

SURVEYS ON STUDENTS: INVALSI NATIONAL AND INTERNATIONAL TESTS

VI Seminar "INVALSI data: a tool for
teaching and scientific research"

edited by
Patrizia Falzetti

FrancoAngeli 



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Introduction

by Patrizia Falzetti

INVALSI, as part of the National System of Evaluation of the Education and Training System (SNV), conducts periodic and systematic tests on students' knowledge and skills. Albeit with some modifications over time, these standardised tests have been objectively measuring for about 20 years students' achieving and learning in some main skills in Italian, Mathematics and English domains.

In addition to conducting the National Survey, INVALSI coordinates and ensures the participation of Italy in certain main international surveys¹ in education promoted by OECD (Organisation for Economic Cooperation and Development) and IEA (International Association for the Evaluation of Educational Achievement) which, both of them, carry out specific tests on some students' literacies and skills.

At the end of each survey, INVALSI makes useful databases available for studying and analysing the Italian education system – with an international comparison as well – and, on the occasion of the VI Seminar “INVALSI data: a tool for teaching and scientific research” (Rome, from 25th to 28th November 2021), the potential of their use became evident.

This volume collects some papers presented there. In detail, the research in chapters 3, 5, 6 and 7 use data from both national and international surveys. Chapter 3 focuses on the gender gap in Mathematics, also documented by the results of OECD-PISA survey in which for the Italian case it is wider than the international average. The exploratory analysis conducted aims to determine whether it is possible to limit some categories of item in which the gender gap is particularly notable, and to interpret these categories with

¹ For details on international surveys https://invalsi-areaprove.cineca.it/index.php?get=static&pag=indagini_internazionali_in_evidenza.

the theory of the educational didactic contract. In chapter 5, data from a sub-sample of students participating in the TIMSS 2019 survey – grade IV – are used to investigate the sense of school belonging of students with special educational needs by comparing it with the one of students without special educational needs. The starting assumption is represented by the assorted studies that have highlighted its important role in school inclusion: students who feel accepted and supported in the classroom context are more motivated to learn and more encouraged to participate in school activities. In Chapter 6, researchers investigated Italian ICILS 2018 survey data in order to study the role of schools in reducing the digital divide, a specific topic which became more crucial during the Covid-19 pandemic when digital skills were found to be a discriminating factor with respect to learning. Finally, the research in Chapter 7 aimed to compare the Italian students' results in Mathematics in OECD-PISA survey 2018 in the second year of upper secondary school with those obtained by the same students in INVALSI national tests in the same year. The analyse starts from the premise that these two surveys have different focuses and characteristics but also have points in common, such as the assessment of students' basic skills.

Chapters 1, 2 and 4, on the other hand, focus only on data from INVALSI surveys. Here, topics investigated are about the specificity of the case of the autonomous province of Trento; the relationship between economic, social and cultural status and school performance regarding English language skills; the impact that the age of the student has on the results of INVALSI tests.

The book is therefore full of insights on the possible uses of national and international surveys. We hope that from it reading, researchers, teachers and all stakeholders could find further stimuli to better investigate the Italian education system thanks to INVALSI data and beyond.

1. Better than whom? Methodological and substantial considerations emerged while going beyond a plain comparison of school performance in Trentino and in nearby provinces

by Gianluca Argentin, Chiara Tamanini, Loris Vergolini

The chapter aims to analyse the specificity of the case of the Autonomous province of Trento, questioning whether it is possible to speak of Trentino as an area of high learning. We analyse two dimensions related to school performance: the learning in Italian and Mathematics and social inequalities based on gender, migration background and parental education. The analytical strategy is based on the comparison of the province of Trento with the rest of the country, the North-East and the neighbouring provinces, controlling for a relevant set of observed characteristics to obtain estimates not biased by compositional effects. The results show that the advantage of Trentino disappears substantially once the comparison is made with contiguous geographical areas and that even in terms of equity the situation is similar with respect to the neighbouring provinces.

