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Evaluation of the Support to Schools Project in Czech Republic

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Foreword

The purpose of this report is to evaluate an intervention "Support to schools in form of simplified reporting projects - Template for nursery schools and primary school", by the European Social Fund financed in the Czech Republic, during the Programming period 2014-2020. This is a joint work of the JRC-CRIE (Center for Research on Impact Evaluation) and one of the Czech managing authorities, Ministry of Education, Youth and Sports. The motivation behind this collaboration is an Administrative Agreement, signed between JRC Unit I.1 and DG EMPL unit G.5, whose aim is to provide scientific expertise and methodological support to the Managing Authorities and the European Commission for the evaluation of the impact of interventions funded by the European Social Fund. This is part of the Quality Assurance Support activity. The activity started in Janaury 2020 and was concluded in September 2021.

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Abstract

The purpose of this report is to evaluate an intervention "Support to schools in forms of simplifed reporting projects - Template for Nursery schools and Primary schools") financed by the European Social Fund in Czech Republic, during the Programming period 2014-2020. This is a join work of the JRC-CRIE (Center for research on Impact Evaluation) and one of the Czech managing authorities, the Ministry of Education, Youth and Sports. In order to understand the short run effects of the call, the outcomes of participating schools are compared to the outcomes of non-participating schools, using propensity score matching as a way to solve the selection bias arising from the fact that schools self-select themselves, as participation to the call is voluntary. Analysis are based on a combination of administrative data coming from schools' registries, and survey data collected on a relevant sample of schools. The main outcomes of interested are performances in mathematics and language test scores and some indicators capturing the level of school's climate (measuring features like inclusiveness, discrimination, etc...). Preliminary results do not show any consistent pattern of effects on test scores. Some mixed evidence is found for the school climate measures, where only some dimensions seem to be affected by the program, but not in a clear and consistent pattern. Explanation for these results could be that very short time passed between the intervention and the date when the outcomes were measured, which can be problematic if one expects academic achievement and school climate to slowly change in response to such interventions. Also, the academic achievement of students or school climate were not the direct targets of the activities of this set of actions.

Executive summary

Policy context

One of the main objectives of the Ministry of Education, Youth and Sports of Czech Republic is to shift the country towards an economy based on an educated, motivated and creative workforce, and on the production of high-quality research results. To achieve this objective, the Operational Programme Research, Development and Education (OP RDE) was established during the programming period 2014-2020. It is co-financed by the European Social Fund and European Regional Development Fund, and managed by the Ministry of Education.

Out of the main actions financed by this programme, the "Support to schools in the form of simplified reporting projects - Templates for nursery schools and primary schools" is the focus of this report, which aims to bring preliminary evidence on the effectiveness of this intervention, using Counterfactual Impact Evaluation Methods, which allow to determine causal effects of the intervention on the outcomes of interest. This intervention is a call for projects intended for schools, launched in 2016. The number of participating schools exceeded 5,100 and the original budget allocated was 4,5 billion CZK (between 160 and 180 million euros depending on the exchange rate throughout the period). The objective of the call was to improve the inclusiveness at school level ("Promote social integration of children and pupils including the integration of Roma children into education") and to enhance pupil's key competencies ("Improving the quality of education and achievement of students in key competencies"). The supported activities to reach these goals, were: professional support (mentoring and supervision) and systematic training to teachers in key areas (mathematics and reading literacy, foreign language, mentoring and inclusive education); increasing the number of auxiliary school personnel; extracurricular activities for pupils; and promoting cooperation between parents and the school.

Scientific approach

In order to understand the short-term causal effects of the call, we would like to compare the outcome of a school who participates to the intervention, to the outcome of the same school had it not participated to the intervention. Clearly the latter outcome is not observable: if a school participate to the intervention, we only observe its outcome conditional on the fact of having participated. One possible way out of this problem is to use the outcome of the schools who did not participate to the intervention as the counterfactual. However, since the schools selected for the intervention may be different from the schools not selected, we cannot simply retrieve the impact of the intervention by comparing the outcomes of the two groups, because the results would suffer from a bias related to the mechanism of selection of participating schools (selection bias). We rely on propensity score matching as a way to solve the selection bias arising from the fact that schools self-select themselves, as participation to the call is voluntary. Analyses are performed at the school level and are based on a combination of administrative data coming from schools' registries, and survey data collected on a relevant sample of schools. The main outcomes considered are average schools' performances in mathematics and language test scores and several indicators capturing the level of the school's climate (measuring features like inclusiveness, discrimination, etc.).

Main conclusion

Preliminary results do not show any consistent pattern of effects on test scores. Some mixed evidence is found for the school climate measures, where only some dimensions seem to be affected by the programme, but not in a clear and consistent pattern. An explanation for these results could be that very little time passed between the intervention and the date when the outcomes were measured, which can be problematic if one expects academic achievements and school climate to slowly change in response to such interventions. Also, the academic achievements of students or school climate were not the direct targets of the activities of this set of actions. These were chosen rather because the theory of change of the intervention suggested there might be some effect expected, and for data availability.

Looking ahead

Further research is needed in the coming years to understand if this set of actions can have an impact on changing the school climate and possibly improving students' achievement. This is even more challenging given the current COVID-19 pandemic, which has caused schools to be closed for a long time during 2020 and 2021. Despite these limitations, it is good to underline the enormous effort put in place by the Czech managing authority to put together administrative data about the universe of schools in the country, and to carry out surveys aiming at measuring a dimension (school climate) which is almost impossible to measure with available registry data. A number of suggestions can be proposed in view of the next programming period:

1. Collecting baseline data on relevant outcomes before the start of the intervention on the treated and control schools can help better measure the impact of the intervention.
2. Finding a measurable outcome that is directly related to the expected results of the intervention can help identify relevant effects.
3. Having better control of the design of the intervention, and of the selection of the units to treat, can help in finding the most adequate evaluation method.

1 Introduction

The purpose of this report is to evaluate an intervention financed by the European Social Fund in Czech Republic, during the Programming period 2014-2020: "Support to schools in the form of simplified reporting projects - Templates for nursery schools and primary school". The evaluated intervention is a call for projects intended for schools and issued by the Operational Programme Research, Development and Education (hereinafter referred to as the OP RDE). The OP RDE is managed by the Ministry of Education, Youth, and Sports of Czech Republic and the aim of the programme is to contribute to Czech Republic's structural shift towards an economy based on an educated, motivated and creative workforce and on the production of high-quality research results and their use to increase competitiveness.

This call was launched in the academic year 2016-17 and participation for the schools was voluntary. Some schools joined in 2016, while others joined in the following academic year and the intervention generally lasted 24 months. The main objectives of the intervention were to improve the inclusiveness at school level ("Promote social integration of children and pupils including the integration of Roma children into education") and to enhance pupil's key competencies ("Improving the quality of education and achievement of students in key competencies"), however these objectives are difficult to measure given the considerable time that shall pass before one could expect changes in these dimensions.

Nevertheless, since the intervention could also equally well improve short term measurable outcomes, like the school climate and children test scores, this study examines short effects of the policy that could have immediate impact on these two sets of outcomes: academic achievements in mathematics and Czech language at the end of primary schools, and some indicators of school climate (measuring features like inclusiveness, discrimination, etc.). Both set of outcomes are measured at the end of the academic year 2018-19 (June 2019). All outcomes are measured at the school level, as no more granular information is available. The first results point to inconclusive evidence about the effectiveness of this intervention, which could be due to the very short time elapsed between the project and the measured outcomes. It is necessary to stress that the intervention wasn't planned to affect these sets of outcomes directly and the outcomes were chosen as the theory of change of the intervention suggested there might be some expected effects, and due to data availability.

The report is structured as follow: Section 2 provides information about the context and the details of the intervention, Section 4 describes the methodology and Section 5 the data used for this evaluation. Results and Conclusions are reported in Sections 6, 7 and 8.

2 Context and details of the intervention

2.1 The Czech educational system

This evaluation report deals with an intervention focused on the Czech primary schools. Arguably the biggest intervention of this kind in recent years. For this reason, it might be beneficial to describe the education system the intervention took place in and to clarify the purpose of the intervention. Czech primary education system took its shape in 1774, when compulsory school attendance was instituted, and it has retained many key attributes ever since. Nowadays, the education system consists of preschools, primary schools, secondary schools and tertiary (post-secondary) institutions providing higher education. The system is predominantly financed by tax money. And although the number of private educational institutions is growing, a great majority of pupils are educated in state-funded schools where no tuition is required. For preschool (ISCED 0), there are two main institutions a child may attend. For the youngest children there are childcare establishments where they are taken care of in small groups. Besides taking care of the children and socializing them, childcare may have an educational function as well. For older children there are kindergartens. Age groups may overlap, since the childcare establishments accept children between 1 and 6 years of age (usually younger ones) while kindergartens accept children between two and six years of age (usually older ones). It is mandatory for children to spend at least one year in a kindergarten before they join primary schools. Kindergartens are obliged to follow the national educational curriculum and they are places of early education, socialization and preparation for school. Primary schools are mandatory as well and they usually accommodate pupils between 6 and 15 of age. They consist of two levels: grades 1 - 5 (ISCED 1) and grades 6 - 9 (ISCED 2). The higher level thus corresponds to lower secondary education in some countries. The transfer between these levels is automatic unless the pupils intend to change primary school for a grammar school that combines primary and secondary education (4+4 for pupils joining after 5th grade or 2+4 for pupils joining after 7th grade). Since most kindergartens and primary schools are established by municipalities, and since Czech Republic has a high density of small municipalities, there is a high number of kindergartens (over 5000) and primary schools (over 4000) for a country of ten millions. There is no mandatory, standardized examination at the end of primary schools. However, when the pupils intend to go to a secondary school (and most of them do), they need to pass a standardized entrance exam in Czech language and mathematics. The achievements in these exams, aggregate at the school level, provided kindly by the Centre for the Evaluation of Educational Achievement (CERMAT), are one of the outcomes

considered in this evaluation. After primary school, a pupil may choose from a wide range of high schools (ISCED 3): vocational schools, grammar schools, lycea, specialized high schools, conservatories and so on. Their duration may vary between 2 and 4 years (most common) and they may be concluded by a vocational or a standardized state exam. The state exam is a condition for application to an institution of a tertiary education. These may be vocational colleges (ISCED 6) or universities and colleges with their bachelor (ISCED 6), master (ISCED 7) and doctoral programmes (ISCED 8).

2.2 The evaluated intervention

The intervention chosen for the evaluation is a part of a complex system of interventions taking place in preschools, primary schools and secondary schools. The interventions were (and are) part of the effort to make the Czech education a more inclusive place. A place, where each pupil is educated amidst their peers and where each pupil's competencies are developed according to their needs. These interventions were prepared as a part of the support of an important legislation that came into force in 2016 and that tackles the issue of inclusive education. The aim of the intervention was, in broad terms, to support the inclusive conditions on school level and to enhance pupil's key competencies. The three specific objectives, as defined in the operational programme, were:

1. Improving the quality of pre-school education, including facilitating the transition of children to primary school.
2. Improving the quality of education and achievement of students in key competencies.
3. Social integration of children and pupils including the integration of Roma children into education.

The evaluated call "Support to schools in form of simplified reporting projects - Templates for nursery schools and primary schools" was chosen because of its size, importance for the Czech education system, and relative homogeneity of the supported activities allowing comparability to a certain degree. The size is significant both in allocation and number of participating schools. The final budget was 3.035 billion CZK, approximately 124 million euro according to the average exchange rate in 2016. The number of the participating nursery schools (ISCED 0) and primary (ISCED 1 and 2) schools exceeded 5100. That means almost 64% of nursery schools and some 73% of primary schools took part in the intervention. There were subsequent calls similar to this one and targeting the same schools. These will be a subject of a further evaluation. This evaluation focuses only on primary schools, since it was the first call and since no relevant outcome is available for nursery schools yet. The complicated name of the call refers to the simplified method of reporting (templates or units) that significantly decreases the administrative burden for the beneficiaries and increases the comparability of the projects. While other calls specify the goals and supported activities rather broadly, leaving the beneficiaries much freedom in how to choose, shape, and implement the activities, calls based on "template" specify in detail what activity is supported, what form it should take, what should be its goal and how it's proven it took place as it should. The supported activities then can be divided into coherent units. The supported activities were:

1. Auxiliary school personnel (support in the form of additional specialised educational staff like school assistants, special educators, school psychologists, social educators, or nannies in case of nursery schools)
2. Personal and social development of teachers (mostly courses of various length on mathematical literacy/numeracy, reading literacy, foreign languages, inclusive education, mentoring and personal development)
3. Extracurricular activities (e.g. reading clubs, board game clubs, tutoring)
4. Cooperation with parents of children and pupils (involving the parents in the education of their children, mostly via thematic meetings)

An additional activity was foreseen for nursery schools: "Facilitating the transition of children from nursery schools to primary schools (prevention of speech disorders and communication problems of children, cooperation with parents, nursery schools, and primary schools)".

Examples of how the template system works are the following: if a school wanted to try additional support personnel in the form of a school psychologist, the unit was defined as 0.5 FTE a month. Therefore, if they wanted to keep a half-time psychologist for twelve months, they chose 12 units. If they wanted a full-time psychologist for 12 months they chose 24 units. In the case of education or training for the school staff, the unit was defined by the topic and number of hours, e.g. 8 hours on a course on the improvement of inclusive education. Extracurricular activities were usually defined by the number of participants, number of meetings, and number of months. For example, the reading club unit consisted of 16 club meetings of 90-minute duration for at least six pupils in one semester. Each unit thus had defined content, outputs, costs, and was easy to apply

for and to report. This simplicity based on experience from the previous programming period translated into huge popularity among schools and resulted in three consecutive calls for projects of similar scope and size. However, this evaluation is interested only in the first call that took place between September 2016 and August 2019. The objective of the call was to provide professional support (mentoring, supervision) of teachers and systemic training of teachers in the key areas (mathematical and reading literacy, foreign languages, inclusive education). The interventions are supposed to focus on personal and social development of teachers and the other educators and their competencies for developing key competencies of children, and provide special staff support to nursery schools and primary schools.

The effects of these interventions are supposed to be indirect in most cases. The additional professional staff is supposed to promote a suitable school climate and to create a better environment for learning for all pupils. The courses for teachers are supposed to help them improve their own teaching by using innovative methods and by creating an inclusive environment for all pupils. Although some templates were focused on specific areas like enhancing numeracy or literacy, these shouldn't be perceived as merely connected to better teaching of the Czech language and mathematics. They were supposed to be as horizontal as inclusive principles, and teachers took part in them regardless of the subject they taught. The extracurricular activities are supposed to help both with the development of key competencies and with inclusion of pupils endangered with school failure. The intervention's effect should be thus observable on the changing school climate, signs indicating inclusiveness of the school and the pupil's competences. Considering the age of the treated pupils, the intervention had no ambition to have an effect on their standing on the labour market.

The duration of the absolute majority of the projects was, according to the condition of the call, 24 months. Most of the projects also respected the cycle of the school year and started either in September 2016 or September 2017. Although a significant number started also at the beginning of the spring semester 2017, in January or February. The selection process was one round evaluation of the applications and as a matter of rule, if the applicants matched the formal criteria (size of the project was within the limits given by the size of the school, eligibility of the applicant), they were awarded the project. The participation was voluntary but the choice of the "template" was not.

In 2015, nearly all primary schools went through a thorough needs assessment survey. One of the results of this survey was the identification of the weaknesses and the strengths of the schools. Schools, as applicants, were encouraged to choose at least those templates that could improve their situation in the identified weaknesses. Otherwise, the schools could choose the templates as they saw fit. Therefore, the participation wasn't random and the treated schools were more likely to be supported on areas of weakness compared to the rest of the schools.

3 Literature review

The intervention consists of four different actions. The first action concerns the provision of auxiliary staff within the schools. More specifically, this action aims at increasing the support to schools in the form of specialized educational staff (like school assistants, special educators, school psychologists, social educators, or nannies in case of nursery schools). Using auxiliary school personnel in schools has some advantages (Bowman and Klopf (1966)): 1) more attention to students; 2) improved teaching conditions, allowing teachers to dedicate more time to professional duties; 3) easing the shortage of professionals. Few studies in the literature try to assess the role of auxiliary school personnel in students' and teachers' achievements. See Navarro (2015) for a review on the topic, where he concludes that "the work of these staff can reduce pressure on the teacher in relation to classroom management by helping the teacher cope with student misbehaviour, thus creating a more productive classroom atmosphere. Furthermore, learning support staff can pair with teachers during class in a complementary way, potentially providing the most effective teaching in every different context."

The second action aims at favoring the personal and social development of teachers. It consists of courses of various length, on mathematical literacy/numeracy, reading literacy, foreign languages, inclusive education, mentoring and personal development. These courses allow the teachers not only to improve their knowledge in different subjects, but also to develop new skills more related to the personal and social training. For example, they could learn how to create a better teaching environment, how to develop student-teacher relations and how to inspire their students in a very delicate age for their development. The literature has tried to evaluate the effects of teachers' trainings on students' outcomes, in particular students' academic achievement. See for example Basma and Savage (2018) and Didion et al. (2020) for a meta-analysis on the effect of teacher professional development on students' reading achievement, Blank and de Las Alas (2009) for effect on achievement in mathematics and science, and Yoon et al. (2007) for another collection of examples on the effects on other achievements domain (mathematics, sciences and art). All studies point to a general positive impacts of teachers' development on students' outcomes. Few others scholars studied the effect of teachers' professional development on other outcomes, such as peer relationships (Yee Mikami et al., 2011), creativity (Hosseini and Watt, 2010) on student behavioral engagement in their classrooms (Gregory et al., 2014), all

suggesting positive impact on the studied outcomes. Finally, other studies have tried to identify what features make teachers' development effective (Van Veen et al., 2012).

The third action, concerns the offer of extracurricular activities to students (e.g. reading clubs, board game clubs, tutoring, sport, music or personal development programs). There are a whole range of benefits that come from involvement in these activities, such as: 1) they can help children to develop skills outside the classrooms, for example team-building or time management; 2) they can open a child's mind to new interests and hobbies and finding an area in which children excel can boost self-confidence; 3) they provide social opportunities and a way to have a productive break from study. Extracurricular activities, indeed, give the opportunity to interact with other children and build friendship. In the recent literature we find studies related to effect of extracurricular activities on students' achievement and personal development. Susan A. Dumais (2006), for example, finds that the number of activities in which students participate during kindergarten and first grade affects their gains in reading achievement test scores between first and third grade, but does not affect gains in math achievements. Moreover, it seems that less-privileged children benefit more from participation in extracurricular activities than do more-privileged children. The relationship between extracurricular activities and academic achievements is also studied by Meadows (2019). Her results suggest a statistically significant positive correlation between hours spent participating in extracurricular activities and cumulative GPA. Another outcome correlated to extracurricular activities is personal development. Findings show that students who participate in extracurricular activities reduce behavior problems and have a more positive attitude towards school. Moreover, they are less likely to drop out and more likely to have more social connections (Massoni, 2011).[1]

The last action is related to the role of families, in particular parents, in a child's education. This treatment, cooperation with parents, aims to involve the parents in the education of their children, mostly via thematic meetings. Developing skills to manage children's behavior and gaining confidence and empathy are just two benefits coming from parental engagement. Working together, teachers and parents can create an educational program that meets unique needs and foster a caring and sensitive school climate that respects and responds to students' differences as well as their similarities. The literature on this theme is mostly qualitative and nonempirical. Fan and Chen (2001), conducted a meta-analysis to synthesize the quantitative literature about the relationship between parental involvement and students' academic achievement. Findings reveal that there is a moderate but meaningful positive relationship between parental involvement and academic achievement. This relationship is stronger when the outcome is a global academic indicator (e.g. GPA) than by a subject-specific indicator (e.g. math grade). Also social development seems to be affected by parents involvement; more specifically, it emerges that children with highly involved parents had enhanced social functioning and fewer behavior problems (El Nokali et al., 2010).

