

# ARISE

## Action for Reducing Inequalities in Education

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**The Impact of the ARISE  
Project on Reducing  
Inequalities in Education**  
*Impact Evaluation Study*

February, 2024.

## **ARISE**

Action for Reducing Inequalities in Education

The Impact of the ARISE Project on Reducing Inequalities in Education: *Impact Evaluation Study*

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## Executive summary

This report contains the results of an impact evaluation study conducted for the ARISE project that aims to support the education of students from families with low socio-economic status and reduce the impact of poverty on school achievement and general well-being of students.

The main objective of this study was to verify whether planned and implemented project activities in schools involved in the ARISE project could mitigate the impact of poverty on the overall well-being of students in 25 schools in Bosnia and Herzegovina, Serbia, North Macedonia, Kosovo, and Albania, thus reducing the well-being gap among students caused by differences in socio-economic status.

To address this challenging and complex research task, a carefully designed and implemented quasi-experimental evaluation design was applied, with two measurement points and two groups of respondents and schools: the project (experimental) group consisting of students from project schools and the non-project (control) group consisting of students from non-project schools. The research was conducted at two time points and in a total of 35 schools, including 25 project and 10 non-project schools. Baseline measurement was carried out immediately before the introduction of any project interventions with students in project schools, and again after the completion of project activities with students in project schools. The impact analysis of project interventions was conducted using the Difference-in-Differences (DID) approach to compare students from project schools with similar comparison school students.

The baseline study, conducted in July 2022, indicated the existence of a significant negative impact of students' socio-economic status on their overall well-being and academic achievement. This effect was observed in both project and non-project schools. Additionally, the characteristics of project and non-project schools, as well as the characteristics of their students, were similar, which is an important assumption for making a valid comparison after the endline measurement.

The measurements and analyses conducted in this study showed that students from project schools achieved significant improvements in overall well-being compared to students from non-project schools, and this improvement can be attributed to the impact of the ARISE project. The improvement in student well-being as a result of the ARISE project is particularly noticeable among students with unfavourable socio-economic status (SES) and students who directly participated in project activities.

While significant improvement was not recorded in some components of student well-being in project schools, such as psychological well-being, there was a significant deterioration in the psychological well-being of students in non-project schools. However, the analysis showed that although there was no significant change in students' psychological well-being in project schools, the ARISE project contributed to preventing significant deterioration. Therefore, the impact of ARISE project activities on students' psychological well-being manifests in two ways: through the

improvement of certain components of psychological well-being and through maintaining existing levels of well-being or preventing the worsening of certain elements of psychological well-being.

Students from project schools as well as students from non-project schools experienced improvements in cognitive well-being, with slightly greater improvement observed in project schools. However, improvements in cognitive well-being cannot be attributed to the impact of the ARISE project but are likely influenced by a range of other factors (where activities in the ARISE project may play a role).

The ARISE project also had a positive impact on improving the school climate in project schools. Although there was only a mild improvement in the school climate in project schools, this improvement can be attributed to the ARISE project, especially considering that there was a significant deterioration in the school climate in non-project schools.

In conclusion, this evaluation confirmed that activities carried out in schools had a significant impact on improving students' well-being, especially those with unfavourable SES and those directly involved in the activities. However, the analysis confirms that there are still gaps in the level of student well-being caused by students' socio-economic status, and although these gaps have been reduced under the influence of project activities, they are still present and significant.

On the other hand, in schools where ARISE activities were not implemented, there was no improvement in students' well-being. On the contrary, data indicate that there were even greater differences in well-being between students with favourable and unfavourable SES, further widening the gap in well-being among students.

Taking into account this previous finding, the importance of the ARISE project in reducing inequalities among students caused by poverty gains particular significance.

## About the project

ARISE is a regional four-year project launched in March 2020 by a Consortium of NGOs and research organizations from the Western Balkans and Turkey. The project is funded through the European Union's Instrument for Pre-Accession Assistance (IPA). The project aims to support the education of students from families with low socio-economic status and reduce the impact of poverty on school achievement and general well-being of students in 25 schools in Bosnia and Herzegovina, Serbia, North Macedonia, Kosovo and Albania. The goals of this project should be achieved through building national and regional partnerships of civil society organizations aimed at advocacy and constructive political dialogue with authorities, raising awareness among educational stakeholders and implementing pilot interventions aimed at providing support to students from families of low socio-economic status. Education and social policies can provide long-term solutions to create equality in education. Pilot interventions at the school level can directly respond to the needs of students of low socio-economic status.

The target groups of this project were:

- Members of the Consortium consisting of 7 civil society organizations: Kosova Education Center (KEC) from Kosovo, Network of Education Policy Centers (NEPC) from Croatia, Center for Education Policy (CEP) from Serbia, Education Reform Initiative (ERG) from Turkey, Center for Educational Initiatives Step by Step from Bosnia and Herzegovina, The Foundation for Educational and Cultural Initiatives Step by Step from North Macedonia, Children Are the Future (CAF) from Albania and proMENTE Social Research from Bosnia and Herzegovina.

The goal is for the members of the Consortium to develop their professional capacities to address inequalities in education due to poverty.

- Through this project, policy makers should gain relevant knowledge about the role of education in tackling poverty in order to ultimately create inclusive and responsible education policies.

The action will contribute to the awareness of policy makers about the importance of intra-sectoral partnership and communication to solve this problem.

- Six local grassroots organizations selected on the basis of open calls. The project aimed at developing their capacity to implement activities aimed at children with low socio-economic status.
- Through the project, schools and school staff in 25 schools were directed to the development of competencies and capacities for solving the issue of poverty in education.

The goal was to raise awareness of school staff about the role of schools in changing school culture and the project expected to define activities that could encourage the involvement of parents of low socio-economic status.

- Educational stakeholders, parents and the school community should better understand the effects of low socio-economic status on students and the importance of equality in education.

## Methodology

A quasi-experimental study is being conducted to evaluate programs aimed at reducing inequalities in education that potentially affect the well-being and school achievement of students. The quasi-experimental methodological design includes research conducted at two measurement points: baseline (initial study conducted before the intervention) and endline (study conducted after the intervention). Checking the effectiveness of interventions is based on a comparison of groups of students who are exposed to planned interventions at the school level (experimental/project group) and students who are not (control group).

The Baseline study was conducted in Bosnia and Herzegovina, Kosovo, Albania, North Macedonia, and Serbia in 25 project and 10 non-project schools, just before any school interventions. The aim of the baseline study was to examine the general well-being of students and various aspects of the school climate. Students of VI and VII grades of primary schools and school representatives participated in the research. The baseline study was conducted in July 2022.

The Endline study was conducted in October and November 2023 with the same students who participated in the baseline study, using similar research tools and identical data collection procedures in schools. In addition to using questionnaires for students and schools, at the endline measurement point, a semi-structured focus group was conducted in each partner country with students who were directly involved in project activities.

## Key Research Questions

With the data collected from the student surveys at activity baseline (2022) and endline (2024), the following research questions will be addressed:

- I. Did the project activities in schools involved in the ARISE project have a direct impact on student well-being?
  - i. Did significant changes occur in the well-being of students from unfavourable socio-economic backgrounds during the implementation of project activities?
  - ii. Did significant changes occur in the well-being of students directly involved in project activities as well as students who were not directly involved in project



activities during the implementation of project activities in schools participating in the ARISE project?

- iii. Did changes occur in psychological well-being as a component of overall student well-being during the implementation of project activities, specifically regarding:
    - a) Students' life satisfaction
    - b) Meaning in life
    - c) Students' feelings
    - d) Students' self-efficiency and
    - e) Fear of failure
  - iv. Did changes occur in cognitive well-being as a component of overall student well-being during the implementation of project activities?
2. Did the project activities in schools involved in the ARISE project have a direct impact on the school climate?
- i. Did changes occur in the elements constituting the school climate during the implementation of project activities, including:
    - a) Student disruptive behaviour (Bullying, Disciplinary climate, Student truancy and lateness),
    - b) Teaching and learning (Teacher enthusiasm, Teachers' support and teaching practices, Teachers' behaviour and student learning) and
    - c) School community (Students' cooperation and competition, Sense of belonging at school, Parental involvement in school activities)

## Procedure

Impact evaluations assess the program's impact on beneficiary outcomes. They focus on answering questions on the program's impact on beneficiary outcomes. In principle, to accurately measure program causal effects, we had to observe the outcome of interest ( $Y$ ) for each student  $i$  in two situations:

Where the student participates in project activities - (*treated Outcome*,  $Y_{1i}$ )

Where the student does not participate in project activities - (*untreated outcome*,  $Y_{0i}$ )

At any given time, a student is either exposed to the project activity or not, that is, we can only observe either  $Y_{1i}$  or  $Y_{0i}$  for each student depending on their participation status. This missing data problem is at the core of program evaluation.

Although the before and after comparison of  $Y_{1i}$  offers useful information of the change in outcomes for participants, it does not address the impact question since it does not take into account the outcomes that program participants would have achieved if they were not part of the intervention (counterfactuals). In another words, the essential difference between performance and impact evaluations is the search for identification of  $Y_{0i}$  for program participants.

Therefore, we need to identify and estimate  $E(Y_{1i} - Y_{0i} | D_i = 1)$ . (1) where  $D_i$  is project participation status ( $D_i = 1$  if the student participated and  $D_i = 0$  if student did not participate)

This is the Treatment Effect on the Treated (TT) parameter; it is the average impact of project activities on outcomes for the students who are participating in the activities. Part of (1) is readily available from the survey data, that is,  $E(Y_{1i} | D_i = 1)$ , the average treated outcome for treated students. The other part, the counterfactual  $E(Y_{0i} | D_i = 1)$  is the missing data problem that plagues the evaluation of program effectiveness.

When heterogeneous students select themselves to be part of the project activities, systematic differences usually exist between students who are in program and nonparticipants. If we use the observed average outcome for nonparticipants to estimate the missing counterfactual, that is, if we use  $E(Y_{0i} | D_i = 0)$  to estimate  $E(Y_{0i} | D_i = 1)$ , our impact estimate will be contaminated by selection bias. In notation, the selection bias is  $E(Y_{0i} | D_i = 0) - E(Y_{0i} | D_i = 1)$ . (2)

This means that a simple comparison of outcomes between students who receive the interventions and those that do not receive the interventions could easily yield biased impact estimates due to confounding of the effects of the intervention with initial differences between the groups. A rigorous evaluation with well-designed groups to represent the counterfactual will minimize the likelihood of obtaining impact estimates biased by the initial differences between those who receive the intervention and those who did not.

We proposed to use a quasi-experimental impact evaluation design which uses Difference-in-Differences (DID) approach to compare project school and similar comparison school students.

In order to conduct this proposed impact evaluation design, the partner organizations selected 5 project schools and 2 control schools, taking into account that the schools be as similar as possible considering the school environment, the size of the school (number of students, teachers), school equipment. This increases the likelihood that potential differences between project and control schools after interventions can be attributed to interventions rather than pre-existing differences between schools. Partner organizations have signed a memorandum of understanding with the schools. The "School Statistics" form was submitted to the schools, and the representatives of the school management submitted the basic statistical data (list of classes

and number of students per class) that are necessary for sampling. The research was conducted in accordance with the Ethical Guidelines for conducting research with and about children. That is, parents' consent for students' participation in the research was collected.

It was specified with the partner organizations which data collection methods will be used. In Bosnia and Herzegovina, North Macedonia and Serbia, an online method of data collection was used, and in Kosovo and Albania the pen-and-paper method was used. proMENTE Social Research organized data collection training for partner organizations.

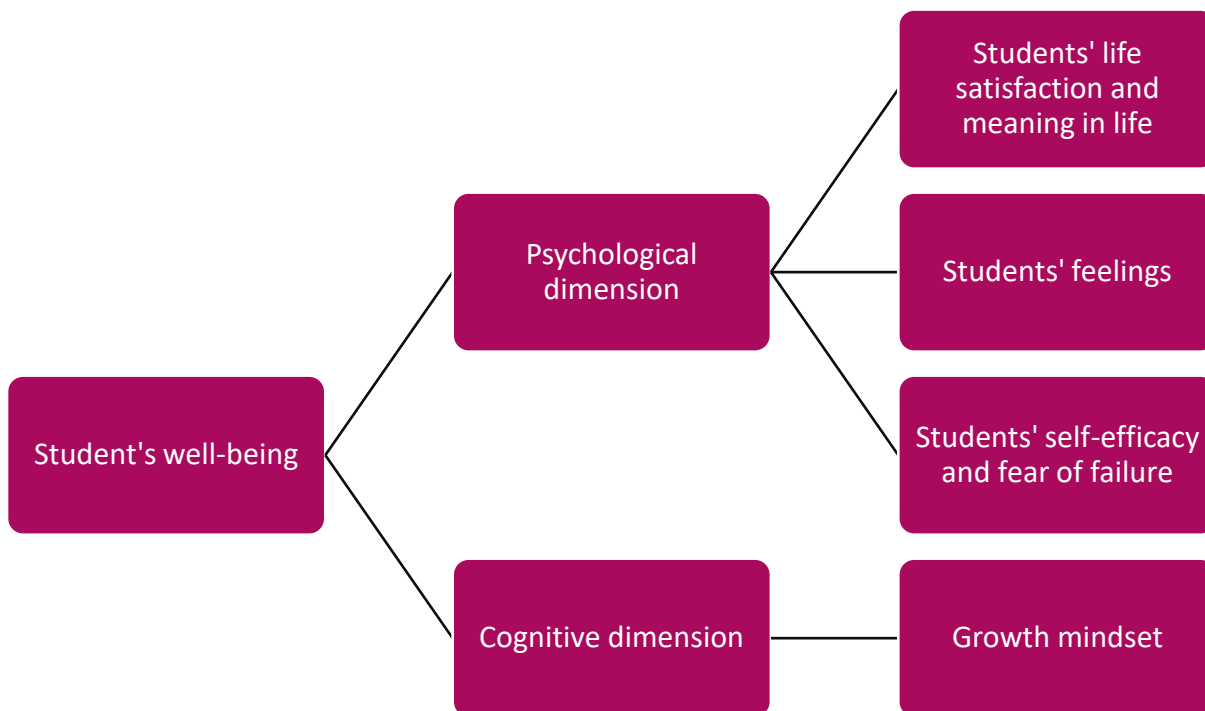
## Research instruments

**Questionnaire for students (see appendix)** - In addition to questions related to gender and age, the questionnaire contains questions to measure the socio-economic opportunities of students such as education and parental occupation, number of material goods, books and other educational resources in the household. Aspects of general student well-being and school climate were measured according to the PISA survey. The student well-being questionnaire includes measures to examine the psychological and cognitive dimensions of well-being. The psychological dimension of well-being includes the following: students' life satisfaction and meaning in life, students' feelings, students' self-efficacy and fear of failure. The cognitive dimension of well-being is the growth mindset. 7 aspects of school climate were also examined: bullying, disciplinary climate, student truancy and lateness, teacher enthusiasm, teachers' support and teaching practices, student cooperation and competition, sense of belonging at school. Also, students were asked to provide final grades at the end of the last school year in the following subjects: mother tongue, mathematics and a subject belonging to the arts stream. The content of certain questions in the questionnaire is adapted to the context of each country.

**Questionnaire for schools (see appendix)** - In the questionnaire for schools, respondents were asked to state the position they hold in school and how long they have worked in that position. A set of questions was also offered in order to gain insight into the characteristics of the local community, school and students: the size of the community in which the school is located, the availability of education in that community, the number of students and their characteristics, e.g. socio-economic status, number of (non) teaching staff, maintenance of school facilities, types of support provided by the school in learning, participation of teaching staff in professional development programs, etc. The questionnaire for schools included measures of 2 aspects of school climate: teacher behaviour and student learning and parental involvement in school activities.

## The models

Given that the goal of impact evaluation is to determine the impact and effectiveness of project activities on learning and well-being of students with lower SES, the first challenge of this research was how to measure student well-being and how to determine socio-economic status of students. Student well-being is a broad construct and encompasses various forms of well-being, such as psychological, cognitive, material, social, or physical well-being (health). Objective measurement of well-being is therefore challenging and demanding and often requires the application of more complex methods of collecting and processing data from different sources. Time frames, as well as many other limitations, did not allow us to measure all the listed forms of well-being. Therefore, we decided to use the well-being model used in the PISA 2018 survey, which is primarily focused on measuring psychological and cognitive well-being. This model has already proved as a stable model in PISA research, including the countries where the ARISE project is being implemented, and this was one of the factors that influenced the choice of this model. The structure of the model is schematically shown below:



*Figure 1 The concept of well-being in PISA research and in this study*

Another challenge in this research was to determine how to measure the school climate or all of the elements of the school climate. The positive school climate can improve students' wellbeing, self-esteem and academic achievement (MacNeil, Prater and Busch, 2009) and therefore it was important to objectively measure the forms of school climate and determine its relationship or

relation to academic achievement and student well-being. The school climate is also a multidimensional latent construct and as such cannot be directly measured. Therefore, here in search of a model or concept of school climate, we decided to use the one used in the PISA 2018 survey. The reasons for choosing this model are mostly identical to the reasons for choosing the well-being model, which is that the model proved to be stable, covers key elements of the school climate and has already been applied as such in countries where the ARISE project is being implemented. Also, this model allowed us not only to measure the school climate but also to identify specific elements of the school climate that are strong predictors of students' academic achievement and well-being.

The school climate model includes three key elements and nine sub-elements, which were measured separately in this research. The concept of school climate used in PISA 2018 and in this research is presented below:

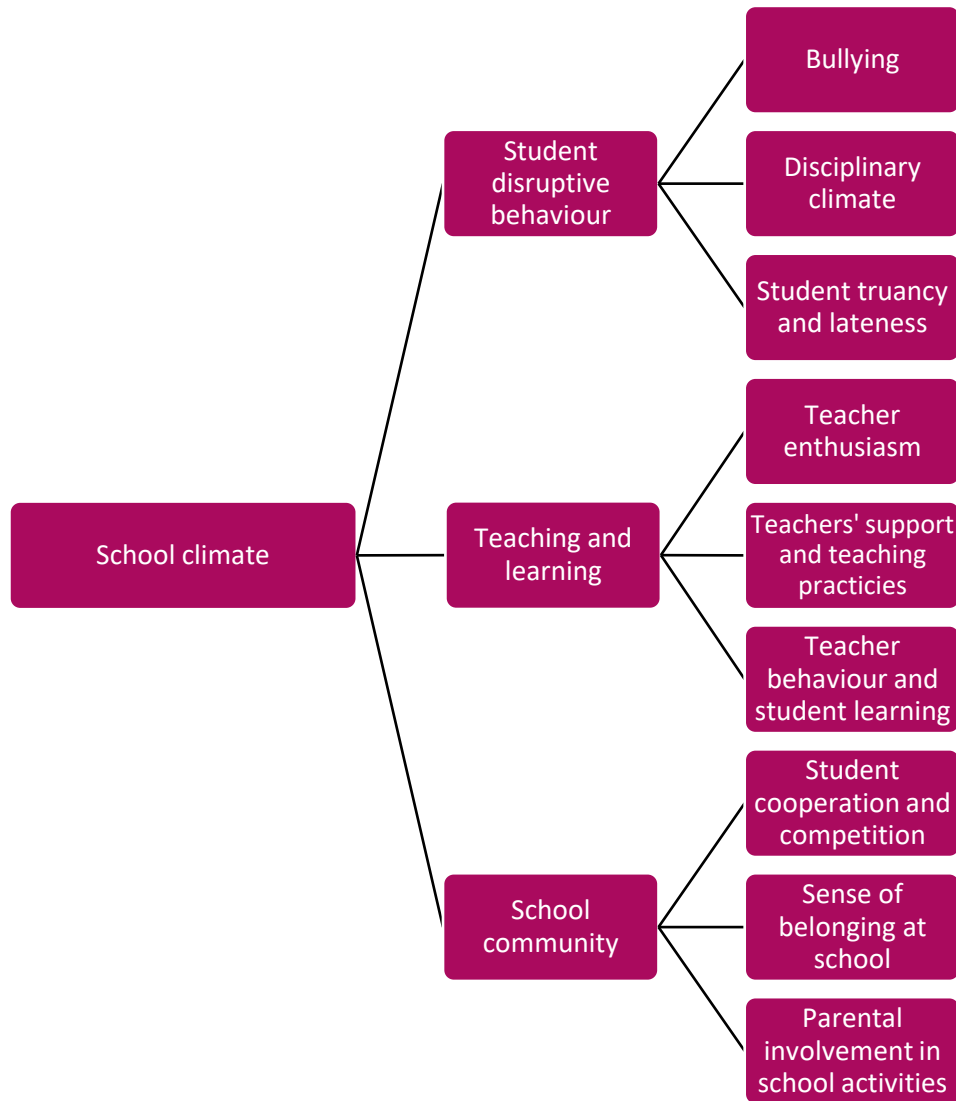


Figure 2: The concept of school climate in PISA research and in this study

## Key findings of baseline study

Before we proceed with presenting the findings of the impact evaluation, we find it important to revisit the key findings from the baseline study conducted prior to the implementation of project activities in schools. Such a review is necessary for a better understanding of the findings of this final impact evaluation.

The Baseline impact evaluation study of the ARISE project was conducted in five project countries across a total of 35 primary schools, comprising 25 schools involved in project activities and 10 schools not involved in project activities. A quasi-experimental research model was employed as the fundamental methodological framework for this research, involving two primary groups of respondents: the experimental group of students (from project schools) and the control group of students (from non-project schools). The research will be repeated immediately after the completion of project interventions with students, using the same respondents, and the real impact of project activities on students will be assessed through the difference in the differences between baseline and endline measurements.