Il contributo si pone l'obiettivo di analizzare la specificità del caso della Provincia autonoma di Trento interrogandosi se effettivamente si può parlare del Trentino come di una zona con apprendimenti elevati. Nel capitolo analizziamo due dimensioni legate alle performance scolastiche: gli apprendimenti in Italiano e Matematica e le disuguaglianze sociali basate su genere, background migratorio e livello di istruzione dei genitori. La strategia analitica si basa sul confrontare la provincia di Trento con il resto del Paese, il Nord-Est e le sole province confinanti controllando per un insieme rilevante di caratteristiche osservate in modo da ottenere stime non influenzate da effetti di composizione. I risultati mostrano come il vantaggio del Trentino sparisca sostanzialmente una volta che il confronto viene fatto con realtà geografiche contigue e che anche in termini di equità la situazione è simile rispetto alle province confinanti.

1. Introduction

The growing availability of quantitative data coming from large-scale assessments, both at national and international level, raises several issues about their usage. Usually, criticisms towards statistical measures of pupils' achievement focus on the validity of standardized tests and on their repercussions on teachers' and school principals' behaviours (Koretz, 2009). The major risk underlined is that standardized assessments may severely reduce the set of school outcomes considered by actors in education and – especially when results imply high stakes – force them to put all their effort on a narrow set of actions directly connected to those measures. This clearly affects actors operating daily in the schools, such as teachers and principals, but also policy makers that, at different levels, take decisions about the reform of the education system, on the basis of what works or, better, on what seems to work.

Here we want to underline that the results coming from large-scale assessments are influential in the diagnosis of the education systems'. One of the mechanisms through which this process takes place is the attention paid to deviant mean scores, namely particular high or low performances of specific contexts. Detecting at local level average results superior or inferior to the ones of the overall population translates almost immediately in policy relevant questions. Two examples may clarify to the reader what we refer to. First, everybody knows that the Finnish education system displays very high pupils' performance: this makes it a widely investigated case study, in order to understand which features are underneath its effectiveness (Morgan, 2014). Second, scholars in Italy well know that pupils in Southern regions display performances lower than in the Northern ones: these results generated a wide set of analyses trying to explain to what extent this is consequential to different socioeconomic environments or to heterogeneous schools' effectiveness (Bratti, Checchi and Filippin, 2007; Argentin *et al.*, 2017). Understanding what generates a difference in pupils' achievement, across nations or regions, is a form of comparison that seems to satisfy our need to understand what we can do to improve performance in education, learning lessons from contexts where things seem to go in the right direction. As we will show in the next pages, things are more complicated.

2. Research questions

One of the constant results detected by INVALSI national assessment year after year is the fact that Trento province obtain average performances higher

than the national ones, but also superior to the ones of other (well performing) Northern regions. These comparisons have been widely reported for years in the media, both at national and local level, leading to a common consensus about the fact that the school system in Trento performs better than the one in other Italian regions. Also the negative consequences of COVID-19 pandemic on students outcomes seemed to be mitigated in this area.

The province of Trento, based on its special statute, enjoys a state of autonomy and has, among other perquisites, the official proxy to administer its school system. In the past, it has judiciously used this privilege, has invested in the school system introducing innovative practices sometimes taken as an example from the rest of the country. The fact that this province is autonomous in the management of its school system increases the attention to its results, also because several peculiar features characterize education in Trento context. Among many others, this province displays a larger amount of resources invested in education (CPT, 2019), more widespread ICT technologies in schools, more intense and persistent attention to teachers' professional development, a developed dual system where vocational track is larger¹ and more rooted than elsewhere, ecc. Which features are at the basis of this successful results? What makes Trentino a constantly high performer in the Italian school system? What can we learn from this territory for the national governance of the school system?

In this chapter we will not focus on these research questions, but we will a step back in order to understand if they are meaningful.

We wonder whether the school system in Trentino is really performing better than elsewhere. We focus on two dimensions of performance: average achievement and equity. More precisely, we try to: a) compare more carefully than usual pupils' average performance in Trentino with pupils' average performance in other contexts; b) estimate in Trentino and elsewhere the intensity of unequal performances related to ascriptive characteristics (gender, migration background and parental education).

3. Data and methods

Before focussing on our analytical strategy, some considerations about the common use of INVALSI assessment.

¹ According to ISTAT data about the 20% of students enrolled in upper secondary school in Trentino attend vocational training with the respect to the 8% at national level.