4 Method

Our aim is to assess the effectiveness of the various activities. To do so we would like to compare the outcome of a school who receives the treatment, to the outcome of the same school had it not received the treatment. Clearly the latter outcome is not observable: if a school is treated we only observe its outcome conditional on the fact of having received the treatment. This is defined as the "fundamental problem of causal inference" in the economic literature: one cannot observe the status of a treated unit in the scenario where it did not receive the treatment (the counterfactual).

One possible way out of this problem is to use the outcome of the schools who did not receive any treatment as the counterfactual. However, since the schools selected for the treatment may be different from the schools not selected, we cannot simply retrieve the impact of the intervention by comparing the outcomes of the two groups, because the results would suffer from a bias related to the mechanism of selection for the treatment (selection bias).

This issue is further exacerbated by the fact that very little is known about the selection process of eligible schools. If good schools are selected, the intervention effects will be over-estimated. Conversely, intervention effects may be underestimated if the programme is targeting the "worse" schools. As this process cannot be observed by the evaluator, the resulting estimates of the impact will suffer from some estimation bias. Taking into account some features of the selection process and controlling for some observable differences between the two groups can help mitigate this bias. Among the several econometric techniques that can help us in accomplishing the goal of reducing selection bias and perform a valid evaluation, the final choice of the most suitable counterfactual method is strongly related to institutional background and to data availability. In this particular setting, the only method which we could apply is matching. The idea behind matching is to find for

[1] If we consider some activities in detail, like playing an instrument or sport activities, there are a lot of studies, we report some of them here: beneficial effects of play music are found in Hille and Schupp (2015); Eccles et al. (2003); mixed results about the effects of sport (positive or no effect) are found in Lechner (2009); Pfeifer and Cornelißen (2010); Rees and Sabia (2010); Cuffe et al. (2017); Felfe et al. (2016); Ransom and Ransom (2018).

each treated school, a control school (or a set of control schools) which is as similar as possible to the treated one in terms of the observable characteristics. This would guarantee that the comparison of the outcomes in the treated and control school will not be affected by the bias mentioned above.

The matching approach is based on the assumption that the selection into treatment is solely based on observable characteristics and that all variables that simultaneously influence treatment assignment and potential outcomes are observed. This is referred to in the literature as Conditional Independence Assumption (CIA) or Unconfoundedness assumption and implies that, given a set of observable covariates which are not affected by the treatment, potential outcomes are independent of treatment assignment. The validity of this assumption depends on the amount of variables which can be observed in the data, i.e. on the richness of the data used in the matching procedures. However, it must be said, that controlling for differences in observable characteristics does nothing to alleviate the bias due to unobservable variables, such as principal's or students' motivation. Nevertheless, it is worth mentioning that judicious use of observable characteristics can go some way towards minimising the bias associated with unobservables.

Hence, using the matching approach, we aim at maximising the balance of school characteristics in the two groups, so as to select as controls those schools who are very similar to the treated. schools. This allows us to tackle the possible pre-existing differences between treated and controls, and to address the potential estimation bias resulting from the selection process.

That matching works well when the pool of non-treated units, from which to select potential controls is very large. In the current setting, we face an additional limitation: the sample of non-treated schools is very small compared to the sample of treated schools. This may result in not being able to find a proper control unit for all the treated schools.

Our analysis relies on one main matching technique, namely, Propensity Score Matching (PSM). The PSM method (Rosenbaum and Rubin, 1983) is based on the estimation of the so-called balancing score. This is estimated as a function of the relevant observed covariates, such that the conditional distribution of covariates given the balancing score is independent of assignment into treatment. The use of a balancing score allows to solve the "curse of dimensionality" arising from the need to condition on a high dimensional vector of relevant covariates. The Propensity Score is estimated as the probability of participating in a programme given observed schools' characteristics. In addition to the CIA assumption, the PSM is also based on the Common Support assumption. This requires the overlap between the estimated probability of participating for treated and control units. It ensures that persons with the same values of covariates have a positive probability of being both participants and non-participants.

5 Data

The Czech managing authorities provided the JRC-CRIE with four main anonymised sets of data, which are all aggregated at the school level:

1. A survey administered to teachers and principals in primary schools at the end of academic year 2018-19, (June 2019) asking questions about the school climate, and about perception of disadvantaged students. This is used to build a first set of outcomes, which we will call along the report "school climate outcomes".

2. Administrative data on all schools in Czech Republic containing information about schools (for both treated and control), and details of the treatment, for the period 2016- 2019.This dataset is used to build some of the variables used as a predictor of the probability of being a treated school, in the propensity score estimation (data collected in 2016) .The data set also contained the results (aggregated at the school level) of the standardised high school entry exams by the Centre for the Evaluation of Educational Achievement (CERMAT). The wave taken in June 2019, was used as a second set of outcomes, which we will call "Cermat exams".

3. Data from a survey on schools' needs, administered in 2015. This information is used to build the remaining variables used as a predictor of the probability of being a treated school.

4. Data on proportion of teachers and educational staff actually treated in the sample of treated schools.

5.1 Description of the sample

The original sample of primary schools is 4,201. Once this sample is merged with the file with information on school needs a total of 140 are lost (130 treated and 10 controls). Of the 4,061 schools retained, 3,058 received some form of treatment over the years 2016-2018, and 1,003 were never treated. 1,676 started the intervention in 2016, 1,376 in 2017 and only 2 in 2018. However, some of the variables used in the matching, are not available for all the schools. If we drop those schools with missing information, we end up with 979 control schools and 3,049 treated schools.

The survey administered in 2019 was on a voluntary basis, and therefore it doesn't cover the whole sample of schools. Information is available only for 1,587 schools, of which 1,340 treated schools and 247 control schools. Therefore the effect of the intervention on the "school climate outcomes" will be estimated only on this limited sample of schools. Similarly, results of the cermat exams are not available for all schools, but only for a sample of schools, in particular for roughly 2,000 treated schools and 400 control schools (number varies slightly according to type of exam - mathematics or language), and the effect of the intervention on the "cermat exams" will be estimated only using this sample of schools. Finally, also the data set containing information about the share of participating teachers is not available for 5 schools.

To understand how the two samples of schools used to estimate the effect of the intervention differ from the original full sample we run two probit regressions, estimating the probability of being in the two samples, using the same variables that will be used as controls in the matching (see the following Section). As shown in Table B1, there are some differences between the universe of the schools, and the two samples for which outcomes are available: differences for the "school climate outcomes" sample are mostly in the distribution of the schools in the various regions, and in a few other variables (school size, share of girls, and reading literacy need); while differences for the "cermat exams" sample are present in most of the variables. This is not a problem per se, but once we interpret the results we should keep in mind that the results funds may not be extended to the original sample of all the schools.

5.2 Description of variables used as controls

Variables used as controls in the matching come from two main sources: the survey on school needs, done in 2015, and the administrative database collecting information on number of students, number of teachers, etc., referring to the beginning of the academic year 2016. As the intervention started in the academic year 2016, all the variables used refer to the pre-intervention period. The survey on school needs contains several questions about the areas in which the schools perceive they can improve, and about the planning for development. Replies are provided by school principals. The dimensions we consider include: reading literacy, mathematics literacy, entrepreneurship, ICT competence of teachers, support of social and civic competence, polytechnic education, language literacy. For each dimension a number of questions were asked, and principals could reply about the current state as for 2015 (1: Not at all or barely applied; 2: Developing area; 3: Implemented; 4: Ideal state) and about the plan for the future (1: We don't plan to develop this area; 2: We plan to develop this area in 2016-2018; 3: We plan to develop this area in 2018-2020). We rely only on the replies about the current state, and we build an indicator per dimension, which is the sum of all the replies given. The details of each dimensions and questions are reported in Annex 1.

In Table 1 we report the average values of each variable in the groups of control and treated schools, and their difference (with indication of whether the difference is significant). The sample used in the table comprises all schools, independently of whether or not information on the outcome is available.

From the information coming from the school need survey, we see that treated schools are quite similar to the controls in all dimensions, with the exception of ICT competence of teachers and of language literacy. The same tables, estimated only in the samples where "school climate outcomes" and "cermat exams" are available in the Annex (Table B2 and B3). In addition, we also control for region fixed effect and for the population of the municipality where the school is located.

Table 1: Descriptive statistics in treated and control schools

	Control schools	Treated schools	Difference
Share of pupils with adjusted educational plan - 2016	0.036	0.014	0.022***
			(0.003)
Share of pupils with special educational needs - 2016	0.217	0.124	0.093***
			(0.009)
Share of gifted pupils - 2016	0.001	0.001	-0.000
			(0.000)
Total number of pupils - 2016	144.4	248.6	-104.1***
			(7.575)
Proportion of pupils repeating the school year - 2016	0.011	0.008	0.003**
			(0.001)
Number of teachers FTE - 2016	10.88	16.43	-5.550***
			(0.427)
Share of girls - 2016	0.457	0.478	-0.021***
			(0.003)
School need: Inclusive education	49.81	48.70	1.114***
			(0.262)
School need: Reading literacy	34.72	34.68	0.041
			(0.218)
School need: Mathematics literacy	25.59	25.62	-0.026
			(0.170)
School need: Entrepreneurship	23.50	23.25	0.248
			(0.156)
School need: ICT competence of teachers	17.50	17.07	0.430***
			(0.102)
School need: Support of social and civic competence	34.34	33.97	0.361*
			(0.170)
School need: Polytechnic education	43.41	43.94	-0.531
			(0.307)
School need: Language literacy	36.97	38.33	-1.362***
			(0.267)
Region: Hlavní město Praha	0.048	0.069	-0.021*
			(0.009)
Region: Jihočeský	0.073	0.059	0.013
			(0.009)
Region: Jihomoravský	0.117	0.117	0.000
			(0.012)
Region: Karlovarský	0.029	0.026	0.003
			(0.006)
Region: Vysočina	0.063	0.065	-0.001
			(0.009)
Region: Královéhradecký	0.070	0.064	0.006
			(0.009)
Region: Liberecký	0.041	0.052	-0.011
			(0.008)
Region: Moravskoslezský	0.057	0.122	-0.065***
			(0.011)
Region: Olomoucký	0.057	0.075	-0.018
			(0.009)
Region: Pardubický	0.054	0.064	-0.009
			(0.009)
Region: Plzeňský	0.099	0.036	0.063***
			(0.008)
Region: Středočeský	0.153	0.123	0.030*
			(0.012)
Region: Ústecký	0.064	0.069	-0.005
			(0.009)
Region: Zlínský	0.075	0.059	0.016
			(0.009)
Logarithm of population size	8.234	8.783	-0.549***
			(0.084)
Observations	979	3049	

Note. The table reports the mean values of the outcomes in control (column (1)) and treated (column(2)) schools, and their difference (column(3)). Standard errors in parentheses. $^{*}\ p < 0.05$, $^{**}\ p < 0.01$, $^{***}\ p < 0.001$

5.3 Description of the outcomes considered

5.3.1 ''School climate outcomes''

The survey on school outcomes was built taking inspiration by different sources: few items are taken form the TALIS survey (Teaching and Learning international Survey)[2], others reflects the index of Inclusion by Mooth and Ainscow[3], and others from some recent work done in the country to study the inclusion of Roma and socially disadvantage students.[4].

The survey was administered in June 2019. The number of teachers replying to the survey varies substantially between schools, from a minimum of only 1 teacher replying, to a maximum of 54.[5] The survey asks a battery of questions related to various topics, and respondents usually have a scale of agreement (1: definitely disagree, 2: rather disagree, 3: rather agree, 4: definitely agree), on a set of items referring to the same latent dimension. Details of the questions referring to each item are reported in Table A1 in Annex 2.

For each dimension, we run a factor analysis, using the principal-component factor method to analyse the correlation matrix. The idea behind this methodology is to reduce the number of variables in an analysis by describing linear combinations of the variables that contain most of the information and that admit meaningful interpretations. So, for each of the groups of variables presented in Table A1 we run a factor analysis, with the aim of reducing the number of variables to be used as outcomes. For most of the dimensions, the factor analysis led to just one factor, summarising the latent dimensions underneath.

In the rest of the cases, the factor analysis identified 2 or 3 latent dimensions. The division of the items in the various factors is identified by colours in Table A1: items ending up in the same factor, within the same set of questions, are identified with the same color (Factor 1: black, Factor 2: blue, and Factor 3: red). So for example, if we take the questions about "School delinquency and violence" the factor analysis identified 3 factors. The red one, clearly related to use of substances (alcohol, drugs and smoking), the blue one to aggression towards teachers and physical aggression between students, and the black one other relatively less serious bad behaviours of students at school. Details on this are reported in Annex 2. These outcome variables were averaged at the school level. The mean of the outcome variables in the treated and control schools, and their difference is reported in Table 2. The factors, have been standardised to have 0 mean, and 1 standard deviation and higher values of the factors represent positive behaviors, or climate.[6] The differences between treated and control groups are significant in half of the outcomes, and in the treated schools the values are lower.

As outcomes are measured in June 2019, it should be underlined that some schools did not completed the intervention when the outcomes were measured: all schools who started the intervention after June 2017, which represent around the 40% of the treated schools in this sample. However by September 2017, all the school considered started the intervention, so in this set of schools, the intervention was almost done: they were surveyed in June 2019, and the intervention would be over by September 2019. To take this into account, in Section 6.3 we replicate the analysis on the sample of schools which had completed the intervention by June 2019.

5.3.2 ''Cermat exams''

The cermat exams collect information on children test scores in mathematics and Czech language. This is a standardised exam, administered to children at the end of grade 9 (end of primary school) who want to continue in secondary education (it is an admission exam, compulsory only for pupils who will go on to secondary education). The available information is the average test score at the school level. The same test can be administered also at the end of grade 7, but it is taken by far fewer students, therefore we rely on the test of children in grade 9, as the info is available for a broader sample of schools. The mean of the outcomes in mathematics and language, at the end of grade 9, are reported in Table 3 for academic year 2018-19, taken in June 2019. Scores have been standardised so to have 0 mean and 1 standard deviation. Even if the scores are standardised and so comparable between schools, in the same year they are not comparable over time and they are not made to be used in a longitudinal manner. As mentioned above, as outcomes are measured in June

[2] http://www.oecd.org/education/talis/http://www.oecd.org/education/talis/

[3] source: https://www.eenet.org.uk/resources/docs/Index%20English.pdf

[4] https://theses.cz/id/mrd2ot/SAFRANKOVA_Anna_disertacni_prace_autoreferat.pdf

[5] The correlation between number of full time equivalent teachers in the school and number of responses to the survey is 0.43. If we run a regression using as dependent variable the number of teachers responding and as independent variables the number of full time equivalent teachers in the school and whether the school is treated, we find that being a treated school on average increases the number of teachers responding by 1.8, and that 1 more FTE teacher increases the number of teachers responding by 0.22.

[6] Some of the factors have been reversed, as in principle, higher values were associated to negative behavior and climate. This was done to make interpretation of the Tables easier: a positive sign of the coefficient will always indicate a positive effects on the outcomes, and viceversa with the negative sign. The factors that were reversed are: all 3 factors of questions on "School delinquency and violence", "Socially disadvantaged children" and "Roma Children" and factor 1 of question "Socially disadvantaged and Roma Children (teachers' feelings)".

Table 2: Descriptive of the outcome variables: School climate outcomes

	Control	Treated	Difference
Participation among stakeholders	0.119	-0.035	0.154*
			(0.068)
Teacher-students relationship	0.181	-0.047	0.228***
			(0.069)
Mutual respect	0.167	-0.048	0.215**
			(0.069)
School delinquency and violence 1 - minor issues (absenteeism, cheating, vandalism)	0.173	-0.061	0.234***
			(0.068)
School delinquency and violence 2 - violence against other students and teachers	0.110	-0.002	0.112
			(0.065)
School delinquency and violence 3 - substance abuse	0.131	-0.031	0.162*
			(0.069)
Building community (Index of social inclusion)	0.164	-0.047	0.212**
			(0.069)
Establishing inclusive values (Index of social inclusion)	0.153	-0.041	0.194**
			(0.069)
Developing the school for all (Index of social inclusion)	0.197	-0.039	0.236***
			(0.069)
Organizing support for diversity (Index of social inclusion)	0.169	-0.045	0.214**
			(0.069)
Orchestrating learning (Index of social inclusion)	0.195	-0.051	0.246***
			(0.070)
Mobilizing resources (Index of social inclusion)	0.205	-0.054	0.259***
			(0.070)
Socially disadvantaged and Roma children 1 - negative feelings toward children	-0.066	0.014	-0.080
			(0.070)
Socially disadvantaged and Roma children 2 - teachers feel prepared	0.087	-0.028	0.115
			(0.071)
Socially disadvantaged 1 - are bad for the class	-0.024	0.016	-0.040
			(0.070)
Socially disadvantaged 2 - are discriminated	0.054	-0.010	0.064
			(0.071)
Socially disadvantaged 3 - create more work for the teachers	-0.078	0.014	-0.092
			(0.071)
Roma 1 - are bad for the class	-0.033	0.014	-0.046
			(0.072)
Roma 2 - are discriminated	0.073	-0.014	0.087
			(0.071)
Roma 3 - create more work for the teachers	-0.106	0.028	-0.133
			(0.072)
Teacher's confidence.	0.022	-0.003	0.025
			(0.072)

Note. The table reports the mean values of the outcomes in control (column (1)) and treated (column(2)) schools, and their difference (column(3)). Standard errors in parentheses. $^{*}\ p < 0.05$, $^{**}\ p < 0.01$, $^{***}\ p < 0.001$

2019, it should be underlined that some schools did not completed the intervention when the outcomes were measured, again around the 40% of the treated schools in this sample.

Table 3: Descriptive of the outcome variables: cermat exams

	Control	Treated	Difference
Standardized values of result language 2019	-0.102	0.020	-0.122*
			(0.055)
Standardized values of result mathematics 2019	-0.071	0.014	-0.085
			(0.055)

Note. The table reports the mean values of the outcomes in control (column (1)) and treated (column(2)) schools, and their difference (column(3)). Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

6 Binary treatment

6.1 Definition of the treatment variables

The treatment proposed to schools is made up of 4 different typologies of actions:

- T1: Auxiliary school personnel
- T2: Personal and social development of teachers
- T3: Extra-curricular activities
- T4: Cooperation with parents

The number of schools engaged in the various actions vary substantially between actions. In particular, out of the 3049 treated schools, only 255 were engaged in all the 4 actions. Looking at the single actions we see that: 2,002 schools participated in the first action, 2,557 in the second, 2,653 in the third, and 674 in the fourth. The greatest overlap is between action 2 and action 3 (2,209 doing both).

We will use different definitions of treatment:

1. Binary treatment, any kind of action (T). All schools who received any sort of intervention are considered as treated, independently of the actions or the intensity. In binary treatment we distinguish between treated and non-treated schools, creating a variable that takes value 1 if the school is treated and 0 otherwise. It means that if a school has received just one of the 4 different typologies of action, that school is considered as treated. As already mentioned, the number of treated schools under this definition is 3049.

2. Binary treatment, considering the four different actions - Version a
   In this case, we analyse each action one at a time. For example, if we start from the auxiliary school personnel action, we create a treatment variable that takes value 1 if the school has received this specific treatment and 0 otherwise (so schools who do not do the auxiliary school actions, but do other actions, are considered as potential controls). In the end we have 4 different treatment variables, each one representing one of the 4 different actions. (We call these variables: T1a, T2a, T3a, T4a).

3. Binary treatment, considering the four different actions - Version b
   In this case, we analyse each action one at a time, using as control groups always the group of schools who did not receive any treatment. For example, if we start from the auxiliary school personnel action, we create a treatment variable that takes value 1 if the school has received this specific treatment and 0 otherwise only for never treated schools (so schools who do not do the auxiliary school actions, but do other actions, are not considered in the analysis, nor as treated nor as control). In the end we have 4 different treatment variables, each one representing one of the four different actions, and the control groups is always composed by the group of schools who did not receive any treatment. (We call these variables: T1b, T2b, T3b, T4b).