An important methodological assumption and precondition for conducting a quasi-experimental study with experimental and control groups is that both groups of respondents originate from the same population, i.e., the two groups do not significantly differ in their characteristics and the characteristics of their learning environments. The comparison of students from project and non-project schools indicates that these two groups do not significantly differ in most variables (traits), such as gender distribution, parental educational level, socio-economic status (specifically home ownership, availability of books), well-being (specifically life satisfaction, meaning in life, positive and negative feelings, self-efficacy, fear of failure, growth mindset). Similarly, project schools do not significantly differ in the school climate (specifically bullying, disciplinary climate, teacher enthusiasm, teacher support and teaching practices, teacher behaviour, student cooperation and competition, sense of belonging to school, parental involvement in school activities). There are no differences in the academic achievement of students from project and non-project schools. The only established difference between project and non-project schools was observed in student truancy and lateness, where students from non-project schools exhibit a higher degree of truancy and lateness. However, this difference does not significantly affect changes in the school climate in project and non-project schools.

Therefore, in terms of the preconditions for equal experimental and control groups, we can confirm that we met minimal requirements for conducting a quasi-experimental study of impact evaluation.

Regarding key findings or established differences between the two groups of schools or respondents, it was found that most differences arise depending on the socio-economic status of students. Students of lower socio-economic status compared to those of higher socio-economic

status exhibit significantly lower levels of well-being, encompassing all its elements covered in this research. Specifically, students of lower socio-economic status report lower levels of life satisfaction, struggle to find meaning in their lives, experience fewer positive feelings, possess lower levels of self-efficacy, and harbour greater fear of failure.

Additionally, apart from significantly lower general well-being, students of lower socio-economic status are more prone to absenteeism and have a significantly lower sense of belonging at school.

Of particular interest in the baseline study was to ascertain the relationship between socio-economic status, student well-being, school climate, and academic achievement. Concerning academic achievement, students of lower socio-economic status attain significantly lower academic achievements in their native language, mathematics, and art. Moreover, a positive correlation was identified between academic achievement, socio-economic status, and student well-being.

The study established a clear link between the socio-economic status and the school climate on the academic achievement of students. Specifically, the socio-economic status of students and the school climate significantly influence the academic achievement of students, with the impact of socio-economic status being somewhat stronger than that of the school climate. Certain elements of the school climate notably impact students' academic achievement in both project and non-project schools, primarily the sense of belonging at school, parental involvement, and teacher enthusiasm, while student absenteeism has a negative impact.

Furthermore, it was found that the socio-economic status of students and the school climate significantly impact student well-being, although this impact is more pronounced in terms of academic achievement than well-being. Among the significant elements of the school climate that strongly impact well-being, the sense of belonging at school and school competition stand out, where the former has a positive impact while the latter has a negative impact. It is noteworthy that student competition positively affects academic achievement but adversely affects well-being.

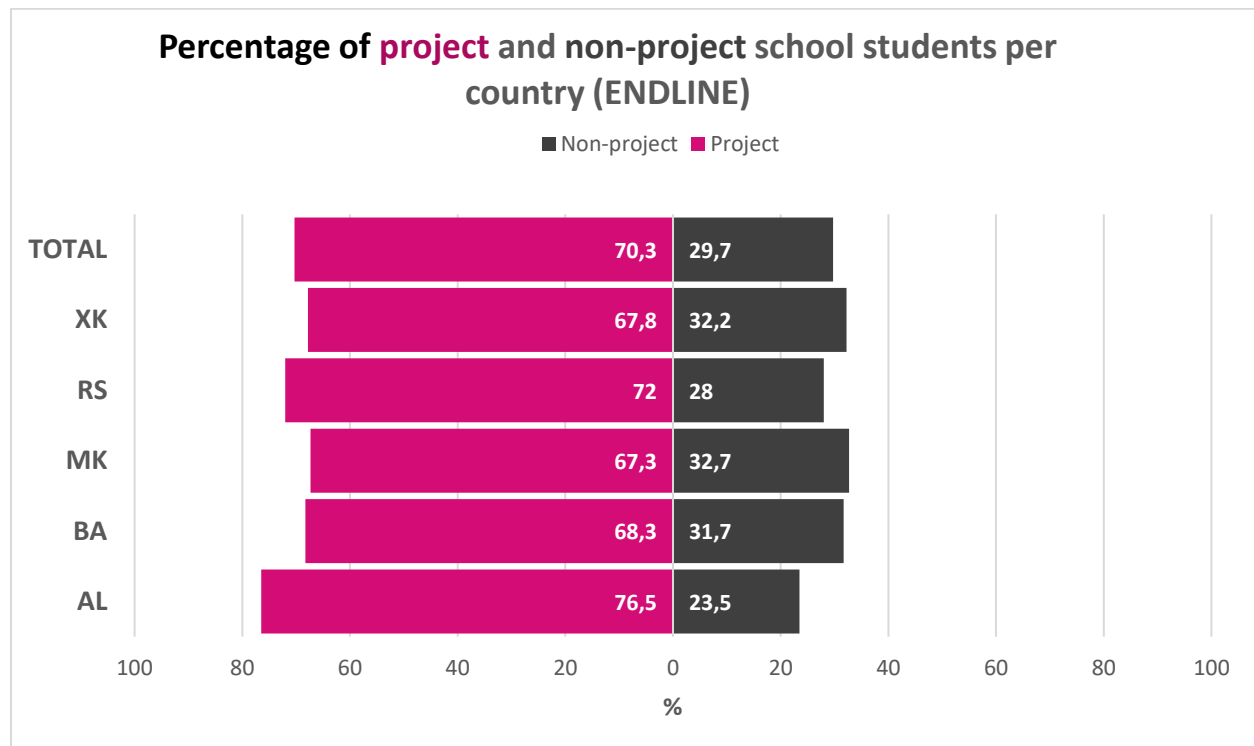
## Findings

### Sample

The Impact Evaluation Study was conducted in 5 project countries, namely Albania, Bosnia and Herzegovina, North Macedonia, Serbia, and Kosovo, encompassing 25 project and 10 non-project schools.

In the baseline study, a total of 1327 students responded to the questionnaire (70.8% from project schools and 29.2% from non-project schools), while in the endline questionnaire, a total of 1399 students responded (70.3% from project schools and 29.7% from non-project schools). The ratio of students from project to non-project schools at the two measurement points does not differ significantly.

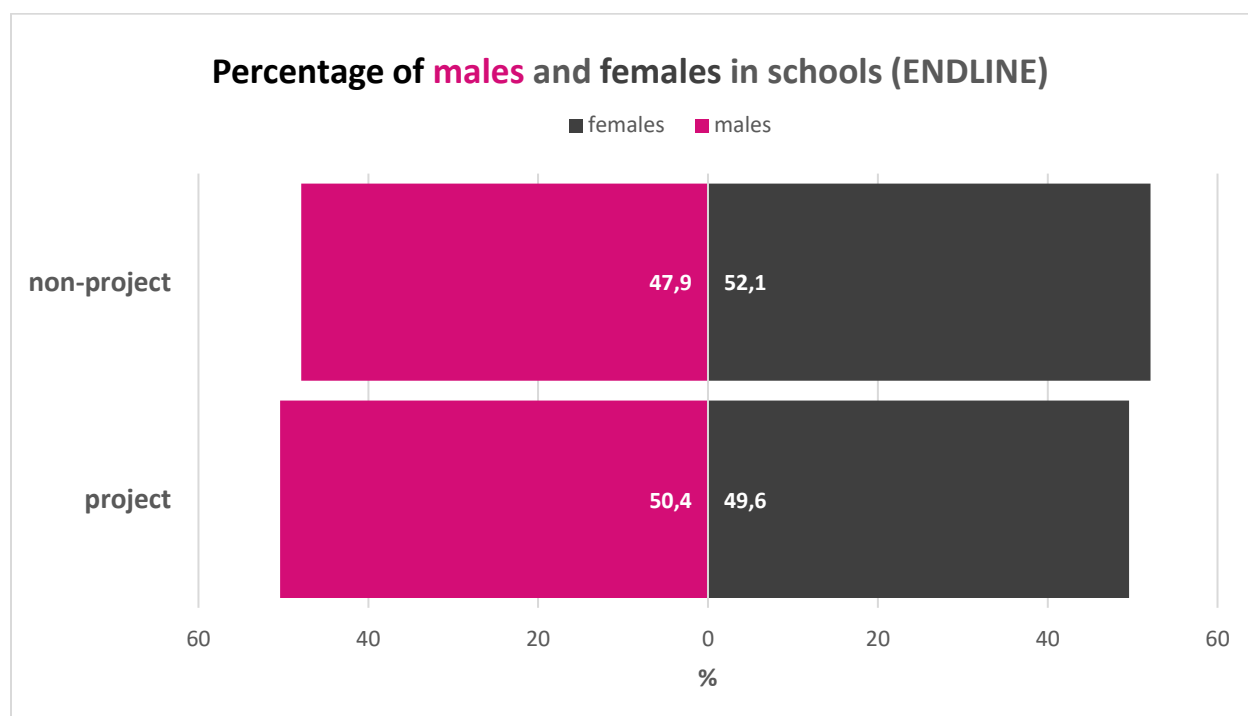
The overview of the ratio of students from project to non-project schools at the final measurement point is shown in the graph below, while the ratio of students from project to non-project schools between the two measurement points is presented in the table.





		Measurement Point							
		Baseline				Endline			
		Group				Group			
		Project		Non-project		Project		Non-project	
		n	%	n	%	n	%	n	%
<b>Country</b>	AL	214	78.1%	60	21.9%	186	76.5%	57	23.5%
	BA	172	76.4%	53	23.6%	190	68.3%	88	31.7%
	MK	116	59.5%	79	40.5%	140	67.3%	68	32.7%
	RS	222	71.6%	88	28.4%	219	72.0%	85	28.0%
	XK	216	66.9%	107	33.1%	248	67.8%	118	32.2%
	Total	940	70.8%	387	29.2%	983	70.3%	416	29.7%

When it comes to the ratio of students by gender, it is balanced with equal representation of boys and girls in both project and non-project schools, as well as at both measurement points. Specifically, minor differences in the ratio of boys and girls are not statistically significant<sup>1</sup>, so we can conclude that there are no differences.



<sup>1</sup>baseline  $\chi^2(1) = 1,98$ ,  $p > 0,05$ ; endline  $\chi^2(1) = 0,73$ ,  $p > 0,05$

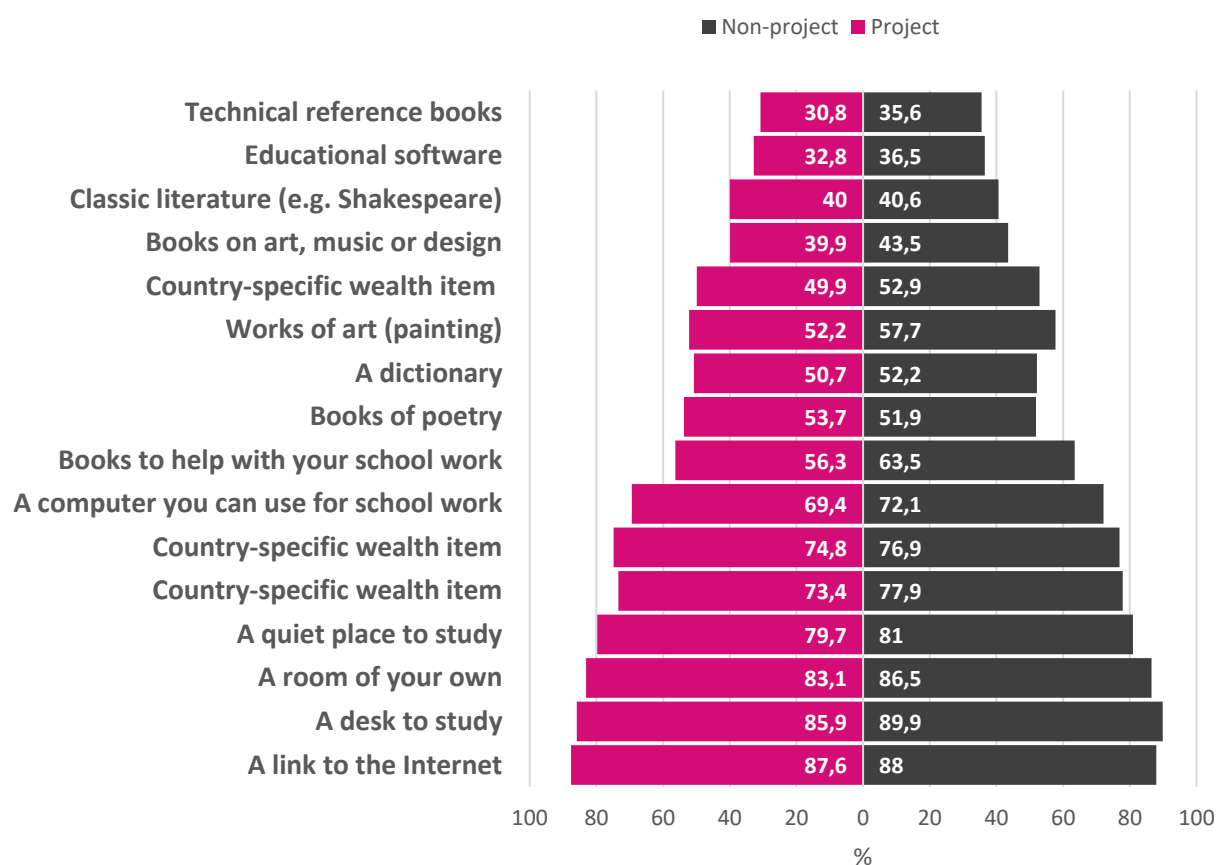
		Measurement Point							
		Baseline				Endline			
		Group				Group			
		Project		Non-project		Project		Non-project	
		n	%	n	%	n	%	n	%
<b>Gender</b>	Male	462	51.9%	173	47.5%	474	50.4%	191	47.9%
	Female	428	48.1%	191	52.5%	466	49.6%	208	52.1%
	Total	890	100.0%	364	100.0%	940	100.0%	399	100.0%

In both project and non-project schools, the majority of students, over 85%, have access to the internet at home. Additionally, more than 85% of students also report having their own desk and their own room. A slightly smaller percentage of students possess technical literature or manuals, educational software, as well as classic literary literature at home.

Compared to the initial measurement, there have been no significant changes in home possessions for both the project and non-project groups.

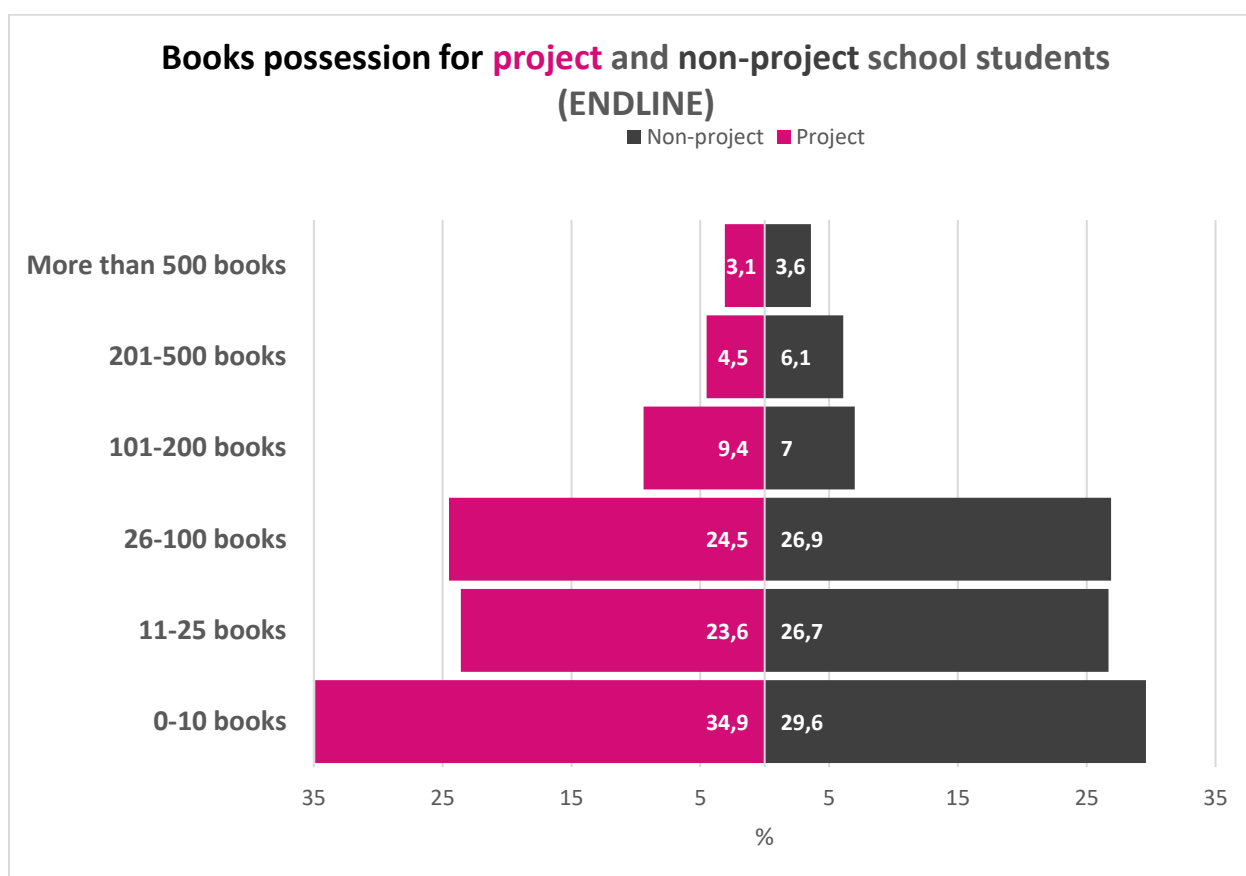
Students in project and non-project schools do not differ in terms of home possessions or the estimated number of books at home, both at the baseline and endline measurements.

## Home possession for **project** and non-project school students (ENDLINE)



	Group			
	Project		Non-project	
	n	%	n	%
A desk to study	844	85.9%	374	89.9%
A room of your own	817	83.1%	360	86.5%
A quiet place to study	783	79.7%	337	81.0%
A computer you can use for schoolwork	682	69.4%	300	72.1%
Educational software	322	32.8%	152	36.5%
A link to the Internet	861	87.6%	366	88.0%
Classic literature (e.g. Shakespeare)	393	40.0%	169	40.6%
Books of poetry	528	53.7%	216	51.9%

Works of art (painting)	513	52.2%	240	57.7%
Books to help with your schoolwork	553	56.3%	264	63.5%
Technical reference books>	303	30.8%	148	35.6%
A dictionary	498	50.7%	217	52.2%
Books on art, music or design	392	39.9%	181	43.5%
Country-specific wealth item 1	722	73.4%	324	77.9%
Country-specific wealth item 2	735	74.8%	320	76.9%
Country-specific wealth item 3	491	49.9%	220	52.9%



	Group			
	Project		Non-project	
	n	%	n	%
How many books are there in your home?	333	34.9%	122	29.6%
Please mark one of the answers provided	225	23.6%	110	26.7%
0-10 books	234	24.5%	111	26.9%
11-25 books	90	9.4%	29	7.0%
26-100 books	43	4.5%	25	6.1%
101-200 books	30	3.1%	15	3.6%
201-500 books				
More than 500 books				

One of the important questions in the endline measurement is whether students in project schools participated in activities from the ARISE project. Based on the students' responses, we can conclude that 70.7% of the surveyed students in project schools participated in project activities, while 29.3% of the surveyed students did not participate in ARISE project activities.

	Group			
	Project		Non-project	
	n	%	n	%
Participation in project activities	288	29.3%	416	100.0%
No	695	70.7%	0	0.0%
Yes				

## Characteristics of schools

There is some variation in the size of settlements or places where schools are located. One quarter of schools (25.7%) are located in small towns with less than 3,000 inhabitants, i.e. in rural areas. 28.6% of schools are located in smaller cities with up to 15,000 inhabitants, 31.4% of schools are in cities with between 15,000 and 100,000 inhabitants, and 14.3% of schools are in cities with over 100,000 inhabitants.

	School location	
	n	%
A village, hamlet or rural area (fewer than 3 000 people)	9	25.7%
A small town (3 000 to about 15 000 people)	10	28.6%
A town (15 000 to about 100 000 people)	11	31.4%
A city (100 000 to about 1 000 000 people)	5	14.3%
A large city (with over 1 000 000 people)	0	0.0%

About 60% of schools are located in areas where there are some other schools that compete for students in a certain way, while 41.2% of schools are located in areas where there is no other school that compete for students.

	Which of the following statements best describes the schooling available to students in your location?	
	n	%
There are two or more other schools in this area that compete for our students.	10	29.4%
There is one other school in this area that competes for our students.	10	29.4%
There are no other schools in this area that compete for our students	14	41.2%

The data collected at the endline measurement shows that the average number of students in project schools decreased by 30 students compared to the baseline measurement (baseline: 674 students; endline: 644). Additionally, there was a decrease in the average number of teachers in project schools by three teachers (baseline: M=55; endline: M=52).

A decreasing trend in the number of students was also observed in non-project schools, where the average number of students decreased by 24, but there was an increase in the average number of teachers by 3.

The teacher-student ratio at the endline measurement in project schools remained unchanged, at 1:12, while in non-project schools, this ratio changed from 1:13 to 1:12.

However, these changes in the average numbers of students and teachers between the two measurement points are not statistically significant<sup>2</sup>.

	Measurement point					
	baseline			endline		
	Group			Group		
	project	non-project	Total	project	non-project	Total
Mean	Mean	Mean	Mean	Mean	Mean	
male students	347	271	325	333	261	313
female students	327	258	307	311	244	292
male teaching staff	16	11	14	15	10	14
female teaching staff	39	29	36	37	33	36
male non-teaching staff	5	4	5	6	4	5
female non-teaching staff	8	7	8	9	7	8

There were no statistically significant changes in the average number of students whose mother language is different from the language taught in school as the mother language, both in project schools and non-project schools (project schools<sup>3</sup>: baseline 10,9 and endline 15,16; non-project schools<sup>4</sup>: baseline 14,71 and endline 7). Similarly, there were no significant changes in the average number of students with special needs, or students from socioeconomically disadvantaged homes, in both project and non-project schools.

