

The Programme for International Student Assessment and Google: An analysis of online news in Italy

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Abstract

Media reporting of results from the survey conducted by the OECD Programme for International Student Assessment (PISA) have led to far-reaching reforms in many countries. The study on which this article reports analysed how media has responded to the survey results in the national context of Italy. Governments have been suggested to either accept, refuse or renegotiate survey results. Our research elaborated on how information on PISA results were conveyed by searches on the internet search engine Google. A review of 353 contributions published on 127 different online news portals in the period between 2006 and 2018 was analysed, with focus specifically on political communication. An exploratory documentary analysis, using quantitative and qualitative analyses, was conducted for identifying the most recurrent themes. News from four online news portals that recorded the highest number of contributions is analysed in depth, namely: *Corriere della Sera*, *Il Sole 24 Ore*, *La Repubblica*, and *Orizzonte Scuola*. Our analysis suggests that the message about PISA results transmitted by the media was neither rejected nor renegotiated in news, nor by those who contribute to political debates. Nor can the message be understood as accepted since a well-informed active process of public debate in the media and among the political decision makers has not taken place.

1 | INTRODUCTION

One of the most successful initiatives in the field of education by the Organisation for Economic Cooperation and Development (OECD) is the Programme for International Student Assessment (PISA). The wide attention received by this survey has led to a strengthening of the influence of the OECD in education policies (Lingard, Martino, Rezai-Rashti, & Sellar, 2016; Morgan & Volante, 2016; Volante & Fazio, 2017). Many important authors have defined this type of influence as a form of “soft” government able to influence the education policies adopted by various countries (Kamens, 2013; Meyer & Benavot, 2013; Pereyra, Kotthoff, & Coven, 2011).

The present contribution investigates the media impact of the PISA survey in the Italian context by analysing a review of news from 2006 to 2018. Google, one of the most frequently used internet search engines, was used for the selection of news. Particular attention was given to political articulations in statements commenting on PISA data and reactions to the communications offered by the OECD's governing bodies.

The following section offers a brief overview of the history of PISA, starting with how the survey was received in Italy and other countries. Subsequently, we characterise how the media presented the PISA message and present how and to what extent the politicians received the message. Methods used for review and analysis as well as research questions are presented. The results of our analysis show that online news and contributors to political debates online in the context of Italy have not engaged with the PISA survey results by accepting, rejecting or by efforts to renegotiate survey results. The article concludes with a critical discussion on what we observe to be a discourse on PISA survey results that has not, in the context of Italy, been informed by public opinion but has been created by the media and political decision makers alone.

2 | NOTES ON THE PISA SURVEY IN ITALY

Among large-scale comparative investigations, PISA is the most widely known by policy makers and the public. Nevertheless, the results of the first edition of the survey, PISA 2000, received little attention from the media and political decision makers in Italy. In many countries, including Germany and Denmark, the presentation of the PISA report in December 2001 was followed by, what the media has referred to as, a “PISA shock” (Egelund, 2008; Ertl, 2006; Niemann, Martens, & Teltemann, 2017; Waldow, 2009). In Italy, similarly to France and Spain, the report did not cause a strong reaction; however, more interest was accorded to subsequent PISA surveys, especially in contexts more sensitive to the culture of evaluation (Engel & Rutkowski, 2014). This interest has manifested itself in a variety of ways in Italy. When the information on the sensitive topic initially started to spread, the local media played a role in diffusing the news. In 2005, the Ministry of Education, University and Research (MIUR) organised the National Conference on the outcomes of PISA 2003, highlighting the poor performance of Italian students. After the conference, we saw an increased interest in the PISA outcomes by political decision makers in the central administration: with the support of European National Operational Programs (PON) funds, regions in northern and southern Italy took part in the oversampling of the 2012 survey.

During the first ten years of the new millennium, the lack of an assessment system in Italy became an issue on the agenda (Muzzioli, Poliandri, Quadrelli, & Romiti, 2012). At the same time, the growth in attention to PISA has supported the view, in Italy and elsewhere, that large-scale international surveys provide relevant information on student competence.