4. Binary treatment: bundles of treatments
   In this case we analyse different combination of actions, using as control group always the group of schools which did not receive any treatment. There are 11 possible combinations of the various activities, for example T123 will take value 1 for all schools who do actions 1, 2 , and 3; T12 for all schools who do actions 1, and 2. (We call these variables: T123, T124, T134, T234, T12, T13, T14, T23, T24, T34, T1234).

Table 4 reports the number of treated and control schools in each definition of treatment, both for the school climate and the cermat outcomes.

Table 4: Number of treated and control schools in each definition of treatment

	School climate		**Cermat**	
	Treated	Control	Treated	Control
T	1340	247	2027	426
T1a	909	678	1490	963
T2a	1156	431	1766	687
T3a	1164	423	1762	691
T4a	276	1131	414	2039
T1b	909	247	1490	426
T2b	1156	247	1766	426
T3b	1164	247	1762	426
T4b	276	247	414	426
T123	616	247	1058	426
T124	129	247	242	426
T134	129	247	245	426
T234	233	247	353	426
T12	478	247	1260	426
T13	760	247	1258	426
T14	147	247	272	426
T23	997	247	1531	426
T24	255	247	381	426
T34	250	247	381	426
T1234	115	247	220	426

6.2 Results

We start by reporting the results of the binary treatment case, considering as outcomes the school climates outcomes (as reported in Table 2) and the cermat exams (as reported in Table 3). Some of the schools had missing values in some of the outcomes. However, due to the already limited sample size, we kept all the schools for which there is information of at least 1 outcome. When we run a probit regression, estimating the probability of being treated on the control variable (Table B4) we see that most of the control variables are not good predictors of the probability of being a treated school. In terms of the choice of matching estimator, we impose a common support, and try several possibilities: nearest neighbor, with and without caliper, with different caliper option, radius, and kernel. The choice of the estimator to use is based on the best bias reduction obtained. This ended up in using a nearest neighbor, with caliper.[7] The covariates used in the matching are all the ones presented in Table 1, with the addition of region fixed effect, and of some interactions between the various variables. The inclusion of the interaction serves the purpose of finding a good balance between the treated and the control groups. The goodness of the matching is reported in Table 5: both the mean and median absolute standardised biases are below the established threshold of 5%, the pseudo R2 from probit estimation of the conditional treatment probability (propensity score) on all the variables, are low, the P-values of the likelihood-ratio test of the joint insignificance of all the regressors are high, the B is below 25, R is between 0.5 and 2[8]. Overall, we are able to find a set of control schools, whose observable characteristics reflect those of the treated schools, so - in terms of these observable characteristics - the two sample are comparable.

In tables 6 and 7 we report the average treatment effect, for the different binary treatment definitions, that is the difference between the outcomes in the treated schools and the matched control schools. We see that overall there is no significant impact of any of the treatments on most of the outcomes. An exception is the negative effect on variable "School delinquency and violence" (2 - violence against other students and teachers), meaning that almost all treatments increase the violence in schools. As for the cermat exams, we find that there is no significant effect of any of the treatments on the outcomes. (We only see a negative effect of treatment 3 (extra curricular activities) on mathematics outcomes in year 2019.)

Tables 8 and 9 report the effects of combinations of treatments on both school and cermat outcomes, by creating bundles of 2, 3 and 4 treatments. We don't find significant effects on the majority of the outcomes. Regarding school outcomes, we notice two exceptions: the first one is once again the negative effect on "School delinquency and violence" (2 - violence against other students and teachers); the second exception is the positive effect on "Socially disadvantaged and Roma children" (1 - Negative feelings toward children). We find it especially when treatment 4 (cooperation with parents) is present in the bundle (T124, T14, T23, T34) and it means that when families are involved there is a decrease of negative feelings toward children.

[7] The number of neighbors and the size of the caliper varies according to the various treatment, and was chosen to achieve the best balance between the two groups.

[8] For few cases the B is slightly above 25, but all the other statistics are fine. We could not find a good matching for the treatment T1234, in the sample of "School climate", so we will not report results of this treatment's definition.

Table 5: Matching statistics

	(1) R2	(2) p chi2	(3) Med Bias	(4) Mean Bias	(5) R	(6) B
A. School outcomes						
T	0.010	0.213	3.251	3.732	1.027	23.560
T1a	0.010	0.676	1.897	2.404	0.925	24.136
T2a	0.005	0.978	1.894	1.776	1.234	16.766
T3a	0.008	0.598	1.982	2.668	1.102	21.509
T4a	0.006	1.000	1.987	2.535	0.789	18.921
T1b	0.017	0.192	2.235	2.728	0.903	30.663
T2b	0.010	0.583	2.742	2.844	1.016	23.447
T3b	0.011	0.392	3.168	2.929	0.966	24.713
T4b	0.018	0.999	3.037	4.024	0.952	31.640
T123	0.017	0.637	1.692	2.566	0.756	31.405
T124	0.016	1.000	2.931	3.619	0.711	29.652
T134	0.018	1.000	3.572	3.925	0.830	31.899
T234	0.012	1.000	3.064	3.024	1.189	25.448
T12	0.019	0.282	2.925	3.049	0.953	32.740
T13	0.016	0.426	1.591	2.649	1.258	29.462
T14	0.020	1.000	3.234	3.909	1.666	33.296
T23	0.010	0.610	2.429	2.942	1.025	23.743
T24	0.010	1.000	2.492	2.801	1.339	23.867
T34	0.011	1.000	2.354	3.016	1.199	24.626
B. Cermat exam						
T	0.004	0.747	1.622	2.027	0.959	15.376
T1a	0.006	0.609	1.401	2.093	0.972	18.930
T2b	0.003	0.988	1.598	1.789	1.057	12.948
T3c	0.002	1.000	1.447	1.515	1.031	9.713
T4d	0.002	1.000	1.065	1.361	0.998	11.286
T1b	0.008	0.405	1.224	1.439	1.529	20.279
T2b	0.005	0.826	1.844	2.442	0.939	15.852
T3b	0.005	0.759	2.013	2.452	1.075	16.387
T4b	0.008	1.000	2.138	2.660	1.037	21.254
T123	0.008	0.728	1.263	1.699	0.904	21.765
T124	0.011	1.000	2.210	2.553	0.895	24.853
T134	0.011	1.000	2.738	3.288	0.703	24.693
T234	0.010	1.000	3.571	3.524	0.911	23.902
T12	0.008	0.560	1.021	1.599	0.923	21.173
T13	0.008	0.623	1.640	2.189	0.586	20.313
T14	0.009	1.000	2.895	3.116	0.907	21.927
T23	0.004	0.933	1.619	2.293	1.011	15.603
T24	0.010	1.000	2.478	2.945	0.845	23.252
T34	0.008	1.000	2.868	3.376	0.737	21.198
T1234	0.011	1.000	2.437	2.763	1.088	25.097

Note. The table reports the matching statistics in the two samples: in panel A, for schools for which the "school outcome" is available, and in panel B, for the schools for which the "cermat exam" is available. Column (1) reports the pseudo R square from a probit estimation of the conditional treatment probability on all the variables; column(2) reports the P-values of the likelihood ratio test of the joint insignificance of all the regressors; column(3) and (4) the median and mean absolute standardized biases respectively; column (5) Rubin's R (the ratio of treated to (matched) non-treated variances of the propensity score index); and column (6) the Rubins' B (the absolute standardized difference of the means of the linear index of the propensity score in the treated and (matched) non-treated group). The statistics are calculated in the two samples, and for the 9 different definitions of treatment (T, T1a,etc..).

Table 6: Results: School climate outcomes

	T	T1a	T2a	T3a	T4a	T1b	T2b	T3b	T4b
Participation among stakeholders	0.020	-0.060	-0.053	-0.087	-0.043	-0.003	0.013	0.003	0.005
	(0.067)	(0.054)	(0.045)	(0.055)	(0.058)	(0.075)	(0.072)	(0.077)	(0.131)
Teacher-students relationship	0.018	-0.065	-0.002	-0.046	-0.064	-0.016	0.020	0.032	-0.004
	(0.073)	(0.045)	(0.046)	(0.057)	(0.057)	(0.077)	(0.072)	(0.075)	(0.119)
Mutual respect	0.014	-0.074	-0.041	0.005	-0.107	0.007	-0.006	0.053	-0.011
	(0.070)	(0.048)	(0.049)	(0.047)	(0.061)	(0.075)	(0.076)	(0.074)	(0.106)
School delinquency and violence 1 - minor issues (absenteeism, cheating, vandalism)	0.103	-0.041	0.096	-0.017	0.006	0.092	0.126	0.118	0.148
	(0.070)	(0.041)	(0.055)	(0.058)	(0.064)	(0.079)	(0.078)	(0.079)	(0.114)
School delinquency and violence 2 - violence against other students and teachers	-0.113*	-0.054	-0.115***	-0.083	-0.074	-0.133***	-0.099	-0.111**	-0.205**
	(0.056)	(0.044)	(0.044)	(0.046)	(0.051)	(0.051)	(0.054)	(0.047)	(0.083)
School delinquency and violence 3 - substance abuse	0.024	-0.082*	0.094*	0.053	0.023	-0.057	0.037	0.003	0.001
	(0.065)	(0.040)	(0.045)	(0.048)	(0.047)	(0.066)	(0.078)	(0.066)	(0.107)
Building community	0.062	-0.066	-0.038	-0.030	-0.025	0.002	0.020	0.062	0.022
	(0.074)	(0.049)	(0.046)	(0.056)	(0.061)	(0.082)	(0.080)	(0.079)	(0.107)
Establishing inclusive values	0.025	-0.038	-0.066	0.007	-0.025	-0.022	-0.000	0.028	0.006
	(0.059)	(0.042)	(0.038)	(0.049)	(0.048)	(0.063)	(0.066)	(0.064)	(0.088)
Developing the school for all	-0.011	-0.118***	-0.040	-0.025	0.032	-0.066	0.009	0.004	0.039
	(0.065)	(0.043)	(0.044)	(0.051)	(0.048)	(0.073)	(0.067)	(0.069)	(0.093)
Organizing support for diversity	0.034	-0.101*	-0.001	-0.034	-0.054	-0.010	0.045	0.032	0.034
	(0.062)	(0.047)	(0.049)	(0.050)	(0.056)	(0.068)	(0.068)	(0.064)	(0.099)
Orchestrating learning	0.026	-0.026	0.013	-0.044	-0.022	-0.011	0.003	0.018	-0.078
	(0.075)	(0.048)	(0.050)	(0.059)	(0.054)	(0.086)	(0.072)	(0.077)	(0.110)
Mobilizing resources	-0.010	-0.127***	-0.032	-0.073	0.011	-0.081	-0.027	-0.030	-0.125
	(0.069)	(0.045)	(0.050)	(0.055)	(0.059)	(0.079)	(0.066)	(0.069)	(0.098)
Socially disadvantaged and Roma children 1 - negative feelings toward children	0.102	0.020	0.024	0.009	0.064	0.103	0.095	0.107	0.159
	(0.065)	(0.046)	(0.047)	(0.050)	(0.049)	(0.073)	(0.072)	(0.073)	(0.160)
Socially disadvantaged and Roma children 2 - teachers feel prepared	-0.032	-0.062	-0.027	-0.015	-0.061	-0.080	-0.021	-0.013	-0.126
	(0.073)	(0.052)	(0.048)	(0.048)	(0.058)	(0.081)	(0.079)	(0.072)	(0.155)
Socially disadvantaged 1 - are bad for the class	0.118	-0.028	0.048	0.073	0.030	0.115	0.150	0.099	0.262
	(0.087)	(0.054)	(0.055)	(0.049)	(0.052)	(0.094)	(0.095)	(0.090)	(0.149)
Socially disadvantaged 2 - are discriminated	-0.074	-0.015	-0.063	-0.060	0.005	-0.056	-0.084	-0.063	-0.140
	(0.079)	(0.056)	(0.055)	(0.050)	(0.059)	(0.080)	(0.087)	(0.078)	(0.131)
Socially disadvantaged 3 - create more work for the teachers	0.127	0.016	0.031	0.113*	-0.012	0.091	0.122	0.120	0.127
	(0.072)	(0.062)	(0.055)	(0.057)	(0.058)	(0.077)	(0.081)	(0.069)	(0.132)
Roma 1 - are bad for the class	0.052	-0.024	0.027	0.037	0.019	0.053	0.040	0.055	0.056
	(0.073)	(0.048)	(0.051)	(0.052)	(0.057)	(0.080)	(0.078)	(0.080)	(0.136)
Roma 2 - are discriminated	-0.023	-0.081	0.032	-0.067	-0.014	-0.029	0.005	-0.005	0.066
	(0.069)	(0.050)	(0.048)	(0.056)	(0.055)	(0.081)	(0.081)	(0.080)	(0.100)
Roma 3 - create more work for the teachers	0.109	0.065	0.089	0.055	0.042	0.107	0.107	0.152*	0.085
	(0.071)	(0.044)	(0.047)	(0.063)	(0.060)	(0.083)	(0.092)	(0.073)	(0.113)
Teacher's confidence	0.009	-0.059	-0.062	-0.028	-0.080	-0.059	0.028	-0.020	0.011
	(0.071)	(0.055)	(0.053)	(0.058)	(0.059)	(0.078)	(0.074)	(0.079)	(0.121)

Note. The table reports the effects of the 9 treatment definitions on the school climate outcomes. Standard errors in parentheses. $^{*}\ p < 0.05$, $^{**}\ p < 0.01$, $^{***}\ p < 0.001$

Table 7: Results: cermat exam

	T	T1a	T2a	T3a	T4a	T1b	T2b	T3b	T4b
Standardized values of results in language 2019	-0.085	-0.054	-0.021	-0.078	0.050	-0.122*	-0.083	-0.069	-0.034
	(0.058)	(0.044)	(0.054)	(0.046)	(0.058)	(0.058)	(0.062)	(0.063)	(0.081)
Standardized values of results in mathematics 2019	-0.114	-0.026	-0.064	-0.098*	0.045	-0.127*	-0.112	-0.104	0.004
	(0.060)	(0.047)	(0.055)	(0.049)	(0.058)	(0.057)	(0.060)	(0.061)	(0.082)

Note. The table reports the effects of the 9 treatment definitions on the Cermat outcomes. Standard errors in parentheses. $^{*}\ p < 0.05$, $^{**}\ p < 0.01$, $^{***}\ p < 0.001$

Table 8: Results: Cermat outcomes- bundle treatments

	T123	T124	T134	T234	T12	T13	T14	T23	T24	T34	T1234
Standardized values of results in language 2019	-0.108	-0.106	-0.113	-0.109	-0.097	-0.111	-0.058	-0.113	-0.046	-0.041	-0.134
	(0.073)	(0.102)	(0.100)	(0.100)	(0.075)	(0.075)	(0.100)	(0.078)	(0.096)	(0.097)	(0.101)
Standardized values of results in mathematics 2019	-0.117	-0.088	-0.103	-0.120	-0.112	-0.098	-0.040	-0.116	-0.025	-0.023	-0.082
	(0.070)	(0.097)	(0.097)	(0.094)	(0.070)	(0.071)	(0.097)	(0.073)	(0.092)	(0.092)	(0.098)

Note. The table reports the effects of the 11 treatment definitions on the school cermat exam. Standard errors in parentheses. $^{*}\ p < 0.05$, $^{**}\ p < 0.01$, $^{***}\ p < 0.001$

Table 9: Results: School climate outcomes- bundle treatment

	T123	T124	T134	T234	T12	T13	T14	T23	T24	T34
Participation among stakeholders	-0.057	-0.019	-0.072	-0.106	-0.017	-0.022	-0.076	-0.020	0.000	-0.053
	(0.083)	(0.123)	(0.121)	(0.112)	(0.082)	(0.079)	(0.112)	(0.073)	(0.098)	(0.103)
Teacher-students relationship	-0.054	-0.191	-0.231	-0.031	-0.031	-0.025	-0.107	-0.003	0.006	-0.015
	(0.085)	(0.127)	(0.129)	(0.118)	(0.083)	(0.082)	(0.118)	(0.077)	(0.103)	(0.107)
Mutual respect	-0.001	-0.120	-0.164	-0.043	-0.023	0.004	-0.070	0.033	-0.003	-0.021
	(0.091)	(0.134)	(0.135)	(0.123)	(0.088)	(0.087)	(0.125)	(0.081)	(0.108)	(0.111)
School delinquency and violence 1 - minor issues (absenteeism, cheating, vandalism)	0.058	0.175	0.006	0.108	0.090	0.051	0.136	0.081	0.080	0.067
	(0.088)	(0.133)	(0.130)	(0.118)	(0.085)	(0.088)	(0.124)	(0.078)	(0.106)	(0.107)
School delinquency and violence 2 - violence against other students and teachers	-0.140*	-0.225	-0.210	-0.199*	-0.121*	-0.139**	-0.253**	-0.110	-0.205**	-0.220**
	(0.067)	(0.116)	(0.111)	(0.097)	(0.058)	(0.057)	(0.102)	(0.065)	(0.087)	(0.088)
School delinquency and violence 3 - substance abuse	0.035	0.027	0.086	0.048	-0.054	-0.029	0.034	0.054	0.018	0.072
	(0.071)	(0.113)	(0.119)	(0.097)	(0.071)	(0.070)	(0.109)	(0.066)	(0.088)	(0.091)
Building community	-0.021	-0.016	-0.100	-0.006	-0.009	-0.015	0.035	0.035	0.062	0.041
	(0.091)	(0.128)	(0.130)	(0.118)	(0.087)	(0.086)	(0.129)	(0.079)	(0.104)	(0.108)
Establishing inclusive values	-0.055	-0.087	-0.116	0.007	-0.065	-0.057	-0.047	0.006	0.040	0.036
	(0.073)	(0.108)	(0.105)	(0.095)	(0.072)	(0.070)	(0.102)	(0.064)	(0.083)	(0.087)
Developing the school for all	-0.104	-0.073	-0.065	-0.010	-0.125	-0.087	-0.149	-0.030	0.069	0.023
	(0.075)	(0.108)	(0.111)	(0.099)	(0.071)	(0.072)	(0.102)	(0.067)	(0.087)	(0.091)
Organizing support for diversity	-0.022	-0.057	-0.058	0.050	-0.055	-0.038	-0.081	0.022	0.068	0.041
	(0.079)	(0.115)	(0.114)	(0.107)	(0.076)	(0.075)	(0.111)	(0.070)	(0.095)	(0.098)
Orchestrating learning	-0.010	0.061	-0.170	0.008	-0.059	-0.038	-0.025	0.005	0.083	0.013
	(0.089)	(0.125)	(0.123)	(0.120)	(0.086)	(0.086)	(0.122)	(0.080)	(0.104)	(0.109)
Mobilizing resources	-0.113	-0.094	-0.173	-0.081	-0.121	-0.120	-0.110	-0.037	-0.002	-0.029
	(0.087)	(0.121)	(0.120)	(0.119)	(0.085)	(0.084)	(0.120)	(0.079)	(0.104)	(0.107)
Socially disadvantaged and Roma children 1 - negative feelings toward children	0.074	0.275**	0.128	0.183	0.100	0.062	0.227*	0.073	0.203*	0.229**
	(0.079)	(0.114)	(0.120)	(0.102)	(0.076)	(0.074)	(0.109)	(0.068)	(0.088)	(0.092)
Socially disadvantaged and Roma children 2 - teachers feel prepared	-0.007	-0.110	-0.175	-0.058	-0.040	-0.015	-0.155	-0.033	-0.019	-0.043
	(0.082)	(0.126)	(0.129)	(0.109)	(0.078)	(0.077)	(0.118)	(0.071)	(0.093)	(0.096)
Socially disadvantaged 1 - are bad for the class	0.012	0.142	0.101	0.129	0.067	0.042	0.113	0.076	0.168	0.186
	(0.084)	(0.129)	(0.134)	(0.109)	(0.080)	(0.079)	(0.118)	(0.076)	(0.096)	(0.101)
Socially disadvantaged 2 - are discriminated	-0.047	-0.004	-0.037	-0.052	-0.083	-0.083	-0.089	-0.092	-0.115	-0.033
	(0.083)	(0.122)	(0.128)	(0.107)	(0.081)	(0.081)	(0.119)	(0.073)	(0.096)	(0.099)
Socially disadvantaged 3 - create more work for the teachers	0.155	0.294*	0.227	0.095	0.108	0.160	0.160	0.152*	0.123	0.146
	(0.089)	(0.129)	(0.126)	(0.113)	(0.083)	(0.083)	(0.122)	(0.077)	(0.100)	(0.104)
Roma 1 - are bad for the class	0.036	-0.006	0.067	0.040	0.030	0.039	0.122	0.048	0.049	0.090
	(0.086)	(0.136)	(0.135)	(0.107)	(0.081)	(0.080)	(0.126)	(0.073)	(0.094)	(0.098)
Roma 2 - are discriminated	-0.036	0.048	-0.134	0.023	-0.035	-0.073	-0.019	-0.015	-0.013	0.026
	(0.081)	(0.121)	(0.132)	(0.106)	(0.080)	(0.078)	(0.119)	(0.072)	(0.094)	(0.098)
Roma 3 - create more work for the teachers	0.120	0.153	0.156	0.053	0.111	0.119	0.148	0.100	0.108	0.134
	(0.087)	(0.127)	(0.130)	(0.111)	(0.083)	(0.084)	(0.120)	(0.074)	(0.098)	(0.102)
Teacher's confidence.	-0.059	-0.139	-0.165	-0.088	-0.036	-0.064	-0.164	-0.020	0.003	0.017
	(0.089)	(0.133)	(0.133)	(0.114)	(0.086)	(0.085)	(0.122)	(0.076)	(0.100)	(0.105)

Note. The table reports the effects of the 10 treatment definitions on the school climate outcomes. Standard errors in parentheses. $^{*}\ p < 0.05$, $^{**}\ p < 0.01$, $^{***}\ p < 0.001$

6.3 Sample of schools starting in academic year 2016-2017

As mentioned above, the treated schools started the project both in academic year 2016-17 and in academic year 2017-2018. Since the duration of the intervention is 24 months, this means that when the outcomes are measured (end of school year 2019), some of the schools starting the intervention in academic year 2017-18 were not done yet with the project. So outcomes are measured while intervention is still ongoing. This is not a problem if we can expect some immediate results, however, we replicate the analysis only for schools who started the intervention in academic year 2016-17, so that by end of academic year 2018-19 the intervention is for sure over. If we focus only on this sample, the sample size of the treated group roughly halves in both set of outcomes considered. We report in the table below the results considering only the first three definitions of treatment. Indeed for the bundle treatment definition the matching procedure was not successful in most of the cases to reach a good balance, probably due to the small sample size of the treated group in some of the bundles. Table 10 reports the matching statistics and Tables 11 and 12 report the results. The results are identical to the results obtained with the full sample. A persistent negative effect is found on the index of "School delinquency and violence, violence against students and teachers", for many of the treatment definitions, and not other effects are detected.

