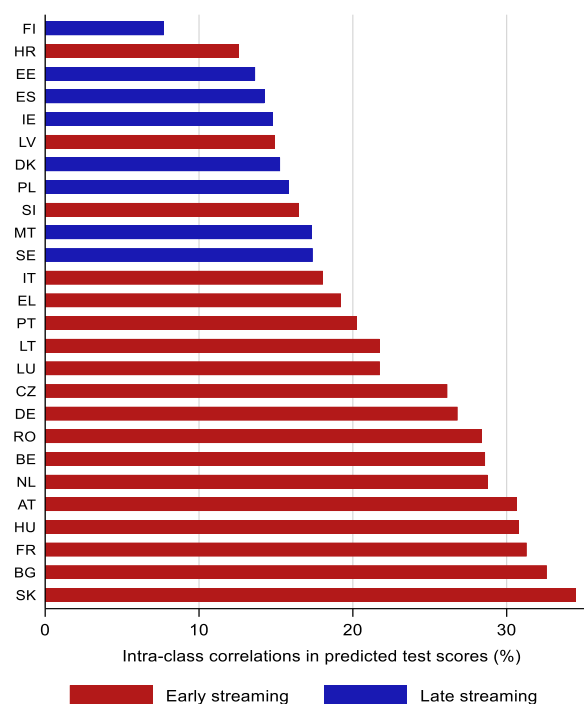
How to allocate students to schools is an important policy question since it may have consequences for both economic efficiency and equity. Using data from PISA, we show that in Europe, school segregation varies substantially, which partly reflects differences in education policies and demographic profiles. Countries with comprehensive school systems have fewer differences in the composition of students across schools, than do those that stream students earlier. Residence-based admission is associated with lower school segregation, while students are more unevenly distributed in countries with selective admission. School segregation also feeds into performance gaps between schools, both within and between streaming regimes.

SCHOOL SEGREGATION VARIES ACROSS EU COUNTRIES

A description of the degree of school segregation in Europe is complicated by demographic dissimilarities and the fact that students often are sorted into schools based on different characteristics. We therefore use predicted test scores – that weight many background factors by their importance for student performance – to study school segregation between countries. Figure 1 presents school segregation in predicted test scores across EU countries using data from the Programme for International Student Assessment (PISA) 2018. It shows the share of the total variation in student background that can be explained by schools, i.e. the extent to which students with similar characteristics are concentrated in the same schools. Across the EU, between 8% and 35% of the total variation in predicted test scores can be attributed to schools. Countries with a comprehensive (non-selective) school system at the time of assessment (when students are 15 years old) have less segregation compared with early-streaming countries. The streaming regime is thus an important determinant of school segregation, which is in line with the earlier evidence (Jenkins, Micklewright and Schnepf 2008; OECD 2019).

Further analyses show that school segregation typically is lower in countries with residence-based student admission, while selective admission is associated with larger divergences in the composition of the student body

Figure 1. School segregation by predicted test scores in EU countries



Note: The figure shows between-school variation (intra-class correlation) in predicted test scores in EU member countries. Countries have been sorted by the between-school variation in predicted test scores. The red bars show countries where students are streamed before age 16 (early streaming), while the blue bars represent countries with a comprehensive school system at age 15 (late streaming). Public-use data is not available for Cyprus.

Source: Authors' estimates based on data from PISA 2018.

SEGREGATION FEEDS INTO PERFORMANCE GAPS

School segregation has direct consequences for the performance differences between schools, both within and between streaming regimes. Countries with more segregated schools also have greater test score gaps across schools, and the performance differences across schools are almost halved when adjusting for observed student characteristics.

Test score gaps across schools are often mistaken for school quality differences. To obtain measures of school performance that are of policy interest – such as school quality – it is necessary to at least adjust for students' family background and migration history. Still, because students may differ also in other respects, the remaining variation in test scores between schools must be interpreted with caution.

CREDIBLE EVIDENCE ON THE CONSEQUENCES OF SEGREGATION IS SCARCE

Theoretically, there could be both positive and negative effects of the composition of students in schools and classes. On the one hand, mixing students with different characteristics may have positive effects on social cohesion and may imply that weak students benefit from better-performing peers. It might also limit the concentration of disadvantaged students at schools, which potentially improves the learning environment and the possibilities to recruit teachers. On the other hand, grouping students by ability or background may allow for more efficient teaching that specifically targets the needs of the group. Therefore, the optimal way of sorting students between and within schools is theoretically ambiguous (Sacerdote 2011; Duflo, Dupas and Kremer 2011).

Research on the effects of school or class composition is methodologically challenging, since it is difficult to separate the effect of the group from that of the student's own background and ability. Recent studies that use randomised controlled trials to study effects on test scores show that the positive effect of targeted instruction in streamed groups may be larger than the positive impact of having high-achieving peers in a mixed setting (Duflo, Dupas and Kremer 2011). However, mixing students with different backgrounds seems to have positive consequences for behavioural outcomes and social values, such as criminal involvement and tolerance towards minority groups (Sacerdote, 2011; Billings, Deming and Rockoff 2014; Paluck, Green and Green 2018; Rao 2019). That said, credible evidence on the impact of student group composition is scarce and the results are context-specific.

POLICY CONCLUSIONS

- More research is needed to understand the consequences of student composition in schools and classes. Collaboration between researchers and education

providers should be facilitated to ensure use of the best research designs and methods.

- League tables that compare schools' raw test scores should be used with caution. At a minimum, performance gaps across schools should account for differences in students' family background and migration history. Using value-added measures – which control for students' lagged achievement – is recommended when assessing school effectiveness.
- Residential segregation is a strong determinant of school segregation, but it can be hard to influence the allocation of families into neighbourhoods in the short run.
- Streaming and admission policies are tools that can be used to influence student sorting into schools, and they can also be designed to circumvent student sorting that arises due to residence-based segregation.

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