However, it is important to note that there are significant variations in the average numbers of students from all the aforementioned categories in both groups of schools (project and non-project), and these significant variations are present in both baseline and endline measurements.

Regarding the availability of basic information technologies in schools, on average, one computer for educational purposes is shared by 80 students in non-project schools and 63 students in project schools. Similarly, one portable computer is shared by 160 students in project schools and 153 students in non-project schools. This finding indicates the extremely limited digital resources available in schools.

Even after two years, the percentage of teachers who attended professional development programs in the last three months remains unchanged, both in project and non-project schools.

<sup>2</sup> Students in project schools  $F(1) = 0,061, p > 0.05$   
 Students in non-project schools  $F(1) = 2.54, p > 0.05$   
 Teaching-staff in project schools  $F(1) = 0,121, p > 0.05$   
 Teaching-staff in non-project schools  $F(1) = 0,162, p > 0.05$   
<sup>3</sup>  $F(1) = 0,373, p > 0.05$   
<sup>4</sup>  $F(1) = 1,152, p > 0.05$

Still, only about one-third of teachers, on average, had the opportunity to attend any professional development program.

However, it is crucial to emphasize that there are significant and extreme variations between schools, indicating unequal opportunities for students attending different schools.

	Measurement point					
	baseline			endline		
	Group			Group		
	non-project	Total	non-project	Total	non-project	Total
M	M	M	M	M	M	
During the last three months, what percentage of teaching staff in your school has attended a programme of professional development?	36.44	38.20	36.92	37.00	43.50	39.10

Generally, there haven't been significant changes in the characteristics of schools between the two measurement points. Although there is a tendency for a decrease in the number of students in schools, this decrease, within the measured time frame, is not statistically significant. Additionally, the other described characteristics of schools have mostly remained unchanged. These findings are particularly significant for conducting this impact evaluation because changes in school characteristics between the two measurement points, which are not the result of the ARISE project, could negatively impact the reliability of the evaluation model and the findings obtained from the evaluation.

**Socio-economic status of students (SES)**

The socio-economic status of students is assessed through the calculation of the SES student index, which is derived from various variables or questions in a student questionnaire, including parental education level, parent occupation, possession of household items, and availability of books at home. This index is then divided into quartiles, with the lowest quartile representing



students from lower or unfavourable socio-economic backgrounds, and the fourth quartile representing students from favourable socio-economic backgrounds. Since the economies of the participating countries vary, the socio-economic status of students is calculated separately for each country and each measurement point (baseline and endline survey).

The obtained data on the socio-economic status of students from both groups of schools (project and non-project schools) and at both measurement points indicate that the distribution of students based on socio-economic status has remained unchanged between the two measurement points.

There is a noticeable trend showing a slight decrease in the percentage of students from unfavourable socio-economic backgrounds (in project schools, from 28.6% to 23.8%, and in non-project schools, from 24.8% to 21.6%), and an increase in the percentage of students from extremely favourable socio-economic backgrounds (in project schools, from 23.4% to 27%, and in non-project schools, from 24.5% to 30.3%). However, this change is not statistically significant<sup>5</sup>.

It is important to emphasize that there are no statistically significant differences in the socio-economic status of students between project and non-project schools, both at baseline and endline measurements. Accordingly, we can confirm that students from project and non-project schools come from the same population, which is crucial for the validity of this impact evaluation.

A more detailed overview of the socio-economic status of students is provided in the table below:

		Measurement Point							
		Baseline				Endline			
		Group		Group		Group		Group	
		Project	Non-project	Project	Non-project	Project	Non-project	Project	Non-project
		n	%	n	%	n	%	n	%
<b>ESCS status</b>	Bottom quarter	269	28.6%	96	24.8%	234	23.8%	90	21.6%
	Second quarter	222	23.6%	90	23.3%	217	22.1%	80	19.2%
	Third quarter	229	24.4%	106	27.4%	267	27.2%	120	28.8%
	Top quarter	220	23.4%	95	24.5%	265	27.0%	126	30.3%

<sup>5</sup>Project schools:  $\chi^2(3) = 2.61, p > 0.05$

Non-project schools:  $\chi^2(3) = 3.168, p > 0.05$

## Well-being

Student well-being is a dynamic condition, a phenomenon that is subject to change and as such can have a significant impact on the development of well-being in adulthood. Well-being is also a complex construct and consists most often of the psychological, cognitive, material, social and physical functionality of a person and the capacities that make a person live a happy and fulfilling life. The well-being of students is affected by various phenomena and circumstances, both those in school and those outside school. In measuring student well-being, we have taken into account two basic constructs of well-being, namely psychological and cognitive well-being, which are largely developed and realized in the school environment.

The student well-being index in this study was created as the average score of psychological and cognitive well-being of students. Theoretically, the score can range from 1 to 4 where higher values indicate better well-being.

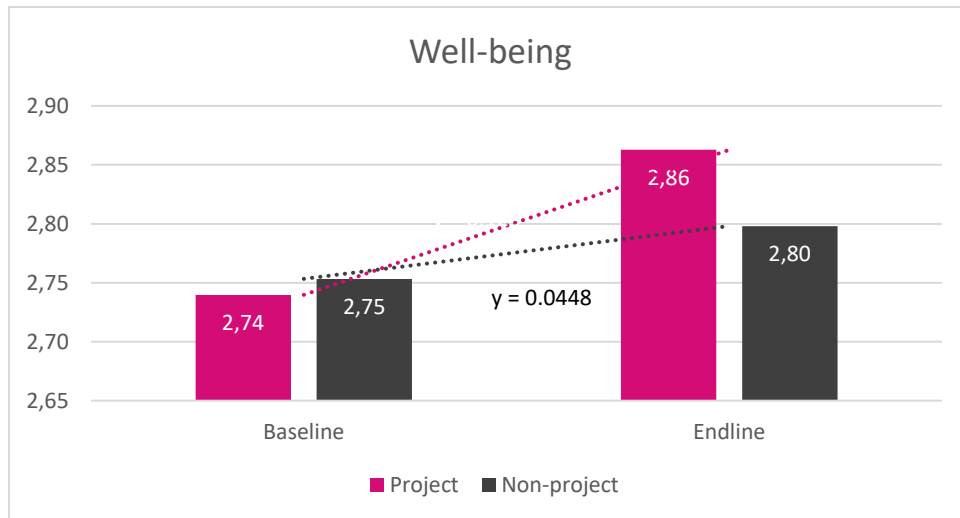
The baseline study found that students in both project and non-project schools exhibit a moderate level of well-being (project  $M = 2.74$ , non-project  $M = 2.75$ ) and that they did not significantly differ in their level of well-being.

Endline measurements revealed certain changes in the level of well-being among students in both project and non-project schools. Specifically, the level of well-being among students in project schools increased from 2.74 to 2.86 ( $\gamma = 0.123$ ), and this increase was statistically significant.<sup>6</sup> A trend of well-being growth was also observed among students in non-project schools, where the level of well-being increased from 2.75 to 2.80 ( $\gamma = 0.0448$ ), but this increase was not statistically significant<sup>7</sup>. Therefore, we can conclude that the level of well-being among students in project schools significantly improved, while there was no significant improvement among students in non-project schools.

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<sup>6</sup>  $F(1) = 29,36, p < 0.01$

<sup>7</sup>  $F(1) = 1,679, p > 0.05$



Although the above finding suggests a significant improvement in the well-being of students in project schools, it does not necessarily mean that the change occurred due to the impact of the ARISE project's activities. Answering this question is a key task of impact evaluation, which is why a quasi-experimental evaluation model was established, as previously described in the methodological section. To measure the possible impact of project activities on students' well-being, it is necessary to control for all other possible influences when calculating the possible impact. One way to control for potential impact is to compare the changes that occurred among students in project schools with those among students in non-project schools during the defined measurement period of these changes. Specifically, this study aimed to measure the existence of differences in differences (DID) changes and whether these differences are significant.

This model of measuring the impact of project activities on the well-being of students in project schools indicates that the improvement in students' well-being in project schools is a result of the impact of project activities in the ARISE project, and this change is significant.<sup>8</sup>

**Therefore, we can conclude that the project activities of the ARISE project had an impact on significant increase of the well-being of students in project schools.**

<sup>8</sup> (F(1, 1229) = 6.377, p = 0.012, η<sup>2</sup> = 0.005)

## Well-being of students of unfavourable SES

When we look at the differences in the change of well-being between students with favourable and unfavourable socioeconomic status, the results show that in project schools, there has been an improvement in well-being between the two measurement points among students with unfavourable SES, while there hasn't been significant change among students with favourable SES.<sup>9</sup>

In non-project schools, there hasn't been significant change in students' well-being between measurement points regardless of whether the student belongs to the group with favourable or unfavourable SES.

Therefore, we can conclude that the real and significant change in students' well-being at the endline measurement compared to the baseline measurement was achieved only among students with unfavourable socioeconomic status in project schools. There hasn't been statistically significant improvement in well-being among students with favourable socioeconomic status in project schools, as well as among students with favourable and unfavourable socioeconomic status in non-project schools.

A detailed presentation of the results of differences in relation to SES status and measurement points is shown in the table below.

	SES status			
	unfavourable		favourable	
	WELLBEING		WELLBEING	
	Project	Non-project	Project	Non-project
<b>Baseline</b>	2,63	2,67	2,83	2,78
<b>Endline</b>	2,73	2,64	2,90	2,84

## Participation in ARISE project activities and student well-being

Not all students from project schools directly participated in ARISE project activities. To further investigate the potential impact of the ARISE project on student well-being, we compared whether there were significant changes in the well-being of students who confirmed in the endline

<sup>9</sup> Students of unfavorable SES in project schools:  $F(1) = 6,469$ ,  $p < 0.05$

Students of favorable SES in project schools:  $F(1) = 3,157$ ,  $p > 0.05$

Students of unfavorable SES in non-project schools:  $F(1) = 0,156$ ,  $p > 0.05$

Students of favourable SES in non-project schools:  $F(1) = 2,138$ ,  $p > 0.05$

survey that they participated in ARISE project activities compared to students who confirmed that they did not participate in those activities.

The analysis showed that students who participated in ARISE project activities at the endline measurement had a higher level of well-being ( $M=2.91$ ) compared to students who did not participate in those activities ( $M=2.75$ ), and this difference is statistically significant.<sup>10</sup>

Furthermore, students could participate in one or more project activities. The analysis found that there is a significant positive impact of the number of activities on student well-being. Specifically, the more students participated in project activities, the greater the impact of those project activities on well-being. This impact is also statistically significant.<sup>11</sup>

**Based on the findings presented above, we can conclude that there has been a genuine positive impact of project activities on the well-being of students in project schools. While this impact is noticeable among students with both favourable and unfavourable SES in project schools, it is particularly significant among students with unfavourable SES. Additionally, the existence of causality between the number of activities in which students participated and well-being has been established. Specifically, student well-being increased with increased participation in activities.**

**Therefore, project activities designed and implemented with the aim of improving the well-being of students with unfavourable SES have met project expectations, i.e., they have influenced improvement in well-being of students with unfavourable SES through participation in activities.**

As explained in the previous section of this study, the construct of well-being is complex and consists of a series of elements. Two basic elements that constitute the well-being measured in this study are 1) **psychological well-being** and 2) **cognitive well-being**. While cognitive well-being is mainly manifested through mindset, psychological well-being is somewhat more complex and consists of multiple dimensions. In order to determine the specific elements and dimensions of student well-being affected by the project, we conducted analyses for each of these elements and dimensions. The results of these analyses are presented in the following sections of this study.

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<sup>10</sup>  $F(1) = 22,392, p < 0.01$

<sup>11</sup>  $R^2=0,065, \beta = 0,255; p < 0.01$

## Psychological well-being of students

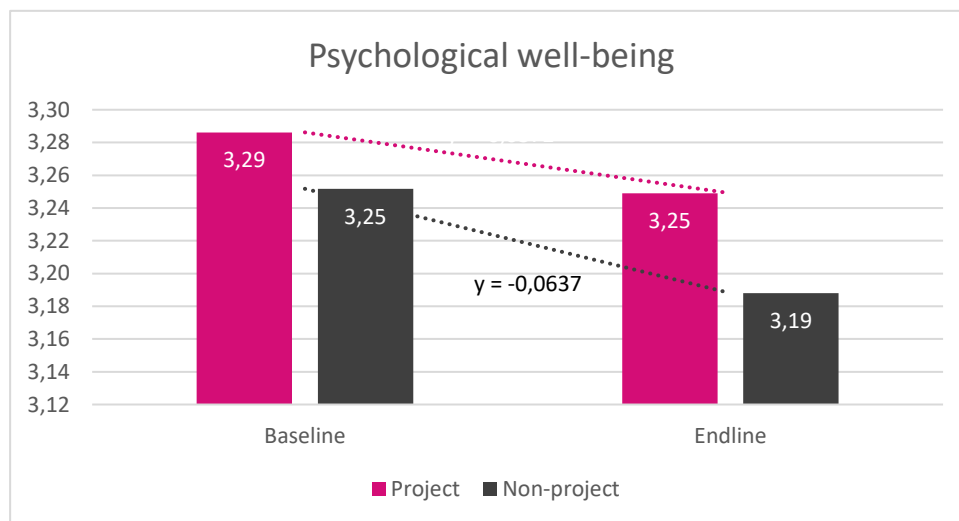
The psychological well-being of students encompasses various dimensions and phenomena. In this study, we considered several constructs of psychological well-being, namely Students' life satisfaction, Meaning in life, Positive and negative feelings, Self-efficacy, and Fear of failure. Specific research findings related to these constructs will be presented later.

The student psychological well-being index was created as a composite score of the aforementioned constructs, ranging from 1 to 4, where higher values indicate higher psychological well-being.

The baseline study found that students in both project and non-project schools have moderate psychological well-being and do not differ significantly. Differences in psychological well-being at baseline were observed between students of favourable and unfavourable SES in both groups (project and non-project), indicating the existence of inequality in psychological well-being depending on SES status.

At the endline measurement, a decrease (deterioration) in students' psychological well-being compared to baseline was observed in both groups (project and non-project). Within the groups, the decline in psychological well-being in project schools, from  $M=3.29$  to  $M=3.25$ , was not statistically significant<sup>12</sup>, while the decline in psychological well-being in non-project schools, from  $M=3.25$  to  $M=3.19$ , was statistically significant<sup>13</sup>. This means that a real decline in psychological well-being occurred only in students from non-project schools, while in project schools, it remained unchanged but with a tendency to worsen.

A detailed overview of the results of changes in the psychological well-being scale is shown in the graph below.



<sup>12</sup>  $F(1) = 3,678, p > 0,05$

<sup>13</sup>  $F(1) = 4,155, p < 0,05$

The previously described changes in psychological well-being within the groups do not prove the existence of an impact of project activities on psychological well-being. Like overall well-being, the impact of project activities must be observed through differences in differences between groups and across measurement points.

**Thus, a significant impact of project activities on psychological well-being was identified.<sup>14</sup> In other words, project activities had a significant effect on the psychological well-being of students in project schools.**

Although there was no improvement in psychological well-being in either group, project activities helped prevent a significant decline in well-being of students in project schools, like the one observed in students from non-project schools. Therefore, we can conclude that the ARISE project prevented a significant deterioration in the psychological well-being of students in project schools.

As to why there was a decline or a tendency for decline in psychological well-being, this study cannot provide an answer. However, these changes could be attributed to the developmental characteristics of students in the adolescent period. In psychological literature, adolescence is defined as a period of physical and psychological growth and maturation, as well as social changes, where various factors can contribute to a decline in psychological well-being. One of the key factors is hormonal changes during this life stage, which affect individual emotional reactions. Hormonal fluctuations can lead to mood changes and emotional instability, as well as difficulties in coping with stress and adapting to the challenges of adolescence. (Reena, 2015). Additionally, during adolescence, young people face various social pressures from family and peers, where the desire for belonging and identity formation is most intense. Specifically, adolescents strive to build social identity, facing pressures related to conforming to group norms and standards. Peer pressure influences individual behaviour and attitudes, and this process of seeking social identity and adapting to group expectations can lead to insecurity and negative emotional states. Furthermore, young people in their search for identity strive to define their own values, interests, and beliefs, and this personal growth and attempt to answer the questions "who am I and what do I want to achieve" is often accompanied by feelings of insecurity, confusion, and anxiety. (Vasta et al.; 1998; Schaie et al., 2001).

#### Psychological well-being of students from unfavourable SES

When considering differences in the psychological well-being of students based on their SES, the results suggest that there was a decrease in psychological well-being among students from unfavourable SES in project schools, with a change from  $M=3.19$  to  $M=3.15$ , but this decrease

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<sup>14</sup> ( $F(1, 1229) = 5.756, p = 0.017, \eta^2 = 0.005$ )

was not significant<sup>15</sup>. However, a significant decrease was observed among students from favourable SES in project schools, where the psychological well-being decreased from  $M=3.39$  to  $M=3.27$ .<sup>16</sup>

Regarding students from non-project groups, there is a noticeable trend of decreased psychological well-being among both favourable and unfavourable SES students, but the differences between the groups are not significant.<sup>17</sup>

### Participation in ARISE project activities and psychological well-being

Additionally, we found that there is a difference in the level of psychological well-being among students who participated in project activities compared to those who did not. Specifically, the psychological well-being of students from project schools who participated in project activities is  $M=3.28$ , which is statistically significantly higher compared to students from project schools who did not participate in project activities ( $M=3.18$ ).<sup>18</sup>

Overall, considering all the above, it can be concluded that the ARISE project had a significant impact on the psychological well-being of students, and this impact was mainly manifested through preventing a significant deterioration in psychological well-being that would have occurred without the project activities. This preventive effect is more significant among students from unfavourable SES and students who directly participated in project activities.

### Students' life satisfaction

Life satisfaction is a global assessment of quality of life according to one's own criteria (Kovčo-Vukadin, Novak & Križan, 2016). Well-being can also be seen as a greater presence of positive emotions and moods. It is important to emphasize that life satisfaction and happiness can be achieved by meeting primary needs and achieving set goals (Schimmack, 2008; Galinec, 2018). Meaning in life is seen as an important component of well-being that is necessary for the adaptive functioning of the individual. This component implies a sense that life is valuable, a sense of focus and a sense of productivity (Galinec, 2018). In modern conceptions of well-being, it is assumed that a pleasant, engaged and meaningful life is the path to happiness and well-being. A pleasant life is based on hedonism, that is increasing positive emotions and having more enjoyable experiences.

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<sup>15</sup>  $F(1) = 0,903, p > 0,05$

<sup>16</sup>  $F(1) = 14,062, p < 0,01$

<sup>17</sup> Non-project favorable SES:  $F(1) = 3,147, p > 0,05$

Non-project unfavorable SES:  $F(1) = 1,787, p > 0,05$

<sup>18</sup>  $F(1) = 11,641, p < 0,01$

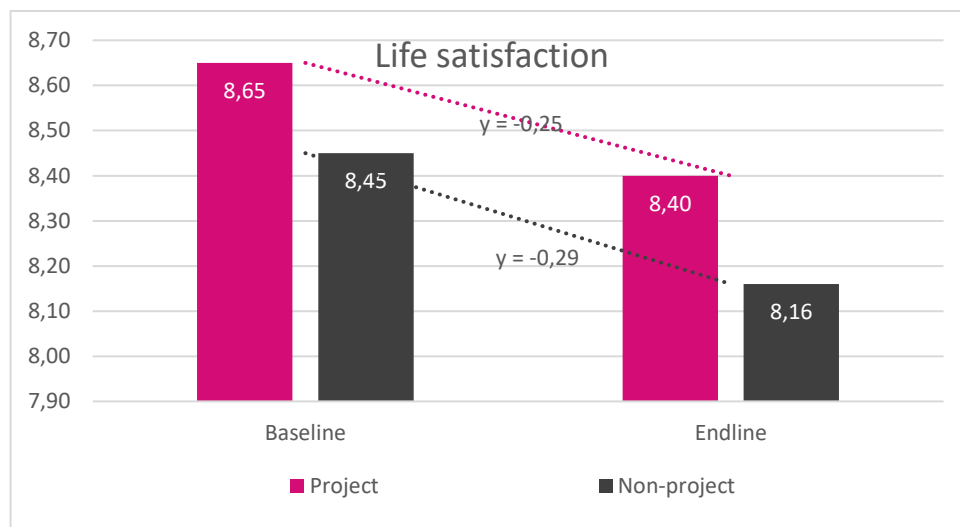


The feeling of life satisfaction due to engagement in life is the result of involvement in various activities. Meaningful life is based on activities that achieve an important goal (Brdar & Anić, 2010).

Student life satisfaction was measured using a statement in which students were asked to express how satisfied they were globally with their lives on a scale of 0 to 10. Higher values indicate higher satisfaction, and lower values indicate lower satisfaction.

At the baseline measurement, students from both project and non-project schools expressed a high level of life satisfaction, with an average score of around  $M=8.50$ , and they did not differ in their level of life satisfaction. However, students from unfavourable SES had a significantly lower level of life satisfaction compared to students from favourable SES.

At the endline measurement, there was a decrease in the life satisfaction scale among students from both project schools (from  $M=8.65$  to  $M=8.40$ ) and non-project schools (from  $M=8.45$  to  $M=8.16$ ), with the decrease being statistically significant among students from project schools<sup>19</sup>, while it was not statistically significant among students from non-project schools<sup>20</sup>.