Table 10: Matching statistics -Intervention start in 2016-17

	(1)	(2)	(3)	(4)	(5)	(6)
	R2	p chi2	Med Bias	Mean Bias	R	B
A. School outcomes						
T	0.012	0.836	2.311	3.174	0.879	25.325
T1a	0.010	0.994	2.237	2.621	0.949	24.216
T2a	0.009	0.990	3.039	3.306	0.668	21.728
T3a	0.010	0.959	2.320	3.006	0.671	23.708
T4a	0.011	1.000	2.830	3.238	0.935	24.751
T1b	0.012	0.981	3.359	3.758	0.793	25.930
T2b	0.012	0.939	2.906	3.394	1.045	26.189
T3b	0.011	0.962	3.269	3.776	0.764	24.195
T4b	0.014	1.000	2.277	3.029	1.259	27.901
B. Cermat exam						
	R2	p chi2	MedBias	MeanBias	R	B
T	0.004	0.996	1.712	2.080	0.946	15.633
T1a	0.010	0.773	1.604	2.145	0.834	23.671
T2a	0.004	1.000	2.211	2.127	0.803	14.054
T3a	0.002	1.000	1.150	1.392	0.743	11.340
T4a	0.005	1.000	1.877	2.224	1.129	17.235
T1b	0.008	0.909	2.024	2.288	1.075	21.786
T2b	0.007	0.955	2.422	2.485	0.838	19.410
T3b	0.006	0.980	2.065	2.089	1.105	18.328
T4b	0.010	1.000	2.304	3.109	1.090	23.754

Note. The table reports the matching statistics for schools who started the intervention in academic year 2016-17, in the two samples: in panel A, for schools for which the "school outcome" is available, and in panel B, for the schools for which the "cermat exam" is available. Column (1) reports the pseudo R square from a probit estimation of the conditional treatment probability on all the variables; column(2) reports the P-values of the likelihood ratio test of the joint insignificance of all the regressors; column(3) and (4) the median and mean absolute standardized biases respectively; column (5) Rubin's R (the ratio of treated to (matched) non-treated variances of the propensity score index); and column (6) the Rubins' B (the absolute standardized difference of the means of the linear index of the propensity score in the treated and (matched) non-treated group). The statistics are calculated in the two samples, and for the 9 different definitions of treatment (T, T1a,etc..).

Table 11: Results: School climate outcomes - 2016 schools

	T	T1a	T2a	T3a	T4a	T1b	T2b	T3b	T4b
Participation among stakeholders	0.036	-0.020	0.021	-0.042	0.008	0.001	0.034	0.003	0.145
	(0.090)	(0.058)	(0.060)	(0.063)	(0.072)	(0.078)	(0.083)	(0.082)	(0.110)
Teacher-students relationship	0.043	-0.055	0.049	-0.032	0.009	-0.059	-0.012	0.004	0.090
	(0.077)	(0.057)	(0.064)	(0.066)	(0.065)	(0.076)	(0.070)	(0.079)	(0.098)
Mutual respect	0.025	-0.057	0.048	0.028	0.089	-0.065	0.013	0.040	0.122
	(0.080)	(0.058)	(0.064)	(0.061)	(0.082)	(0.073)	(0.070)	(0.081)	(0.104)
School delinquency and violence 1 - minor issues (absenteeism, cheating, vandalism)	0.112	-0.045	0.195***	-0.025	-0.068	0.063	0.131	0.122	0.075
	(0.081)	(0.061)	(0.071)	(0.069)	(0.078)	(0.079)	(0.089)	(0.074)	(0.106)
School delinquency and violence 2 - violence against other students and teachers	-0.104	-0.089	-0.132***	-0.048	-0.056	-0.158***	-0.120**	-0.119*	-0.209***
	(0.055)	(0.049)	(0.050)	(0.057)	(0.072)	(0.059)	(0.050)	(0.054)	(0.076)
School delinquency and violence 3 - substance abuse	-0.034	-0.076	0.058	-0.011	0.075	-0.100	-0.005	-0.060	0.001
	(0.062)	(0.065)	(0.066)	(0.059)	(0.065)	(0.067)	(0.075)	(0.065)	(0.088)
Building community	0.096	-0.050	0.120	0.017	0.081	-0.022	0.035	0.093	0.126
	(0.084)	(0.059)	(0.066)	(0.068)	(0.084)	(0.079)	(0.081)	(0.085)	(0.105)
Establishing inclusive values	0.042	-0.043	0.040	0.020	0.060	-0.031	0.002	0.034	0.078
	(0.062)	(0.055)	(0.051)	(0.057)	(0.064)	(0.062)	(0.061)	(0.061)	(0.088)
Developing the school for all	0.003	-0.070	0.038	-0.031	0.075	-0.067	-0.054	-0.002	0.056
	(0.079)	(0.066)	(0.062)	(0.060)	(0.067)	(0.077)	(0.075)	(0.078)	(0.086)
Organizing support for diversity	0.056	-0.046	0.089	-0.049	0.045	-0.046	0.043	0.041	0.129
	(0.074)	(0.061)	(0.061)	(0.057)	(0.071)	(0.069)	(0.069)	(0.073)	(0.092)
Orchestrating learning	0.059	-0.027	0.053	-0.045	0.012	-0.037	0.006	0.035	0.064
	(0.082)	(0.059)	(0.070)	(0.065)	(0.074)	(0.078)	(0.076)	(0.080)	(0.098)
Mobilizing resources	-0.003	-0.115*	0.019	-0.067	0.039	-0.105	-0.056	-0.012	0.027
	(0.076)	(0.053)	(0.064)	(0.066)	(0.071)	(0.072)	(0.066)	(0.072)	(0.098)
Socially disadvantaged and Roma children 1 - negative feelings toward children	0.146	0.089	0.072	0.036	0.094	0.135	0.095	0.135	0.102
	(0.089)	(0.070)	(0.056)	(0.057)	(0.071)	(0.088)	(0.091)	(0.083)	(0.084)
Socially disadvantaged and Roma children 2 - teachers feel prepared	-0.032	-0.021	0.025	-0.001	-0.034	-0.031	-0.064	0.020	-0.082
	(0.091)	(0.100)	(0.063)	(0.071)	(0.082)	(0.101)	(0.093)	(0.091)	(0.112)
Socially disadvantaged 1 - are bad for the class	0.110	-0.046	0.052	0.059	0.117	0.061	0.058	0.046	0.139
	(0.092)	(0.073)	(0.070)	(0.065)	(0.076)	(0.105)	(0.103)	(0.094)	(0.102)
Socially disadvantaged 2 - are discriminated	-0.066	-0.035	-0.103	-0.048	-0.032	-0.132	-0.061	-0.091	-0.135
	(0.085)	(0.078)	(0.065)	(0.067)	(0.081)	(0.085)	(0.082)	(0.090)	(0.107)
Socially disadvantaged 3 - create more work for the teachers	0.120	0.141	0.064	0.151*	0.067	0.069	0.057	0.165*	0.076
	(0.075)	(0.086)	(0.063)	(0.069)	(0.074)	(0.087)	(0.079)	(0.077)	(0.092)
Roma 1 - are bad for the class	0.065	0.053	0.033	0.018	0.022	0.078	0.003	0.062	0.012
	(0.081)	(0.065)	(0.062)	(0.062)	(0.070)	(0.088)	(0.096)	(0.082)	(0.084)
Roma 2 - are discriminated	0.007	-0.053	-0.016	-0.045	-0.009	-0.052	-0.004	-0.020	-0.021
	(0.072)	(0.054)	(0.057)	(0.064)	(0.069)	(0.086)	(0.105)	(0.079)	(0.099)
Roma 3 - create more work for the teachers	0.130	0.089	0.094	0.083	0.100	0.145	0.135	0.142	0.105
	(0.081)	(0.063)	(0.059)	(0.069)	(0.081)	(0.087)	(0.079)	(0.082)	(0.105)
Teacher's confidence	0.000	0.001	-0.072	-0.042	-0.113	-0.061	-0.076	-0.003	-0.108
	(0.074)	(0.070)	(0.066)	(0.066)	(0.075)	(0.087)	(0.095)	(0.080)	(0.116)

Note. The table reports the effects of the 9 treatment definitions on the school climate outcomes. Standard errors in parentheses. $^{*}\ p < 0.05$, $^{**}\ p < 0.01$, $^{***}\ p < 0.001$

Table 12: Results: cermat exams

	T	T1a	T2a	T3a	T4a	T1b	T2b	T3b	T4b
Standardized values of results in language 2019	-0.101	-0.049	-0.018	-0.049	-0.017	-0.090	-0.056	-0.091	0.016
	(0.065)	(0.056)	(0.059)	(0.061)	(0.072)	(0.063)	(0.065)	(0.067)	(0.093)
Standardized values of results in mathematics 2019	-0.095	-0.062	-0.071	-0.047	0.009	-0.093	-0.104	-0.115	0.022
	(0.065)	(0.057)	(0.059)	(0.063)	(0.076)	(0.061)	(0.064)	(0.064)	(0.094)

Note. The table reports the effects of the 9 treatment definitions on the Cermat outcomes. Standard errors in parentheses. $^{*}\ p < 0.05$, $^{**}\ p < 0.01$, $^{***}\ p < 0.001$

7 Continuous treatment

7.1 Definition of the treatment

In this section we explore if exposure to different treatment intensity can have a differential impact on the outcomes of interest. Indeed we can combine different available data in order to obtain additional information about the intensity of the treatment variables.

As already mentioned, the treatment proposed to schools is made up of 4 different typologies of actions:

- T1: Auxiliary school personnel
- T2: Personal and social development of teachers
- T3: Extra-curricular activities
- T4: Cooperation with parents

Each of the 4 actions contains a number of modules, indicating the intensity. For the auxiliary school personnel we know the number of months the schools were assisted by 4 different figures of the educational staff (school assistants, special educators, psychologists and social educators). For the personal and social development of teachers, we know the number of hours of training devoted to the further education of teachers in 5 different fields: Mathematics, Reading Literacy, Foreign Language, Inclusive Education and Mentoring. The extra-curricular school activities consist in the number of hours devoted to pupils in different activities, such as clubs (reading clubs or puzzles and games clubs), tutoring, supervision and help for pupils with educational needs. Lastly, for the cooperation with parents we know the number of hours spent by teachers in thematic meetings with the parents.

Concerning the auxiliary school personnel we have information on the number of school assistants, special educators, psychologists and social educators employed in the schools. Summing up these variables provides an estimate of the total number of auxiliary school staff. We then obtain an average of the school auxiliary staff per student, by dividing it by school size. We refer to this variable as "Total number of school auxiliary personnel per student".

The available variables related to personal and social development of teachers contain the number of hours of training of teachers in 5 fields: Mathematics, Reading Literacy, Foreign Language, Inclusive Education and Mentoring. Different templates indicate different lengths of the training in terms of hours: 8, 16, 32, 56, 80 hours. The overall information is summarised in 5 newly created variables, which indicate the total number of hours of training in a given subject undertaken in each school.[9] This information is combined with the information about the number of treated pedagogical staff and share of treated pedagogical staff to total number of teachers, to create 5 new variables (one per each field), which provide an information about the intensity of the treatment which takes into account the proportion of teachers trained and the number of hours of training.[10]

The third type of treatment is related to extra-curricular activities. Two of the available variables refer to the preparation in reading and games clubs, but they are difficult to exploit, while a third one counts the number of hours of tutoring and the supervision of children at risk: we use this variables divided by the school size, to capture the hours of tutoring per student. Finally, there is information on the hours of meeting with parents, however, this activity concern a small sample of schools, and so we decided not to use it. We report the descriptive statistics of these variables in Table 13: Panel A, refers to the sample of schools for which the school climate outcome is available, and Panel B, refers to the sample of schools for which the cermat exams are available. Column (1) reports the share of schools which are considered as treated, and from column (2) to (5) we report the main descriptive statistics in the sample of treated schools. From the Table we can see that extra hours in reading and mathematics were very common (around 40 to 50% of schools engage in these activities in both samples), while training in foreign language or about inclusive policy regards smaller fraction of schools.

Our first approach was to apply generalised propensity score matching, and estimate a dose-response model. However, as better explained in Annex 3 this was not possible with the data available. So, we adopted another strategy. Each of the variables described in Table 13, takes value 0 when schools are in the control group and takes positive values, depending on intensity, when schools receive that specific treatment. (The proportion of "treated" schools for each of the 6 variables is reported in Column (1) of the two panels, corresponding to

[9] Hours devoted to mentoring were not used so much (fewer than 7% of schools engaged in this activity). For this reason, we decided not to estimate the effect on the different intensities of mentoring activity, as the sample of treated schools would be too small to carry out meaningful analysis.

[10] Take as an example 2 schools, both doing a total of 100 hours of training in mathematics, and both involving 20 teachers. Assume also that in the first schools, these 20 teachers represent the 30% of the total teachers, and that in the second schools, these 20 teachers represent the 70 % of the total teachers (i.e the first school has a total of 66 teachers, while the second school has a total of 28 teachers). This variable will take values (100/20) *0.3 =1.5 in the first school and (100/20)*0.70 = 3.5 in the second school.

Table 13: Descriptive statistics of treatment variables

A. School climate outcomes	Share of treated schools	Mean	sd	Min	Max
Reading	0.412	3.850	4.155	0 .114	34.46
Mathematics	0.385	3.321	3.365	0.089	26.60
Foreign language	0.273	5.167	7.072	0.144	40.63
Inclusive education	0.248	4.609	6.111	0.120	53.33
School auxiliary personnel	0.529	0.006	0.007	0.001	0.071
Tutoring	0.626	1.001	1.054	0.021	16
B. Cermat outcomes	Share of treated schools	Mean	sd	Min	Max
Reading	0.540	3.677	4.2571	0 .114	51.61
Mathematics	0.488	2.842	2.869	0.075	31.66
Foreign language	0.366	4.314	6.279	0.144	68.57
Inclusive education	0.340	4.422	6.122	0.119	80
School auxiliary personnel	0.735	0 .004	0.003	0.001	0.071
Tutoring	0.620	1.315	1.512	0.021	12.235

Note. The table reports the descriptive statistics of the various definitions of treatment. The table reports in Column (1) "Share of treated schools", the share of schools engaged in each of the activities reported in the rows, and in the other columns Mean, standard deviation, minimum and maximum value of the activities reported in the rows.

the two sets of outcomes. So for example, if we consider the variable "Reading" in the sample of schools for which we investigate the effect on the "school climate outcome", we see that 41.2% of schools had a positive value of this variable, and are considered treated, the rest has a 0 value of this variable and are considered as controls).[11] For some schools, the information on the intensity was missing, and we dropped them as we did not know whether those were real missing values or were instead not treated schools. (The number of schools dropped is 132 out of 1587 in the "school outcome" sample and 186 out of 2453 in the "cermat exams" sample).

We then consider only the positive values of intensity variables and we cut them at the 33^{th} and 66^{th} percentiles. This is done to have homogeneous groups in terms of sample size. (So, in the example above, we focus on this 41.2% treated schools, and estimate the percentiles of the distribution of the variable only among those with a positive value). We exploit percentiles to generate an additional variable that takes value 0 when the schools are in the control group, value 1 when the intensity of treatment in the school is low (below the threshold of the 33^{th} percentile), value 2 when the value of the original variable is between the 33^{th} and the 66^{th} percentile, and value 3 when the intensity of the treatment is high (above the 66^{th} percentile). Eventually, we generate a dummy for each intensity, obtaining 4 dummy variables: intensity 1 (control group), intensity 2 (treated, low intensity), intensity 3 (treated, medium intensity) and intensity 4 (treated, high intensity). We repeat this process for all the 6 variables considered (the ones in Table 13).

Now it is possible to perform 2 sets of analyses for each of the 6 variables:

1. We first perform a binary propensity score matching and match all treated schools (independently of the intensity of the treatment) with schools which are not treated. (So, always referring to the example above, we would match the 41.2% treated schools, with the schools which are not treated). We use in the matching the same set of variables used in the binary case, as reported in Section 6.2.[12] We then use the weights obtained by the matching procedure to run an OLS regression including the 3 dummy variables with positive intensity (intensity 2, intensity 3 and intensity 4). This regression is useful to identify if there is an intensity of treatment that gives better outcomes than not receiving the treatment, taking into accounts differences in observable variables between the two groups of schools.

2. We then perform three pairwise propensity score matchings in order to compare the control group with each treated group represented by the intensity dummies. For example, we can start keeping only intensity 2, in order to compare the control group with the group that receives low intensity of treatment. We repeat this analysis for all the intensities and for all the treatment variables.

[11] This correspond to what in the binary treatment we defined as version a. We also tried to replicate the analysis using as controls only schools who were never treated- as in the binary case version b - however, due to small sample size it was very hard to find a good balance between treated and control schools in most of cases, therefore we only focus on this version)

[12] We don't report again the matching statistics, but in most of the cases all the statistics were good, and in all of the cases the mean and median bias were below 5%, and the p-values of the likelihood ratio test and the pseudo R squared were fine. For some of the matching the values of B or R were slightly outside the recommended values.