In 2009 and 2012, the PISA oversampling was carried out throughout Italy at the regional level, which made it possible to compare the outcomes of the different local areas. The earlier surveys were mainly aimed at defining a comparative ranking. Then, the researchers began to investigate more specific issues in a secondary analysis, such as issues related to immigration, gender differences, and vocational education and training. Media began to report on the various OECD research reports and thematic syntheses of data and related insights. Since the 2015 PISA

survey, following the implementation of the National Institute for the Evaluation of the Education and Training System (INVALSI), the PISA survey returned to an exclusively national type of sampling.

Well before the PISA survey, Italy had participated in many large-scale surveys. In particular, the long-standing surveys organised by the International Association for the Evaluation of Educational Achievement (IEA) since the first edition of the Six Subject Survey (1971) and the subsequent Trends in International Mathematics and Science Study (TIMSS) and Progress in International Reading Literacy Study (PIRLS) surveys. These investigations, however, have remained largely confined to the attention of researchers and academics (Damiani, 2016). PISA should be recognised at the national level for having paved the way for student performance evaluation. The role of PISA today has in Italy been partially replaced by the implementation of the INVALSI tests. The INVALSI tests draw on census data for students (ISCED levels 1–3) and offer a comparatively greater degree of detail on outcomes at the student, school and territorial levels.

3 | PISA, THE MEDIA AND POLICY DECISIONS

According to the categories proposed by Pons (2011), the message transmitted by the PISA results through the media can be accepted, refused or renegotiated by individual governments. In general, the PISA results have been used to legitimise or delegitimise pre-existing positions by political decision makers (Novoa & Yariv-Mashal, 2003). The results of the PISA surveys have been disseminated in different ways: through the direct and institutional channels of the OECD or through indirect channels, that is, on web portals. Both direct and indirect sources of information can influence the type of reforms or policies undertaken by policy makers, to greater and lesser degree. As mentioned, in some countries, such as Germany (Bieber, Niemann, Martens, & Teltemann, 2015; Ertl, 2006; Niemann et al., 2017; Waldow, 2009), Denmark (Egelund, 2008) and Poland (Białecki, Jakubowski, & Wiśniewski, 2017), the media clamour introduced by the PISA was immediate and subsequent to initial reports. In other countries, such as Norway and the United Kingdom (Hopfenbeck & Gorgen, 2017), Japan (Tasaki, 2017), Spain (Tiana Ferrer, 2017) and Portugal (Carvalho, Costa, & Gonçalves, 2017; Pons, 2011), the effect of PISA was perceived with more delay, after consecutive iterations of the survey. In Italy, a series of studies have shown that political reforms following the influence of PISA have been few in number, especially when compared to other countries (Breakspear, 2012; Damiani, 2016). Italy experienced a situation of political uncertainty between 2000 and 2018 with more than eleven different ministers of education. It is within such a politically fragmented framework that a series of reforms have been carried out in the Italian education system. It is difficult to say to what extent the reforms initiated have been influenced by the PISA results. Breakspear (2012) places Italy among the countries that, although with lower performances than the average of the OECD countries, demonstrated a weak political response to the results of PISA.

The media response to PISA results in Italy can be analysed. The first institutional reflection in a public document reported by the media is from September 2007. In 2007, with the “*Quaderno Bianco sulla scuola*”, the Presidency of the Council of Ministers analysed the system of education and training and emphasised the lights and the many shadows and summarised the political line adopted by the then Prodi government in that field (MIUR, 2007). This document explained the internationally comparatively weak results of Italian students. It explained also the differences in performance among fifteen-year-old students in northern and southern Italy. PISA results were invoked also in the national guidelines for high school reform in Italy; notably, an explicit reference to the theoretical framework of mathematics in the PISA survey (INVALSI, 2012). We have not identified any further policy initiatives, laws or regulations conveyed by institutional documents that clearly refer to PISA outcomes, with the exception of the National Operational Programme funding from the European Union. Neither media articulations nor political articulations introduced critical or reflective elements regarding the methodologies, content or results of the PISA study. Media in other countries have been critical of the methodology and the content of the survey. For example, media in the United Kingdom and in the United States have been critical of the global

competency test, which is part of PISA 2018 (BBC News, 2018; Business Insider, 2018; iNews, 2018; The PIE News, 2018). The press reports that the United Kingdom and the United States together with Germany, France, Denmark, the Netherlands, Finland and Ireland decided not to participate in the global competence test. The latter will participate only in the testing of science, mathematics and reading unlike Scotland, Australia, Canada and another 24 fully participating countries. Some of the media reported in the United Kingdom and the United States on statements made by decision makers who, in their reading, were supported by a clear scientific and methodological orientation. This gives the impression that policy makers, before offering statements, consult experts in their own entourage. The decision to not participate in the global competence test responds to a precise theoretical approach that considers the “soft skills” measures that are still difficult to analyse with respect to the more established cognitive skills methodologies (Gutman & Schoon, 2013).