#### Life satisfaction among students from unfavourable SES

When differences in life satisfaction changes between the two measurement points are observed through students' socioeconomic status, the data shows that life satisfaction significantly decreased only among students from favourable SES in project schools (from  $M=9.01$  to

<sup>19</sup>  $F(1) = 6,717, p < 0,05$

<sup>20</sup>  $F(1) = 3,562, p > 0,05$

M=8.43)<sup>21</sup> while there was no significant change among students from unfavourable SES (from M=8.36 to M=8.31)<sup>22</sup>.

Regarding non-project schools, there was no significant change in life satisfaction among students from either favourable or unfavourable SES. However, there is a noticeable trend of decreased life satisfaction among both groups of students.

#### Participation in ARISE project activities and life satisfaction

Comparing the life satisfaction of students who participated and those who did not participate in project activities in project schools, the data shows that students who participated in activities have a slightly higher level of life satisfaction (M=8.46) compared to those who did not participate (M=8.26). However, this difference is not statistically significant<sup>23</sup>.

Taking into account all the above, we can conclude that life satisfaction at the endline measurement is lower than at the baseline measurement, with the decrease in life satisfaction among students from project schools being statistically significant. In terms of students' SES, a significant decrease in life satisfaction occurred only among students from project schools with favourable SES, while among students from project schools with unfavourable SES and all students from non-project schools, the decrease in life satisfaction was not statistically significant.

#### Meaning in life

Meaning in life was measured by three statements on which students were required to express their degree of agreement, using four degrees of agreement or disagreement. Based on their answers, an index value was constructed that shows the degree of Meaning in life, in which higher values indicate greater Meaning in life. This index could also range from 1 to 4.

At baseline measurement, students from both project and non-project schools showed moderate Meaning in life (M=3.29) and did not statistically differ from each other. In this case as well, students from unfavourable SES had significantly lower scores on the Meaning in life scale compared to students from favourable SES.

At endline measurement, a decrease in Meaning in life was observed among both groups of students compared to the initial measurement, with the decrease being statistically significant in the project group<sup>24</sup>.

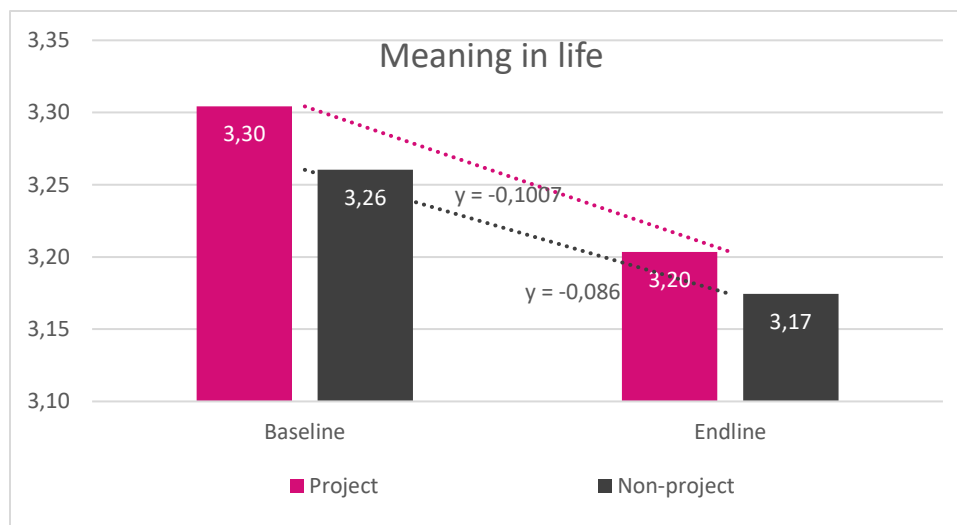
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<sup>21</sup> F (1) = 13,852, p<0,01

<sup>22</sup> F (1) = 0,043, p>0,05

<sup>23</sup> F (1) = 1,729, p>0,05

<sup>24</sup> F (1) = 12,656, p<0,01



### Meaning in life of students from unfavourable SES

When considering the SES of students, both students from favourable and unfavourable SES backgrounds in both project and non-project groups experienced a decline in Meaning in life at the endline measurement. However, this decline was statistically significant only in project schools for both the favourable SES group (from  $M=3.42$  to  $M=3.24$ )<sup>25</sup> and the unfavourable SES group (from  $M=3.18$  to  $M=3.06$ )<sup>26</sup>.

### Participation in ARISE project activities and Meaning in life

In relation to participation in ARISE project activities, Meaning in life was statistically significantly higher among students who participated in project activities ( $M=3.26$ ) compared to those who did not participate ( $M=3.10$ )<sup>27</sup>.

Taking all of the above into consideration, it can be concluded that there was a decline in Meaning in life at the endline measurement for students from both project and non-project schools, with this decline being significant only among students from project schools, both those from unfavourable and favourable SES backgrounds. However, significant decline was not observed among students who participated in ARISE project activities.

<sup>25</sup>  $F(1) = 13,853, p < 0,01$

<sup>26</sup>  $F(1) = 3,95, p < 0,05$

<sup>27</sup>  $F(1) = 10,867, p < 0,01$

### Students' feelings

Students' feelings are clearly related to the student's psychological well-being but also to their academic achievement. In the school context, positive feelings are related to student motivation, self-efficacy and general engagement in learning, and consequently indirectly to academic achievement. On the other hand, negative feelings can have a demotivating effect and can negatively affect the general well-being and the physical health of the student, consequently impacting their academic achievement. In this study, we wanted to measure how often students feel both positive and negative feelings, which are an integral part of psychological well-being. The students had to answer a series of positive and negative statements about how often they feel these feelings.

Based on these statements, we created two index values: index of positive and index of negative feelings. Both indices indicate the degree of feelings, where with the index of positive feelings, higher values indicate a higher degree of positive feelings, while with the index of negative feelings, higher values indicate less represented negative feelings.

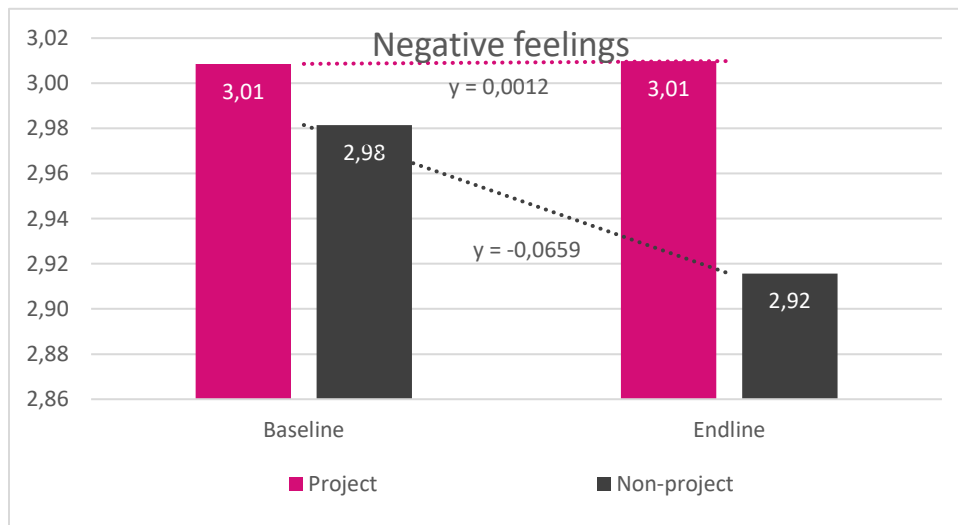
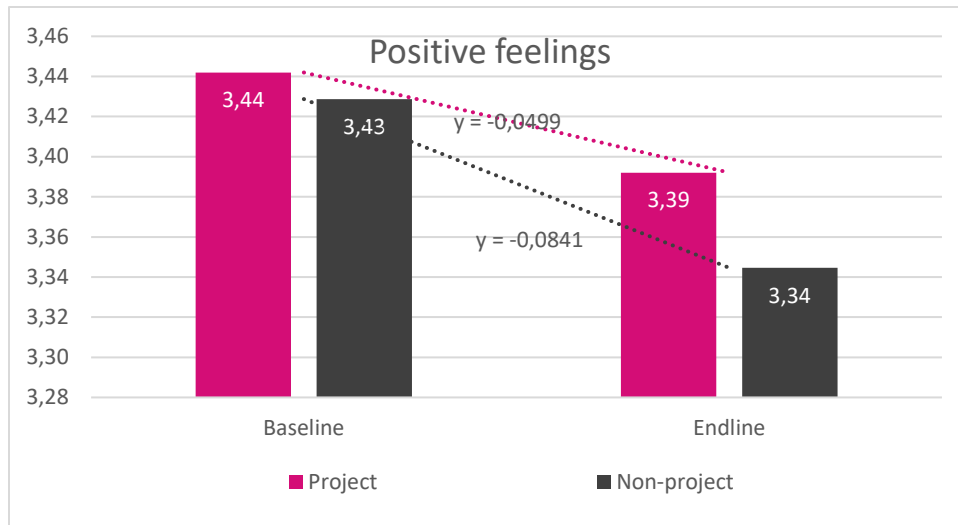
At baseline measurement, it was found that students more frequently experience positive than negative feelings, and there was no difference in the frequency of occurrence of both positive and negative feelings. However, it was observed that students from unfavourable SES statistically significantly have fewer positive feelings, but not negative feelings, compared to students belonging to the favourable SES group.

At endline measurement, students expressed fewer positive feelings, indicating a significant decrease in the frequency of positive feelings among both students from project schools (decrease from  $M=3.44$  to  $M=3.39$ )<sup>28</sup>, and non-project schools (decrease from  $M=3.43$  to  $M=3.34$ )<sup>29</sup>. Regarding negative feelings, there was no significant change in the frequency of negative feelings in either the project or non-project group, but there was a tendency towards an increase in the frequency of negative feelings in the non-project group.

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<sup>28</sup>  $F(1) = 4,665, p < 0,05$

<sup>29</sup>  $F(1) = 5,239, p < 0,05$



### Positive and negative feelings of students from unfavourable SES

In the project group, there was no significant change in the frequency of positive and negative feelings among students from unfavourable SES. However, among students from favourable SES, there was a significant decrease in the frequency of positive feelings at the final measurement compared to the baseline measurement (decrease from  $M=3.52$  to  $M=3.41$ )<sup>30</sup>, while there was no significant change in the frequency of negative feelings.

<sup>30</sup>  $F(1) = 8,289, p < 0,05$

The same trend was observed among students from non-project schools, where students from favourable SES showed a significant decrease in the frequency of positive feelings at the final measurement compared to the baseline measurement (decrease from  $M=3.47$  to  $M=3.38$ )<sup>31</sup>.

#### Participation in ARISE project activities and students' feelings

Analysing the data regarding participation in ARISE project activities, it was found that students from project schools who participated in the activities expressed significantly more positive feelings ( $M=3.42$ ) compared to students who did not participate ( $M=3.32$ )<sup>32</sup>. Additionally, students involved in the activities reported significantly fewer negative feelings ( $M=3.05$ ) compared to students who did not participate in the activities ( $M=2.92$ )<sup>33</sup>.

When summarizing the aforementioned findings, it can be noted that there was a significant decrease in the frequency of positive feelings among students, indicating a general decline in positive emotional experiences. This decline was observed across both project and non-project schools. Although there was no significant change in the frequency of negative feelings for either group, there was a noticeable trend towards increased negative emotions among students from non-project schools.

Further examination focusing on students from non-favourable SES backgrounds revealed that in project schools, there was no significant change in the frequency of either positive or negative feelings over time. However, among students from favourable SES backgrounds, there was a significant reduction in the occurrence of positive feelings by the endline measurement.

Regarding participation in ARISE project activities, students from project schools who engaged in these activities reported significantly higher levels of positive feelings and significantly lower levels of negative feelings compared to those who did not participate.

#### Students' self-efficiency

Perceived self-efficacy is a central construct within Bandura's socio-cognitive theory. It is defined as a person's belief in their own abilities needed to achieve certain goals (Bandura, 2006). This theory does not refer to the objective presence of certain abilities, but to the subjective assessment of the individual what he can do with the abilities and skills he has (Kolenović-Đapo, Dujmović & Spahić, 2019). If the perception of self-efficacy is high, people will be inclined to engage in various activities. This in turn enhances the development of an individual's abilities and skills. Individuals with a higher level of self-efficacy achieve better school performance, are

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<sup>31</sup>  $F(1) = 4,998, p < 0,05$

<sup>32</sup>  $F(1) = 8,162, p < 0,05$

<sup>33</sup>  $F(1) = 10,197, p < 0,01$

considered more competent and successful, set more complex goals, are more persistent in performing tasks and are more focused on positive learning outcomes. High self-efficacy is associated with higher levels of well-being (Andretta & McKay, 2020). On the other hand, if the perception of self-efficacy is low, individuals will avoid engaging in various activities which ultimately limits learning new skills. Individuals with a lower level of self-efficacy are more inclined to task avoidance behaviors (Juretić, 2008; Koludrović, Ratković & Bajan, 2015).

Self-efficacy is the extent to which individuals believe in their own ability to engage in certain activities and perform specific tasks, especially when facing adverse circumstances (Bandura, 1977). The level of self-efficacy can have a significant impact on students' motivation to learn. Students with a higher level of self-efficacy are more likely to strive to achieve a certain goal, less likely to give up when faced with certain obstacles. Therefore, self-efficacy is an important factor not only in psychological well-being but is often also a factor in academic achievement.

Self-efficacy was measured in this study using the self-efficacy scale or index, which was created based on the answers to five statements in the student questionnaire. The students had to choose one of the four possible degrees of agreement or disagreement with the statements.

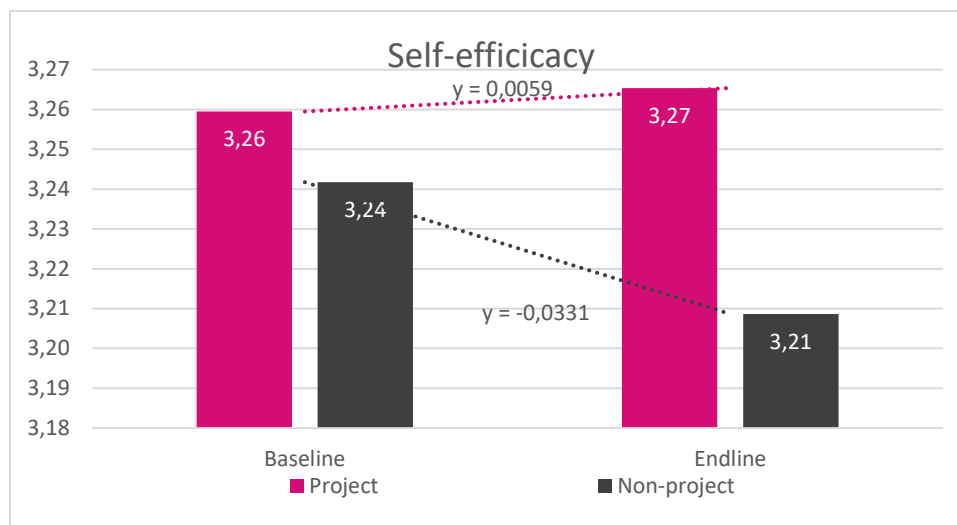
At baseline measurement, it was noted that students from both groups of schools have a moderate level of self-efficacy and do not differ significantly from each other. However, students from unfavourable SES backgrounds had a significantly lower level of self-efficacy compared to students from favourable SES backgrounds.

At endline measurement, it is observed that the level of self-efficacy remains largely unchanged both among students from project schools (baseline  $M=3.26$ , endline  $M=3.27$ ) and among students from non-project schools (baseline  $M=3.24$ , endline  $M=3.21$ ). Therefore, differences in the level of self-efficacy are minimal and not statistically significant among students from both project<sup>34</sup>, and non-project schools<sup>35</sup>.

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<sup>34</sup>  $F(1) = 0,077, p > 0,05$

<sup>35</sup>  $F(1) = 0,939, p > 0,05$



### Self-efficacy of students from unfavourable SES backgrounds

In project schools, there was a significant decrease in self-efficacy among students from favourable SES backgrounds (baseline  $M=3.40$ , endline:  $M=3.32$ )<sup>36</sup>, while there was no significant change among students from unfavourable SES backgrounds (baseline  $M=3.17$ , endline  $M=3.10$ )<sup>37</sup>. In non-project schools, there was no significant change in self-efficacy among students from either favourable SES backgrounds (baseline  $M=3.28$ , endline  $M=3.24$ ) or unfavourable SES backgrounds (baseline  $M=3.10$ , endline  $M=3.09$ ).

### Participation in ARISE project activities and self-efficacy

At the endline measurement, it was found that students who participated in ARISE activities exhibited significantly higher levels of self-efficacy ( $M=3.29$ ) compared to students from project schools who did not participate ( $M=3.21$ ), and this difference was statistically significant<sup>38</sup>.

It was determined that students who participated in project activities had significantly higher levels of self-efficacy compared to those who did not participate.

Based on the above findings, we can conclude the following:

Upon conducting the endline measurement, it was observed that the overall levels of self-efficacy remained unchanged among students from both project and non-project schools. The differences

<sup>36</sup>  $F(1) = 6,088, p < 0,05$

<sup>37</sup>  $F(1) = 2,807, p > 0,05$

<sup>38</sup>  $F(1) = 5,673, p < 0,05$



in self-efficacy levels were minimal and not statistically significant among both project and non-project school students. This suggests a general stability in self-efficacy levels over time, regardless of project participation.

Analysing self-efficacy among students from unfavourable SES backgrounds revealed significant trends. In project schools, a noteworthy decrease in self-efficacy was observed among students from favourable SES backgrounds, while there was no significant change among those from unfavourable SES backgrounds. In non-project schools, there was no significant change in self-efficacy levels among students from either SES background.

Regarding participation in ARISE project activities, it was found that students who engaged in these activities exhibited significantly higher levels of self-efficacy compared to those who did not participate.

### Fear of failure

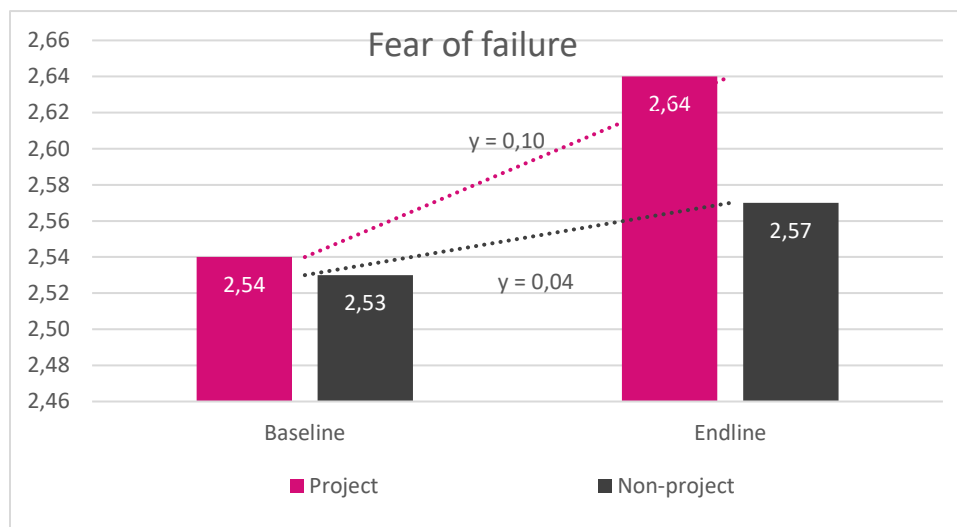
Fear of failure is defined as a motive for avoiding failure in the context of achievement. It can be seen as a framework according to which a person defines and experiences failure, which in turn affects the thoughts, feelings and behaviour of a person in competitive situations. The modern model of interpreting the fear of failure includes several aspects: the experience of shame and embarrassment due to failure, perception of an uncertain future, low self-esteem, loss of interest, fear of disapproval from others and loss of support after failure. Fear of failure is associated with low well-being which can lead to generalization of fear of failure from a specific domain to everyday situations. The results of the research indicate the negative impact of fear of failure on commitment, effort, perseverance, academic achievement, intrinsic motivation and a sense of well-being (Vidanec, 2017).

Fear of failure is a construct that is the opposite of self-efficacy. Fear of failure, just like self-efficacy, can have a significant impact on motivation and behaviour, but with an adverse effect. Students with greater fear of failure and less self-efficacy are more likely to not use their potential, or to achieve their goals, including educational ones. Both constructs significantly impact psychological and general well-being. Therefore, it is important to measure these two constructs, especially in relation to the socio-economic status of students.

This scale, or index, was also created on the basis of three statements with which the respondents had to express the degree of agreement or disagreement. Higher results on this index represent lower levels of fear of failure, while lower results indicate higher levels.

Upon baseline measurement, students from both groups of schools did not exhibit high levels of fear of failure and did not differ significantly in this regard. However, it was found that students of lower socioeconomic status had significantly higher levels of fear of failure compared to students of favourable socioeconomic status.

At the endline measurement, a decrease in the presence of fear of failure was observed among both groups of students (both in project and non-project schools)<sup>39</sup>. Students in project schools showed a statistically significant reduction in the frequency of fear of failure<sup>40</sup>. In non-project schools, there was also a slight change, but it was not statistically significant<sup>41</sup>. Therefore, we conclude that there was no substantial change among students in non-project schools.



### Fear of failure among students of unfavourable SES

When the data are analysed according to the socioeconomic status (SES) of students, it is observed that students from unfavourable SES backgrounds in project schools experienced a significant improvement in the Fear of Failure scale (baseline  $M=2.45$ , endline  $M=2.63$ )<sup>42</sup>, while there was no significant change among students from favourable SES backgrounds (baseline  $M=2.66$ , endline  $M=2.65$ ).

In non-project schools, there was no significant change in Fear of Failure among students from either favourable or unfavourable SES backgrounds.