3.1. Preliminary considerations about INVALSI data and their use

After several years of controversies, nowadays national standardized tests are widely considered important to ensure transparency to the Italian educational system based on school autonomy and to identify improvement strategies in learning. The INVALSI tests can signal imbalances and macro-disequilibrium between various regions of the country, for example, those between the North and the South (INVALSI, 2021) and can show hidden fragilities between the implicit and explicit scholastic dispersion (Ricci, 2019); nonetheless, they do not have the objective to draw up rankings among teachers or scholastic institutions, and not even among regions or provinces. What happens in reality is that rankings are widely used and highlighted by press releases by the school authorities at the regional or provincial levels and resumed with clamour by the various media, especially when results are positive, such as in the case of Trentino, or negative.

The attention to rankings, in public debate, comes at the price of oversimplification: a grand quantity of contextual factors (i.e. the conditions in which schools operate, the background of the students, the alumni outcomes throughout the years) are not considered in the mean scores displayed for a list of regions or provinces. Even less attention is played to other crucial outcomes coming from INVALSI assessment, such as the added value of each school; the results of each student to the answers, item by item, of the questions and, the levels of the students expressed in a qualitative manner (De Simoni, 2018). INVALSI also puts at disposition practical guides to explain the level of competences that the students are expected to attain to demonstrate and develop the abilities on the basis of the INVALSI frameworks (Ricci, 2020). This is the part more important and significant to the scholastic world deriving from INVALSI assessment, but the one remaining submerged in the public discourse, much more focused on ranking and exceptionally high or low performances.

In the next pages, we rely on a dataset adding up several years of INVALSI assessments; we will try to take into account the complexity deriving by the choice to use these data to develop comparisons across regions, exploiting a part of the information available in the datasets usually not adequately considered in rankings.

3.2. Analytical strategy

In order to answer our research questions, we focus on INVALSI data collected at 8th grade², the end of lower secondary education, hence the last school level where Trento and other Italian regions are fully comparable and being it the ending point of a relevant part of the education pathway for students. In fact, in Trento the second cycle is based on a dual system in which the vocational track (*Formazione Professionale*) is eliminated and absorbed into the technical one (*Indirizzo Tecnico*) while a broad formation sector is formed from the Vocational Education and Training Courses.

We expect that, after 8 years of mandatory schooling, if the education system is different in Trentino, we should detect at that point its cumulated beneficial effects. Trying to establish a causal inference attributing better pupils' performance to the education system in Trento, we need to move beyond the usual plain averages comparison. In particular, we want to be sure that the higher education performance in Trento is not due to: a) estimates' random variation; b) different compositions of students' populations in Trento and other regions; c) the fact that Trento is a small and uniform territory, usually compared to much larger and heterogeneous regions (such as Veneto, Lombardy, etc.)³.

Regarding the first element (point a), we may rely on large statistical samples⁴ and in addition on the fact that we use INVALSI data for seven school year. These two elements allow us to rely not only on low statistical uncertainty (narrow interval confidence), but also on the longitudinal persistence/randomness of results coming from the comparison.

In order to reduce the risk of attributing to the school system in Trento an effect due to different composition of pupils in this province compared to the other ones (point b), we use OLS regression models controlling the difference between our province of interest with the other ones for four key covariates predicting students achievement, available in the INVALSI da-

² We consider scores corrected for cheating both for Italian and Maths.

³ It should be noted that Trento is part of a region totally distinctive and composed of three entities: the province of Trento itself; the Province of Bolzano; and, the autonomous Region Trentino-Alto, Adige/Südtirol. Such a composition, connected to well-entrenched historical, geographical, and cultural factors, do not permit a homogenous comparative analysis (Marcantoni, 2019) with the other Italian regions.

⁴ The overall samples adding up 7 years are based on 16,215 students for Trento, 275,787 students for the North-East and 94,231 students for the neighbouring provinces (due to slightly variations in the number of pupils filling the Italian/Math assessments, we report here the lowest value for each sample).

