

ANEKS

Table A1 *Scales and variables included in the analysis*

Measure	Questionnaire	Description	Items
Bullying	Student	Higher values correspond to lower frequency of bullying	Made fun of me or called me names, Left me out of their games or activities, Spread lies about me, Stole something from me, Damaged something of mine on purpose, Hit or hurt me, Made me do things I didn't want to do, Sent me nasty or hurtful messages online, Shared nasty or hurtful messages about me online, Shared embarrassing photos of me online, Threatened me
Home resources	Student and parent	Higher values correspond to a higher availability of home resources for learning	Number of books in the home (students), Number of home study supports (students), Number of children's books in the home (parents), Highest level of education of either parent (parents), Highest level of occupation of either parent (parents)
Confidence in mathematics	Student	Higher values correspond to a higher confidence in learning mathematics	I usually do well in mathematics, Mathematics is harder for me than for many of my classmates, I am just not good at mathematics, I learn things quickly in mathematics, Mathematics makes me nervous, I am good at working out difficult mathematics problems, My teacher tells me I am good at mathematics, Mathematics is harder for me than any other subject, Mathematics makes me confused
Confidence in science	Student	Higher values correspond to a higher confidence in learning science	I usually do well in science, Science is harder for me than for many of my classmates, I am just not good at science, I learn things quickly in science, My teacher tells me I am good at science, Science is harder for me than any other subject, Science makes me confused
Emphasis on success	Principal	Higher values correspond to a higher level of school emphasis on academic success	Teachers' understanding of the school's curricular goals, Teachers' degree of success in implementing the school's curriculum, Teacher's expectations for student achievement, Teachers' ability to inspire students, Parental involvement in school activities, Parental commitment to ensure that students are ready to learn, Parental expectations for student achievement, Parental
Mathematics resource shortages	Principal	Higher values correspond to a lower impact of mathematics resource shortages on instruction	Instructional materials, Supplies, School buildings and grounds, Heating/cooling and lighting systems, Instructional space, Technologically competent staff, Audio-visual resources for delivery of instruction, Computer technology for teaching and learning, Teachers with a specialization in mathematics, Computer software/applications for mathematics instruction, Library resources relevant to mathematics instruction, Calculators for mathematics instruction, Concrete objects or materials to help students understand quantities or procedures

*The interaction between bullying, socioeconomic background and attitudes on educational achievements:
Evidence from the Balkan countries with TIMSS 2019 data*

Science resource shortages	Principal	Higher values correspond to a lower impact of science resource shortages on instruction	Instructional materials, Supplies, School buildings and grounds, Heating/cooling and lighting systems, Instructional space, Technologically competent staff, Audio-visual resources for delivery of instruction, Computer technology for teaching and learning, Teachers with a specialization in science, Computer software/application for science instruction, Library resources relevant to science instruction, Science equipment and materials for experiments
Gender	Student	Student gender	0: Male student; 1: Female student
Urban school	Principal	School location	0: Rural school (Small town or village, Remote rural); 1: Urban school (Urban–Densely populated,

Source: Yin & Fishbein (2020).