### Participation in ARISE project activities and Fear of Failure

Students who participated in project activities exhibited a lower level of Fear of Failure ( $M=2.67$ ) compared to students who did not participate ( $M=2.57$ ). However, this difference was not

<sup>39</sup> This scale is reversible, meaning that the higher the score on the scale, the greater the absence of Fear of failure.

<sup>40</sup>  $F(1) = 8,039$ ,  $p < 0,05$

<sup>41</sup>  $F(1) = 0,516$ ,  $p > 0,05$

<sup>42</sup>  $F(1) = 7,374$ ,  $p < 0,05$

statistically significant<sup>43</sup>, and therefore, we cannot conclude that students exhibit different levels of Fear of Failure depending on their participation in ARISE project activities.

Taking all the aforementioned into account, we can draw the following conclusions:

At the endline measurement, there was a decrease in the prevalence of fear of failure observed among both groups of students, including those from both project and non-project schools. Notably, students in project schools exhibited a statistically significant decrease in the frequency of fear of failure, whereas non-project schools also experienced a slight change, although it did not reach statistical significance.

Analysing the data related to students' socioeconomic status (SES), it was evident that students from unfavourable SES backgrounds in project schools showed a significant reduction in fear of failure. Conversely, there was no significant change among students from favourable SES backgrounds in project schools. In non-project schools, no significant changes were observed in fear of failure scores among students from either favourable or unfavourable SES backgrounds.

Regarding participation in ARISE project activities, students who engaged in these activities displayed a slightly lower level of fear of failure compared to those who did not participate. However, this difference did not reach statistical significance, indicating that students' levels of fear of failure were not significantly influenced by their participation in ARISE project activities.

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<sup>43</sup>  $F(1) = 3,576, p > 0,05$

## Cognitive well-being of students

### Growth mindset

A growth mindset, or incremental theory of intelligence, is the belief that someone's ability and intelligence can develop over time. This is in contrast to a fixed mindset, or the belief that someone is born with a certain degree of ability and intelligence that is nearly unaltered by experience.

Instilling a growth mindset is often regarded as a strategy to help students expend greater effort; but effort alone is unlikely to contribute to their personal growth. Students endorsing a growth mindset also use other strategies that lead to greater learning and progress, such as learning from previous experience, responding to feedback and trying new learning strategies (Dweck, 2016; Yeager and Dweck, 2012). A growth mindset is not simply telling students that they can achieve any goal they have set for themselves; it involves creating an environment where students can develop this belief and providing them with the necessary resources and skills to achieve their learning goals (Dweck, 2016).<sup>44</sup>

According to Dweck (2006), there are two sets of thinking: fixed and growth mindset. A fixed mindset implies an individual's belief that their intelligence is a fixed, innate, uncontrolled attribute and cannot be changed. That is, there is a belief that success is the result of talent and innate abilities. Growth mindset implies the realization that intelligence is a changing attribute that can be developed by investing effort. Individuals with a growth mindset believe that success is the result of effort, and by investing extra time in various activities they increase the likelihood of achieving success (Dweck & Leggett, 1988; Dweck, 2006). People with a growth mindset see challenges and failure as an opportunity to learn, while people with a fixed mindset perceive them as risky situations.

The results of the study indicate that academic achievement is determined not only by skills or abilities, but also by the way of thinking about failure. Students with a growth mindset show positive emotions even in situations of failure, while students with a fixed mindset experience higher levels of anxiety and depression (Ortiz Alvarado, Rodriguez Ontiveros & Ayala Gaytan, 2019). A growth mindset has been found to be positively associated with better student motivation and engagement regardless of socio-economic status. Nevertheless, socio-economic status has moderated the effects of a growth mindset on school achievement. Specifically, the growth mindset is positively associated with school achievement only in students of high socio-economic status (King & Trinidad, 2021). Also, low socio-economic status can lead to poorer school achievement because students who come from families of low socio-economic status

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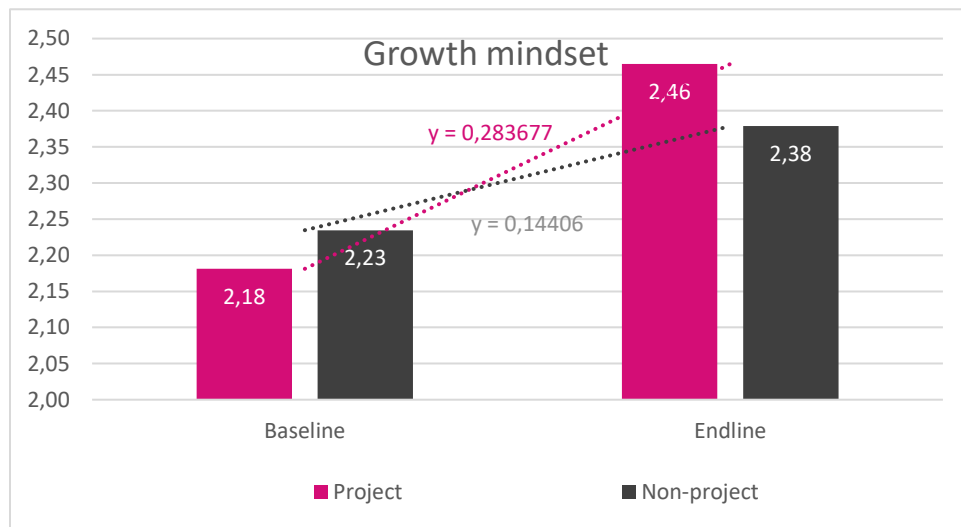
<sup>44</sup>PISA 2018 Results. What school life means for students' lives, Volume III

potentially believe they cannot develop their intellectual abilities (Claro, Paunescu & Dweck, 2016).

Growth mindset is an important factor of cognitive well-being, and therefore we wanted to measure it.

Upon baseline measurement, it was determined that students from both groups (project and non-project schools) exhibited similar levels of growth mindset, indicating no significant differences between them. Additionally, no significant difference in growth mindset was found between students from favourable and unfavourable SES backgrounds.

During the implementation of project activities in schools, certain changes in the level of growth mindset were observed among both project and non-project school students. Specifically, students from project schools showed improvement from initial scores of  $M=2.18$  to  $M=2.46$ , while students from non-project schools improved from  $M=2.23$  to  $M=2.38$ . This improvement was statistically significant for both project<sup>45</sup> and non-project school students<sup>46</sup>.



However, in this evaluation, we are interested in whether the change that occurred over time in project schools is a result of ARISE project activities or other factors. Answering this question becomes important since improvement also occurred in non-project schools where there were no ARISE project activities.

The analyses conducted indicate that the changes observed in the growth mindset of students in project schools cannot be solely attributed to ARISE project activities, as the difference in

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<sup>45</sup>  $F(1) = 46,413, p < 0,01$

<sup>46</sup>  $F(1) = 4,866, p < 0,05$

differences between the two groups of schools (project and non-project schools) and two measurement points (baseline and endline) is not statistically significant<sup>47</sup>.

**Therefore, improvements in the growth mindset of students in both project and non-project schools are evident. The improvements in this scale among students in project schools are slightly higher than those among students in non-project schools ( $Y_1=0.28$ ,  $Y_0=0.14$ ), but this difference is not significant enough to conclude that it occurred due to the influence of ARISE project activities.**

#### Growth mindset among students of unfavourable SES

Analysing the deeper changes in growth mindset between the two measurement points and focusing on students from unfavourable SES backgrounds, we have arrived at the following findings.

In project schools, there was a significant improvement in growth mindset among students from unfavourable SES backgrounds (baseline  $M=2.05$ , endline  $M=2.31$ )<sup>48</sup>, as well as among students from favourable SES backgrounds (baseline  $M=2.26$ , endline  $M=2.51$ )<sup>49</sup>.

On the other hand, in non-project schools, there was a significant improvement in growth mindset observed only among students from favourable SES backgrounds (baseline  $M=2.27$ , endline  $M=2.43$ )<sup>50</sup>, but not among students from unfavourable SES backgrounds (baseline  $M=2.10$ , endline  $M=2.21$ ).

#### Participation in ARISE project activities and Growth mindset

Certain differences in Growth mindset were observed between students from project schools who participated in ARISE project activities and those who did not. Specifically, the Growth mindset of students who participated in the activities was recorded as  $M=2.53$ , which was higher compared to  $M=2.30$  for students who did not participate. This difference was statistically significant<sup>51</sup>.

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<sup>47</sup>  $F(1, 1191) = 3,000$ ,  $p = 0,084$ ,  $\eta^2 = 0.003$

<sup>48</sup>  $F(1) = 12,913$ ,  $p < 0,01$

<sup>49</sup>  $F(1) = 12,306$ ,  $p < 0,01$

<sup>50</sup>  $F(1) = 3,905$ ,  $p < 0,05$

<sup>51</sup>  $F(1) = 14,176$ ,  $p < 0,01$

In conclusion, we can summarize the following:

During the duration of project activities in schools, significant changes were observed in the level of Growth mindset among students from both project and non-project schools, with improvements noted among students from project schools from an initial  $M=2.18$  to  $M=2.46$ , and among students from non-project schools from  $M=2.23$  to  $M=2.38$ . However, analyses indicated that these improvements were not solely attributable to ARISE project activities, as similar changes occurred in non-project schools. While the improvements among students from project schools were slightly greater, the difference was not significant enough to attribute solely to the influence of ARISE project activities. Additionally, in project schools, improvements were observed among students from unfavourable socioeconomic backgrounds, whereas changes were only noticed among students from favourable backgrounds in non-project schools. Furthermore, students who participated in ARISE project activities demonstrated a higher Growth mindset compared to those who did not participate, which was also statistically significant.

## Reduction of gaps in well-being between students of favourable and unfavourable SES

One of the key findings of the baseline measurement was that students from unfavourable SES backgrounds exhibited significantly lower overall well-being, as well as psychological and cognitive well-being, compared to students from favourable SES backgrounds. This finding was consistent among both project and non-project schools, indicating the pervasiveness of this phenomenon in the schools included in the study.

Furthermore, significant disparities in favour of students from favourable SES backgrounds in project schools were observed across almost all measured elements of well-being (except for the frequency of negative feelings). This finding clearly pointed to the existence of a well-being gap among students, representing one of the inequalities in education directly associated with students' socioeconomic status. In an effort to make education more equitable and reduce the mentioned inequality among students expressed through the well-being gap, a series of activities were organized in schools and communities.

The aforementioned key findings suggest that project activities had a significant impact on improving students' well-being in project schools, with a slightly stronger effect observed among students from unfavourable SES backgrounds who directly participated in project activities.

Following the implementation of project activities, it was found that there was a reduction in disparities in students' well-being, as well as in all measured elements of well-being, between students from unfavourable SES backgrounds and those from favourable SES backgrounds in project schools. However, although there was a reduction in disparities, they remained present at the endline measurement, both in overall well-being and in most of its elements (except for Life satisfaction, Negative feelings, and Fear of failure).

**Therefore, the project significantly contributed to reducing disparities in students' well-being, but not to the extent that these differences were completely eliminated.**

A more detailed overview of the aforementioned differences is presented in the following table.



	Measurement Point						Differences	
	Baseline			Endline				
	SES status		Diff <sub>1</sub> (M <sub>bu</sub> - M <sub>bf</sub> )	SES status		Diff <sub>2</sub> (M <sub>eu</sub> - M <sub>ef</sub> )	DID (Diff <sub>2</sub> - Diff <sub>1</sub> )	
	unfavourable	favourable		unfavourable	favourable			
	M <sub>bu</sub>	M <sub>bf</sub>	M <sub>eu</sub>	M <sub>ef</sub>				
<b>WELLBEING</b>	2,63	2,83	-0,20**	2,73	2,90	-0,17**	0,04	
<b>Psychological wellbeing</b>	3,20	3,40	-0,20**	3,16	3,28	-0,12**	0,08	
Life satisfaction	3,34	3,61	-0,27**	3,32	3,37	-0,05	0,22	
Meaning in life	3,19	3,42	-0,24**	3,07	3,24	-0,18**	0,06	
Positive feelings	3,38	3,52	-0,14*	3,33	3,41	-0,09*	0,05	
Negative feelings	2,97	3,04	-0,06	3,02	3,01	0,02	0,08	
Students' self-efficiency	3,17	3,40	-0,23**	3,10	3,32	-0,22**	0,01	
Fear of Failure	2,45	2,66	-0,21*	2,63	2,65	-0,02	0,19	
<b>Cognitive wellbeing</b>	2,05	2,26	-0,21*	2,31	2,51	-0,20*	0,01	

Group = Project

\*significant difference  $p < 0,05$

\*\* significant difference  $p < 0,01$

The preceding conclusion gains particular significance when considering the changes that occurred in non-project schools, which will be described below.

Upon examining the differences in changes in well-being between students of unfavourable and favourable SES in non-project schools, we can observe the following.

Students of unfavourable SES, compared to students of favourable SES, had significantly lower general well-being as well as psychological well-being (life satisfaction, positive feelings, and self-efficacy) at baseline measurement. No significant differences were found in cognitive well-being, nor in some of the elements of psychological well-being (life satisfaction, meaning in life, negative feelings, fear of failure). After the endline measurement, it was found that there was an increase in differences (or gaps) both in general well-being and in all measured elements of well-being, with the difference increasing to the detriment of students of unfavourable SES.

In comparison to the baseline measurement, at the endline measurement in non-project schools, differences between students of favourable and unfavourable SES increased, and even emerged where they were not as significant at baseline measurement (cognitive well-being, meaning in life, negative feelings).

	Measurement Point						Differences	
	Baseline			Endline				
	SES status		Diff <sub>1</sub> (M <sub>bu</sub> - M <sub>bf</sub> )	SES status		Diff <sub>2</sub> (M <sub>eu</sub> - M <sub>ef</sub> )	DID (Diff <sub>2</sub> - Diff <sub>1</sub> )	
	unfavourable	favourable		unfavourable	favourable			
	M <sub>bu</sub>	M <sub>bf</sub>	M <sub>eu</sub>	M <sub>ef</sub>				
<b>WELLBEING</b>	2,67	2,78	-0,12*	2,64	2,84	-0,20**	-0,08	
<b>Psychological wellbeing</b>	3,15	3,28	-0,13*	3,06	3,22	-0,16*	-0,03	
Life satisfaction	3,33	3,34	-0,07	3,19	3,28	-0,09	-0,02	
Meaning in life	3,15	3,29	-0,14	2,99	3,22	-0,24*	-0,10	
Positive feelings	3,31	3,47	-0,16*	3,22	3,38	-0,16*	-0,01	
Negative feelings	2,95	2,99	-0,04	2,80	2,95	-0,15*	-0,11	
Students' self-efficiency	3,10	3,29	-0,18*	3,09	3,24	-0,15*	0,03	
Fear of Failure	2,44	2,55	-0,11	2,42	2,61	-0,19	-0,07	
<b>Cognitive wellbeing</b>	2,10	2,28	-0,17	2,21	2,43	-0,22*	-0,05	

Group = Non-project

\*significant difference p<0,05

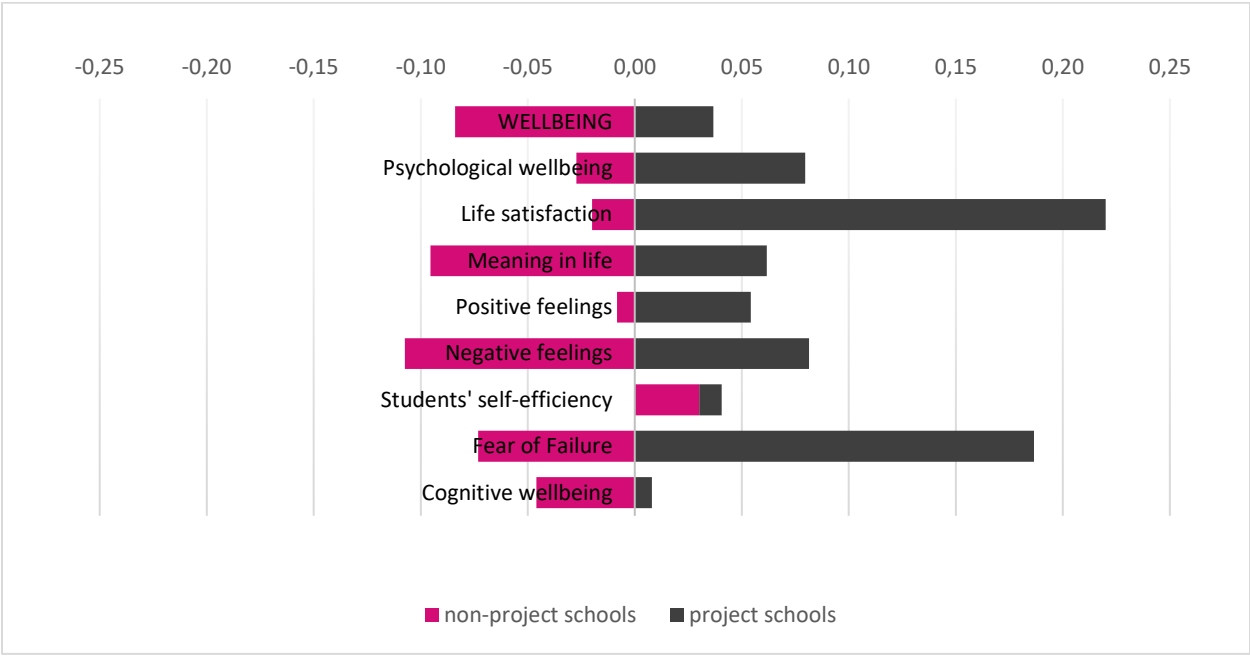
\*\* significant difference p<0,01

Based on the findings presented, a strong conclusion can be drawn regarding the reduction of disparities in well-being between students of favourable and unfavourable socioeconomic status (SES). The implementation of project activities has significantly contributed to improving the well-being of students in project schools, particularly among those from unfavourable SES backgrounds who directly participated in the project activities. However, while the project has led to a notable decrease in the disparities in well-being among students in project schools, especially in terms of general well-being and most measured well-being components, these differences have not been completely eliminated.

However, when comparing changes in well-being between students of unfavourable and favourable SES in non-project schools, it is evident that the disparities have even increased there, with the gap widening to the detriment of students from unfavourable SES backgrounds.

**This underscores the importance of ongoing efforts to address inequalities in education and well-being, emphasizing the need for targeted interventions to support students from unfavourable SES backgrounds even further, both within project schools and across the broader educational system.**

The graph below illustrates the changes in disparities between students of favourable and unfavourable SES in both project and non-project schools.



## School climate

School climate is the heart and soul of the school (Freiberg and Stein, 1999). Positive school climate can improve students' well-being, self-esteem and academic achievement (MacNeil, Prater and Busch, 2009). Based on numerous studies analysing school climate, we know that a positive school climate can alleviate the negative links between students' poor socio-economic status and academic achievement. School climate is closely related to how students, teachers, parents or any other visitors feel while in a school. School climate is difficult to measure formally but can be easily recognized and experienced. School climate is influenced and formed by all participating in everyday school activities: teachers, students, parents, pedagogues, psychologists and non-teaching staff. Therefore, everyone is responsible for and can contribute to developing a more positive school climate.

Given that the school climate is a multidimensional construct and cannot be directly measured, in this study we sought to measure its most important constructs, namely: Student disruptive behaviour, Teaching and learning, and School community. Each of these constructs consists of its own substructures, which will be presented separately in this study. To begin with, we will start with presenting the key findings regarding school climate.

For the purpose of this research, a school climate index was created ranging from 1 to 4 where higher values indicate a more positive climate.

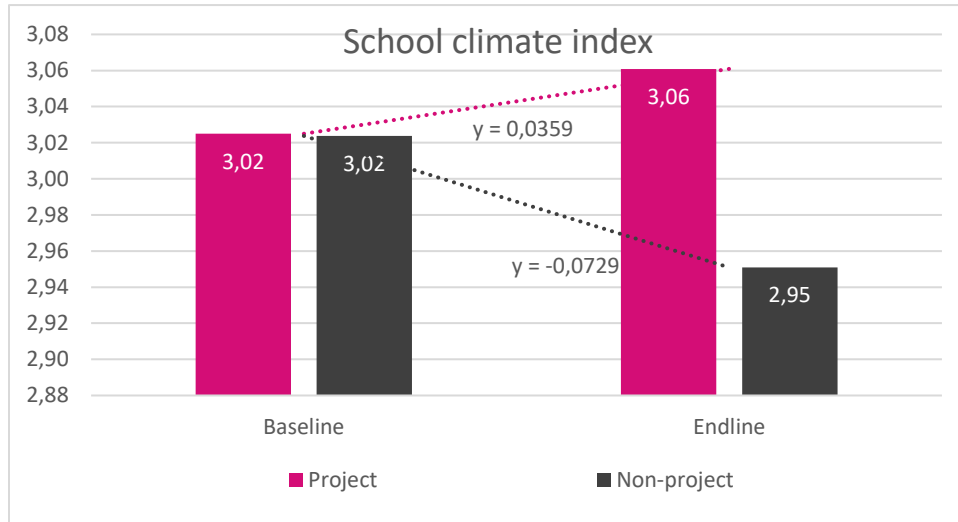
At baseline, the schools that participated in the study had a school climate index of 3.02, which indicates the existence of a moderately positive school climate. Project (3.03) and non-project schools (3.02) had uniform school climate indices, which means that they did not differ significantly from each other in school climate.

Nearly two years later, endline measurement indicates changes in school climate. Specifically, a slight but statistically significant increase has been recorded in the school climate index in project schools (baseline  $M=3.02$ , endline  $M=3.06$ )<sup>52</sup>, and a significant decrease in non-project schools (baseline  $M=3.02$ , endline  $M=2.95$ )<sup>53</sup>.

