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Context factors and student achievement in the IEA studies: evidence from TIMSS.
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Summary: Background: The present study investigates what factors related to the school context influence student achievement on TIMSS mathematics tests across countries. A systematic review of the literature on PIRLS, TIMSS, and ICCS was conducted upstream to identify those school, teacher, and classroom factors shown to be useful predictors of student performance in previous IEA studies. Data of student samples representative of grade 8 students from 28 countries who participated in TIMSS 2011 were analysed. The main aim of the present study is to verify what school and teacher characteristics are positively associated with students' mathematics achievement, mainly focusing on disadvantaged schools. Furthermore, it aims at identifying how school context variables contribute to explaining the performance of students in disadvantaged schools in comparison with more advantaged schools. Methods: A separate analysis was carried out for each considered country, and the same multilevel regression model was used on the sampled schools as a whole and treating schools with high (highest tertile) and low (lowest tertile) socio-economic backgrounds as distinct groups. Results: The results confirmed that a high socio-economic status has a significant and positive effect on student achievement: compared with students from socio-economic disadvantaged schools, students from advantaged schools performed better in mathematics achievement. This difference is more evident in countries where the gap between rich and poor people as measured by the Gini coefficient, which measures how much an economy deviates from perfect equality, is wider. However, this difference is restricted in countries with a smaller gap between rich and poor people. Conclusions: According to the literature in the field, the results show significant differences across countries in relation to the school and teacher characteristics that have an impact on mathematics achievement of students from low and high SES schools. Different patterns were also found within countries for low and high SES schools.

Classification: C63 D63
Keywords: TIMSS; PIRLS; ICCS; school factors; contextual questionnaires