7.2 Results

Estimates are shown in Tables B5-B27. The two methodologies have both pros and cons: in the first set of analyses, we are using all the information available, keeping all the schools in the estimations, but we are only sure that the covariates are balanced between the group of treated and the group of controls, as we cannot say anything about the balancing between the control groups and the groups of treated schools belonging to the different percentile groups. In the second analysis, we are using sub-samples of schools, which may been seen as sub-optimal, as not all the information is used and sample sizes are smaller, but at least we are sure that the comparison between the control and the three different groups of treated schools , based on the intensity, is meaningful as covariates are balanced. If an estimate is significant only in the first part, it means that maybe this result is due to different characteristics between samples. On the contrary, we can rely on estimates that are significant only in the second half of the tables, but with the caveat that everything is based on smaller sample size. Finally, we will only comment on results which are coherent between the two sets of estimates.

With regard to the results for Cermat exams no coherent effects are found on the language or mathematics test scores. For most of the school outcomes variables there are no significant effects of any of the treatment variables, but we noticed that for some outcomes (Participation among stakeholders, Mutual respect, Building community, Establishing inclusive values, Developing a school for all, and Organizing support for diversity) doing limited (low intensity) training in Inclusiveness, rather than not doing anything, has a negative impact, while no significant effect is found for those schools doing medium and high intensity.

Those results are to be interpreted with caution: indeed the measurement used is based on the reply of teachers or principals, on a very sensitive set of questions, and replies maybe very subjective. In particular, we find it very strange that there is a negative effect of doing some training (rather than nothing) on inclusiveness on some of the variables measuring exactly inclusiveness. An explanation could be that those teachers who did some training in inclusiveness, realise more than teachers who were not treated at all, that some behaviours may be a problem, and tend to give a more negative reply than they would have in the absence of the training. It could be that the training made them more aware of the problem, and so their replies are negatively affected. This may not happen with the ones who did more training, as we expected that those teachers maybe also found a solution to those problems. This can be tested by directly comparing schools who received a high intensity of training, to the schools receiving medium or low intensity and schools who received medium intensity to the ones who received low intensity. So not including at all the schools not treated. We perform this analysis only focusing on the treatment about inclusiveness and on the outcomes for which we found counter-intuitive results (doing the training with respect to not doing anything had a negative effect on the outcome variables: Participation among stakeholders, Mutual respect, Building community, Establishing inclusive values, Developing a school for all, and Organizing support for diversity). We directly compared schools doing high intensity to the ones doing medium or low intensity, and the ones doing medium intensity to the ones doing low intensity. In the matching, we control for the usual set of variables, but we excluded the region fixed effect, due to the very small sample size of our samples. The results we find indeed show that doing higher intensity training is always associated with a positive coefficient (both doing high with respect to medium or low, and doing medium with respect to low). The effects found are not always significantly different from zero, but at least the sign of the coefficients point to the right direction one would expect: doing more is associated with higher scores in the factors.

8 Conclusions

The aim of this report is to carry out the evaluation of an ESF funded intervention in the Czech Republic. This intervention targets primary schools in the country and offers several types of actions to treated schools. Participation in the treatment is voluntary and the schools decided whether to apply to the programme or not. However, the choice of the templates by the schools is not random. Based on the needs assessment, the schools were obliged to choose at least the templates that target the biggest weakness identified in the needs assessments survey. We estimate the effect of participation in the programme on two sets of outcomes: 1) the outcomes measuring school climate and 2) the outcomes measuring students' performances in the test scores in mathematics and Czech language from standardised high school entry exams.

To do so we employ propensity score matching techniques. The two main issues emerging from this evaluation are:

1. little is known about the selection process of the schools, and
2. that the pool of potential control schools is small compared to the number of treated schools (especially when considering the sample of schools for which the outcomes are available).

Preliminary results do not show any consistent pattern of effects on the test scores: treated schools do not show any differential results compared to non-treated schools. Some mixed evidence is found for the school climate measure, but again only some dimensions seem to be affected by the programme, but not in a clear and consistent pattern among the different definitions of treatment and methods used. When reading these results, we have to keep in mind that:

1. academic achievement is not a direct target of the activities of the intervention and in addition, the intervention was not directly targeted to the teachers of the classes taking those tests (9^{th} graders) but the whole schools, and we do not have information about which teachers were exactly treated within the treated schools; and
2. very short time has passed between the start of the intervention and the date on which outcomes are measured, this is particularly true for the school climate outcomes, which are expected to change in a long time frame.

Further research is needed in the coming years, to understand if this set of actions can have an impact on changing the school climate. This is even more challenging given the current COVID-19 pandemic, which has caused schools to be closed for a long period of time in the years 2020 and 2021. A great part of the items in regular surveys is bound to in-class teaching or the school environment and these surveys are therefore currently conducted in limited form or not at all. Despite the limitations of this study, underlined above, it is good to underline that enormous effort was put in place by the Czech managing authority to put together existing administrative data about the universe of schools in the country, and to carry out surveys aiming at gathering information about a dimension (school climate of inclusion) which is hardly measurable with the administrative data in hands. This is a good starting point for any future evaluation involving schools. Finally, there are a number of suggestions that can be proposed in view of the next programming period:

1. Collecting baseline data on relevant outcomes before the start of intervention on the treated and control schools can help better measure the impact of the intervention using methods like difference-in-difference.
2. Finding a measurable outcome that is directly related to the expected results of the intervention can help identify relevant effects.
3. Having better control of the design of the intervention, and of the selection of the units to treat, can help in finding the most adequate evaluation method.

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Annexes

1 School need data

The list below reports all the questions related to each of the 8 relevant dimensions on school needs, measure in 2015.

1. Inclusive education
    - The school can enroll all pupils without differentiation (including pupils with different cultural backgrounds, social disadvantages, foreigners, pupils with SEN, etc.)
    - The school is barrier-free (it is barrier-free both external, ie access to the school and internal, ie adaptation and equipment of classrooms and other school premises)
    - School can communicate with pupils, parents and educators, perceives their needs and systematically
    - develops school culture, safe and open school climate
    - The school allows teachers to establish relationships with local and regional schools of different levels (joint discussions, sharing good practice, events for other schools or with other schools, etc.)
    - School management creates conditions for the implementation of inclusive principles in school education (providing professional, material and financial support, further education of pedagogical staff; regular methodical meetings of members of the teaching staff, etc.)
    - The school adjusts the organization and course of teaching according to the needs of pupils with special educational needs (eg provides group instruction for gifted pupils, groups may consist of pupils of different grades, tutoring, etc.)
    - The school has a support system for pupils with special educational needs (it is equipped with compensation / special aid, it uses the services of a teacher assistant, etc.)
    - Teachers can use special textbooks, aid and compensatory aids
    - The school can prepare all pupils for a smooth transition to the next level of education (between ISCED stages)
    - Teachers work together to meet pupils' educational needs (eg through joint counseling on pupil education, etc.)
    - Teachers are able to adapt the content of education appropriately, adjust forms and methods of education and set different levels of difficulty in accordance with the pupils' specificities and needs so that the maximum potential of the pupil is achieved and exploited eg the curriculum for gifted pupils is extended and deepened in accordance with their assumptions, creation of pupil portfolios, etc.)
    - Teachers can cooperate in teaching with other pedagogical staff (pedagogical assistant, other pedagogue) and non-pedagogical staff (translator into Czech sign language, personal assistant)
    - School provides pupils with special educational needs with participation in activities beyond the scope of school work aimed at developing pupils' skills, abilities and attitudes
    - Teachers implement pedagogical diagnostics of pupils, evaluate its results and in accordance with them choose forms and methods of teaching, respectively. steps of further care of pupils
    - School provides Czech language lessons for foreigners
    - Teachers use descriptive verbal feedback in communication with the pupil, creating space for pupil's self-evaluation and development of his / her motivation for education
    - The school emphasizes not only the building of the pupil's own success, but also the elimination of barriers between people, it leads to belonging to classmates and other people, etc.
    - Teachers see creatively the differences between pupils as a source of experience and an opportunity for self-development
    - The school teaches all pupils to be aware of their rights and obligations (guilt, punishment, justice, the Convention on the Rights of the Child, etc.)
2. Reading literacy
    - School supports reading literacy development in its school curriculum (there are clearly stated set goals)

- Teachers of both lower and higher primary school (ISCED 1 and 2) develop their knowledge in reading literacy teaching and use them in practice (further education courses, literature study etc)
- Teachers of both lower and higher primary school (ISCED 1 and 2) use their knowledge in practice and share examples of best practice in reading literacy teaching among themselves and with teachers from other schools.
- School supports elementary knowledge and skills, elementary work with text (from text understanding to search for literature in school library according to needs of their pupils)
- School supports higher level of complex reading literacy (from understanding the context and drawing conclusions to sources comparison)
- School supports individual work with pupils with extraordinary interest in literature, creative writing etc
- In the school there is a library (or a local library is used for this purpose) and it's available according to needs and possibilities of the pupils
- There are reading clubs in the school or other regular extracurricular activities to support and develop reading literacy
- There are other irregular extracurricular activities for pupils to support reading literacy and to increase their motivation (project days, author readings, book fairs)
- School informs about and collaborate on reading literacy development with parents (presentation of school/local library services, reading clubs, open days, Christmas fairs etc)
- There is supportive and challenging environment (book corners, notice-boards etc)
- School possess enough of technical and other material equipment regarding reading literacy (audio-visual equipment, tools for displaying pupils' success etc)
- There are interactive media used in the school and ITC in developing reading literacy
- School regularly buys up-to-date literature and multimedia for development of pupils on both lower and higher primary level (ISCED 1 and 2) in reading literacy

3. Mathematics literacy

- School supports mathematical literacy (numeracy) development in its school curriculum (there are clearly stated set goals)
- Teachers of both lower and higher primary school (ISCED 1 and 2) develop their knowledge in mathematical literacy (numeracy) teaching and use them in practice (further education courses, literature study etc)
- Teachers of both lower and higher primary school (ISCED 1 and 2) use their knowledge in practice and share examples of best practice in mathematical literacy (numeracy) teaching among themselves and with teachers from other schools.
- In the school, mathematical thinking of the pupils is supported (examples ofdaily use, situations related to future professions or connected to natural laws etc)
- School supports individual support to pupils with extraordinary interest in math
- There are regular extracurricular activities in order to support development of mathematical literacy/numeracy
- There are irregular extracurricular activities to support mathematical literacy/numeracy and to increase pupils' motivation in the school (project days etc)
- School informs about and collaborate on reading mathematical literacy/numeracy development with parents (presentation of extracurricular clubs, project days, open days etc)
- School possess enough of technical and other material equipment regarding mathematical literacy/numeracy
- There are interactive media used in the school and ITC in developing mathematical literacy/numeracy
- School regularly buys up-to-date literature and multimedia for development of pupils on both lower and higher primary level (ISCED 1 and 2) in mathematical literacy/numeracy

4. Language literacy

- School supports language literacy development in its school curriculum (there are clearly stated set goals)

- Teachers of both lower and higher primary school (ISCED 1 and 2) develop their knowledge in language literacy teaching and use them in practice (further education courses, literature study etc)
- Teachers of both lower and higher primary school (ISCED 1 and 2) use their knowledge in practice and share examples of best practice in language literacy teaching among themselves and with teachers from other schools.
- Development of language literacy is included in other subjects (CLIL, use of authentic foreign texts and audio tracks etc)
- School develops pupils' understanding of life in different cultures and mediate the experience from these cultures (using of movies, pictures, study stay abroad)
- School supports language diversity in form of wide range of foreign languages study options
- School creates enough of opportunities for development of language literacy (eTwinning, exchange study stays etc)
- In the school there is a library (or a local library is used for this purpose) containing literature in foreign languages and it's available according to needs and possibilities of the pupils
- School uses textbooks, literature in foreign languages and multimedia for development of pupils on both lower and higher primary level (ISCED 1 and 2) for development of language literacy
- There are regular extracurricular activities in order to support language literacy
- There are irregular activities and events to support pupils in development of language literacy)(interactive book fairs etc)
- School informs about and collaborate on language literacy development with parents (presentation of school/local library services, language clubs, open days, Christmas fairs etc)
- There is supportive and challenging environment (language corners, notice-boards etc)
- School possess enough of technical and other material equipment regarding language literacy
- There are interactive media used in the school and ITC in developing language literacy
- School regularly buys up-to-date literature and multimedia for development of pupils on both lower and higher primary level (ISCED 1 and 2) in language literacy
- School collaborates with native speaker(s) of foreign languages

5. Entrepreneurship

- School supports key competences according to the national curriculum for primary schools.
- Teachers increase their knowledge of how to support creativity development and they use the knowledge in teaching (further education courses, literature study etc)
- Teachers use their knowledge in practice and share examples of best practice in initiative and creativity development teaching among themselves and with teachers from other schools.
- School systematically teaches elements of initiative and creativity. The environment and teachers' attitude is supportive in development of pupils' fantasy and initiative.
- School teaches the pupils how to think critically, perceive the problems in their environment and how to find innovative solutions, bear the risks and plan and implement projects (project days, tasks with multiple possible solutions etc)
- Pupils actively take part in activities like fictive firms, Junior Achievement School of Entrepreneurship etc or they actively participate in preparation and implementation of school projects.
- School organizes consultations, debates and excursions as a form of support of entrepreneurship for pupil and teachers.
- School develops financial literacy of pupils (they are taught the value of money, work with saving, work with risks etc)
- There is space dedicated for sharing of at school (idea workshops etc)
- School supports key competences according to the national curriculum for primary schools.

6. Polytechnic education

- Technical education is implemented according to the national curriculum for primary schools. Natural sciences and environmental education are implemented according to the national curriculum for primary schools.

- Teachers increase their knowledge of how to support polytechnic education and they use the knowledge in teaching (further education courses, literature study etc)
- Teachers of both lower and higher primary school (ISCED 1 and 2) use their knowledge in practice and share examples of best practice in polytechnic education teaching among themselves and with teachers from other schools.
- School has education plans concerning teaching of polytechnic education subjects (math, natural and technical sciences etc)
- School supports interest of pupils in polytechnic education and link it with daily life and future work life
- School possess enough teaching materials for polytechnic education
- As a part of polytechnic education subjects, there are laboratory workshops, experiments, projects etc supporting practical side of polytechnic education and developing manual dexterity of pupils
- School cooperates with technical high schools and universities or colleges
- Polytechnic subjects are taught also in foreign languages - CLIL
- School supports individual/autonomous work of pupils in polytechnic education
- School supports individual work with pupils with extraordinary interest in polytechnic education
- There are clubs/regular workshops or other regular extracurricular activities to support development of polytechnic education
- There are other irregular extracurricular activities for pupils to support polytechnic education and to increase their motivation (project days, excursions, discussions)
- School actively support pre-school polytechnic education (cooperation with preschools, kindergartens)
- School collaborates/cooperates with local companies/entrepreneurs
- School informs parents about polytechnic education (presentation of school events, school clubs, projectd ays, open days etc)
- There is supportive and challenging environment at school regarding education for both pupils and teachers (also physical places like notice borads or place for displaying information or products, outcomes of projects etc)
- School possess technical and material resources for support and development of polytechnic education)classrooms for chemistry, physics, biology etc)
- School uses ICT for development of polytechnic education

7. ICT competence of teachers

- Teaching staff use ICT classroom or school computers in teaching (not only teaching of ICT)
- Teaching staff use mobile ICT in teaching (laptops, netbooks, tablets, smartphones etc)
- Teaching staff use BYOD for pupils' projects (allowing the pupils to use their own ICT devices)
- Teaching staff use mobile ICT in teaching in the field and in project education
- Teaching staff use free, safe and open internet sources
- Teaching staff know free sources on the internet concerning their subjects
- Teaching staff can systematically develop awareness about internet security and safety and critical thinking concerning the internet content

8. Support of social and civic competences

- In the school there is cultivated culture of open communication between all stakeholders
- In the school there is cultivated cultural awareness and communication (creative expression of ideas, experience using theatre, music, literature and visual arts)
- School builds ethical values, there are rules of social behaviour and these rules are kept
- Pupils are taught constructive discussion
- Within school, mutual cooperation and collaboration of teaching staff, parents and pupils is cultivated
- School develops pupils' skills in self-evaluation and self-reflection
- School motivates pupils to life long learning
- School develops ability to ask for help and to offer help to others

— School teaches how to safely use ICT
— School develops ability of pupils for learning (autonomously, in groups etc)
— Pupils are taught how to takÃľ part in social and work life
— School prepares pupils for active life in democratic society, develops civic competences (student councils, elections, self-government etc)

2 Details on the construction of the school outcome

In this section we report the details of the construction of the factors derived from the survey on school climate outcomes. Table A1 reports all the questions used to build the relevant outcomes. For each of the set of questions we run a factor analysis using principal components factors. The results of the various factor analysis are reported in Table A2. While in most of the questions, we obtain only one factor, other questions are split into 2 or 3 factors. In these cases, we assigned each item to the factor with high factor loading (highlighted in red in the Table). After the factor analysis, we checked using Cronbach's Alpha the reliability of the factors found. Higher Alpha are associated with higher reliability, meaning that it makes sense to keep those items together since they really capture the same latent component.

The first 4 sets of questions were inspired by TALIS, and they refer to 4 different dimensions: "Participation among stakeholders", "Teacher-students relationship", "Mutual respect" and "School delinquency and violence". Each question is composed of a number of items. So for example the question related to the "Participation among stakeholders" is composed of 5 different items, to which the teachers have to reply using a liker scale of agreement, ranging from definitely disagree to definitely agree. As reported in Table A2, the factor analysis of the first 3 variables, lead to only one factor, while 3 factors where found for the dimension "School delinquency and violence". We call the three factors as follows: "School delinquency and violence 1 - minor issues (absenteeism, cheating, vandalism)", "School delinquency and violence 2 - violence against other students and teachers", "School delinquency and violence 3 - substance abuse".

The second sets of questions are normally used to build the "Index of social inclusion", which is composed by 3 dimensions, each of them split in to two sub dimensions.:

(A) Creating inclusive cultures

  (1) Building community

  (2) Establishing inclusive values

(B) Producing inclusive policies

  (a) Developing the school for all

  (b) Organizing support for diversity

(C) Evolving inclusive practices

  (a) Orchestrating learning

  (b) Mobilizing resources

The factor analysis of the various item of the 6 sets of questions, confirm the 6 underlying dimensions of the social inclusion index.

The factor analysis for the set of questions related to "Socially disadvantaged and Roma children: teachers' feelings" led to 3 factors. For factor 3, composed of items 7 and 8, the Alpha was very low (Alpha 0.2622). This meaning that it is pointless trying to use these items to capture 1 underlying dimension, so we exclude the last factor associated with this question and focus only on the first two, which we called: "Socially disadvantaged and Roma children: teachers' feelings 1 - negative feelings toward children", and "Socially disadvantaged and Roma children: teachers' feelings 2 - teachers feel prepared". The two sets of questions on Socially disadvantaged children and Roma children both led to 3 factors each, which we called "1 - are bad for the class"; "2 - are discriminated" and "3 - create more work for the teachers". Finally, the last set of questions refers to teachers' confidence in working with children form different backgrounds and only one factor was identified.

The final list of outcome variables used in the analysis is the following:

1. Participation among stakeholders
2. Teacher students relationship
3. Mutual respect
4. School delinquency and violence 1 - minor issues (absenteeism, cheating, vandalism)
5. School delinquency and violence 2 - violence against other students and teachers
6. School delinquency and violence 3 - substance abuse
7. Building community (Index of social inclusion)
8. Establishing inclusive values (Index of social inclusion)

9. Developing the school for all (Index of social inclusion)
10. Organizing support for diversity (Index of social inclusion)
11. Orchestrating learning (Index of social inclusion)
12. Mobilizing resources (Index of social inclusion)
13. Socially disadvantaged and Roma children 1 - negative feelings toward children
14. Socially disadvantaged and Roma children 2 - teacher feel prepared
15. Socially disadvantaged 1 - are bad for the class
16. Socially disadvantaged 2 - are discriminated
17. Socially disadvantaged 3 - create more work for the teachers
18. Roma 1 - are bad for the class
19. Roma 2 - are discriminated
20. Roma 3 - create more work for the teachers
21. Teacher's confidence.