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<sup>52</sup>  $F(1) = 4,672$   $p < 0,05$

<sup>53</sup>  $F(1) = 11,146$   $p < 0,01$



Additional analysis indicates that changes in school climate in project schools can be attributed to the influence of project activities<sup>54</sup>. Therefore, we conclude that project activities have influenced the improvement of the school climate in schools where the project was implemented. In comparison to non-project schools, **we can confidently conclude that ARISE activities not only had a positive impact on the increase in the school climate index in project schools (although the increase was small), but also prevented a significant decline in the index, as observed in non-project schools.**

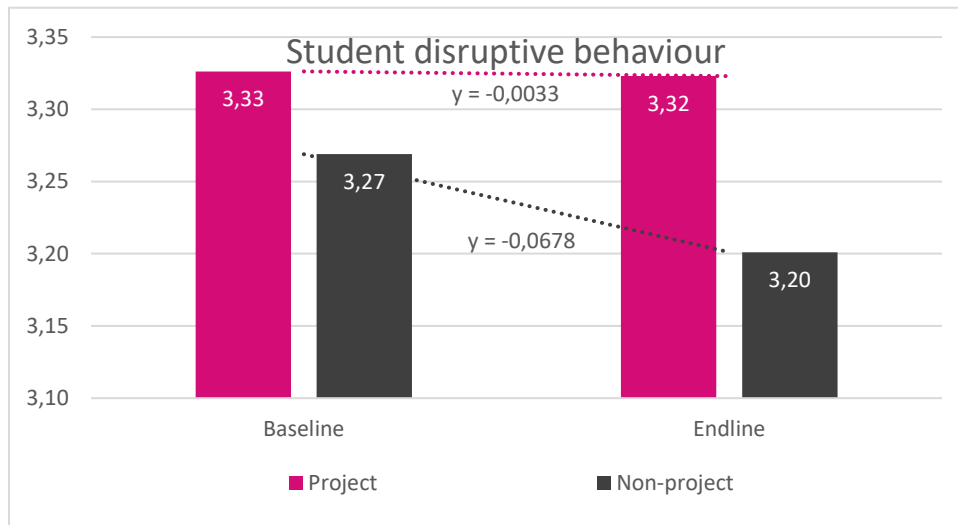
### **Student disruptive behaviour**

The index of student disruptive behaviour was created based on three other indices, namely Bullying, Disciplinary climate and Student truancy and lateness. All of these indices can range from 1 to 4 where higher scores are considered more positive behaviours. Accordingly, the index of student disruptive behaviour can range from 1 to 4 where higher values indicate more positive behaviours, i.e., lower values on this index indicate more disruptive behaviour of students.

At baseline measurement, students in all schools showed lower levels of disruptive behaviour with an average index score of 3.31. Students at project schools had somewhat less pronounced disruptive behaviour compared to students of non-project schools, and this difference was statistically significant.

<sup>54</sup>  $F(1, 1241) = 32,102, p = 0,000, \eta^2 = 0,025$

Nearly two years after baseline measurement, no change was recorded in Student disruptive behaviour in project schools (baseline M=3.33, endline M=3.32)<sup>55</sup>, while a significant deterioration has been recorded in non-project schools (baseline M=3.27, endline M=3.20)<sup>56</sup>.



**Although there hasn't been a significant change in Student disruptive behaviour in project schools, the analysis of the project's impact on Student disruptive behaviour has shown a significant influence on students in project schools. Considering the significant deterioration observed in non-project schools, it can be concluded that project activities acted as a preventative factor to the development of disruptive behaviour in students of project schools, unlike what occurred in non-project schools.**

### Bullying

Bullying can be defined as intentional and unjustified injury to another person (Popadić, Plut & Pavlović, 2014). It is considered a proactive form of aggression because bullying is generally not caused by provocation by another person and there is a large difference in power between the abuser and the victim (Olweus, 2013). Bullying at school can be the result of a number of out-of-school factors such as students' individual characteristics, their specific life experiences, social environment, cultural factors, family environment and socio-economic status. These factors can lead to a reduced opportunity for responsible social interaction, which increases the likelihood of aggressive behaviours manifesting in the school context. School climate can be conducive to

<sup>55</sup>  $F(1) = 0,023$   $p > 0,05$

<sup>56</sup>  $F(1) = 4,427$   $p < 0,05$

individual development, can contribute to constructive behaviour and to the involvement of the individual in school activities. Proactive teacher engagement, positive social relationships and strengthening group cohesion contribute to reducing physical and verbal violence. Supporting both positive teacher-student relationships and consistent school rules reduce student alienation and strengthen school adherence. On the other hand, a disincentive context in school can contribute to passivity, resistance, and aggressive behaviour. Negative social relations in school, disinterest of teachers and non-participation of students in school life affect the occurrence of deviant behaviour. Exposure to violent forms of behaviour at school increases the likelihood of social isolation, depression and frustration among students (Puzić, Baranović & Doolan, 2011). Also, research results show that school violence negatively affects school achievement (Arslan, 2021).

Bullying is definitely an important factor influencing student behaviour and has a supportive effect on disruptive behaviour. In other words, the more exposed a student is to bullying, the more disruptive behaviour is expressed. In this study, bullying was measured using six statements describing possible forms of bullying directed against students. Students had to answer how often such behaviour of other students was directed against them.

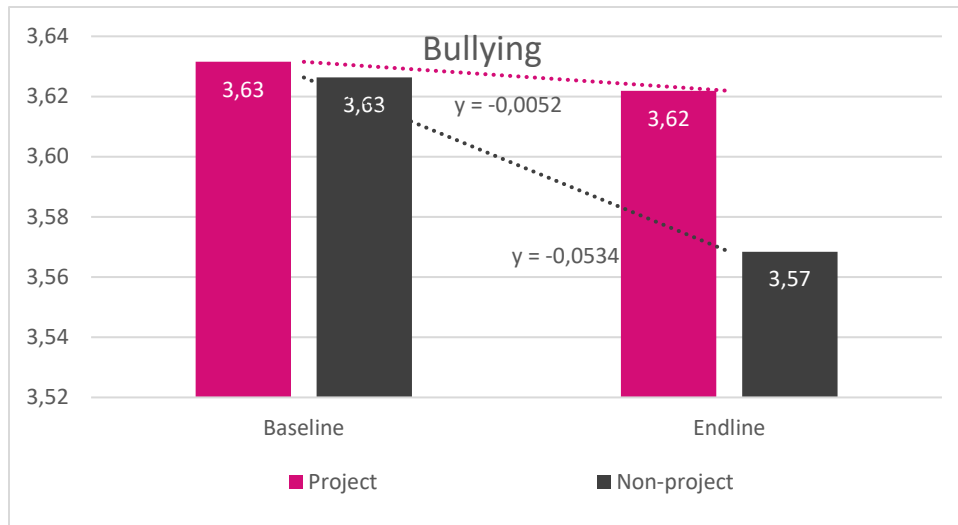
The index of bullying ranges from 1 to 4 where higher values are viewed as positive values, that is, the closer this index is to the value of 4 the less exposed the student is to bullying. On the other hand, lower values are treated as negative, which means that the closer the index is to the value 1, the student is more exposed to bullying.

Based on the data obtained from both measurement points, no statistically significant change has been observed on the bullying index, with average score of  $M=3.63$  at baseline measurement and  $M=3.62$  at endline measurement. In non-project schools, a slight change appears to have been achieved compared to project schools, with average score of  $M=3.63$  at baseline measurement and  $M=3.57$  at endline measurement. However, in both project<sup>57</sup> and non-project schools<sup>58</sup>, these changes are not significant. Therefore, we conclude that there hasn't been a change in the prevalence of Bullying between the two measurement points.

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<sup>57</sup>  $F(1) = 0,151$   $p > 0,05$

<sup>58</sup>  $F(1) = 2,295$   $p > 0,05$



### Disciplinary climate

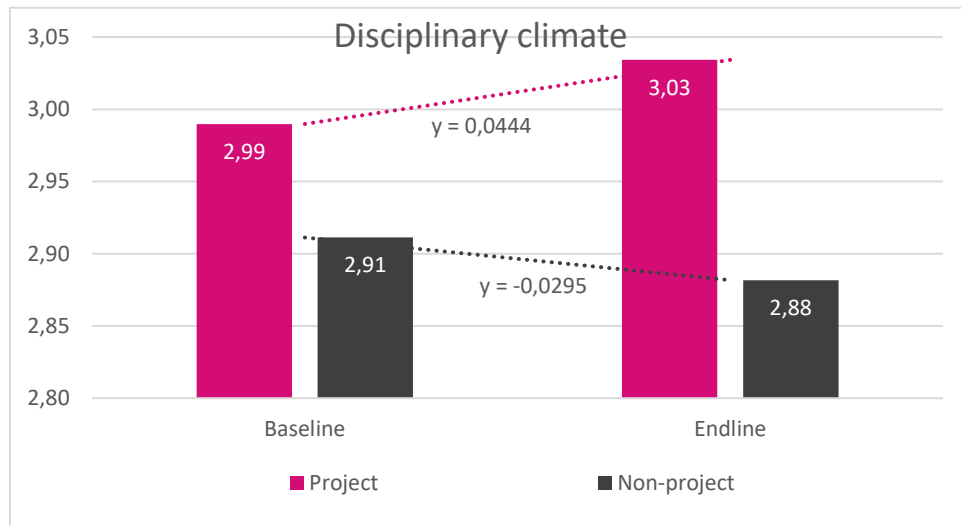
One of the important components of a positive school environment is a disciplinary climate. It is defined as the degree to which factors such as noise and restlessness during the teaching process are eliminated and students are focused on academic assignments and what teachers are saying. The disciplinary climate is conceptualized as a measure in which students miss learning opportunities due to disruptive behaviour in the classroom. It is the responsibility of teachers to ensure that the classroom environment is conducive to learning. However, research shows that the disciplinary climate depends on the characteristics of the school that are not under the control of the teacher. That is, more socio-economically favourable schools have a better disciplinary climate. Consequently, schools with a better disciplinary climate offer greater opportunities when it comes to learning and teaching. Teachers have more time to implement the curriculum and students can more easily focus on work. Previous PISA research has found that disruptive behaviours in school, i.e. a negative disciplinary climate, have negative effects on student achievement. On the other hand, a positive disciplinary climate has a positive effect on student success and a sense of belonging to the school (OECD, 2019).

Disciplinary climate was measured using five statements that describe negative phenomena in the classroom that can negatively affect the classroom climate itself. For each of the statements, the students had to choose one of the four offered answers which express the frequency of occurrence of such negative phenomena.

Based on those statements and answers, an index of disciplinary climate was created that could range from 1 to 4 where higher values are interpreted as positive. That is, the closer the index value is to the value of 4, the more positive the disciplinary climate.



The results of this analysis indicate a slight increase in the Disciplinary climate scale within project schools, from  $M=2.99$  to  $M=3.03$ , while there has been a decrease in values within non-project schools, from  $M=2.91$  to  $M=2.88$ . However, these changes are not statistically significant in either project<sup>59</sup> or non-project schools<sup>60</sup>. Therefore, we can conclude that there hasn't been a significant change in the Disciplinary climate in both project and non-project schools. Nonetheless, there is an observed tendency towards improvement in project schools and a tendency towards deterioration in non-project schools.



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<sup>59</sup>  $F(1) = 1,575$   $p > 0,05$

<sup>60</sup>  $F(1) = 0,295$   $p > 0,05$

## Student truancy and lateness

Three groups of factors influencing absences from school have been defined in the literature: factors related to student characteristics, family-related factors, and school-related factors. Students with higher absenteeism have poorer academic self-perceptions, lower self-esteem, are more prone to anxious behaviours and have poorer school performance. School success and absenteeism are greatly influenced by parental beliefs and attitudes about the importance of education. More educated parents have more opportunities to support students during school, are involved in educational activities and cooperate more with the school, which is important for the prevention of undesirable forms of behaviour such as absenteeism. Children who come from less functional and insufficiently cohesive families miss school more than students who come from functional families. When it comes to school-related factors, absenteeism can be influenced by fatigue and boredom resulting from monotonous and uninspiring teaching, conflicts with teachers and students, and a reduced sense of belonging to the school (Markuš, 2005). Also, students who avoid going to school are more likely to fall behind with materials, drop out of school, work underpaid jobs in the future and have an increased risk of drug and alcohol abuse. Some of the mentioned unwanted outcomes of truancy are usually present in socio-economically unfavourable environments (OECD, 2019).

Truancy and lateness can have negative effects not only on students' academic achievement, but also on the classroom climate. Frequent delays and absenteeism are a form of disruptive behaviour and have an impact on the classroom climate, and therefore it was important to investigate the frequency of such behaviours.

Student truancy and lateness were measured using three statements describing forms of truancy and absence from school and lessons, and students had to choose one of the four answers offered for each of the described behaviours to state how often it happened to them.

The index of student truancy and lateness was created based on these statements and it ranges from 1 to 4 where higher values are interpreted as positive behaviours. That is, values closer to number 4 are interpreted as the absence of truancy and lateness.

Based on the collected data from both measurement points, it is evident that there has been a slightly more frequent occurrence of Student truancy and lateness in project schools, with values changing from  $M=3.36$  to  $M=3.31$ . However, this deterioration is not statistically significant<sup>61</sup>.

In non-project schools, there has also been an increase in the frequency of Student truancy and lateness, from  $M=3.26$  to  $M=3.16$ , and this deterioration is statistically significant<sup>62</sup>.

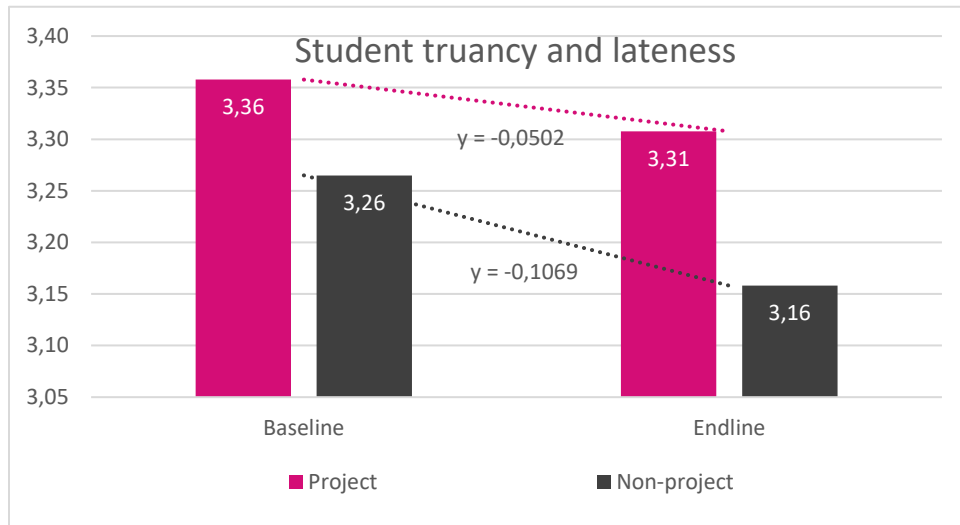
Therefore, we can conclude that between the two measurement points or during the implementation of project activities, there hasn't been a significant change in Student truancy and

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<sup>61</sup>  $F(1) = 2,689$   $p > 0,05$

<sup>62</sup>  $F(1) = 4,257$   $p < 0,05$

lateness in project schools, whereas there has been a significant deterioration or increase in the frequency of students' truancy and lateness in non-project schools.



## Teaching and learning

Teaching and learning as an integral element of the school climate, in this research refers to teaching practices and behaviour of teachers that affect the learning and socio-emotional development of students. Teaching and learning consist of three sub-contexts, namely Teacher enthusiasm, Teachers' support and teaching practices, and Teacher behaviour and student learning. Data on teaching and learning were obtained through a questionnaire for students, but also through a questionnaire for schools.

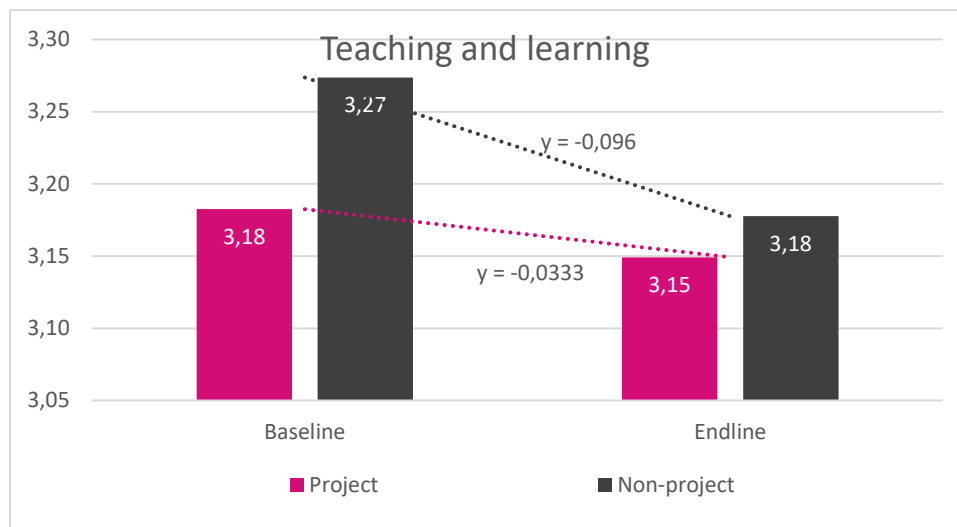
Index of teaching and learning is constructed of those above mentioned subconstructs. The index value of teaching and learning ranges from 1 to 4 where higher values represent the existence of positive practices, and lower values represent the absence of these positive practices.

The data collected at two measurement points indicate the presence of certain changes in this crucial component of school climate. It appears that teaching and learning practices in project schools remained unchanged between the two measurement points. There is only a slight decline in this scale from  $M=3.18$  to  $M=3.15$ , but this change is not significant, and therefore, it is concluded that there was no change<sup>63</sup>.

<sup>63</sup>  $F(1) = 2,083$   $p > 0,05$

In non-project schools, a change was also recorded in the form of a slightly larger decline, from  $M=3.27$  to  $M=3.18$ . However, this change or decline is statistically significant<sup>64</sup>.

Based on all of this, we can conclude that teaching and learning practices in project schools have remained stable and unchanged, while there has been a deterioration in non-project schools.



**Through an analysis of the impact of ARISE project activities on teaching and learning practices, it was determined that the project did not have a significant influence on changing or maintaining the level of teaching and learning in project schools.<sup>65</sup> In other words, although there was a significant deterioration in teaching and learning practices in non-project schools, there was no change observed in project schools. This phenomenon cannot be attributed to the influence of the ARISE project but is likely due to other extraneous factors outside the scope of the project.**

### Teacher enthusiasm

The literature mentions 4 different groups of characteristics related to the concept of a good teacher: affective characteristics, teaching skills, knowledge of the subject of teaching and classroom management as a social group. Affective characteristics include establishing positive relationships with students and behaviours by which the teacher shows interest in students through enthusiasm, encouragement, humour, and accessibility (Tošić-Radev, 2016). Teacher enthusiasm implies the level of pleasure and excitement that teachers experience in their

<sup>64</sup>  $F(1) = 8,943, p < 0,05$

<sup>65</sup>  $F(1, 1241) = 0,003, p = 0,955, \eta^2 = 0,000$

professional activities. Enthusiasm is an important component of teacher motivation and also contributes to quality teaching and student motivation (Kunter, Frenzel, Nagy, Baumert & Pekrun, 2011; Lazarides, Gaspard & Dicke, 2019). Teacher enthusiasm is an important component of high-quality teaching because the expression of interest in the subject and the inspiring style of presentation of the material have positive effects on student engagement, willingness to learn and school success (Kunter et al., 2019). Enthusiasm seen as the ability of teachers to convey the intrinsic value of learning to students has positive effects on students' interest in teaching, active learning, intrinsic motivation and positive emotional experiences in school (Kunter, Tsai, Klusmann, Brunner, Krauss & Baumert, 2008; Burić, 2019).

Teacher enthusiasm is broadly defined as a lively and motivating teaching style with a various range of behaviours like facial expressions, gestures, body movements, vocal intonations and the use of humour that reflects a strong interest in the subject. Teacher enthusiasm is about how teachers feel about teaching their subject and also how they express these feelings to students. Teacher enthusiasm positively affects students' intrinsic motivation and the time they spend learning. Therefore, enthusiasm also enhances student learning outcomes.

In this study, teacher enthusiasm was measured on the basis of four statements representing teachers' behaviours characterized by enthusiasm, and students had to choose on a four-point scale how much they agreed that their teachers showed such behaviours.

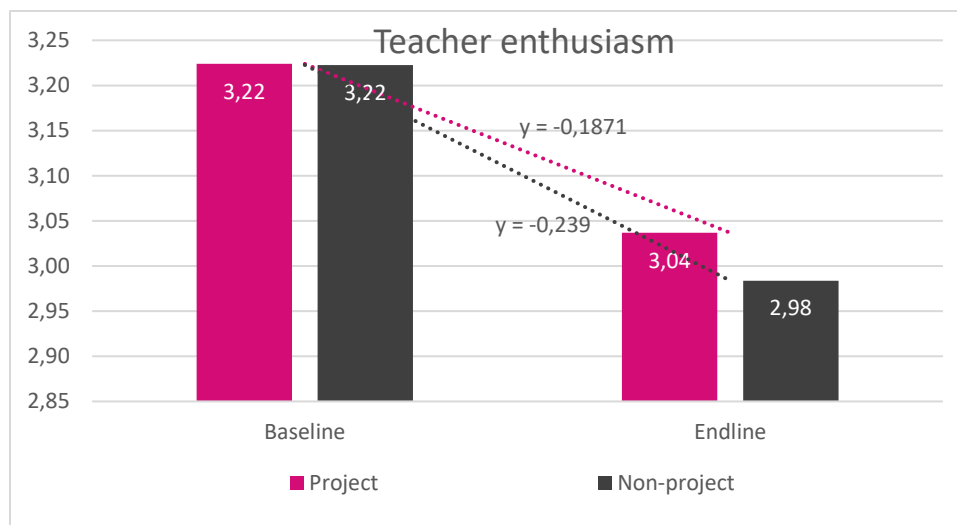
The scale of teacher enthusiasm is constructed from the above statements and ranges from 1 to 4 where higher values indicate higher levels of teacher enthusiasm.