4 | HOW GOOGLE SELECTS AND PRESENTS NEWS

Before proceeding with a presentation of objectives, methodology and results, we outline the modalities according to which the internet search engine Google selects and reports publicly accessible news. The results displayed in the internet application Google News are selected, unless otherwise indicated, by computer algorithms that determine which results to display and in which order. Google and other online search engines use “crawlers”, software that analyse and scan the internet and websites, that evaluate the reliability of news and select information on the basis of the following:

- quality information on topics that are important and of interest to the reader; in this case, the geolocation of the user has a specific weight in selecting the articles written in the same local context
- real news written with journalistic standards and not masked by advertising messages
- authoritativeness and competence to deal with the subject matter of the article
- specific information on the site, Google links report parameters such as contacts (physical persons), references the headquarters and, in the case of online newspapers, the editorial staff with the names of the employees
- the URL of the articles
- articles exclusively in HTML format (no PDF, Word etc.)
- use of the title tag (h1, h2, h3)
- direct access to the news without having to register

5 | RESEARCH QUESTIONS AND METHODOLOGY

The research question addresses three aspects of our analysis: news content, the role of media and how media communicated public and political implications.

1. What were prominent issues in the news selected by the internet search engine Google? Drawing on the literature, we expected to find urgent issues pertaining to rankings and inequalities in schools.
2. Were news reports subjected to a deeper critical reflection? Alternatively, did they convey messages from organisations such as the OECD in an unaltered way? In line with the literature and our above hypothesis, we expected media reports to present shocking news for engaging readers.
3. What kind of attention did the media accord to public discourses critical of the survey and the survey methods? How did the news report any political reactions to PISA results? Considering the discontinuities in education policy in Italy during the past twenty years, we expected few reports on public opinion and stances taken by politicians.

We have used an exploratory approach in our analysis (Arosio, 2013), an approach used in social research. Our problem formulation aimed at constructing a review of news selected by the internet search engine Google on results of the PISA survey. Each news text was examined in its entirety to identify the prevalent theme present in the contribution. News items were subsequently classified by theme in categories defined by the researcher a priori (Losito, 2007). This approach is common in Italy since the 1960s. Alongside a renewed interest in verbal texts, a new orientation in content analysis has been affirmed with more space for content interpretation. In this approach, news content is understood to represent both linguistic and extra-linguistic content. Text is considered in its entirety using specifically constructed tools for analysis. The focus is therefore not on the linguistic structure but on the overall meaning. Analysis in this vein aims at detecting specific issues in the documents (Losito, 2007).

News items in the time period from December 2017 to January 2018 were selected using the internet search engine Google (www.google.it). The keyword OCSE (abbreviation for Organisation for Economic Cooperation and Development in Italian) and PISA were entered into the search engine. The search produced a total of 353 news texts published between 2006 and 2018. The analysis of the news was conducted in three phases. In the first phase, the selected news texts were systematised for identifying specific themes referring to the PISA survey in the texts examined. We started by classifying the news on the basis of a prevalent theme in the text. Themes were chosen using keywords in the literature (OECD, 2020). We identified 24 themes (see Table 1) and defined content based categories (Losito, 2002). Each news text was assigned a thematic category using prevalence as a criterion (Losito, 2007). Themes were assigned by recurrence of keywords in the text and by interpretation of the prevailing theme by the researcher on the basis of the overall content. A dataset of 353 texts was compiled from the "news" section of the internet search engine Google. The news had been published by 127 different national and local web sources. The progressive number, publication date, name of the publication, and the web addresses for each news article were catalogued. In this way, a matrix of cases by variables was constructed. The first phase (Phase 1) of statistical analyses were conducted on the matrix of cases, outcomes are presented in the section on results. In the second phase of statistical analyses (Phase 2), a selection of contributions was made from the four sources selected by Google as reporting the most news. Google cited for the keywords OCSE and PISA, most frequently, the *Corriere della Sera*, *La Repubblica*, *Il Sole 24 Ore* and *Orizzonte Scuola*. The first three sources are prominent national news outlets. According to November 2017 data from the national media observatory (ADS, 2018) *Corriere della Sera* is the daily newspaper with the greatest circulation in paper and digital editions (300,301) in Italy, followed by the newspaper *La Repubblica* (212,062) and by *Il Sole 24 Ore* (172,293). The fourth most frequently cited news outlet was *Orizzonte Scuola*, a magazine that serves as an important source of information for many teachers. The editorial orientation of *Corriere della Sera* can be described as right-wing, whereas *La Repubblica* represents a left-wing view. *Il Sole 24 Ore* mainly reports on economic news, whilst *Orizzonte Scuola* reports on news focusing on schools and teachers.