tasets, namely: parental education and occupational class, migration background and sex. When the comparison adds up in only one parameter all the school years, models include a dummy variable for each year, in order to capture sample/assessment specificities. The comparison regarding equity relies on the same OLS model, where we added interaction terms (one for each covariate). Finally, about the need to identify a proper geographical counterfactual to Trento province and its pupils (point c), we present a first comparison where the province of interest is compared to the North Eastern part of the country. Clearly this is not satisfying at all, but it seems less arbitrary than comparing Trento to single Regions defined on the basis of mere administrative boundaries. At least, North Eastern regions share common features in terms of socioeconomic contexts (Bagnasco, 1977). We would have liked working on the administrative boundaries, focussing our analyses on schools in towns located immediately in or out the province of Trento. Unluckily, the available data did not allow us to do a proper identification of schools. Hence, we decided to reduce the distance between Northern regions and Trentino, both in terms of socioeconomic contexts and their variability, identifying a control group based on pupils studying in only five neighbouring provinces (Belluno, Brescia, Vicenza, Verona and Bolzano, limited to the Italian speaking subpopulation). Figure 1 shows the location of these provinces compared to Trento (in black): the darker is the shade of grey, the larger is the percentage contribution of each province to the control group sample. In addition, in the map, also all the other provinces belonging to North-East are coloured in light grey.

To conclude the methodological session, we present the main specification of the OLS models presented in the next section:

$$y_i = \alpha + \beta_1 Area + \beta_2 \mathbf{X} + \beta_3 \mathbf{W} + \varepsilon_i \quad (1)$$

Where represent the outcomes (i.e., Italian and Maths score), Area is a dummy variable that assumes value “1” for the province of Trento and “0” for the counterfactual area (i.e., North-East and neighbouring provinces)⁵. \mathbf{X} stands for covariates at individual level (parental education and occupational class, migration background and sex) and the year of the survey, while \mathbf{W} considers class and school size. As stated above, the equity issue will be considered looking at the interaction between the variable “Area” and the individual characteristics:

⁵ As a benchmark we will also consider the rest of Italy as a comparison group.

$$y_i = \alpha + \beta_1 Area + \beta_2 X + \beta_3 W + \beta_4 Area \cdot X + \varepsilon_i \quad (2)$$