The data obtained from both measurement points indicate that teachers in both project and non-project schools demonstrated a relatively high level of enthusiasm at the baseline measurement ( $M=3.22$ ). However, at the endline measurement, there was a decline in enthusiasm, with levels decreasing to  $M=3.04$  in project schools and  $M=2.98$  in non-project schools. This decline or deterioration in teacher enthusiasm is significant both in project<sup>66</sup> and non-project schools<sup>67</sup>.

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<sup>66</sup>  $F(1) = 34,246, p < 0,01$

<sup>67</sup>  $F(1) = 24,658, p < 0,01$



### Teachers' support and teaching practices

Interaction between students and teachers plays an important role in students' learning and feelings towards school. In order to be fully involved in teaching activities, it is essential that students feel that their teachers care about them and that their achievement is important to them. Respecting students, encouraging them, taking the time to help them, setting goals and rules, encouraging them to make independent decisions, and giving feedback are just some examples of how teachers can support students in their work (OECD, 2019).

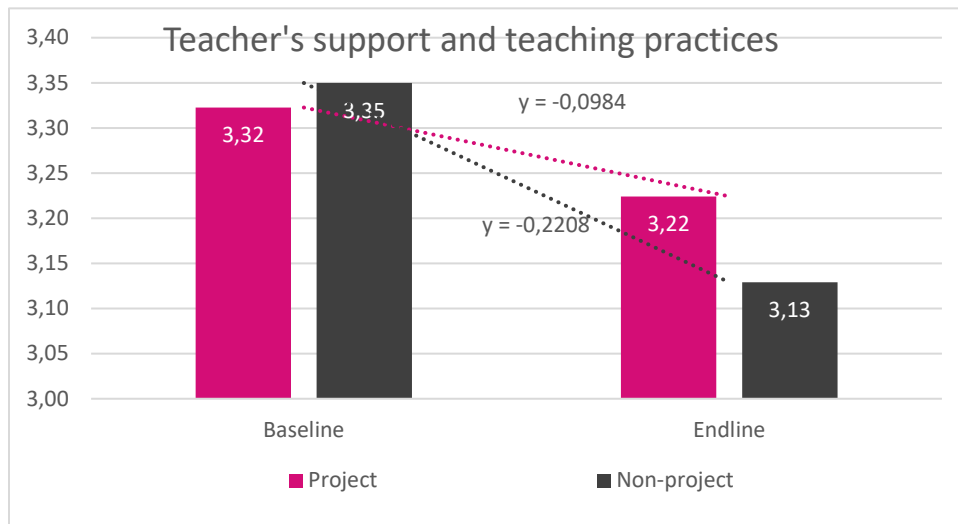
Students who have the support of teachers are more motivated for school activities, are more engaged in learning, have greater self-efficacy, are more willing to invest additional effort in performing school tasks, achieve better school success, have a greater sense of belonging to school, and are more resistant to failure (Šimić, Šašić & Sorić, 2011; OECD, 2019).

Teachers' support and teaching practices were measured using four statements describing supportive behaviours of teachers during the teaching process. For each statement, students had to choose an answer that shows the extent to which they agree that the stated behaviour is present in their teachers.

Based on students' responses to the presented statements, a scale was created whose value could range from 1 to 4, where higher values indicate a higher level of teacher support in teaching.

Similarly to Teacher enthusiasm, there has been a decline in Teacher's support and teaching practices both in project and non-project schools. Specifically, the level of Teacher's support and teaching practices in project schools experienced a decrease from M=3.32 to M=3.22. In non-

project schools, an even greater decline was recorded, from M=3.35 to M=3.13. These described changes are significant in both project<sup>68</sup> and non-project schools<sup>69</sup>.



### Teachers' behaviour and student learning

Teachers have an important role to play in encouraging student learning. Therefore, it is necessary for teachers to respect the needs of students, not to be overly strict with students, to be prepared for classes and to attend classes regularly. Research shows that excessive absence of teachers financially burdens the educational system, increases the administrative burden of school management, affects students' school achievement and their willingness to participate in the teaching process. Behaviour that potentially obstructs learning is teacher resistance to change. Many education reforms are delayed or prolonged due to teachers' unwillingness to make changes, potentially as a result of fears of uncertainty (OECD, 2019).

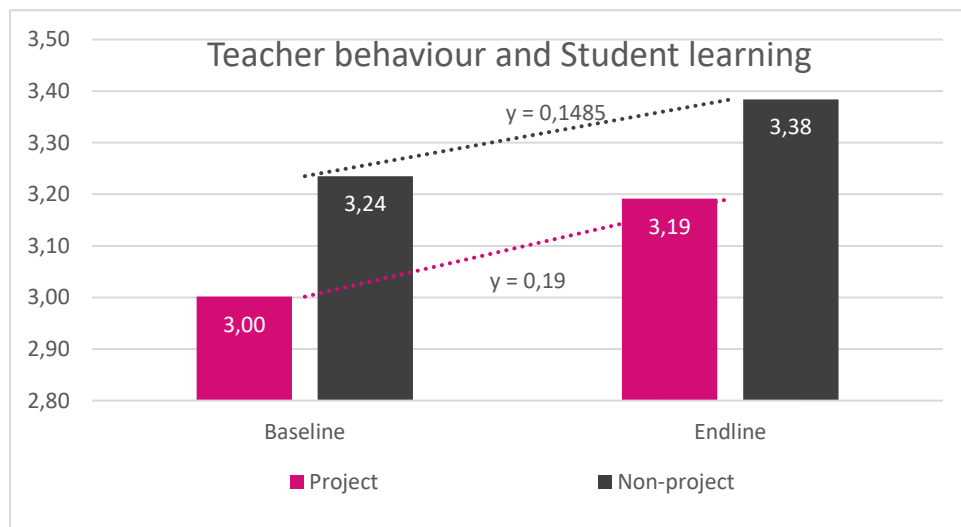
Teachers' behaviour was measured on the basis of five statements describing teacher undesirable behaviours, which are presumed to interfere with or complicate the teaching process. Respondents were asked to answer the extent to which they felt that such behaviours in their school had a negative impact on the teaching process. These questions were answered by representatives of schools (principals, pedagogues, etc.).

<sup>68</sup> F (1) = 7,647, p < 0,05

<sup>69</sup> F (1) = 15,643, p < 0,01

Based on the answers to these questions, a scale of teachers' behaviour was created, which ranges from 1 to 4 where more values are described as positive, i.e., the higher the value on the scale, the less negative teacher behaviour is present.

Based on the data from both measurement points, there is notable improvement evident on the Teacher Behaviour and Student learning scale. In project schools, there was a significant improvement on this scale, with scores shifting from  $M=3.00$  to  $M=3.19$ . Improvement was also observed in non-project schools, where the average scores on this scale moved from  $M=3.24$  to  $M=3.38$ . Improvements in both project<sup>70</sup>, and non-project schools<sup>71</sup> are statistically significant.



<sup>70</sup>  $F(1) = 38,69,1$   $p < 0,01$

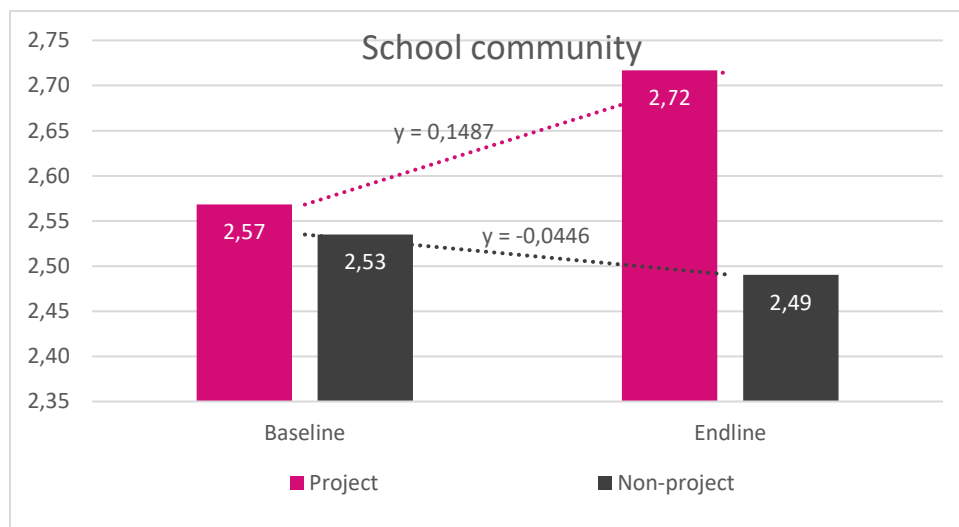
<sup>71</sup>  $F(1) = 14,686, p < 0,01$



## School community

The school community as a factor of school climate was measured using four sub-constructs: Student competition and Student cooperation, Sense of belonging at school and Parental involvement in school activities. Based on the values on these subconstructs, a composite score of the School community was created. Values on this scale could range from 1 to 4, where higher values are considered more positive.

Based on the data collected at two measurement points, we observe that during the implementation of project activities, there have been certain changes in this component of school climate. Specifically, a significant improvement has been recorded in project schools, with the value on this scale increasing from  $M=2.57$  to  $M=2.72$ , and this change or improvement is statistically significant<sup>72</sup>. On the other hand, changes in non-project schools were somewhat smaller but in the opposite direction. Specifically, there has been a slight decrease on this scale from  $M=2.53$  to  $M=2.49$ , but this decline is not statistically significant<sup>73</sup>, indicating that there has not been a significant change at the endline measurement compared to the baseline measurement.



**The analysis has demonstrated that the described changes can be attributed to the contributions of the ARISE project. Specifically, the analysis indicates a significant impact of the project on the development of the school community.<sup>74</sup> This implies that ARISE project activities have significantly contributed to the development of the school community in project schools. Although the level of school community is not notably high ( $M=2.72$ ), it has significantly increased at the endline measurement**

<sup>72</sup>  $F(1) = 61,997$   $p < 0,01$

<sup>73</sup>  $F(1) = 2,679$   $p < 0,05$

<sup>74</sup>  $(F(1, 1241) = 86.562$   $p = 0.000, \eta^2 = 0.065)$

**compared to the baseline measurement, under the influence of project activities. Therefore, this positive shift in the school community, influenced by the project, cannot be overlooked.**

#### Student cooperation and competition

Cooperative behaviour is recognized as an important determinant of a positive school climate. Mutual trust, teamwork, exchange of information and ideas between students and teachers has a positive effect on students' school achievement, school commitment and relationships within the classroom and school. Meeting the following criteria is essential for successful teamwork and cooperative learning: team members' goals should be interdependent, students should be encouraged to help each other, individual responsibility should be encouraged, decision-making should be shared, and team members should be encouraged to cooperate and interact with respect. Also, academic results, motivation to learn and speed of learning can be improved by a competitive atmosphere, provided that the objectives of the competition are clearly specified. Many authors emphasize that the combination of cooperative and competitive environment is the most favourable for students (OECD, 2019).

Scales of Student competition and Student cooperation were created on the basis of 8 statements that represent forms of cooperation and competition. Students had to choose one of the 4 offered answers for each of the questions, which represents their opinion on how much the offered form of cooperation and competition is present in their school.

Based on the answers, two scales were made, namely the Scale of competition and the Scale of cooperation. Both scales can range from 1 to 4 where higher values are considered as more positive behaviours in the context of the school climate.

When examining the data obtained at both measurement points, it is evident that students in project schools have become less competitive towards each other (which is considered a positive shift), but they also show slightly weaker levels of cooperation. Both of these changes, in the domains of competition<sup>75</sup> and cooperation<sup>76</sup> are statistically significant.

A similar trend of changes on the scales of competition and cooperation has been identified in non-project schools as well, with changes in competition not being significant<sup>77</sup> while changes in cooperation are statistically significant.<sup>78</sup>

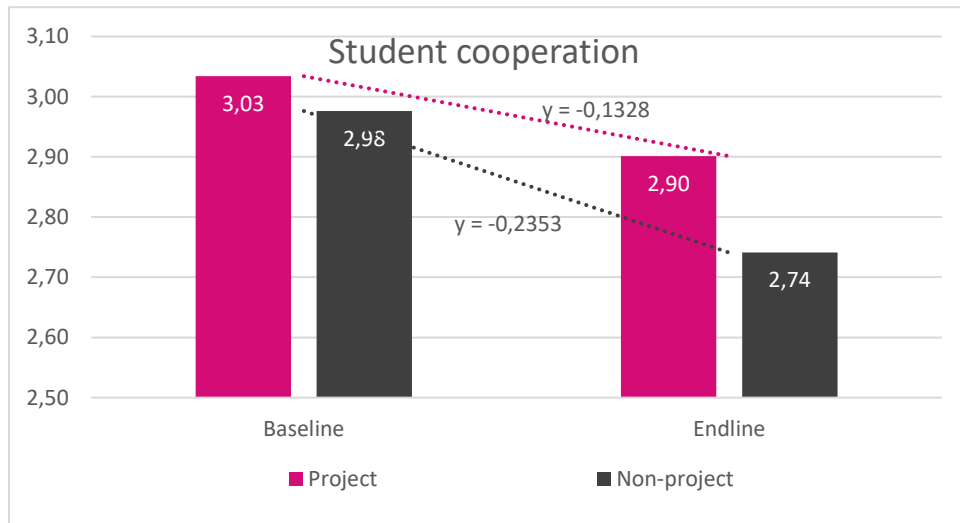
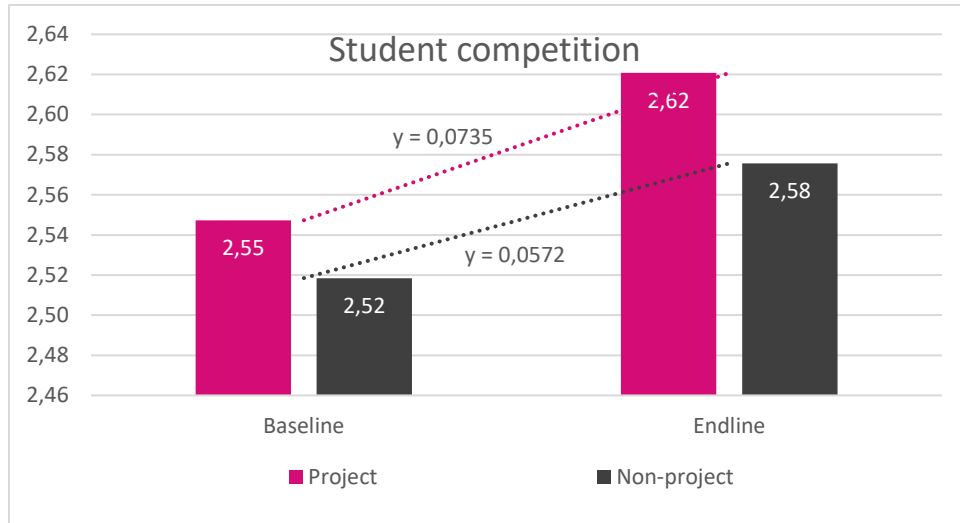
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<sup>75</sup> F (1) = 5,162, p < 0,05

<sup>76</sup> F (1) = 8,332, p < 0,01

<sup>77</sup> F (1) = 1,529, p > 0,05

<sup>78</sup> F (1) = 20,301, p < 0,01



### Sense of belonging at school

Sense of belonging to the school is defined as the extent to which students feel accepted, respected, included and supported in the school environment (Ma, 2003). Students usually describe belonging to the school as an opportunity to make friends and establish quality interaction with peers and teachers, to actively participate in school activities and achieve high marks. The sense of belonging to the school has been identified as an important factor influencing

school success. Students who have a strong sense of school affiliation score better, spend more time doing homework, and are more motivated to succeed in education (Napoli, Marsiglia & Kulis, 2003). Achieving quality interaction with peers and teachers as the basis of a sense of belonging to the school plays an important role in shaping students' emotional experiences (Pendergast, Allen, McGregor & Ronksley-Pavia, 2018). That is, a sense of belonging to the school is an important determinant of student well-being. The results of the research show that the socio-economic status of students plays an important role in developing a sense of belonging to the school. Students with lower socio-economic status are less likely to express an attitude that they belong to their school. One possible explanation is that the socioeconomic opportunities of students depend on the education and educational experiences of parents who shape students' opinions about school, which also affects the perception of school affiliation (Marksteiner & Kruger, 2016).

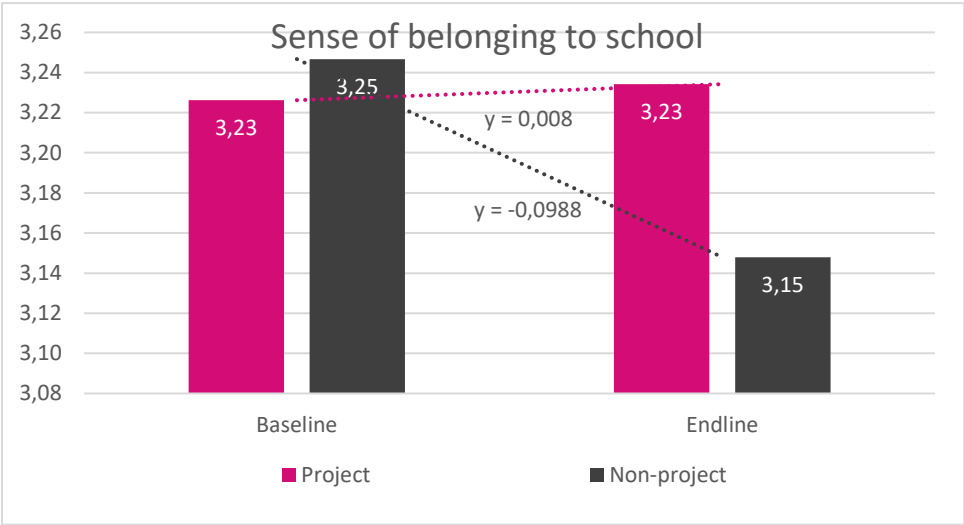
Sense of belonging at school was measured by six statements describing different situations through which belonging to a group at school is reflected. For each statement, students had to choose one of the four answers that best represented their agreement with the statement.

The data from both measurement points indicate that students in project schools had a relatively high sense of school belonging at baseline measurement ( $M=3.23$ ), and the level of school belonging remained unchanged until the endline measurement period ( $M=3.23$ )<sup>79</sup>. Students in non-project schools also had a high sense of school belonging at baseline measurement ( $M=3.25$ ), but it significantly decreased by the endline measurement period ( $M=3.15$ )<sup>80</sup>. Therefore, while the sense of school belonging in project schools remained stable and unchanged during the project, there was a significant decrease in non-project schools.

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<sup>79</sup>  $F(1) = 0,109$   $p > 0,05$

<sup>80</sup>  $F(1) = 6,873$   $p < 0,05$



## Parental involvement in school activities

There are two relational orientations of the parent-school relationship: the traditional and the partnership relationship. Traditional relational orientation implies a relationship in which parents leave the responsibility for their children's education to the school. The school supports such an attitude and does not expect parents to be directly involved in school life. Such an approach implies that the school sets educational goals and sometimes informs parents about them. Communication with parents is rare and problem-oriented. On the other hand, a partnership relational orientation emphasizes the importance of cooperation between parents and school in the education and socialization of children. Different perspectives aimed at creating a positive school climate are accepted and respected. In a partnership, the commitment to school-parent collaboration and joint contribution to student achievement is mutual. Such a relationship is characterized by mutual respect and frequent communication between parents and school staff. The roles are clear and supportive, and the educational goals are jointly agreed upon (Pahić, Miljević-Ridički & Vizdek Vidović, 2010). Joint participation of parents and the school in the planning, implementation, and evaluation of school activities contributes to the achievement of learning goals. Also, a relationship oriented towards partnership deepens the connection with the local community (Matejević & Jovanović, 2017). The results of the research show that parents of higher educational and socio-economic status are more often involved in children's education and that they attach more importance to the school-parent partnership (Tokić, 2020).

Parental involvement in school activities was measured using a school questionnaire. Representatives of schools were supposed to answer, based on the data they have or on the basis of their own assessment, how many percent of parents participate in various activities in the school. Thus, based on the collected answers, less than half of the parents (44.54%) discuss their children's progress with the teacher on their own initiative and 47.2% on the initiative of the teachers. 40% of parents are participating in local school bodies (parent council, school management committee, etc...) and only 18.83% are volunteering in some extracurricular activity. However, it is important to emphasize that there are huge variations between schools in the degree, and forms of parental participation in school activities.

In order to measure the degree of parental involvement more clearly in school activities, we created a scale of parental involvement in school activities that can range from 1 to 4 where higher values indicate a higher degree of participation.

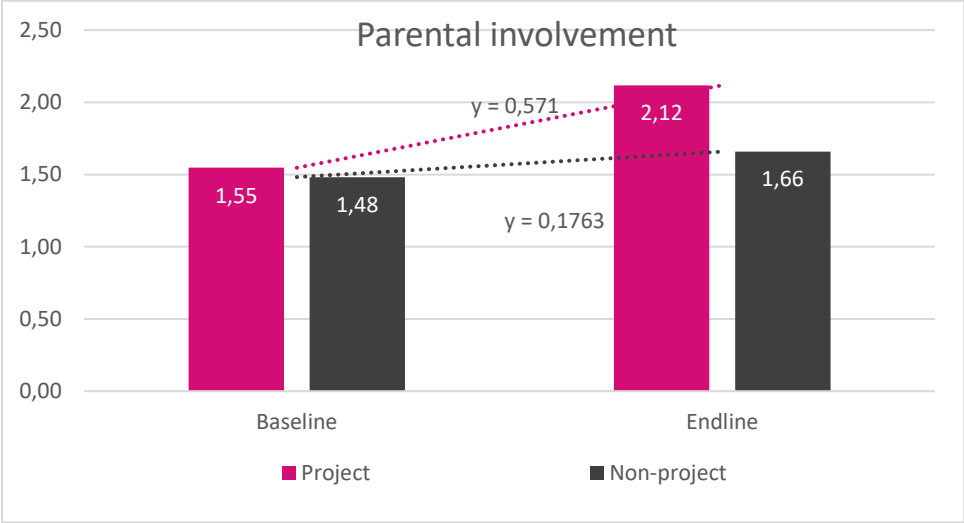
Overall, the level of parental involvement in school, both in project schools ( $M=1.55$ ) and non-project schools ( $M=1.48$ ), was very low at baseline measurement. After the project activities, there was some improvement in both groups of schools, with the degree of parental participation significantly increasing in project schools to  $M=2.12$ <sup>81</sup>, and in non-project schools to  $M=1.66$ <sup>82</sup>.