In the second phase, we analysed correspondence between categories and information sources, using the technique of reducing dimensions. The latter is a multivariate exploratory statistical analysis technique aimed at analysing the existence of association patterns between qualitative variables. The objective of the correspondence analysis was to identify the relationship between the identified thematic areas and the news source in a table that shows a reduced dimensional space, at the same time describing its characteristics (De Lillo, Argentin, Lucchini, Sarti, & Terraneo, 2007). The latter is a multivariate exploratory statistical analysis technique aimed at analysing the existence of patterns of association between qualitative variables.

6 | ANALYSIS AND RESULTS

6.1 | Themes and news sources identified

Among the 24 categories identified (Table 1), the rankings of the overall performance of the students represent the topic of greatest interest for the 127 journalistic sources (41 news out of 353, that is, 11.6% of the total). Two

TABLE 1 Thematic categories, absolute values and percentages by news outlet

	Keywords	V.A.	%	Corriere della Sera	La Repubblica	Il Sole 24 Ore	Orizzonte Scuola
1	Ranking	41	11.6	5.30%	19.30%	26.60%	14.30%
2	Inclusion	35	9.9	10.50%	9.70%	3.30%	10.70%
3	Financial education	31	8.8	1.80%	6.50%	10.00%	
4	Student well-being	30	8.5	3.50%	6.50%	13.60%	7.10%
5	Orientation	23	6.5	8.80%	3.20%	10.00%	7.10%
6	Territorial differences	18	5.1	3.50%	6.50%		3.60%
7	Maths	16	4.5	8.80%		3.30%	
8	Teachers and personnel recruitment	17	4.8	3.50%	3.20%	3.30%	17.90%
9	Foreign school policies	16	4.5	8.80%	3.20%	3.30%	7.10%
10	Digital	15	4.2	4.70%	3.20%	3.30%	
11	School politics	14	4	3.50%	3.20%	10.00%	
12	Methodology	12	3.4	5.30%			7.10%
13	Gender	11	3.1	14.00%	9.70%		
14	Drop out and school delay	10	2.8	1.80%	9.70%		3.60%
15	Reading and Italian language	10	2.8	3.50%		3.30%	
16	Private schools	9	2.5		6.50%		3.60%
17	University	9	2.5	7.30%		3.30%	
18	Fake news	7	2			6.70%	3.60%
19	School homework	7	2	1.80%	3.20%		10.70%
20	Collaborative problem solving	6	1.7		3.20%		
21	School-work alternation	5	1.4				3.60%
22	Others	4	1.1	1.80%	3.20%		
23	Inequalities	4	1.1	1.80%			
24	Environment	3	0.8				
	%		100.00%	100.00%	100.00%	100.00%	100.00%
	Total	353		57	30	31	28

Source: Table constructed by authors using data collected online in 2018.

closely related issues immediately follow, namely, the themes linked to inclusion and student well-being (35 and 30 occurrences, respectively). The focus on inclusion reflects a cultural tradition of great sensitivity in Western countries and, in particular, in Italy regarding this specific theme. This theme is reflected in innovations introduced by the OECD in relation to student welfare issues (OECD, 2017).