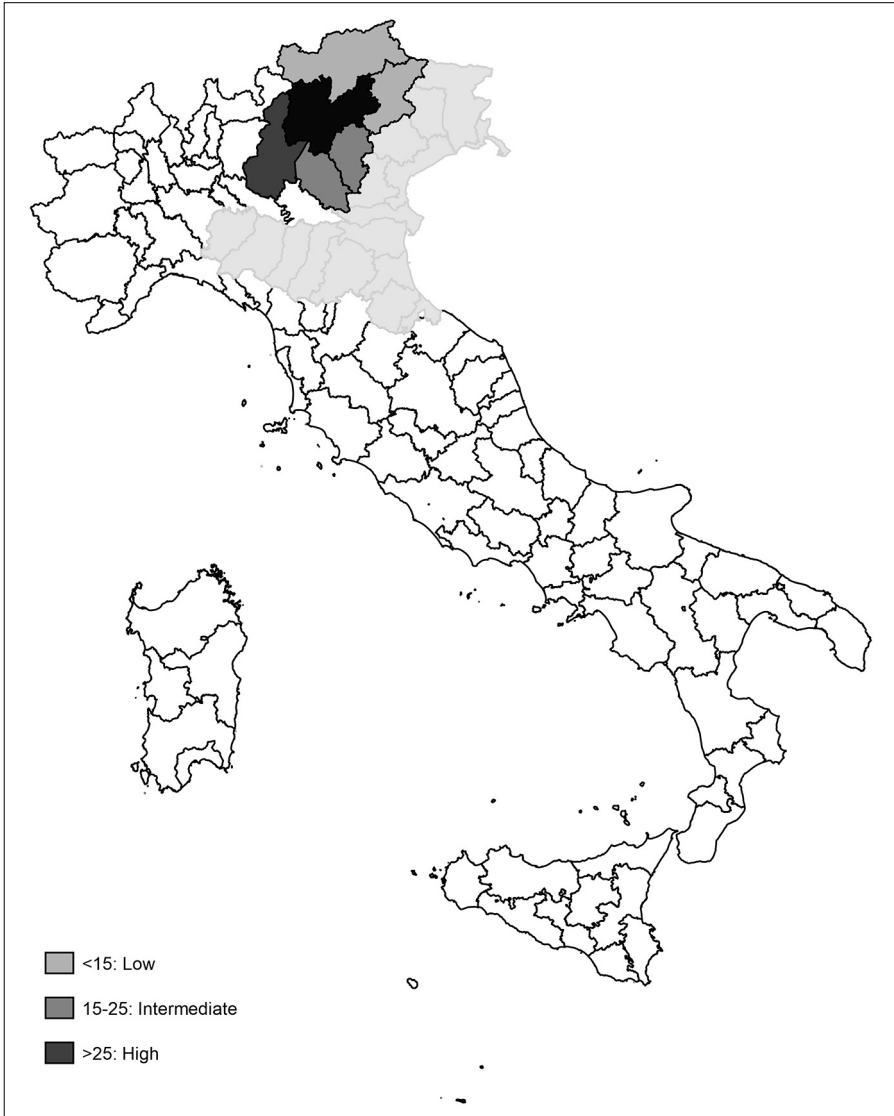


Fig. 1 – Trento province (in black), compared to the neighbouring provinces and to the overall North-Eastern region

Note: neighbouring provinces are coloured accordingly to their percentage contribution to the overall control sample size. The rest of North-East is coloured in pale grey regardless of sample size.

4. Results

In this section we will show the main results emerging from our analysis. We will start presenting a set of descriptive statistics with the aim of stressing similarities and difference of the province of Trento with the neighbouring areas.

4.1. *Descriptive evidence*

In this subsection we compare the province of Trento with the different areas defined in the methodological section (i.e., the rest of Italy, the North-East and the neighbouring provinces) on the basis of the following indicators: the INVALSI score in Italian and Maths; the unemployment rate and the educational level of the resident population. The INVALSI scores represent the main outcomes of our analyses, while the other two indicators can provide useful information about the characteristics of the contexts under scrutiny. More precisely, unemployment rate is used as a proxy of the economic situation, while the educational level of the population serves as a proxy of the cultural environment. These are two macro characteristics that can affect the students' performance on the INVALSI scores (Tab. 1).

The INVALSI scores confirm what is known in literature (INVALSI, 2019) and that the province of Trento performs much better than the rest of the country (Tab. 1)⁶. The difference shrinks dramatically when Trento is compared with the North-East and with the neighbouring provinces. In fact, for both the scores Trento is just above Brescia, Bolzano and Verona and for Maths the score is also higher than the one observed in the province of Vicenza. These simple descriptive statistics point out that the province of Trento does not seem to outperform even the surrounding areas.

From Table 1 we can notice that the unemployment rate in the province of Trento is lower than in the rest of the country and in the North-East. The picture changes once we look at the neighbouring provinces: only the province of Brescia performs worse than Trento.

⁶ It should be stressed that we are using INVALSI census data on the entire student population.

Tab. 1 – Descriptive statistics

<i>Year and indicators</i>	<i>TN</i>	<i>Neighbouring provinces</i>					<i>North-</i>	
		<i>BL</i>	<i>BS</i>	<i>BZ</i>	<i>VI</i>	<i>VR</i>	<i>East</i>	<i>Italy</i>
Italian score 2014-2019	200.5	202.9	199.4	192.6	202.3	200.4	200.8	196.1
Maths score 2014-2019	207.9	208.4	202.0	201.6	207.2	204.0	204.7	196.8
Unemployment rate 2014-2019	6.0	5.5	7.1	3.5	5.6	5.7	6.6	11.4
<i>Educational level (2019)</i>								
At least a secondary degree	82.4	78.5	67.3	80.0	73.7	75.2	75.4	71.4
Tertiary degree	28.8	23.5	20.6	21.7	22.2	24.4	25.7	24.6

Legend: TN = Trento; BL = Belluno; BS = Brescia; BZ = Bolzano; VI = Vicenza; VR = Verona.

Note: the descriptive statistics are calculated for the period preceding the COVID-19 pandemic.

Source: the Italian and Maths scores are calculated using census INVALSI data, while the unemployment rate and the educational level of the population has been obtained from the ISTAT data warehouse (<http://dati.istat.it>). More precisely, unemployment rate comes from the Labour Force Survey, while the educational level of the population from the Census.

The cultural environment is assessed through two indicators: the share of people aged 25-49 with at least a secondary degree and with a tertiary degree. For what concerns these two indicators, the province of Trento outperforms all the other areas of the country considered in our analyses (i.e., Italy, the North-East and the neighbouring provinces). It has to be stressed that in the past the educational level in the province of Trento was lower than the one observed in the rest of the country. Census data⁷ shows that the province of Trento filled the gap with the other areas of the country only at the end of the Nineties.

