

Does wealth always lead to a good education? New study proposes new model for predicting student success globally

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New research published in *Frontiers in Education* argues that analyzing the individual components that underlie socioeconomic status, such as parents' occupation or the number of books in a home, is a better predictor of student success across different cultures than the current

composite index.

The dominant paradigm for predicting student achievement across cultures is lacking nuance when it comes to accounting for [socioeconomic status](#) (SES) in educational assessments. A new paper in *Frontiers in Education* argues that lumping individual factors together equally under SES omits crucial data for understanding gaps in education. Instead, the researchers contend, future research should approach socioeconomic [status](#) as a multidimensional predictor, weighing each variable differently based on individual cultures.

The research team, based in Sweden, analyzed data from almost 600,000 students in 77 countries from the 2018 Programme for International Student Assessment ([PISA](#)), a worldwide study that measures the performance of 15-year-old school students in mathematics, science and reading.

Like most similar assessments, PISA treats socioeconomic status as a single, composite factor among a number of other variables, such as class size or school policy, when trying to predict student success. But when researchers broke SES down into six component variables, they made some surprising discoveries.

"Our main finding is that relations between student achievement and socioeconomic factors look very different in different countries," said Dr. Kimmo Eriksson, lead author and a professor of mathematics and social psychology at Mälardalen University College. "In many countries, achievement is strongly related to the number of books at home while it is unrelated, or even negatively related, to wealth."

A nuanced approach

Parents' highest occupational status was another key factor that better

predicted student success—or lack thereof—compared to the one-dimensional socioeconomic status index employed by PISA that weighed all SES factors equally. In addition, results were almost identical across different academic domains, which implies they may not be important in these sorts of analyses. For example, the effect of books at home was equally significant in science and math as in reading.

However, these two variables—books at home and parents' occupation status—do not necessarily capture the full picture in poorer countries, where wealth is indeed strongly related to better academic results.

"This points to a fundamental problem with the current approach, in which socioeconomic status is measured by some fixed index of socioeconomic factors," Eriksson said. "For example, this practice will inevitably underestimate the socioeconomic achievement gap in countries where the index does not match the actual importance of different socioeconomic factors."

Book versus wealth

It is possible to find an optimal single-dimensional index, but this index may be radically different for different countries, he noted. An index that primarily includes books at home and parents' occupational status may work quite well as a predictor of student achievement in higher-income countries, based on the results of the current study.

While the main goal of the paper was to challenge the current paradigm of how to measure and interpret gaps in [student achievement](#) based on socioeconomic status, the researchers did address some of the more 'shocking' discoveries.

In particular, they speculated what could be so beneficial about owning books, especially among a generation reared on smartphones and social

media. They argued that this effect may be less about direct causation and more related to what the paper referred to as "trait transfer". In other words, the number of [books](#) in a home may indicate the parents' general interest in and enjoyment of reading—traits that may transfer better study habits in a [student](#).

"We believe that the mystery disappears if we instead assume that socioeconomic factors are mainly indicators of individual traits that are useful to achieve in school and that to some extent are transferred from parents to children," Eriksson explained.

More information: Kimmo Eriksson et al, Socioeconomic Status as a Multidimensional Predictor of Student Achievement in 77 Societies, *Frontiers in Education* (2021). [DOI: 10.3389/feduc.2021.731634](https://doi.org/10.3389/feduc.2021.731634)

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