Financial education finds a specific space in the PISA survey starting with the 2012 edition, when the countries gained the possibility to integrate a specific survey on this topic. Financial education as a subject of PISA investigation is ranked fourth on the list of the most treated topics (31 occurrences) and is a sign of how economic aspects remain attractive (Meyer & Benavot, 2013). Next, there is the theme of orientation or career choice, practices aimed at helping students to understand their personal inclinations and future professional and scholastic potential. Orientation was ranked fifth among most frequently identified news (23 occurrences). The issue of Italian territorial differences, a point of concern raised by the PISA survey in Italy, was addressed frequently (18 occurrences). Among the disciplines, mathematics is the one that attracts the most attention from news authors (16 occurrences); to a

slightly lesser extent, the PISA is called into question when it comes to the instruction of Italian (10 occurrences). This same investigation in some cases becomes an opportunity to talk about other disciplines (4 occurrences). A limited number of news connected to the discourse on PISA methodologies and techniques (13 occurrences).

6.2 | Sources frequently identified by Google

We observed different thematic and topical foci among the four newspapers selected by the search engine (Table 1 and Figure 1). *Corriere della Sera* was the source with the highest number of news (57 out of 353) and with the largest variety of topics covered (19 out of 24). This online news portal addressed not only gender issues (14% of news texts) and inclusion (10.5%) but also to school policies implemented in other countries (8.8%), mathematics (8.8%), guidance issues (8.8%) and universities (7.3%). For *La Repubblica* (30 out of 353 news texts), a variety of 16 out of the 24 issues were identified; in this case, the focus of the topics was on rankings (19.3%), gender (9.7%), dispersion (9.7%) and school delay (9.7%).

Among the four news portals, *Il Sole 24 Ore* addressed the rankings most frequently (26.6% of 31 news texts); subsequently, the well-being of students (13.6%); followed by financial education, orientation, and foreign school policies (10%). Finally, *Orizzonte Scuola* (28 news texts) connected the PISA survey to teacher and staff recruitment (17.9% of contributions), rankings (14.3%) and homework (10.7%). Like *Il Corriere della Sera* and *La Repubblica*, it paid specific attention to the theme of inclusion (10.7%).

Figure 1 illustrates the distances measured with the data reduction technique offered by the correspondence analysis; a visual representation of the distance or proximity of news sources to the thematic categories. As illustrated, the daily newspaper *Il Sole 24 Ore* is positioned at equal distance in relationship to each of the thematic subject areas. A comparatively more accentuated position, therefore more distant to some subject areas, is shown for

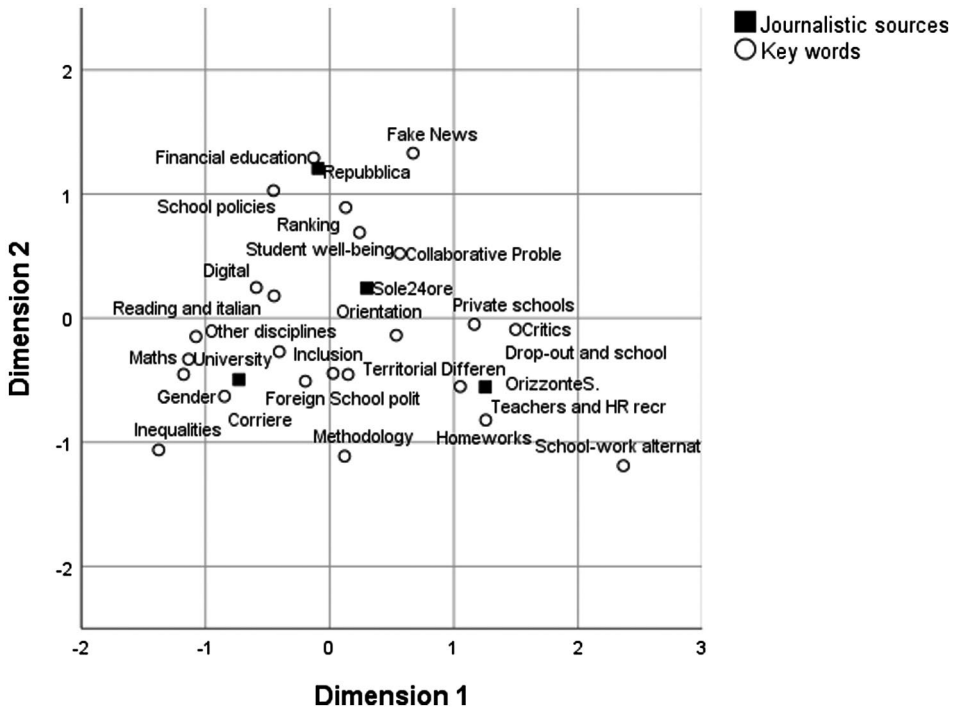


FIGURE 1 Chart of the correspondences between the thematic categories and sources of information.
Source: Chart constructed by authors using data collected online in 2018