To sum up, the province of Trento shows some differences with the areas of the country that could be mirrored in a compositional difference. For this reason, as explained in the methodological section, in the next subsection a set of controls have been added in the models.

4.2. Results from multivariate models: student attainment

The main aim of this subsection is to understand if the province of Trento performs much better of the other areas of the country following the analytical strategy depicted in the methodological section. The results are presented

⁷ See the tables published by ISTAT: <https://seriestoriche.istat.it> (English version available).

in three different ways⁸. First, we examine the overall results pooling together all the waves (from 2014 to 2021). Second, we analyse the difference between the province of Trento and the neighbouring provinces year by year. Third, we look at the potential heterogeneous effects driven by ascriptive factors such as gender, migration background and parental education.

Table 2 reports a set of models regarding the scores on the Italian and Maths tests⁹. More precisely, we carried out three specific comparisons: Trento vs Italy; Trento vs North-East; Trento vs neighbouring provinces. For each comparison we estimated two nested models (for a total of six models). The first one (Model 1) controls for the year of the survey and for individual covariates, while in the second one (Model 2) are also added the class and school size¹⁰.

Tab. 2 – OLS estimates on the Italian and Maths scores according to different specifications. Selected parameters

	<i>Italy</i>		<i>North-East</i>		<i>Neighbouring provinces</i>	
	<i>Model 1</i>	<i>Model 2</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 1</i>	<i>Model 2</i>
<i>Italian</i>						
Coeff.	0.076***	0.076***	-0.020**	-0.013	-0.018*	-0.015
SE	0.008	0.009	0.009	0.009	0.009	0.010
<i>Maths</i>						
Coeff.	0.243***	0.240***	0.076***	0.081***	0.067***	0.067***
SE	0.011	0.011	0.011	0.011	0.011	0.011

Legend: Coeff. = regression coefficient; SE = standard error. Standard error clustered at class level.

The first part of Table 2 is devoted to the score on the Italian test. When the province of Trento is compared with the rest of Italy, the regression coefficients are positive and statistically significant across all the specifications, meaning that Trento’s students obtain on average better scores on the Italian test that

⁸ To facilitate the reading of the chapter, we report only the main parameters, while the full models are displayed in the appendix.

⁹ The score tests are standardized. In this way the regression parameters can be interpreted in terms of standard deviations.

¹⁰ The class and school size are considered in an ad hoc model because their meaning is controversial. On one side, they could be interpreted as a policy tool that can be used to foster the learning process; at the same time, they are also the consequences of contextual demographic characteristics peculiar of each territory (i.e., the size of towns and youth concentration among them).

their peers in the rest of the country. The picture changes completely once the comparison is done with the North-East and with the neighbouring provinces. In these cases, the regression coefficients are negative, and they become statistically non-significant once the school and class size are considered (Model 2). The second part of Table 2 shows the results for the score on the Maths test. In this case, it emerges that the students of province of Trento outperform their peers in all the contexts considered independently from the model's specification. It has to be stressed that the difference is very small once the North-East and the neighbouring provinces are used as a comparison group.

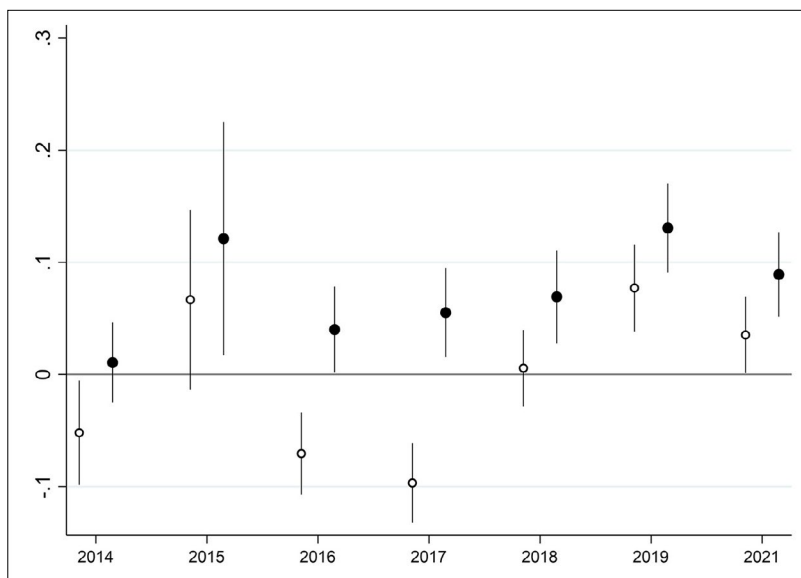


Fig. 2 – OLS models: regression coefficients (and 95% confidence intervals) of Italian and Maths scores for students in the province of Trento compared to students in the neighbouring provinces

Note: filled dots represent effects for the Maths score, while hollow circles represent estimates for the Italian score. The specification used is the one for Model 2.