Higher values of variables 4,5,6,13, 15,16,17,18,19 and 20 indicates a negative "climate", so in order to make easier the interpretation of the results and descriptive tables, these variables have been reversed, so that higher values indicate positive "climate" for all the 21 variables.

Table A1: Items used to build the outcomes related to school climate

Participation among stakeholders: source TALIS 2013	
To what extent do you agree or disagree with the following statements for your school? 1. definitely disagree 2. rather disagree 3. rather agree 4. definitely agree	1. This school provides staff with opportunities to actively participate in school decisions 2. This school provides parents or guardians with opportunities to actively participate in school decisions 3. This school provides pupils with opportunities to actively participate in school decisions 4. This school has a culture of shared responsibility for school issues 5. There is a collaborative school culture which is characterized by mutual support
Teacher student relationship: source TALIS 2013	
To what extent do you agree or disagree with the following statements about what is happening at your school? 1. definitely disagree 2. rather disagree 3. rather agree 4. definitely agree	1. In this school, teachers and pupils usually get on well with each other 2. Most teachers in this school believe that the pupilsâĂŹ well-being is important 3. Most teachers in this school are interested in what pupils have to say 4. If a pupil from this school needs extra assistance, the school provides it
Mutual respect: source TALIS 2013	
To what extent do you agree or disagree with the following statements for your school? 1. definitely disagree 2. rather disagree 3. rather agree 4. definitely agree	1. The school staff share a common set of beliefs about schooling/learning 2. There is a high level of co-operation between the school and the local community 3. School staff have an open discussion about difficulties 4. There is mutual respect for colleagues' ideas 5. There is a culture of sharing success 6. The relationships between teachers and pupils are good
School delinquency and violence: source TALIS 2013	
How often do the following situations occur with pupils in your school? 1. Never 2. Rarely 3. Monthly 4. Weekly 5. Daily	1. Arriving late at school 2. Absenteeism (i.e. unjustified absences) 3. Cheating 4. Vandalism and theft 5. Intimidation or verbal abuse among pupils (or other forms of non-physical bullying) 6. Physical injury caused by violence among pupils 7. Intimidation or verbal abuse of teachers or staff 8. Use/possession of drugs 9. Use/possession of alcohol 10. Smoking 11. Cyberbullying 12. Verbal aggression against the teacher 13. Physical aggression against the teacher

Index of social Inclusion

Indicate to what extent do you agree or disagree with the following statements if you relate them to your school:
1) definitely disagree
2) rather disagree
3) rather agree
4)definitely agree

A) Creating inclusive cultures 1) BUILDING COMMUNITY	1. Everyone is made to feel welcome
	2. Pupils help each other
	3. Staff collaborate with each other
	4. Staff and pupils treat one another with respect
	5. There is partnership between staff and parents/carers
	6. Staff and governors work well together
	7. The school programmatically, actively cooperates with subjects in the neighborhood, meetings take place, joint events are organized, the school participates in life in the neighborhood, it is open in the field of social relations
A) Creating inclusive cultures 2) ESTABLISHING INCLUSIVE VALUES	1. There are high expectations for all pupils
	2. Staff, governors pupils and parents/carers share a philosophy of inclusion
	3. At school, equal approach to all pupils is applied regardless of race, religion, gender, disability, etc.
	4 School staff and pupils treat each other with respect and respect each other's role in the school
	5. School staff strive to remove barriers to learning and involvement in all aspects of school life
	6. The school strives to minimize all forms of discrimination
B) Producing inclusive policies 1)DEVELOPING THE SCHOOL FOR ALL	1. The appointment and promotion of school staff is fair
	2. All new school staff are helped to settle into the school
	3. The school seeks to admit all pupils from the locality
	4. The school makes its buildings physically accessible to all people
	5. All new pupils are helped to to settle into the school
	6. The school promotes diversity, pupils in the school are not divided into classes or groups according to achievement or discipline problems
B) Producing inclusive policies 2)ORGANISING SUPPORT FOR DIVERSITY	1. All forms of support (to pupils and to teachers) are coordinated
	2. Staff development activities help school staff to respond to pupils' diversity
	3. The organisational structure of the school enables changes towards enhancing quality of the school's culture/environment
	4. The most open information strategies are developed and operated at school, i.e. all those who live in the school have complete and comprehensible information concerning them in time
	5. Support for those for whom Czech is not a mother language is coordinated with support for learning
	6. Communication at school is conducted in a manner acceptable to all communicating parties
	7. Bullying is minimised

C) Evolving inclusive practices **1) ORCHESTRATING LEARNING**	1. All pupils are motivated and encouraged to expect to achieve very good results
	2. All pupils are encouraged to participate in the lessons
	3. Lessons develop an understanding of differences
	4. Pupils are actively involved in their own learning process
	5. Pupils learn collaboratively
	6. Assessment contributes to achievements of all pupils
	7. The discipline in the class is based on mutual respect
	8. Teachers teach, plan and review in partnership
	9. Teacher assistants support the learning and participation of all pupils
	10. Homework contributes to the learning of all pupils
	11. All pupils take part in extracurricular activities organized by the school, such as trips
C) Evolving inclusive practices **2) MOBILISING RESOURCES**	1. Diversity is seen as an enriching learning opportunity, not as a pupil problem
	2. The expertise of school staff is fully utilised
	3. Teachers are ready to explain why they use certain teaching methods and how these methods contribute most effectively to achieving educational goals
	4. Material equipment, exhibited materials and aids allow self-learning and are used in teaching according to the needs of the pupils
Socially disadvantaged children and Roma: Teachers' feelings	
Read the statement carefully and indicate the degree of agreement or disagreement with the statement on the appropriate scale. 1. Definitely disagree 2. Rather disagree 3. Don't know / can't judge 4. Rather agree 5. Definitely agree	1. I believe that the presence of a socially disadvantaged pupil(s) significantly increases my workload
	2. I am convinced that my preparation for the education of socially disadvantaged pupils is sufficient to achieve the necessary results
	3. I am convinced that my preparation for communication with families of socially disadvantaged pupils is sufficient to achieve the necessary results
	4. Separate classes should be set up for Roma because they do not manage to teach in mainstream classes
	5. Most socially disadvantaged pupils are not interested in studying
	6. I am concerned about direct contact with the families of socially disadvantaged pupils
	7. Most parents of socially disadvantaged pupils know how to help their children with schoolwork at home
	8. Working with socially disadvantaged pupils is a challenge for me
	9. Socially disadvantaged pupils are less independent in their lesson than their peers without social disadvantage

Socially disadvantaged children

Some teachers say that the presence of a socially disadvantaged pupil makes their work more difficult. What are the pitfalls of the socially disadvantaged pupils in your classroom? Indicate if you agree or disagree with the following statements. 1. Definitely disagree 2. Rather disagree 3. Don't know / can't judge 4. Rather agree 5. Definitely agree	1. Socially disadvantaged pupils disrupt classes 2. Socially disadvantaged pupils delay classes 3. Socially disadvantaged pupils have a bad influence on their classmates 4. Higher workload for the teacher 5. Specific teacher training required 6. Necessary individual approach of the teacher to socially disadvantaged pupils 7. Disturbed class climate 8. Not accepting of socially disadvantaged pupils by their classmates 9. Higher rate of discipline problems in the classroom 10. Exclusion of socially disadvantaged pupils from the collective 11. Discrimination by classmates without social disadvantage and the resulting problems 12. Demotivation of pupils without social disadvantage 13. Higher rate of bullying in the classroom

Roma children

Some teachers say that the presence of a Roma pupil makes their work more difficult. In your opinion, what are the pitfalls of Roma pupils in the classroom? Indicate if you agree or disagree with the following statements. 1. Definitely disagree 2. Rather disagree 3. Don't know / can't judge 4. Rather agree 5. Definitely agree	1. Roma pupils disrupt classes 2. Roma pupils delay classes 3. Roma pupils have a bad influence on their classmates 4. Higher workload for the teacher 5. Specific teacher training required 6. Necessary individual approach of the teacher to Roma pupils 7. Disturbed class climate 8. Not accepting of Roma pupils by their classmates 9. Higher rate of discipline problems in the classroom 10. Exclusion of Roma pupils from the collective 11. Discrimination by non-Roma classmates and the resulting problems 12. Demotivation of non-Roma pupils 13. Higher rate of bullying in the classroom

Teacher confidence

How confident do you feel when working with children who: 1. Very unsure 2. Rather unsure 3. Rather sure 4. Very sure	1. are not disadvantaged 2. are socially disadvantaged 3. are Roma 4. are foreigners and speak Czech 5. are foreigners and do not speak Czech 6. are lightly mentally handicapped 7. are lightly physically handicapped 8. are extremely gifted

Table A2: Factor loadings

Participation among stakeholders

Questions	Factor 1	Uniqueness
1	0.8265	0.3169
2	0.7872	0.3803
3	0.7718	0.4043
4	0.7981	0.3630
5	0.7619	0.4195
Alhpa	0.8486	

Teacher student relationship

Questions	Factor1	Uniqueness
1	0.7763	0.3974
2	0.8765	0.2318
3	0.8594	0.2614
4	0.8107	0.3428
Alpha	0.8511	

Mutual respect

Questions	Factor1	Uniqueness
1	0.7602	0.4222
2	0.6500	0.5775
3	0.8133	0.3385
4	0.8537	0.2713
5	0.8263	0.3173
6	0.7225	0.4780
Alpha	0.8635	

Teacher confidence

Questions	Factor1	Uniqueness
1	0.6755	0.5437
2	0.8088	0.3458
3	0.7468	0.4423
4	0.7791	0.393
5	0.6106	0.6271
6	0.6332	0.599
7	0.7417	0.4498
8	0.6539	0.5724
Alpha	0.8517	

Index of inclusion: building community

Questions	Factor1	Uniqueness
1	0.731	0.4657
2	0.7064	0.501
3	0.7453	0.4445
4	0.7757	0.3983
5	0.7172	0.4856
6	0.6861	0.5293
7	0.6294	0.6039
Alpha	0.8355	

Index of inclusion: school for all

Questions	Factor 1	Uniqueness
1	0.7026	0.5064
2	0.7887	0.378
3	0.6639	0.5593
4	0.5805	0.6631
5	0.8116	0.3412
6	0.6898	0.5242
Alpha	0.7897	

Index of inclusion: organizing support for diversity

Questions	Factor1	Uniqueness
1	0.8059	0.3505
2	0.8191	0.3291
3	0.8391	0.2959
4	0.784	0.3853
5	0.5962	0.6446
6	0.8019	0.357
7	0.6242	0.6103
Alpha	0.871	

Index of inclusion: Orchestrating learning

Questions	Factor1	Uniqueness
1	0.7114	0.4939
2	0.7724	0.4033
3	0.7805	0.3908
4	0.8002	0.3597
5	0.7555	0.4292
6	0.7657	0.4137
7	0.7014	0.508
8	0.6933	0.5194
9	0.5975	0.643
10	0.5446	0.7035
11	0.5153	0.7344
Alpha	0.8871	

Index of inclusion: mobilizing resources

Questions	Factor1	Uniqueness
1	0.7412	0.4506
2	0.8222	0.324
3	0.8348	0.3031
4	0.7887	0.3779
Alpha	**0.8068**	

Index of inclusion: Establishing inclusive values

Variable	Factor1	Uniqueness
1	0.3091	0.9045
2	0.3255	0.8941
3	0.6884	0.526
4	0.6492	0.5785
5	0.7357	0.4587
6	0.7391	0.4538
Alpha	0.8071	

School delinquency and violence

Questions	Factor1	Factor2	Factor3	Uniqueness
1	0.6887	0.0117	0.1115	0.5131
2	0.6843	0.1719	0.2059	0.4598
3	0.7255	0.1936	0.1692	0.4075
4	0.5917	0.3193	0.2212	0.4989
5	0.5748	0.4584	0.0844	0.4524
6	0.3509	0.5832	0.1438	0.5161
7	0.2257	0.7665	0.2071	0.3187
8	0.0898	0.2276	0.8339	0.2448
9	0.1021	0.1527	0.8615	0.2240
10	0.3850	0.1144	0.6452	0.4224
11	0.4481	0.2157	0.4176	0.5783
12	0.3377	0.6873	0.2130	0.3682
13	-0.1266	0.7042	0.2548	0.4232
Alpha	0.7245	0.7184	0.7402	

Socially disadvantaged children and Roma: Teachers' feelings

Questions	Factor1	Factor2	Factor3	Uniqueness
1	0.5958	-0.03	-0.1792	0.612
2	-0.0049	0.8902	0.0277	0.2067
3	-0.0535	0.8986	0.0376	0.1882
4	0.7023	-0.0741	0.2436	0.442
5	0.7292	0.034	-0.1413	0.4472
6	0.6408	-0.2617	0.2378	0.4644
7	0.0691	0.0314	0.8641	0.2477
8	-0.3089	0.2136	0.4927	0.6162
9	0.596	0.107	-0.1287	0.6167
Alpha	0.675	0.7937	0.262	

Roma children

Questions	Factor1	Factor2	Factor3	Uniqueness
1	0.8078	0.1485	0.2757	0.2494
2	0.6905	0.1837	0.4044	0.3258
3	0.8109	0.2354	0.1964	0.2484
4	0.4138	0.1368	0.7625	0.2287
5	0.2277	0.2125	0.8408	0.1961
6	0.2008	0.1149	0.8432	0.2355
7	0.7555	0.3103	0.2916	0.2479
8	0.264	0.7952	0.1892	0.2622
9	0.7062	0.2278	0.3389	0.3345
10	0.1817	0.8662	0.1546	0.1928
11	0.1447	0.8651	0.1102	0.2185
12	0.4754	0.5258	0.1749	0.4669
13	0.5777	0.5344	0.1506	0.3579
Alpha	0.907	0.8487	0.853	

Socially disadvantaged children

Questions	Factor1	Factor2	Factor3	Uniqueness
1	0.8277	0.1571	0.2326	0.2361
2	0.6738	0.1401	0.4284	0.3429
3	0.8177	0.2452	0.1385	0.2521
4	0.3162	0.1015	0.8304	0.2002
5	0.2288	0.104	0.8544	0.2069
6	0.0656	0.1345	0.8486	0.2574
7	0.74	0.3718	0.2318	0.2604
8	0.2509	0.8197	0.1433	0.2446
9	0.6964	0.333	0.2556	0.3388
10	0.1842	0.8791	0.1241	0.1779
11	0.1832	0.8736	0.0808	0.1968
12	0.534	0.4854	0.1415	0.4592
13	0.5358	0.5928	0.0943	0.3525
Alpha	0.898	0.8614	0.853	

3 Generalized propensity score matching

Usually, propensity score analysis focuses on the cases in which the treatment is binary but we decided to implement this method in a setting with a continuous treatment. It becomes possible by generalising the binary treatment propensity score and building the generalised propensity score (GPS).

The Generalized Propensity Score can be defined as the conditional density of the treatment given the covariates. It maintains some of the attractive properties of the usual propensity score. Indeed, the key assumption is the assumption of weak unconfoundedness, which is a generalisation of the unconfoundedness assumption of the binary treatment. This assumption is "weak "because we do not require joint independence of all potential outcomes. Also the balancing property of the GPS is similar to the one of the standard propensity score: within strata with the same generalised propensity score, the selection into treatment does not depend on the value of the covariates. In combination with the unconfoundedness assumption, it implies that, given the GPS, assignment into treatment is unconfounded. Under these circumstances, GPS can be used to eliminate any biases associated with differences in the covariates.

With the Generalised Propensity Score Method, we are interested in finding the average dose-response function. Estimating the dose-response function is just the last step of the implementation of this method. It must be preceded by two steps: first, we need to estimate the score, and then we estimate the conditional expectation of the outcome as a function of the continuous treatment variable and of the GPS. By implementing this first step, we verify if each treatment variable satisfies two assumptions: the first one is the assumption of Normality of the distribution conditional on the covariates, while the second one is the standard balancing property of the PSM. For what concerns the Normality assumption, our aim is to turn the distribution of the variable into a Normal distribution, so first we make a transposition. Then we assess the validity of the Normal distribution model by using a goodness-of-fit test. Only if the Normality assumption is satisfied we can go on verifying the balancing property. We test for it using an algorithm suggested by Hirano and Imbens (2004). This test assesses whether and to what extent the balancing property is supported by the data.

We perform this analysis for some of the variables described in subsection "Description of the treatment variable". Out of 6 variables tested [13], only 1 of them satisfy both the Normality assumption and the balancing property. (Average hours of training in reading done by the pedagogical staff). Therefore we decided to adopt a coherent approach for all the 6 variables, doing what it is described in Section 7.

[13] The details of how we built these variables is reported in Section 3.4 "Description of the treatment variable"

B Additional tables

Table B1: Sample selection

	(1) School outcomes	(2) Cermat exams
Share of pupils with adjusted educational plan - 2016	-0.035	-0.739***
	(0.166)	(0.109)
Share of pupils with special educational needs - 2016	0.063	-0.297***
	(0.059)	(0.039)
Share of gifted pupils - 2016	0.307	-0.938
	(1.149)	(0.758)
Total number of pupupils - 2016	0.001*	-0.002***
	(0.000)	(0.000)
Proportion of pupils repeating the school year - 2016	0.248	-0.022
	(0.338)	(0.223)
Number of teachers FTE - 2016	-0.002	0.067***
	(0.003)	(0.002)
Share of girls - 2016	0.218*	-0.102
	(0.105)	(0.069)
School need: Inclusive education	0.000	-0.002*
	(0.002)	(0.001)
School need: Reading literacy	-0.004*	-0.006***
	(0.002)	(0.001)
School need: Mathematics literacy	-0.000	-0.002
	(0.003)	(0.002)
School need: Entrepreneurship	0.002	-0.006**
	(0.003)	(0.002)
School need: ICT competence of teachers	0.000	-0.002
	(0.003)	(0.002)
School need: Support of social and civic competence	0.000	-0.004*
	(0.002)	(0.002)
School need: Polytechnic education	0.003	0.009***
	(0.001)	(0.001)
School need: Language literacy	-0.002	0.005***
	(0.002)	(0.001)
Logarithm of population size	0.020***	0.005
	(0.006)	(0.004)
Region: Hlavní město Praha- ref category		
Region: Jihočeský	0.156**	0.060
	(0.052)	(0.035)
Region: Jihomoravský	0.103*	0.007
	(0.046)	(0.030)
Region: Karlovarský	0.176**	0.156***
	(0.063)	(0.041)
Region: Vysočina	0.171**	0.059
	(0.053)	(0.035)
Region: Královéhradecký	0.125*	0.032
	(0.052)	(0.034)
Region: Liberecký	0.185***	0.037
	(0.054)	(0.035)
Region: Moravskoslezský	0.144**	0.032
	(0.045)	(0.030)
Region: Olomoucký	0.139**	0.055
	(0.051)	(0.034)
Region: Pardubický	0.186***	0.048
	(0.053)	(0.035)
Region: Plzeňský	0.231***	0.056
	(0.054)	(0.035)
Region: Středočeský	0.156**	0.048
	(0.048)	(0.032)
Region: Ústecký	0.122*	0.078*
	(0.050)	(0.033)
Region: Zlínský	0.239***	0.014
	(0.052)	(0.034)
Constant	-0.062	0.201**
	(0.113)	(0.074)
Observations	4028	4028

Note. The table reports the differences between the original sample and the two samples kept for the analysis. The coefficients are from two linear probability models estimating the probability of begin in the two samples. Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B2: Descriptive statistics in treated and control schools- School climate outcomes sample