the other three providers of news. This is the case in particular for the daily newspaper *Il Corriere della Sera*; which is sensitive to gender issues and issues related to universities; appears distant from the discussion of fake news and work to school alternation. *La Repubblica*, in turn, is close to the subject of rankings and financial education but holds a distanced position to issues most related to the daily life of students, such as homework or school-work alternation. *Orizzonte Scuola*, on the other hand, is very close to the topics of teachers and the daily life of students but holds a more distant position to subjects related to financial education or universities.

Correspondence analysis was used for summarising the information in the data matrix and to identify factors underlying the representation of data. This technique of multivariate data analysis is known as dimensional reduction. The data reduction technique identifies two main components that represent news portal profiles (Table 2). A specific objective of the correspondence analysis was to describe the relationship between two nominal variables in a table of correspondences from the one-dimensional space. For each variable, the distance between the points of the thematic subject categories was defined and represented in a graph that illustrates the relationship between categories with similar characteristics.

TABLE 2 Analysis of correspondences for the four news sources

	Teacher professionalism: in the short term vs. in the long term	Processes vs. Output
School-work alternation	2.365	-1.189
Other disciplines	-0.406	-0.271
Environment		
Student well-being	0.240	0.690
Expertise		
Homework	1.256	-0.822
Territorial differences	1.497	-0.092
Digital	0.148	-0.454
Inequalities	-0.591	0.247
Drop out and school delay	-1.376	-1.061
Teachers and personal recruitment	0.536	-0.138
Financial education	1.051	-0.551
Fake news	-0.129	1.291
Gender	0.671	1.330
Ranking	-0.847	1.008
Inclusion	0.129	-0.630
Italian and reading		
Maths	0.027	-0.445
Methodology	-1.076	-0.149
Orientation	-1.176	-0.453
Private schools	0.120	-1.113
School policies	-0.448	0.179
Foreign school policies	1.164	-0.050
Collaborative problem solving	-0.452	1.027
University	-0.196	-0.508
Total	338	100.0

Source: Table constructed by authors using data collected online in 2018.

With the support of the SPSS-IBM statistical software programme (version 25), the interval for the category codes was defined (24 for the keyword variables and 4 for the news portals). A model with a two-dimensional solution and a distance measurement based on a chi-square test with a symmetric normalization method was chosen. The two extracted dimensions led to a cumulative explained inertia percentage equal to 78.6%, while the chi-square independence test was equal to 86.94, with a significance equal to 0.071. Table 2 shows the values for each component that are useful for identifying and describing the latent dimensions. Positive values in cells highlighted in dark grey saturate and denote one end of the component. Negative value cells in light grey saturate the component at the other extreme and define the opposite characteristics.

The two extracted components were defined as follows. The first component, defined as “Teacher professionalism in the short term vs. in the long term” collects, on the one hand, the thematic subject categories related to teachers and staff recruitment, school-work alternation (2,365), homework assignments (1,265), territorial differences (1,497), the work of private schools (1,164), and financial education (1,051). At the other end of the component, attention is paid to the categories of drop-out and delayed schooling (−1,376), methodologies (−1,076), orientation (1,176), and rankings (−0,847) (Table 2). This component encompasses two different perspectives. The first perspective focuses on teacher professionalism and the impact of teacher professionalism on classroom activities in the short term. The focus of teachers is on the daily activities in which the students are involved. The second line shows that comparatively greater attention was accorded to the long-term effects on the skills of students, or the end of studies when students match their skills to the labour market and the university. These are different perspectives regarding the education of students.