The second set of analysis is summarised in Figure 2 where the regression coefficients, for Italian and Maths scores, are plotted according to the year of the survey. In this figure, we rely on the specification used in Model 2¹¹ and

¹¹ The size of the coefficients is very close in the two specifications. This implies that school-size and class-size are not a relevant factor in determining differences among geographical areas considered here.

we compare Trento with the neighbouring provinces. To us, this is the most relevant comparison to understand if the Trento's peculiarity really exists. The results for the Maths score are consistent over time. In fact, students in the province of Trento show always better results than the ones residing in the neighbouring provinces, despite their advantage is almost negligible in some years and relevant in others. The findings for the Italian scores are less stable: the province of Trento performs worse than the surrounding area in three (2014, 2016 and 2017) out of the seven years considered. In the last two years (2019 and 2021), the results change dramatically highlighting an overtaking of the students from Trento.

4.3. Results from multivariate models: equity

The last part of our empirical work is reserved to the discussion of another crucial aspect of education performance, namely its equity. We focus on the intensity of social inequalities detected in Trento and in the other regions at the end of lower secondary school: lower differences in students' results due to their ascriptive characteristics are here interpreted as a measure of local school systems' capacity to effectively reduce inequalities. More precisely, we consider the following factors: gender, migration background and parental education.

Figure 3 reports the predicted values, estimated according to a set OLS models (see equation 2 in the methodological section), for these factors in the province of Trento and in the neighbouring provinces. If the province of Trento were characterized by greater equity, we should observe a fanning-in conformation in which the distance between the different social groups tends to reduce passing from the neighbouring provinces to Trento. At a first glance, this kind of conformation is not apparent in Figure 3 and the lines representing the various groups seems to be parallel (i.e., the differences between the province of Trento and the neighbouring provinces are not statistically significant). At a closer look, we can notice a small and statistically significant inequalities reduction for the migration background for what concerns the score on the Italian test. At the same time, there is also a small significant increase in the inequalities in the province of Trento. In fact, the distance on the Maths score between students from well-educated families and those whose parents possess only a lower secondary degree is higher in the province of Trento than in the neighbouring provinces.