	Control schools	Treated schools	Difference
Share of pupils with adjusted educational plan - 2016	0.035	0.016	0.019***
			(0.005)
Share of pupils with special educational needs - 2016	0.210	0.135	0.074***
			(0.017)
Share of gifted pupils - 2016	0.002	0.001	0.001
			(0.001)
Total number of pupupils - 2016	179.0	296.8	-117.88***
			(14.960)
Proportion of pupils repeating the school year - 2016	0.008	0.009	-0.001
			(0.002)
Number of teachers FTE - 2016	12.67	19.21	-6.547***
			(0.819)
Share of girls - 2016	0.462	0.481	-0.018***
			(0.005)
School need: Inclusive education	49.39	48.79	0.594
			(0.487)
School need: Reading literacy	34.32	34.61	-0.290
			(0.403)
School need: Mathematics literacy	25.55	25.77	-0.220
			(0.309)
School need: Entrepreneurship	23.45	23.33	0.120
			(0.284)
School need: ICT competence of teachers	17.45	17.10	0.344
			(0.183)
School need: Support of social and civic competence	34.22	33.99	0.234
			(0.309)
School need: Polytechnic education	43.87	44.72	-0.849
			(0.563)
School need: Language literacy	37.12	38.63	-1.509**
			(0.489)
Region: Hlavní město Praha	0.045	0.069	-0.025
			(0.017)
Region: Jihočeský	0.061	0.062	-0.001
			(0.017)
Region: Jihomoravský	0.093	0.101	-0.008
			(0.021)
Region: Karlovarský	0.032	0.029	0.003
			(0.012)
Region: Vysočina	0.081	0.057	0.024
			(0.017)
Region: Královéhradecký	0.077	0.054	0.023
			(0.016)
Region: Liberecký	0.028	0.058	-0.029
			(0.015)
Region: Moravskoslezský	0.069	0.125	-0.056*
			(0.022)
Region: Olomoucký	0.041	0.072	-0.032
			(0.017)
Region: Pardubický	0.057	0.062	-0.005
			(0.017)
Region: Plzeňský	0.130	0.049	0.080***
			(0.017)
Region: Středočeský	0.138	0.129	0.009
			(0.023)
Region: Ústecký	0.057	0.069	-0.012
			(0.017)
Region: Zlínský	0.093	0.065	0.028
			(0.018)
Logarithm of population size	8.522	9.123	-0.601***
			(0.155)
Observations	247	1340	

Note. The table reports the mean values of the outcomes in control (column (1)) and treated (column(2)) schools, and their difference (column(3)). Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B3: Descriptive statistics in treated and control schools- Cermat sample

	Control schools	Treated schools	Difference
Share of pupils with adjusted educational plan - 2016	0.021	0.007	0.014***
			(0.002)
Share of pupils with special educational needs - 2016	0.169	0.107	0.062***
			(0.010)
Share of gifted pupils - 2016	0.001	0.001	0.000
			(0.000)
Total number of pupupils - 2016	278.6	347.9	-69.32***
			(10.595)
Proportion of pupils repeating the school year - 2016	0.009	0.007	0.002
			(0.001)
Number of teachers FTE - 2016	19.30	22.37	-3.065***
			(0.550)
Share of girls - 2016	0.462	0.482	-0.020***
			(0.003)
School need: Inclusive education	49.43	48.34	1.083**
			(0.343)
School need: Reading literacy	34.79	34.68	0.102
			(0.296)
School need: Mathematics literacy	26.14	25.94	0.199
			(0.235)
School need: Entrepreneurship	23.56	23.26	0.294
			(0.212)
School need: ICT competence of teachers	17.36	17.10	0.258
			(0.137)
School need: Support of social and civic competence	34.11	33.90	0.212
			(0.224)
School need: Polytechnic education	45.75	45.51	0.236
			(0.396)
School need: Language literacy	39.40	39.66	-0.259
			(0.360)
Region: Hlavní město Praha	0.080	0.090	-0.009
			(0.015)
Region: Jihočeský	0.088	0.061	0.027*
			(0.013)
Region: Jihomoravský	0.106	0.108	-0.001
			(0.017)
Region: Karlovarský	0.040	0.029	0.011
			(0.009)
Region: Vysočina	0.054	0.057	-0.003
			(0.012)
Region: Královéhradecký	0.047	0.059	-0.012
			(0.012)
Region: Liberecký	0.033	0.048	-0.015
			(0.011)
Region: Moravskoslezský	0.083	0.124	-0.041*
			(0.017)
Region: Olomoucký	0.047	0.072	-0.024
			(0.013)
Region: Pardubický	0.038	0.057	-0.019
			(0.012)
Region: Plzeňský	0.113	0.041	0.072***
			(0.012)
Region: Středočeský	0.121	0.118	0.002
			(0.017)
Region: Ústecký	0.097	0.078	0.019
			(0.015)
Region: Zlínský	0.052	0.058	-0.006
			(0.012)
Logarithm of population size	9.206	9.420	-0.214
			(0.121)
Observations	426	2027	

Note. The table reports the mean values of the outcomes in control (column (1)) and treated (column(2)) schools, and their difference (column(3)). Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B4: Probability of being a treated school

	(1) Whole sample	(2) School outcomes	(3) Cermat outcomes
Share of pupils with adjusted educational plan - 2016	-0.529	-0.946	-1.314
	(0.445)	(0.827)	(0.823)
Share of pupils with special educational needs - 2016	-0.509**	-0.470	-0.085
	(0.162)	(0.311)	(0.260)
Share of gifted pupils - 2016	-0.092	-5.894	-1.906
	(3.192)	(4.600)	(3.927)
Total number of pupupils - 2016	0.000	-0.002	0.001
	(0.001)	(0.001)	(0.001)
Proportion of pupils repeating the school year - 2016	0.846	5.023*	0.031
	(0.935)	(2.151)	(1.782)
Number of teachers FTE - 2016	0.024*	0.059**	-0.007
	(0.010)	(0.021)	(0.014)
Share of girls - 2016	0.673*	1.143*	1.344**
	(0.289)	(0.570)	(0.500)
School need: Inclusive education	0.003	0.009	-0.004
	(0.005)	(0.008)	(0.007)
School need: Reading literacy	0.005	0.014	0.010
	(0.006)	(0.011)	(0.008)
School need: Mathematics literacy	-0.014	-0.011	-0.016
	(0.008)	(0.014)	(0.011)
School need: Entrepreneurship	-0.001	-0.008	-0.004
	(0.008)	(0.015)	(0.012)
School need: ICT competence of teachers	-0.030**	-0.031	-0.011
	(0.010)	(0.018)	(0.014)
School need: Support of social and civic competence	0.000	0.003	0.007
	(0.007)	(0.014)	(0.011)
School need: Polytechnic education	0.001	0.001	0.001
	(0.004)	(0.007)	(0.006)
School need: Language literacy	0.002	-0.004	-0.006
	(0.005)	(0.009)	(0.007)
Region: Hlavní město Praha- ref category			
Region: Jihočeský	-0.183	-0.190	-0.359
	(0.158)	(0.285)	(0.191)
Region: Jihomoravský	-0.027	-0.118	-0.094
	(0.143)	(0.259)	(0.171)
Region: Karlovarský	-0.106	-0.232	-0.294
	(0.187)	(0.319)	(0.221)
Region: Vysočina	0.033	-0.372	-0.062
	(0.163)	(0.282)	(0.205)
Region: Královéhradecký	-0.007	-0.210	0.020
	(0.158)	(0.283)	(0.202)
Region: Liberecký	0.173	0.214	0.079
	(0.166)	(0.302)	(0.213)
Region: Moravskoslezský	0.381**	0.083	0.126
	(0.144)	(0.248)	(0.167)
Region: Olomoucký	0.169	0.127	0.104
	(0.158)	(0.292)	(0.198)
Region: Pardubický	0.113	-0.143	0.111
	(0.163)	(0.287)	(0.212)
Region: Plzeňský	-0.695***	-0.837**	-0.741***
	(0.159)	(0.270)	(0.191)
Region: Středočeský	-0.135	-0.147	-0.175
	(0.148)	(0.266)	(0.183)
Region : Ústecký	-0.047	-0.169	-0.259
	(0.154)	(0.276)	(0.180)
Region: Zlínský	-0.138	-0.369	-0.049
	(0.157)	(0.272)	(0.201)
Logarithm of population size	-0.000	-0.021	-0.012
	(0.018)	(0.031)	(0.023)
Constant	0.581	0.400	0.784
	(0.331)	(0.605)	(0.471)
Observations	4028	1587	2450

The table reports the estimates of the probability of being a treated school, estimated trough a probit regression in the 3 samples: (1) the whole sample of schools, (2) the sample of schools for which information on the school outcomes is available, (3) the sample of schools for which information about the cermat exam is available. Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B5: Mathematics 2019

	(1) Reading	(2) Mathematics	(3) Foreign	(4) Inclusive	(5) Personnel	(6) Tutor
Treatment 0-33	-0.113	0.090	0.007	0.034	0.053	-0.037
	(0.063)	(0.060)	(0.066)	(0.065)	(0.055)	(0.057)
Treatment 33-66	0.092	0.013	0.009	-0.127	-0.074	-0.125*
	(0.058)	(0.062)	(0.070)	(0.067)	(0.057)	(0.058)
Treatment 66-100	-0.023	-0.077	0.117	-0.091	-0.155*	-0.252***
	(0.062)	(0.068)	(0.068)	(0.068)	(0.063)	(0.065)
Observations	2116	2093	1962	1935	2133	2167
T2	-0.074	0.079	-0.018	0.034	0.002	-0.232***
	(0.068)	(0.065)	(0.068)	(0.069)	(0.065)	(0.057)
Observations	1111	1106	989	939	897	1109
T3	0.076	-0.068	0.022	-0.094	-0.117	-0.065
	(0.062)	(0.066)	(0.077)	(0.074)	(0.060)	(0.063)
Observations	1097	1108	963	898	1022	1099
T4	-0.065	-0.117	0.018	-0.105	-0.017	-0.031
	(0.069)	(0.073)	(0.074)	(0.071)	(0.067)	(0.071)
Observations	1055	1082	935	947	1142	1162

Table B6: Language 2019

	(1) Reading	(2) Mathematics	(3) Foreign	(4) Inclusive	(5) Personnel	(6) Tutor
Treatment 0-33	-0.090	0.146*	0.000	0.085	0.017	-0.057
	(0.062)	(0.059)	(0.066)	(0.062)	(0.053)	(0.054)
Treatment 33-66	0.079	0.018	0.022	-0.073	-0.085	-0.071
	(0.057)	(0.064)	(0.066)	(0.066)	(0.054)	(0.059)
Treatment 66-100	-0.027	-0.037	0.020	-0.030	-0.179**	-0.206**
	(0.060)	(0.068)	(0.068)	(0.065)	(0.063)	(0.063)
Observations	2116	2093	1962	1935	2133	2167
T2	-0.062	0.122	-0.052	0.082	-0.047	-0.241***
	(0.067)	(0.065)	(0.068)	(0.065)	(0.063)	(0.056)
Observations	1111	1106	989	939	897	1109
T3	0.056	-0.079	0.054	-0.036	-0.105	-0.021
	(0.062)	(0.066)	(0.073)	(0.074)	(0.057)	(0.065)
Observations	1097	1108	963	898	1022	1099
T4	-0.037	-0.064	-0.035	-0.041	-0.066	-0.024
	(0.065)	(0.072)	(0.073)	(0.068)	(0.068)	(0.069)
Observations	1055	1082	935	947	1142	1162

Table B7: Participation among stakeholders

	(1) Reading	(2) Mathematics	(3) Foreign	(4) Inclusive	(5) Personnel	(6) Tutor
Treatment 0-33	-0.112	-0.038	0.039	-0.359***	-0.147	-0.051
	(0.079)	(0.075)	(0.075)	(0.083)	(0.079)	(0.079)
Treatment 33-66	0.027	0.004	-0.073	-0.055	-0.161*	0.022
	(0.078)	(0.075)	(0.093)	(0.097)	(0.075)	(0.077)
Treatment 66-100	0.137	0.157	0.106	-0.102	0.108	0.062
	(0.076)	(0.082)	(0.087)	(0.086)	(0.085)	(0.079)
Observations	1390	1375	1234	1177	1276	1392
T2	-0.055	-0.096	0.063	-0.270**	-0.102	-0.033
	(0.083)	(0.082)	(0.081)	(0.092)	(0.091)	(0.090)
Observations	692	693	555	509	454	640
T3	-0.064	-0.089	-0.031	-0.099	-0.068	0.091
	(0.084)	(0.080)	(0.098)	(0.107)	(0.090)	(0.091)
Observations	689	726	589	548	523	692
T4	0.110	-0.046	0.046	-0.080	-0.058	0.008
	(0.084)	(0.090)	(0.092)	(0.092)	(0.085)	(0.095)
Observations	703	699	579	580	696	719

Table B8: Teacher students relationship

	(1) Reading	(2) Mathematics	(3) Foreign	(4) Inclusive	(5) Personnel	(6) Tutor
Treatment 0-33	-0.114	-0.079	-0.043	-0.257**	-0.178*	-0.264***
	(0.076)	(0.073)	(0.072)	(0.086)	(0.073)	(0.078)
Treatment 33-66	-0.072	-0.055	-0.067	0.045	-0.254***	-0.043
	(0.076)	(0.079)	(0.085)	(0.094)	(0.072)	(0.076)
Treatment 66-100	0.071	0.091	0.072	0.064	0.288***	0.142
	(0.073)	(0.082)	(0.094)	(0.085)	(0.082)	(0.082)
Observations	1381	1360	1261	1175	1275	1405
T2	-0.062	-0.067	-0.089	-0.102	-0.018	-0.170
	(0.082)	(0.076)	(0.080)	(0.096)	(0.085)	(0.087)
Observations	684	680	572	508	454	622
T3	-0.091	-0.060	-0.091	-0.157	-0.191	0.057
	(0.082)	(0.084)	(0.094)	(0.102)	(0.099)	(0.083)
Observations	685	735	596	559	526	698
T4	0.000	-0.029	-0.069	0.071	-0.001	-0.123
	(0.087)	(0.092)	(0.104)	(0.091)	(0.095)	(0.093)
Observations	706	707	605	575	709	729

Table B9: Mutual respect

	(1) Reading	(2) Mathematics	(3) Foreign	(4) Inclusive	(5) Personnel	(6) Tutor
Treatment 0-33	-0.116	-0.112	-0.041	-0.308***	-0.159*	-0.134
	(0.074)	(0.076)	(0.076)	(0.085)	(0.072)	(0.078)
Treatment 33-66	-0.017	-0.034	-0.016	0.012	-0.214**	-0.009
	(0.072)	(0.075)	(0.083)	(0.088)	(0.071)	(0.076)
Treatment 66-100	0.076	0.052	0.118	0.003	0.284***	0.207*
	(0.077)	(0.084)	(0.090)	(0.085)	(0.082)	(0.083)
Observations	1383	1348	1252	1183	1260	1410
T2	-0.065	-0.100	-0.045	-0.215*	0.007	-0.092
	(0.077)	(0.079)	(0.082)	(0.090)	(0.081)	(0.084)
Observations	704	696	569	534	460	620
T3	-0.104	-0.033	0.008	-0.149	-0.097	0.113
	(0.074)	(0.077)	(0.089)	(0.099)	(0.095)	(0.082)
Observations	671	723	577	546	522	692
T4	0.062	0.030	0.061	-0.019	-0.030	0.038
	(0.093)	(0.096)	(0.098)	(0.091)	(0.093)	(0.090)
Observations	724	693	616	586	691	740

Table B10: School delinquency and violence 1 - minor issues (absenteeism, cheating, vandalism)

	(1) Reading	(2) Mathematics	(3) Foreign	(4) Inclusive	(5) Personnel	(6) Tutor
Treatment 0-33	-0.016	-0.000	-0.081	-0.077	-0.206**	-0.153*
	(0.070)	(0.072)	(0.073)	(0.079)	(0.063)	(0.074)
Treatment 33-66	0.065	0.044	-0.066	0.200**	-0.261***	-0.048
	(0.076)	(0.078)	(0.083)	(0.077)	(0.070)	(0.074)
Treatment 66-100	0.115	0.278***	0.147	-0.032	0.419***	0.202*
	(0.082)	(0.082)	(0.085)	(0.081)	(0.074)	(0.083)
Observations	1382	1366	1249	1153	1262	1400
T2	0.075	0.020	-0.089	-0.002	0.024	-0.008
	(0.073)	(0.079)	(0.078)	(0.084)	(0.078)	(0.076)
Observations	714	702	580	535	449	638
T3	-0.031	0.059	-0.093	-0.016	-0.075	-0.045
	(0.078)	(0.084)	(0.091)	(0.088)	(0.079)	(0.080)
Observations	678	725	601	552	529	691
T4	0.048	0.110	0.061	-0.047	0.054	-0.075
	(0.098)	(0.094)	(0.093)	(0.090)	(0.082)	(0.090)
Observations	711	692	616	596	675	745

Table B11: School delinquency and violence 2 - violence against other students and teachers

	(1) Reading	(2) Mathematics	(3) Foreign	(4) Inclusive	(5) Personnel	(6) Tutor
Treatment 0-33	0.021	0.132	0.018	-0.038	-0.177*	-0.159*
	(0.073)	(0.074)	(0.074)	(0.076)	(0.072)	(0.071)
Treatment 33-66	0.036	-0.067	-0.117	-0.025	-0.161*	-0.023
	(0.074)	(0.081)	(0.082)	(0.081)	(0.074)	(0.072)
Treatment 66-100	-0.157	-0.072	-0.126	-0.103	0.044	-0.032
	(0.081)	(0.086)	(0.089)	(0.090)	(0.068)	(0.079)
Observations	1382	1366	1249	1153	1262	1400
T2	-0.002	0.040	-0.019	0.055	-0.097	-0.085
	(0.079)	(0.074)	(0.079)	(0.085)	(0.083)	(0.075)
Observations	714	702	580	535	449	638
T3	-0.016	-0.071	-0.140	-0.052	-0.081	-0.033
	(0.080)	(0.084)	(0.089)	(0.087)	(0.085)	(0.068)
Observations	678	725	601	552	529	691
T4	-0.073	-0.086	-0.136	-0.110	-0.075	-0.055
	(0.094)	(0.102)	(0.095)	(0.095)	(0.071)	(0.087)
Observations	711	692	616	596	675	745

Table B12: School delinquency and violence 3 - substance abuse

	(1) Reading	(2) Mathematics	(3) Foreign	(4) Inclusive	(5) Personnel	(6) Tutor
Treatment 0-33	-0.091	-0.094	0.056	-0.011	-0.296***	-0.086
	(0.077)	(0.075)	(0.084)	(0.084)	(0.078)	(0.083)
Treatment 33-66	-0.008	0.025	0.086	0.129	-0.343***	0.033
	(0.080)	(0.079)	(0.084)	(0.081)	(0.082)	(0.076)
Treatment 66-100	-0.006	0.041	0.099	-0.137	0.279***	0.331***
	(0.081)	(0.081)	(0.093)	(0.093)	(0.072)	(0.074)
Observations	1382	1366	1249	1153	1262	1400
T2	-0.038	0.029	0.096	0.111	-0.127	0.057
	(0.079)	(0.080)	(0.087)	(0.099)	(0.092)	(0.092)
Observations	714	702	580	535	449	638
T3	-0.075	0.015	0.067	0.025	-0.207*	0.005
	(0.082)	(0.084)	(0.093)	(0.091)	(0.086)	(0.079)
Observations	678	725	601	552	529	691
T4	0.046	0.048	0.051	-0.164	0.025	0.126
	(0.115)	(0.105)	(0.097)	(0.100)	(0.074)	(0.078)
Observations	711	692	616	596	675	745

Table B13: Building community

	(1)	(2)	(3)	(4)	(5)	(6)
	Reading	Mathematics	Foreign	Inclusive	Personnel	Tutor
Treatment 0-33	-0.093	-0.051	-0.135	-0.334***	-0.232**	-0.155*
	(0.071)	(0.069)	(0.081)	(0.089)	(0.075)	(0.077)
Treatment 33-66	-0.090	-0.022	-0.049	0.016	-0.221**	-0.062
	(0.078)	(0.078)	(0.085)	(0.098)	(0.073)	(0.078)
Treatment 66-100	0.003	0.034	0.081	0.019	0.319***	0.154
	(0.077)	(0.089)	(0.087)	(0.087)	(0.082)	(0.085)
Observations	1385	1363	1252	1147	1251	1406
T2	-0.010	-0.070	-0.056	-0.258**	-0.129	0.035
	(0.077)	(0.072)	(0.087)	(0.092)	(0.083)	(0.092)
Observations	687	716	575	533	448	625
T3	-0.115	-0.038	-0.068	-0.078	-0.089	0.040
	(0.081)	(0.083)	(0.090)	(0.105)	(0.083)	(0.089)
Observations	690	699	598	565	528	688
T4	-0.043	-0.086	0.040	-0.002	0.018	0.008
	(0.082)	(0.099)	(0.093)	(0.090)	(0.095)	(0.090)
Observations	696	691	602	583	682	731