A second component, identified as “Processes vs. Output”, categorises to an extreme level the issues of school-work alternation (−1,189), homework (−0,822), private schools (−1,113), and inequalities driven by dropping out of school and delayed schooling (1,061). At the other extreme end are the issues of collaborative problem solving (1,027), fake news (1,291) and gender (1,330) (Table 2). This component, more than the other components, as previously seen, highlights that the attention of newspapers is on teaching methods used in the school and on the treatment of inequalities in education. On the other hand, the component accords attention on the effective ability of students to know how to move in a complex and competitive world, in which it is necessary to select the most important information. Gender was one of the thematic subjects addressed in our analysis.

6.3 | Some reflections on the content of the news

The content of the news reveals how, in most cases, the news coincided with the issuance of OECD reports; or, followed official statements made by members of the OECD regarding new survey findings. Often, news authors reported faithfully the information as presented by the OECD; little or no interpretations of the information received were provided. Only ten contributions—a minority of articles—articulated the news in a more complex way. Six out of these were from the selected four news portals. This suggests that news rarely offered an interpretative framework in addition to communicating the news itself. In some cases, the tendency not to contextualise the news led to an incorrect or a misleading message. By the end of March 2017, for example, the OECD presented the results of a report on inclusion in education for each participating country. The OECD statements indicated that the difference in performance among students in Italy has been reduced compared to other countries. Following this, several news articulations proposed that the Italian education system was much more equitable than other systems. In reality, the low differential in performance is driven by the levelling down of the poor performance of Italian students. On 29 March, 2017, immediately after declarations from the governing bodies of the PISA survey, a series of titles were published on news channels, including the following:

The Italian school is the most inclusive in Europe: it reduces the gap between the rich and the poor
(*La Repubblica*)

The OECD promotes the Italian school (*Il Corriere Nazionale*)

The school reduces disparities. But the poor are left behind (*Il Corriere della Sera*)

OECD promotes the Italian School (*Ansa.it*)

Italian schools: reduce the gap between the rich and poor, says the OECD survey (*affari italiani.it*)

OECD, Italian schools are some of the best in Europe: they are inclusive and better support the less fortunate (*Tuttoscuola.it*)

In the following days, the most attentive sources corrected their interpretation, in some cases reporting the details as presented by the OECD, or interpretations made by expert researchers belonging to the scientific community. Still, a quick reading of the titles alone may have contributed to distorted views among readers. Some news outlets seemed more sensible than others and offered correct information supported by data for starting a constructive debate, this was the case for *Tuttoscuola*, *Il Sussidiario* and *Il Sole 24 Ore*.

Our analysis indicates that an informed point of view seemed to be missing in the reviewed articles. A point of view that, in addition to the opinions or statements of the OECD, would reflect interpretations and analyses offered by the scientific community. For example, the online news portal *comune-info.it*, a local newspaper, addressed the theme of attractiveness and well-being in schools. The subject is very controversial in the scientific community, nevertheless, reporting was provided on this theme without offering structured information for supporting a critical position.

If in the country an autonomous thought flourishes in our formative system, far from chasing others and from the tests of the OECD Pisa, perhaps we would be able to offer a remedy: it is not a question of adjustments or correctives, but radically new thoughts, which need space to breathe and time (...) If the school does not like it, it's not because our kids are all Pinocchio or Lucignolo. The first question to ask and to answer is why is the way of studying that we offer in our classrooms not able to motivate the pleasure of learning? Nor should we fall into a kind of poorly digested activism; so, to make the pill less bitter, games and diversions are invented, but the substance of teaching is still the same. (*comune-info.it*, 8 April, 2016)

Other news outlets supported positions that, although legitimate, were not supported with information about the methodologies and techniques used in the PISA survey.

That's why the tests (...) should be abolished. The reasons are many but they can be ultimately summarised in two points: first, through these tests, the territorial non-homogeneity of cultural agents is not taken into account. This inevitably produces differences between pupils belonging to completely different school contexts; in this case, the school that is in a disadvantaged and culturally deprived neighbourhood becomes disadvantaged by the test. (*Orizzonte scuola*, 26 May, 2017)

In the last excerpt, the issue of contextualizing student performance is based on the socio-economic and cultural context of reference. Although the question is objectively complex from a scientific point of view, the source of information does not report on how the PISA survey has been presented and how it has faced, since the very first editions, the question of the contextualization of performance with respect to socio-economic disadvantage. In particular, the index of economic, social and cultural status (ESCS) which is an indicator built and used precisely to respond to the need to keep in mind contextual factors when defining the performance of the students (OECD, 2016b).