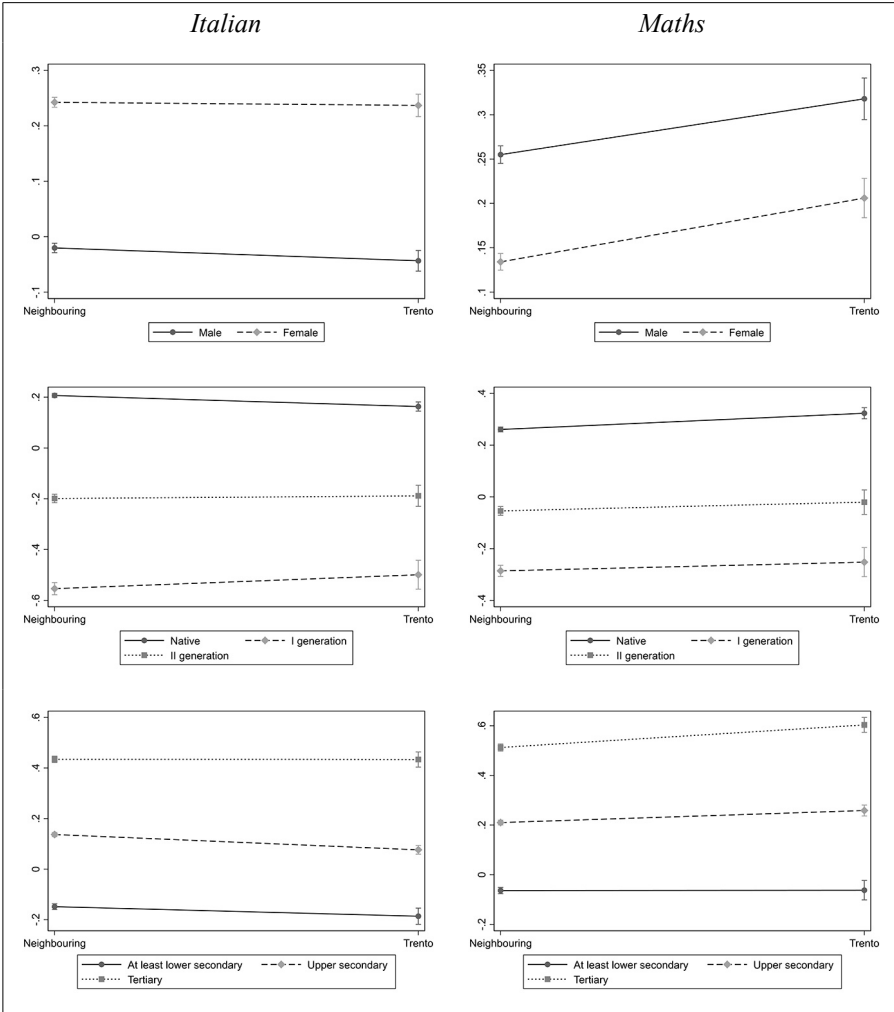


Fig. 3 – Predicted values of Italian and Maths score according to geographical area (province of Trento Vs. neighbouring provinces) and gender, migration background and parental education. The models follow the specification used for Model 2

5. Conclusions

Our chapter intends to draw attention to the potential issues regarding territorial comparison of students' achievement on standardized tests and to the policy implications deriving from the differences between Italian regions and provinces.

As explained in the previous sections, we compare the province of Trento with the whole country and with surrounding areas at the end of lower secondary schools (8th grade students). If Trentino is confronted with the surrounding provinces (Belluno, Vicenza, Verona, Bolzano and Brescia) one realizes that in these areas the average results in Maths and Italian between 2014 and 2019 are not extremely distinctive. As far as the province of Trento is concerned, upon which is focused this research, in some annual statistics for grade 8, the results for the Italian language are actually inferior to those of the surrounding areas, whereas results for Maths are constantly superior although not very significantly. Even in relation to fairness and other factors (gender, family background, migration) Trento does not significantly distinguish itself from the adjacent provinces. As stressed in the methodological section, the best identification strategy should have compared schools in municipalities very closed to the border as done by Battistin and Schizzerotto (2009). This could be the object for future research on this topic to better measure the potential gap in Italian and Maths scores between the province of Trento and the neighbouring provinces. Clearly, this approach would reduce the sample size and further limit the external validity of estimates, but internal validity would be stronger.

A fact is that the territorial areas of the nearby provinces here taken into consideration have better results or are in line with those of North-East Italy, and significantly better than the rest of Italy. From this point of view, one could open an investigation about the excellent performance of this geographical area and we think that this is a relevant further research question for future research.

Taking into account the specificity of the province of Trento depicted in the previous sections, the provincial reflections made concerning the learning of the students and the organization of the scholastic world can be more properly focused. Expanding the look to other circumscribed territories, one can, for example, inquire about learning in the 8th grade so as to maintain a stable level of good results in Italian, without periodic decreases, and how to conserve, maybe by reinforcing, the existing constantly positives ones in Maths.

Our research also shows that in 2021, in the middle of the Covid-19 pandemic, the relative results of Trentino still surpass those of the neighbouring scholastic populations (both in Maths and in Italian). These results are in line with the fact that distance teaching have not caused in Trentino any loss of learning, as instead had taken place in other parts of Italy (Gavosto and Romano, 2021). This positive fact might also be the starting point for a future research project.

As mentioned before, our analyses are based only on the 8th grade, but it has to be stressed that average results of the INVALSI testing study show that in grades 10 and 13 that the learning of the Trentino students is particularly high and superior to those of students in the North-East of Italy. Even the results of the Vocational Education and Training Courses seem better than those of the rest of Italy (Tamanini, Oliviero and Covi, 2021). It would be interesting, therefore, to conduct additional research concerning this phenomenon to understand if a Trentino exception regarding upper secondary education really exists.

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