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<sup>81</sup>  $F(1) = 273,182, p < 0,01$

<sup>82</sup>  $F(1) = 21,545, p < 0,01$

Despite the significant shift on the parental involvement scale, the data obtained from this analysis indicate that the level of parental engagement in school activities remains low.



## Conclusions

The impact evaluation was conducted to assess the potential influence of ARISE project activities in schools on reducing inequalities among students caused by their socioeconomic status. A series of previous studies, including the baseline study conducted for the purposes of this project, confirmed the significant negative impact of students' lower socioeconomic status on their well-being and academic achievement. Accordingly, specific activities with students were designed and implemented through the project to mitigate or reduce the negative effects of lower socioeconomic status on their well-being.

To determine whether the project model can indeed influence the improvement of students' well-being, particularly those with lower socioeconomic status, a quasi-experimental research design was applied, which included research conducted at two measurement points: baseline (initial study conducted before the intervention) and endline (study conducted after the intervention). Assessing the effectiveness of interventions and their impact on students' well-being is based on a comparison between groups of students exposed to planned interventions at the school level (experimental/project group) and students who are not exposed to interventions (control group).

With the data collected from the student surveys at baseline (2022) and endline (2024), the following research questions were addressed:

- I. Did the project activities in schools involved in the ARISE project have a direct impact on student well-being?
  - i. Did significant changes occur in the well-being of students from unfavourable socio-economic backgrounds during the implementation of project activities?
  - ii. Did significant changes occur in the well-being of students directly involved in project activities as well as students who were not directly involved in project activities during the implementation of project activities in schools participating in the ARISE project?
  - iii. Did changes occur in psychological well-being as a component of overall student well-being during the implementation of project activities, specifically regarding:
    - a) Students' life satisfaction
    - b) Meaning in life
    - c) Students' feelings
    - d) Students' self-efficiency and
    - e) Fear of failure





among students in non-project schools, there was a significant decline in psychological well-being. Nonetheless, a significant impact of ARISE project activities on the psychological well-being of students in project schools was identified, as they prevented a significant decline in psychological well-being during the implementation of project activities. This significant preventive effect of ARISE activities was evident only among students in project schools with unfavourable SES and those who directly participated in the activities.

- a) There was a decrease in Life satisfaction among students with favourable SES, while there was no significant change among students with unfavourable SES, resulting in a slightly higher level of Life satisfaction among students who participated in project activities compared to those who did not.
  - b) There was a decrease in Meaning in life among students with both favourable and unfavourable SES, but the level of Meaning in life was significantly higher among students who participated in activities.
  - c) Students with favourable SES reported slightly less frequent positive feelings at the end of project activities, while there was no significant change among students with unfavourable SES. Students who participated in activities experienced positive feelings more frequently and negative feelings less frequently.
  - d) There was a decrease in Self-efficacy among students with favourable SES, while there was no significant change among students with unfavourable SES. Students who participated in activities also had significantly higher levels of Self-efficacy compared to those who did not.
  - e) Students with unfavourable SES showed significantly less Fear of failure after project activities, while there was no significant change among students with favourable SES. Students who participated in project activities had lower levels of Fear of failure compared to those who did not.
- iv. The level of cognitive well-being among students in project schools significantly improved after project activities. Improvement in cognitive well-being was also observed in non-project schools. Analysing the impact of project activities on changes in students' cognitive well-being in project schools, we could not confirm the hypothesis that the ARISE project had a significant impact on this

improvement, despite the fact that the increase in cognitive well-being in project schools was greater than that in non-project schools. Improvement in cognitive well-being was observed among students with both favourable and unfavourable SES. However, students who participated in project activities had significantly higher levels of cognitive well-being compared to students who did not participate.

2. There has been a slight but significant improvement in school climate in project schools at the end of project activities. Conversely, there has been a more significant deterioration in school climate in non-project schools. The change (improvement) in school climate in project schools can be attributed to the influence of the ARISE project, and this influence is reflected not only in the slight improvement in school climate but also in preventing its deterioration, as seen in non-project schools.

i. During the course of project activities, there was no significant change in two fundamental components of the school climate in project schools: Student disruptive behaviour and Teaching and learning, while there was a significant improvement in School community.

a) The level of Student disruptive behaviour remained unchanged in project schools during the implementation of project activities. However, there was a significant deterioration observed in non-project schools. Although there was no significant change in project schools, the analysis indicates that the ARISE project had a significant impact on the frequency of students' disruptive behaviour. Considering the changes observed in non-project schools, it can be concluded that the ARISE project influenced the prevention of a deterioration in student disruptive behaviour in project schools. When examining the individual elements of Students' disruptive behaviour (Bullying, Disciplinary climate, and Student truancy and lateness), no significant changes in the frequency of Bullying or Disciplinary climate were observed in either project or non-project schools. However, a significant deterioration in Student truancy and lateness was recorded in non-project schools, while no change was observed in project schools. Nevertheless, there is a certain tendency towards improvement in project schools and deterioration in non-project schools across all these elements, although these changes are not statistically significant.

b) Practices of Teaching and learning did not significantly change in project schools, while there was a significant deterioration in non-project schools. Analysis of the impact of ARISE project activities on teaching and learning practices revealed that the project did not significantly influence the change

or stagnation of the level of teaching and learning in project schools. In other words, although there was a significant deterioration in non-project schools and no change in project schools, this phenomenon cannot be attributed to the influence of the ARISE project but likely to other extraneous factors. Regarding the individual elements of Teaching and learning as components of the school climate, a significant decline or deterioration in Teachers' enthusiasm and Teachers' support and teaching practice was observed in both project and non-project schools, with the deterioration being slightly more pronounced in non-project schools. A significant improvement, both in project and non-project schools, was noted in the element of Teacher behaviour and Student learning, with the improvement being slightly more pronounced in project schools.

- c) School community as a factor of school climate significantly improved in project schools, while no significant changes were observed in non-project schools. The analysis confirmed that the change (improvement) in School community in project schools can be attributed to the influence of the ARISE project. When considering the individual elements of School community, students in project schools showed slightly less competition and cooperation at the end of the project, while students in non-project schools did not show improvement in competition but exhibited a significant decrease in cooperation. A high Sense of belonging to school was maintained among students in project schools. On the other hand, the initial (baseline) Sense of belonging to school among students in non-project schools significantly decreased after endline data collection. The level of Parental involvement significantly improved in both project and non-project schools, with the improvement being more pronounced in project schools. However, the level of Parental involvement still remains relatively low in both project and non-project schools.

**The final conclusion of the ARISE project impact evaluation indicates that targeted interventions, like those implemented in the ARISE project, can significantly contribute to improving the well-being and educational outcomes of students from lower socio-economic backgrounds. The project successfully addressed inequalities in education by enhancing student well-being and the overall school climate, thus providing valuable insights for future educational policies and programs aiming at reducing educational disparities.**

The ARISE project activities had a significant impact on improving student well-being in project schools, with this impact being more pronounced among students from unfavourable socio-

economic backgrounds and those who actively participated in the activities. Additionally, a notable improvement in the school climate was observed in project schools.

However, significant differences in the level of student well-being persist depending on their socio-economic status, with students from unfavourable socio-economic backgrounds having significantly lower levels of well-being compared to their peers from favourable socio-economic backgrounds. This disparity existed both before the commencement of project activities and remained present after the project interventions. Nonetheless, the gap in well-being levels between students based on their socio-economic status narrowed in project schools after the implementation of project activities. In contrast, in non-project schools, there were even greater disparities in student well-being levels based on their socio-economic status.

**Considering the confirmed positive impact of project activities on improving the well-being of students from unfavourable socio-economic backgrounds in project schools, we can conclude that ARISE project activities have contributed to reducing inequalities (expressed through well-being) among students of different socio-economic backgrounds.**

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## Appendices

### Research instruments

## **Survey for students**

We conduct research in several countries on what students' experiences at school are and how students generally feel in life.

Please help us by answering the questions in this questionnaire. We would like to emphasize that there are no correct or incorrect answers. It is important that you just write down what you think and what your experiences are. Please answer the questions yourself. The information you share with us will be used for research purposes and will not be shared with others. Teachers or your parents will not be able to see your answers. This questionnaire is not graded, and your answers will not in any way affect your grades or the teacher's opinion of you.

Everything what you write here will be confidential and we will not even ask you for your name.

If you want to answer the questions, please check the box next to the word YES.

If you do not want to answer the questions, please check the box next to the word NO.

I want to answer questions

Yes

No

## Module I: Socio-demographic characteristics

1. Gender:  male  female

2. What day and month is your birthday?

(For example, if your birthday is on August 21, in the field day, enter the number 21, and in the field month enter number 08)

Day: 


  
 Month: 


3. School name: \_\_\_\_\_

4. Grade: \_\_\_\_\_

5. What are the first two letters of your mother's maiden name?

(For example, if your mother's maiden name is Spahić, then enter SP in the next two fields)

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6. What is the highest level of schooling completed by parents?

<b>Your mother</b>	<b>Your father</b>
Gymnasium	Gymnasium
Vocational secondary school	Vocational secondary school
Primary school	Primary school
Four grades of primary school	Four grades of primary school
She did not finish the fourth grade of primary school	He did not finish the fourth grade of primary school

7. Do your parents have any of the following qualifications?

<b>Your mother</b>	<b>Your father</b>
PhD or Master of science	PhD or Master of science
University degree	University degree
Associate education	Associate education
Diploma of a highly qualified worker	Diploma of a highly qualified worker

8. Which of the following are in your home?

A desk to study

- A room of your own
- A quiet place to study
- A computer you can use for schoolwork
- Educational software
- A link to the Internet
- Classic literature (e.g. Shakespeare)
- Books of poetry
- Works of art (painting)
- Books to help with your schoolwork
- <Technical reference books>
- A dictionary
- Books on art, music or design
- <Country-specific wealth item 1 >
- <Country-specific wealth item 2 >
- <Country-specific wealth item 3 >

9. How many of these are there at your home? Please mark the answer that best describes you.

	none	one	two	three or more
Televisions				
Cars				
Rooms with a bath or shower				
Cell phones with Internet access (e.g. smartphones)				
Computers (desktop computer, portable laptop, or notebook)				
Tablet computers (e.g. iPad®, BlackBerry® PlayBook™)				
E-book readers (e.g. Kindle™, Kobo, Bookeen)				
Musical instruments (e.g. guitar, piano)				

10. How many books are there in your home? Please mark one of the answers provided. *There are usually about 40 books per meter of shelving. Do not include magazines, newspapers, or your schoolbooks.*

- 0-10 books

- 11-25 books
- 26-100 books
- 101-200 books
- 201-500 books
- More than 500 books

The following two questions concern your mother's job: *(If she is not working now, please tell us her last main job.)*

11. What is your mother's main job?

*(e.g. schoolteacher, kitchenhand, sales manager)*

Please type in the job title. \_\_\_\_\_

12. What does your mother do in her main job?

*(e.g. teaches high school students, helps the cook prepare meals in a restaurant, manages a sales team)*

Please use a sentence to describe the kind of work she does or did in that job.

---

**The following two questions concern your father's job:** *(If he is not working now, please tell us his last main job.)*

13. What is your fathers' main job?

*(e.g. schoolteacher, kitchenhand, sales manager)*

Please type in the job title. \_\_\_\_\_

14. What does your father do in his main job?

*(e.g. teaches high school students, helps the cook prepare meals in a restaurant, manages a sales team)*

Please use a sentence to describe the kind of work he does or did in that job.

---

## Module II (Well-being)

15. The following question asks how satisfied you feel about your life, on a scale from “0” to “10”. Zero means you feel ‘not at all satisfied’ and “10” means ‘completely satisfied’.

Please mark the answer that best describes you.

	Not at all satisfied									Completely satisfied
Overall, how satisfied are you with your life as a whole these days?	1	2	3	4	5	6	7	8	9	10

16. How much do you agree with the following statements on a scale from 1-strongly disagree to 4-strongly agree? Please mark the answer that best describes you.

	Strongly disagree	Disagree	Agree	Strongly agree
My life has clear meaning or purpose.	1	2	3	4
I have discovered a satisfactory meaning in life.	1	2	3	4
I have a clear sense of what gives meaning to my life.	1	2	3	4

17. Thinking about yourself and how you normally feel: how often do you feel as described below? Please mark the answer that best describes you.

	Never	Rarely	Sometimes	Always
Happy				
Scared				
Lively				
Miserable				
Proud				
Afraid				
Joyful				
Sad				
Cheerful				



18. How much do you agree with the following statements on a scale from 1-strongly disagree to 4-strongly agree? Please mark the answer that best describes you.

	Strongly disagree	Disagree	Agree	Strongly agree
I usually manage one way or another.	1	2	3	4
I feel proud that I have accomplished things.	1	2	3	4
I feel that I can handle many things at a time.	1	2	3	4
My belief in myself gets me through hard times.	1	2	3	4
When I'm in a difficult situation, I can usually find my way out of it.	1	2	3	4

19. How much do you agree with the following statements on a scale from 1-strongly disagree to 4-strongly agree? Please mark the answer that best describes you.

	Strongly disagree	Disagree	Agree	Strongly agree
When I am failing, I worry about what others think of me.	1	2	3	4
When I am failing, I am afraid that I might not have enough talent.	1	2	3	4
When I am failing, this makes me doubt my plans for the future.	1	2	3	4

20. How much do you agree with the following statement on a scale from 1-strongly disagree to 4-strongly agree? Please mark the answer that best describes you.

	Strongly disagree	Disagree	Agree	Strongly agree
Your intelligence is something about you that you can't change very much.	1	2	3	4

### Module III (School climate)

21. During the past 12 months, how often have you had the following experiences in school? (Some experiences can also happen in social media). Please mark the answer that best describes you.

	Never or almost never	A few times a year	A few times a month	Once a week or more
Other students left me out of things on purpose.				
Other students made fun of me.				
I was threatened by other students.				
Other students took away or destroyed things that belonged to me.				
I got hit or pushed around by other students.				
Other students spread nasty rumours about me.				

22. How often do these things happen in your <mother language lessons>? Please mark the answer that best describes you.

	Every lesson	Most lessons	Some lessons	Never or hardly ever
Students don't listen to what the teacher says.				
There is noise and disorder.				
The teacher has to wait a long time for students to quiet down.				
Students cannot work well.				
Students don't start working for a long time after the lesson begins.				

23. In the last two full weeks of school, how often did the following things occur? Please mark the answer that best describes you.

	Never	One or two times	Three or four times	Five or more times
I skipped a whole school day.				
I skipped some classes.				
I arrived late for school.				

24. Thinking of your past two <mother language lessons>: how much do you disagree or agree with the following statements on a scale from 1-strongly disagree to 4-strongly agree? Please mark the answer that best describes you.

	Strongly disagree	Disagree	Agree	Strongly agree
It was clear to me that the teacher liked teaching us.	1	2	3	4
The enthusiasm of the teacher inspired me.	1	2	3	4
It was clear that the teacher likes to deal with the topic of the lesson.	1	2	3	4
The teacher showed enjoyment in teaching.	1	2	3	4

25. How often do these things happen in your <mother language lessons>? Please mark the answer that best describes you.

	Every lesson	Most lessons	Some lessons	Never or hardly ever
The teacher shows an interest in every student's learning.				
The teacher gives extra help when students need it.				
The teacher helps students with their learning.				
The teacher continues teaching until the students				

understand.				
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26. Think about your school: Please rate on a scale 1-not at all true to 4-extremely true how true are the following statements?

	Not at all true	Slightly true	Very true	Extremely true
Students seem to value competition.	1	2	3	4
It seems that students are competing with each other.	1	2	3	4
Students seem to share the feeling that competing with each other is important.	1	2	3	4
Students feel that they are being compared with others.	1	2	3	4

	Not at all true	Slightly true	Very true	Extremely true
Students seem to value cooperation.	1	2	3	4
It seems that students are cooperating with each other.	1	2	3	4
Students seem to share the feeling that cooperating with each other is important.	1	2	3	4
Students feel that they are encouraged to cooperate with others.	1	2	3	4

27. Thinking about your school: to what extent do you agree with the following statements on a scale from 1-strongly disagree to 4-strongly agree? Please mark the answer that best describes you.

	Strongly disagree	Disagree	Agree	Strongly agree
I feel like an outsider (or left out of things) at school.	1	2	3	4
I make friends easily at school.	1	2	3	4
I feel like I belong at school.	1	2	3	4

I feel awkward and out of place in my school.	1	2	3	4
Other students seem to like me.	1	2	3	4
I feel lonely at school.	1	2	3	4

28. What is the last average grade you had at the end of the previous school year in the following subjects:

Mother language \_\_\_\_\_

Mathematics \_\_\_\_\_

<Art subject> \_\_\_\_\_

Thank you very much for completing this survey. Please, check one more time did you answer all of the questions.

## **Survey for schools**

*This questionnaire should be completed by the school principal or another person who is well acquainted with the state and situation in the school.*

One of the activities in the ARISE project is the evaluation of the impact of project activities on student well-being. To make sure that project activities really affect student well-being, it is necessary to conduct research with students at your school. To conduct this research, we will need your help, by providing some general information about the school, which we need in order to better understand the school environment in which students live, but also to be able to choose the most appropriate sample of students in your school.

Therefore, please answer the questions in this questionnaire. You may need the help of another person at the school or some documentation to answer some questions.

The answers and information you leave here will be used exclusively for the purposes of this research.

Thank you for your answers and time.

## Respondent basic information

1. The position you are currently holding at this school (for example, school principal, pedagogue, etc...): \_\_\_\_\_
2. How long have you been in your current position, which you mentioned in the previous question (in months):  
\_\_\_\_\_

## About the school

3. School name:  
\_\_\_\_\_
4. Which of the following definitions best describes the community in which your school is located?
  - a) A village, hamlet or rural area (fewer than 3 000 people)
  - b) A small town (3 000 to about 15 000 people)
  - c) A town (15 000 to about 100 000 people)
  - d) A city (100 000 to about 1 000 000 people)
  - e) A large city (with over 1 000 000 people)
5. Which of the following statements best describes the schooling available to students in your location?
  - a) There are two or more other schools in this area that compete for our students.
  - b) There is one other school in this area that competes for our students.
  - c) There are no other schools in this area that compete for our students.

6. Could you write the total numbers for the following:

	Males	Females
Number of students		
Number of teaching staff (teachers)		
Number of non-teaching staff (janitors, cleaners...)		

7. Please estimate the percentage of students in your school who have the following characteristics:

	% of students out of total students in school
Students whose mother language is different from the language that is taught in school as mother language	

Students with special needs	
Students from socioeconomically disadvantaged homes	

8. Please, could you answer on the following questions:

	Write the number:
Approximately, how many computers are available for students for educational purposes?	
Approximately, how many of these computers are connected to the Internet/World Wide Web?	
Approximately, how many of these computers are portable (e.g. laptop, tablet)?	
Approximately, how many interactive whiteboards are available in the school altogether?	
Approximately, how many data projectors are available in the school altogether?	
Approximately, how many computers with internet connection are available <b>for teachers in your school?</b>	

9. Does your school provide the following study help?

	YES	NO
Room(s) where the students can do their homework		
Staff help with homework		
Peer-to-peer tutoring		

10. During the last three months, what percentage of teaching staff in your school has attended a programme of professional development?

*(A programme of professional development here is a formal programme designed to enhance teaching skills or pedagogical practices. It may or may not lead to a recognised qualification. The programme must last for at least one day in total and have a focus on teaching and education)*

Enter the number: \_\_\_\_\_

11. Is your school's capacity to provide instruction hindered by any of the following issues?

	Not at all	Very little	To some extent	A lot
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A lack of teaching staff.				
Inadequate or poorly qualified teaching staff.				
A lack of assisting staff.				
Inadequate or poorly qualified assisting staff.				
A lack of educational material (e.g. textbooks, IT equipment, library or laboratory material)				
Inadequate or poor-quality educational material (e.g. textbooks, IT equipment, library or laboratory material).				
A lack of physical infrastructure (e.g. building, grounds, heating/cooling, lighting and acoustic systems).				
Inadequate or poor-quality physical infrastructure (e.g. building, grounds, heating/cooling, lighting and acoustic systems).				

### School climate

12. In your school, to what extent is the learning of students hindered by the following phenomena?

	Not at all	Very little	To some extent	A lot
Teachers not meeting individual students' needs				
Teacher absenteeism				
Staff resisting change				
Teachers being too strict with students				
Teachers not being well prepared for classes				

13. During the last school year, what percentages of students' parents participated in the following school related activities?

	Percentage (%) from 0% to 100%
Discussed their child's progress with a teacher on their own initiative	
Discussed their child's progress on the initiative of one of their child's teachers	
Participated in local school government (e.g. parent council or school management committee)	
Volunteered in physical or extra-curricular activities (e.g. building maintenance, carpentry, gardening or yard work, school play, sports, field trip)	

Thank you for completing this questionnaire!

## ARISE Consortium



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