

Study demonstrates importance of government investment in education

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Katerina Bodovski. Credit: Penn State

A project led by a College of Education faculty member is shedding light on the unique traits of national education systems that contribute to achievement gaps.

Education often is thought to be the "great equalizer" that closes the opportunity gaps between different segments of society, but the reality is that education is not fully capable of leveling the playing field.

According to Katerina Bodovski, associate professor of education (educational theory and policy), in order to understand the factors that mitigate or exacerbate educational inequality, researchers need to understand the broader social dynamics of individual countries.

"The educational system does not exist in a vacuum," she said. "It exists within a particular historical, political, economic and cultural context. Rather than going after a magic solution, we need to look more at what is going on inside."

According to Bodovski, income inequality in the U.S. is the main culprit behind its [achievement](#) gaps, and higher levels of government spending on education can lessen the obstacles students from disadvantaged backgrounds encounter in math and [science](#).

Due to a lack of resources, many teachers in low-performing schools are forced to deal with non-academic issues among their students such as food insecurity, lack of health care and mental-health issues.

Those economic disparities are even more striking in the midst of the COVID-19 pandemic, she added, when the home becomes a primary learning space. Low-income students may not have the physical space, appropriate technology or [internet access](#) their more advantaged peers enjoy at home.

"Our research shows the importance of government investment in

education," she said. "The push of the current administration to privatization is 180 degrees to what is needed."

Bodovski and colleagues recently undertook a comparative international study, funded by the National Science Foundation, that sheds light on the unique characteristics of national education systems that contribute to the gaps in math and science achievement related to socioeconomic, gender and [immigrant status](#).

One part of the project is a paper, "Do Education System Characteristics Moderate the Socioeconomic, Gender and Immigrant Gaps in Math and Science Achievement," by Bodovski, Ismael G. Munoz, a doctoral candidate in the College of Education; Soo-yong Byun, associate professor of [education](#) (educational theory and policy) in the College of Education; and Volha Chykina, a graduate of the educational theory and policy program and currently assistant professor at the University of Richmond.

The researchers report that family higher socioeconomic status is positively associated with higher math and science achievement; immigrant students lag behind their native peers in both math and science, with first-generation students faring worse than second generation; and girls show lower math performance than boys. They found that a higher degree of differentiation (the separation of students into different tracks or ability groups) makes socioeconomic gaps larger in both math and science achievement, whereas higher governmental spending reduces socioeconomic [achievement gaps](#).

While the U.S. does not have a rigidly tracked system, and so is seemingly low on differentiation, Bodovski emphasized that students from disadvantaged areas (rural and urban) do not always have access to educational opportunities such as Advanced Placement (AP) classes.

"Unless you teach those classes in different (types of) schools, it's not equal opportunity," she said.

One of the researchers' most significant findings, Bodovski said, was that across the board, immigrant students in many countries lag behind natives in [math](#) and science. Given that many immigrants come from economically disadvantaged backgrounds, educational policy should be tailored to their unique needs.

"We really need to have both culturally sensitive and socially appropriate policies," she said.

The paper was published in the *International Journal of Sociology of Education*.

Provided by Pennsylvania State University

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