7 | CONCLUSIONS

The OECD, as a supranational body, is at the centre of a vast international debate precisely because it exerts ever greater influence on national governments in matters of education and training. However, it is very difficult to say to what extent the results of investigations such as the PISA survey actually influence policy decisions (Decataldo & Fiore, 2018). The Italian case seems to have several common features with the French and Spanish situation where politicians barely and infrequently follow scientific research indications. This is particularly problematic, especially in a country such as Italy, where it is possible to find a very limited number of institutional documents using empirical evidence to justify political proposals (Meyer & Benavot, 2013; Michel, 2017; Morgan & Volante, 2016).

On one hand, the online news portals mediate information on the results of the PISA survey; on the other hand, they produce the information. Online news serves for this reason an indicator of the debate that can be established among the various actors. Pons (2011) invites us to reflect on how the message transmitted by the PISA survey can be accepted or renegotiated by political decision makers in participating countries; and how this message can then be used to initiate possible reforms. News of PISA survey results are reported in the media in Italy, as in many other countries. However, our analysis demonstrated that media in Italy tend to reiterate OECD sources, rather than interpret the sources by supporting them with other sources of information. The complexity of an investigation such as the PISA survey was simplified in media representations. The lack of in-depth analysis manifested frequently in the form of incorrect or misleading news titles (Fernández-Aliseda Garrido, 2016).

This issue is particularly noteworthy when taking into consideration that news titles contribute to constructing the common opinion of those who do not have the opportunity to obtain a deeper understanding of the issue by reading the entire article (Dixon, Mullers, Arndt, & Hood, 2009). Following the expansion of social networks online, the use of short and simplified titles risk undermining debates based on multiple perspectives and a solid scientific basis (Tiana Ferrer, 2017). More space is dedicated to those topics that convey a negative message, stimulating alarmism and emphasising a state of crisis in the national school system (Dixon et al., 2009). Publication of country comparisons that rank Italy as being in difficulty are not met with specific discussions on how to implement possible solutions (OECD, 2016c). Even when the news coming from the OECD appears positive (as in the case of the OECD report of March 2017), the news media do not seem able to reflect on the results. As described above, there is no shortage of media reports internationally that problematise the PISA survey; both with respect to the political choices adopted by governments and with respect to the survey and its characteristics. It should also be noted that some sources, for example in Spain, are now more attentive than in the past to conveying more detailed information on the PISA survey (Tiana Ferrer, 2017).

In the news analysed, we did not find any open debate on the outcomes of the survey. At times, the work of the scientific community on these issues emerges, and it is sporadically consulted by the media, but not systematically to bring the debate to a level that would be more complex and articulated. The lack of political communication, as conveyed by the articles selected by the internet search engine, does not seem to contribute to an informed public opinion, to which the scientific community, if asked, could offer insights and possible answers. To use the categories proposed by Pons (2011), it could be said that the message transmitted by the media was neither rejected nor renegotiated by the news sources and by those who contributed to the political debate; neither were the PISA survey results accepted since there was no reprocessing. For these reasons, we propose that the message concerning the PISA survey results was not informed by public opinion but was created by the media and political decision makers alone.

Our findings point at an overarching theme that is broader than the themes we have derived empirically in this study. A debate is forming in many sectors of the society on the complex relationship between the results of scientific research and the dissemination of results—and therefore the methods of dissemination adopted by the media and new media—and the perception of the use of these results by citizens. This debate is particularly relevant for the education sector. Education and training play an important role in contemporary societies; they constitute the fundamental resources for the development of the individual and the community. Schools are in the centre of a transversal debate and subjected to attention from institutions, the media and the public. Today, everyone is talking about education (Grubb & Lazerson, 2004). Communicating the results of research in education

has therefore become a priority, so that citizens can know the results. Meanwhile, studies on the dissemination of scientific information have, since the publication of the Report on Public Understanding of Science (Millar & Wynne, 1988; The Royal Society, 1985), attached importance to the involvement of the recipients of the communication in an interdependent relationship between science and public opinion. Our findings present a challenge that will require the attention of all actors in education in the years to come.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author.

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