Table B14: Establishing inclusive values

	(1)	(2)	(3)	(4)	(5)	(6)
	Reading	Mathematics	Foreign	Inclusive	Personnel	Tutor
Treatment 0-33	-0.056	-0.004	-0.023	-0.318***	-0.251**	-0.140
	(0.076)	(0.073)	(0.086)	(0.095)	(0.082)	(0.079)
Treatment 33-66	-0.034	-0.022	-0.068	0.005	-0.158*	-0.019
	(0.085)	(0.084)	(0.091)	(0.108)	(0.074)	(0.078)
Treatment 66-100	0.103	0.060	-0.015	0.007	0.200*	0.168
	(0.075)	(0.091)	(0.090)	(0.085)	(0.082)	(0.086)
Observations	1385	1363	1252	1147	1251	1406
T2	0.002	-0.026	0.060	-0.286**	-0.181	0.043
	(0.078)	(0.073)	(0.093)	(0.095)	(0.093)	(0.099)
Observations	687	716	575	533	448	625
T3	-0.062	-0.022	-0.097	-0.095	-0.062	0.120
	(0.087)	(0.088)	(0.098)	(0.116)	(0.086)	(0.100)
Observations	690	699	598	565	528	688
T4	0.039	-0.044	-0.057	0.027	-0.032	0.029
	(0.080)	(0.099)	(0.097)	(0.088)	(0.097)	(0.092)
Observations	696	691	602	583	682	731

Table B15: Developing the school for all

	(1) Reading	(2) Mathematics	(3) Foreign	(4) Inclusive	(5) Personnel	(6) Tutor
Treatment 0-33	-0.136	-0.113	-0.039	-0.263**	-0.298***	-0.098
	(0.079)	(0.077)	(0.079)	(0.093)	(0.083)	(0.080)
Treatment 33-66	0.044	-0.015	0.006	-0.037	-0.184*	-0.084
	(0.076)	(0.080)	(0.087)	(0.094)	(0.075)	(0.079)
Treatment 66-100	0.021	-0.009	0.012	0.130	0.050	0.101
	(0.079)	(0.085)	(0.094)	(0.089)	(0.082)	(0.080)
Observations	1371	1359	1241	1168	1249	1396
T2	-0.122	-0.162*	-0.065	-0.206*	-0.216*	-0.008
	(0.082)	(0.082)	(0.082)	(0.099)	(0.098)	(0.091)
Observations	709	663	599	521	457	633
T3	-0.016	-0.036	-0.084	-0.090	-0.075	0.015
	(0.087)	(0.084)	(0.090)	(0.102)	(0.082)	(0.093)
Observations	691	699	600	548	526	677
T4	-0.053	-0.127	-0.151	0.115	-0.214*	-0.044
	(0.088)	(0.086)	(0.101)	(0.094)	(0.088)	(0.083)
Observations	712	718	591	586	691	725

Table B16: Organizing support for diversity

	(1) Reading	(2) Mathematics	(3) Foreign	(4) Inclusive	(5) Personnel	(6) Tutor
Treatment 0-33	-0.197*	-0.083	-0.036	-0.283**	-0.173*	-0.114
	(0.083)	(0.077)	(0.082)	(0.092)	(0.079)	(0.079)
Treatment 33-66	-0.064	-0.076	-0.029	-0.047	-0.186*	-0.032
	(0.080)	(0.083)	(0.091)	(0.099)	(0.075)	(0.076)
Treatment 66-100	0.071	0.099	0.051	0.215*	0.078	0.117
	(0.081)	(0.084)	(0.094)	(0.090)	(0.081)	(0.080)
Observations	1371	1352	1255	1161	1251	1399
T2	-0.167*	-0.102	0.001	-0.200*	-0.146	0.007
	(0.082)	(0.081)	(0.087)	(0.098)	(0.103)	(0.086)
Observations	679	666	595	534	457	634
T3	-0.071	-0.060	-0.070	-0.160	-0.088	0.036
	(0.080)	(0.087)	(0.094)	(0.110)	(0.087)	(0.087)
Observations	691	718	593	547	525	677
T4	0.005	-0.053	-0.100	0.161	-0.140	0.027
	(0.085)	(0.089)	(0.098)	(0.096)	(0.092)	(0.086)
Observations	712	711	589	581	691	725

Table B17: Orchestrating learning

	(1)	(2)	(3)	(4)	(5)	(6)
	Reading	Mathematics	Foreign	Inclusive	Personnel	Tutor
Treatment 0-33	-0.126	-0.098	-0.168*	-0.269**	-0.107	-0.122
	(0.079)	(0.072)	(0.075)	(0.090)	(0.075)	(0.079)
Treatment 33-66	-0.074	-0.089	-0.088	0.030	-0.173*	-0.085
	(0.079)	(0.081)	(0.087)	(0.087)	(0.073)	(0.080)
Treatment 66-100	0.053	0.067	0.005	0.044	0.255**	0.209*
	(0.078)	(0.078)	(0.090)	(0.085)	(0.079)	(0.082)
Observations	1355	1350	1223	1148	1238	1398
T2	-0.130	0.005	-0.144	-0.102	0.003	-0.005
	(0.080)	(0.076)	(0.081)	(0.093)	(0.091)	(0.080)
Observations	699	676	569	541	447	635
T3	-0.126	-0.084	-0.062	-0.052	-0.090	-0.114
	(0.083)	(0.083)	(0.092)	(0.094)	(0.086)	(0.085)
Observations	669	704	597	524	524	678
T4	0.026	-0.055	-0.037	0.031	-0.103	0.010
	(0.086)	(0.090)	(0.095)	(0.090)	(0.088)	(0.086)
Observations	707	707	616	569	695	709

Table B18: Mobilizing resources

	(1)	(2)	(3)	(4)	(5)	(6)
	Reading	Mathematics	Foreign	Inclusive	Personnel	Tutor
Treatment 0-33	-0.102	-0.063	-0.028	-0.181*	-0.261***	-0.151*
	(0.082)	(0.075)	(0.084)	(0.092)	(0.077)	(0.076)
Treatment 33-66	-0.024	-0.100	-0.036	0.104	-0.341***	-0.089
	(0.076)	(0.080)	(0.088)	(0.090)	(0.076)	(0.076)
Treatment 66-100	0.119	0.052	0.124	0.147	0.100	0.137
	(0.079)	(0.081)	(0.089)	(0.088)	(0.078)	(0.079)
Observations	1364	1353	1231	1139	1238	1390
T2	-0.130	0.022	0.002	-0.156	-0.184*	-0.053
	(0.083)	(0.079)	(0.089)	(0.097)	(0.088)	(0.080)
Observations	706	684	570	532	447	629
T3	-0.046	-0.078	-0.033	-0.050	-0.260**	-0.079
	(0.079)	(0.081)	(0.091)	(0.099)	(0.085)	(0.083)
Observations	675	704	582	526	524	674
T4	0.029	-0.127	0.062	0.083	-0.196*	-0.023
	(0.089)	(0.090)	(0.094)	(0.095)	(0.090)	(0.088)
Observations	713	697	633	566	693	706

Table B19: Socially disadvantaged and Roma children 1 - negative feelings toward children

	(1)	(2)	(3)	(4)	(5)	(6)
	Reading	Mathematics	Foreign	Inclusive	Personnel	Tutor
Treatment 0-33	0.051	0.008	-0.001	-0.066	-0.033	-0.030
	(0.077)	(0.073)	(0.080)	(0.086)	(0.077)	(0.074)
Treatment 33-66	-0.021	0.023	-0.133	0.169	-0.002	-0.149*
	(0.078)	(0.081)	(0.089)	(0.087)	(0.074)	(0.075)
Treatment 66-100	0.095	0.079	-0.046	0.049	-0.018	-0.114
	(0.075)	(0.083)	(0.094)	(0.098)	(0.083)	(0.077)
Observations	1353	1347	1214	1107	1227	1358
T2	0.071	0.011	-0.009	-0.047	-0.164	0.107
	(0.083)	(0.078)	(0.089)	(0.092)	(0.115)	(0.083)
Observations	685	680	558	513	445	607
T3	-0.066	0.040	-0.096	0.139	-0.022	-0.056
	(0.089)	(0.080)	(0.093)	(0.096)	(0.086)	(0.092)
Observations	656	681	591	543	528	654
T4	0.010	0.071	-0.007	0.004	0.019	-0.119
	(0.083)	(0.086)	(0.106)	(0.106)	(0.090)	(0.097)
Observations	694	678	568	554	667	692

Table B20: Socially disadvantaged and Roma children 2 - Teachers feel prepared

	(1)	(2)	(3)	(4)	(5)	(6)
	Reading	Mathematics	Foreign	Inclusive	Personnel	Tutor
Treatment 0-33	-0.131	-0.078	0.106	-0.049	0.022	-0.168*
	(0.078)	(0.078)	(0.078)	(0.090)	(0.082)	(0.079)
Treatment 33-66	-0.127	-0.102	-0.010	-0.208*	-0.036	-0.022
	(0.075)	(0.083)	(0.093)	(0.098)	(0.079)	(0.078)
Treatment 66-100	0.036	-0.063	0.100	0.166	-0.105	0.100
	(0.081)	(0.084)	(0.095)	(0.085)	(0.084)	(0.084)
Observations	1353	1347	1214	1107	1227	1358
T2	-0.102	-0.020	0.108	0.016	-0.020	-0.059
	(0.087)	(0.082)	(0.086)	(0.098)	(0.115)	(0.090)
Observations	685	680	558	513	445	607
T3	-0.013	-0.061	-0.005	-0.258*	-0.030	0.009
	(0.088)	(0.083)	(0.097)	(0.102)	(0.095)	(0.082)
Observations	656	681	591	543	528	654
T4	-0.086	-0.105	0.079	0.134	-0.062	0.141
	(0.091)	(0.091)	(0.103)	(0.096)	(0.090)	(0.090)
Observations	694	678	568	554	667	692

Table B21: Socially disadvantaged 1 - are bad for the class

	(1) Reading	(2) Mathematics	(3) Foreign	(4) Inclusive	(5) Personnel	(6) Tutor
Treatment 0-33	-0.137	0.041	-0.015	-0.126	0.096	-0.048
	(0.070)	(0.077)	(0.082)	(0.088)	(0.080)	(0.082)
Treatment 33-66	0.034	0.113	-0.019	0.141	-0.003	-0.085
	(0.080)	(0.077)	(0.090)	(0.090)	(0.083)	(0.087)
Treatment 66-100	0.052	0.051	-0.048	-0.049	0.062	-0.047
	(0.078)	(0.085)	(0.098)	(0.098)	(0.083)	(0.086)
Observations	1343	1307	1228	1112	1216	1361
T2	-0.073	0.070	0.055	-0.009	0.013	0.103
	(0.077)	(0.079)	(0.090)	(0.096)	(0.096)	(0.094)
Observations	685	668	554	521	435	622
T3	0.131	0.033	-0.043	0.161	-0.007	-0.029
	(0.090)	(0.080)	(0.095)	(0.098)	(0.087)	(0.093)
Observations	676	679	592	532	523	666
T4	0.019	0.044	-0.071	-0.060	0.070	-0.067
	(0.090)	(0.092)	(0.102)	(0.110)	(0.095)	(0.097)
Observations	671	689	594	546	674	689

Table B22: Socially disadvantaged 2 - are discriminated

	(1) Reading	(2) Mathematics	(3) Foreign	(4) Inclusive	(5) Personnel	(6) Tutor
Treatment 0-33	0.059	-0.031	0.018	0.074	-0.122	0.043
	(0.071)	(0.076)	(0.078)	(0.091)	(0.079)	(0.080)
Treatment 33-66	-0.099	-0.101	-0.037	-0.045	-0.104	0.050
	(0.080)	(0.080)	(0.097)	(0.093)	(0.078)	(0.081)
Treatment 66-100	0.077	0.000	-0.081	0.010	-0.150	0.101
	(0.077)	(0.082)	(0.089)	(0.094)	(0.084)	(0.083)
Observations	1343	1307	1228	1112	1216	1361
T2	0.011	0.007	0.048	0.098	-0.073	0.110
	(0.076)	(0.080)	(0.084)	(0.095)	(0.102)	(0.086)
Observations	685	668	554	521	435	622
T3	-0.076	-0.111	-0.043	0.036	-0.103	0.046
	(0.090)	(0.085)	(0.103)	(0.103)	(0.086)	(0.082)
Observations	676	679	592	532	523	666
T4	-0.026	0.027	-0.088	-0.022	-0.057	0.010
	(0.090)	(0.086)	(0.094)	(0.098)	(0.092)	(0.102)
Observations	671	689	594	546	674	689

Table B23: Socially disadvantaged 3 - create more work for the teachers

	(1) Reading	(2) Mathematics	(3) Foreign	(4) Inclusive	(5) Personnel	(6) Tutor
Treatment 0-33	0.103	0.033	-0.057	-0.127	0.047	0.177*
	(0.073)	(0.076)	(0.085)	(0.083)	(0.077)	(0.081)
Treatment 33-66	-0.036	-0.040	-0.044	-0.098	0.099	0.097
	(0.078)	(0.075)	(0.083)	(0.091)	(0.078)	(0.085)
Treatment 66-100	-0.055	0.037	0.023	0.097	0.140	0.036
	(0.080)	(0.091)	(0.091)	(0.097)	(0.083)	(0.085)
Observations	1343	1307	1228	1112	1216	1361
T2	0.118	0.021	-0.055	-0.155	-0.031	0.058
	(0.084)	(0.080)	(0.094)	(0.089)	(0.095)	(0.088)
Observations	685	668	554	521	435	622
T3	-0.033	-0.031	-0.067	-0.150	-0.044	0.012
	(0.086)	(0.077)	(0.087)	(0.098)	(0.089)	(0.092)
Observations	676	679	592	532	523	666
T4	-0.015	0.031	0.030	0.152	0.186*	0.029
	(0.092)	(0.096)	(0.097)	(0.103)	(0.088)	(0.105)
Observations	671	689	594	546	674	689

Table B24: Roma 1 - are bad for the class

	(1) Reading	(2) Mathematics	(3) Foreign	(4) Inclusive	(5) Personnel	(6) Tutor
Treatment 0-33	-0.002	0.072	0.051	-0.144	0.001	0.035
	(0.078)	(0.082)	(0.083)	(0.080)	(0.085)	(0.084)
Treatment 33-66	0.006	0.062	-0.152	0.114	0.002	0.054
	(0.083)	(0.083)	(0.092)	(0.090)	(0.084)	(0.085)
Treatment 66-100	0.070	0.099	-0.039	-0.023	0.080	0.014
	(0.079)	(0.080)	(0.099)	(0.103)	(0.082)	(0.084)
Observations	1316	1319	1196	1122	1201	1355
T2	-0.027	0.044	0.070	-0.122	-0.048	0.093
	(0.082)	(0.088)	(0.088)	(0.104)	(0.109)	(0.093)
Observations	651	677	562	512	434	615
T3	-0.024	0.040	-0.158	0.123	-0.026	0.070
	(0.094)	(0.086)	(0.097)	(0.100)	(0.097)	(0.087)
Observations	639	706	553	531	509	668
T4	0.087	0.119	-0.038	-0.011	0.118	-0.025
	(0.087)	(0.089)	(0.102)	(0.113)	(0.096)	(0.088)
Observations	689	689	576	541	661	705

Table B25: Roma 2 - are discriminated

	(1) Reading	(2) Mathematics	(3) Foreign	(4) Inclusive	(5) Personnel	(6) Tutor
Treatment 0-33	-0.127	-0.186*	-0.016	0.024	0.091	0.007
	(0.077)	(0.082)	(0.088)	(0.088)	(0.081)	(0.080)
Treatment 33-66	-0.189*	-0.103	-0.094	-0.204*	0.050	-0.007
	(0.079)	(0.081)	(0.091)	(0.095)	(0.082)	(0.083)
Treatment 66-100	-0.026	-0.111	-0.093	0.062	-0.161	-0.122
	(0.078)	(0.082)	(0.089)	(0.086)	(0.088)	(0.085)
Observations	1316	1319	1196	1122	1201	1355
T2	-0.113	-0.177*	-0.019	-0.051	-0.155	0.017
	(0.084)	(0.083)	(0.094)	(0.092)	(0.113)	(0.084)
Observations	651	677	562	512	434	615
T3	-0.211*	-0.155	-0.086	-0.098	0.091	-0.036
	(0.085)	(0.084)	(0.095)	(0.103)	(0.089)	(0.085)
Observations	639	706	553	531	509	668
T4	-0.122	-0.146	-0.051	0.039	0.067	-0.067
	(0.084)	(0.087)	(0.093)	(0.092)	(0.088)	(0.092)
Observations	689	689	576	541	661	705

Table B26: Roma 3 - create more work for the teachers

	(1) Reading	(2) Mathematics	(3) Foreign	(4) Inclusive	(5) Personnel	(6) Tutor
Treatment 0-33	0.125	0.052	0.081	0.041	0.063	0.160
	(0.080)	(0.080)	(0.091)	(0.086)	(0.085)	(0.083)
Treatment 33-66	0.032	0.036	-0.015	-0.024	0.105	0.084
	(0.080)	(0.077)	(0.084)	(0.092)	(0.085)	(0.084)
Treatment 66-100	0.068	0.004	0.025	0.072	0.048	0.158
	(0.080)	(0.085)	(0.090)	(0.094)	(0.088)	(0.085)
Observations	1316	1319	1196	1122	1201	1355
T2	0.077	0.049	0.074	0.006	0.035	0.007
	(0.080)	(0.084)	(0.099)	(0.095)	(0.102)	(0.094)
Observations	651	677	562	512	434	615
T3	0.031	-0.018	-0.096	-0.024	0.067	0.044
	(0.088)	(0.082)	(0.091)	(0.101)	(0.095)	(0.081)
Observations	639	706	553	531	509	668
T4	0.147	0.032	-0.026	0.068	-0.034	0.171
	(0.088)	(0.092)	(0.096)	(0.099)	(0.087)	(0.091)
Observations	689	689	576	541	661	705

Table B27: Teacher's confidence

	(1) Reading	(2) Mathematics	(3) Foreign	(4) Inclusive	(5) Personnel	(6) Tutor
Treatment 0-33	-0.036	-0.024	0.082	0.025	-0.053	-0.003
	(0.077)	(0.078)	(0.076)	(0.085)	(0.089)	(0.080)
Treatment 33-66	-0.114	-0.037	-0.243**	-0.162	-0.012	-0.018
	(0.075)	(0.074)	(0.089)	(0.085)	(0.081)	(0.083)
Treatment 66-100	0.080	0.022	0.033	0.039	-0.170	0.038
	(0.077)	(0.083)	(0.087)	(0.101)	(0.088)	(0.084)
Observations	1284	1262	1141	1081	1164	1296
T2	-0.043	-0.038	0.094	0.018	-0.112	0.035
	(0.083)	(0.086)	(0.083)	(0.093)	(0.106)	(0.080)
Observations	633	650	546	505	426	608
T3	-0.075	0.034	-0.170	-0.175	0.030	-0.020
	(0.086)	(0.082)	(0.095)	(0.097)	(0.086)	(0.087)
Observations	654	667	550	516	513	609
T4	0.036	-0.021	0.084	-0.076	-0.083	0.063
	(0.085)	(0.091)	(0.095)	(0.110)	(0.097)	(0.093)
Observations	661	657	587	560	625	665

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