Thematic Article

A Test of the Effect of Denominational Schools in Romania

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Abstract

Studies in sociology of education in recent decades have consistently found an advantage for students in denominational schools - those with religious subordination - in terms of educational performance, compared with those in secular schools. Although in Romania a large part of the students from pre-university education attend confessional schools this advantage has not been investigated for the Romanian case. Taking advantage of the increased validity of the Romanian baccalaureate exam, following the measures from 2011-2012 and the availability of the statistical data regarding the schools in Oradea (Bihor county), we checked whether the hypothesis of such an advantage is confirmed in the Romanian case. Applying bivariate analyzes by type of schools (secular vs. confessional) and by types of tracks of the net pass rates (from the total of the graduates) we find that, although the promotion rates are higher for denominational schools, the support for the hypothesis of an advantage of denominational schools is fragile as much of the difference can be attributed to the academic orientation of denominational schools and to the fact that they succeed, probably, in selecting students with better educational skills.

Keywords: The effect of confessional schools; the Brăila effect; school results

Introduction

In the international educational literature, the differences of school results between students of denominational and public/secular³ schools have been thoroughly investigated and theorized following the finding of a consistent advantage of children in denominational schools compared to students in public schools. This effect, initially referred to as the "effect of Catholic schools", is recorded in the Western countries (see studies by Dronkers (2004) and Pusztai (2007b) which also include data on the East-European countries), especially in children from the secondary cycle - both inferior and superior, but not necessarily in the lower cycles (Carbonaro, 2006) - for all types of denominational schools, not only for Catholic ones. The finding is considered particularly important from a public policy perspective, given that the confessional schools manage to compensate the disadvantage of students from disadvantaged social categories (poor children, children of immigrants, etc.), which transforms them into true models for organizing public schools themselves, the issue of school equity or inequality of opportunities being particularly important in the educational policy debates in all the developed countries.

With all the relevance of this debate, including from the point of view of the educational equity, the issue of the impact of the confessional character of the school on the educational results does not have a large audience in Romania, although, as shown below, in our country there is a relatively large diversity of organizational forms of the compulsory education from the point of view of relations with the confessional structures. In this article we aim to test the hypothesis of the effect of confessional schools at an aggregate level, using data on the promotion rates at the Baccalaureate examination in the high schools from Oradea (Bihor county) in 2015

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³ In the international literature the term public school is preferred as opposed to confessional schools and therefore when referring to the literature we will use the same terminology.

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and 2016 and thus open the discussion on the effect of the confessional schools on the school results of the students in our country.

Context

Confessional education in Romania

Immediately after the change of the political regime in the 1990s at the initiative of some churches or communities of believers were established kindergartens, general schools and high schools which today bear the name of theological high schools. These schools, in addition to the interest of having a specific religious discipline to each cult that set up the school, usually place a special emphasis on achieving a high level in the academic preparation of students for national exams but also on obtaining and developing a climate based on trust, respect and promotion of values, which are specific to religious teachings thus developing a specific social capital.

The regulation that was the basis for the establishment and functioning of the theological schools in Romania, is a general protocol concluded between the Ministry of Cults, under no. 4529/5.06.1990, and the Ministry of Education, under no. 480/5.06.1990, which was completed by the address of the Ministry of Education no. 27121/04.03.1996 and of the State Secretariat for Cults no. 2144/14.02.1996.

Ever since, the Romanian legislation allows and encourages the initiative to set up confessional schools, especially after the appearance of the National Education Law, which allows the public financing of schools regardless of their type according to the number of students enrolled (NEL⁴ article 9, article 15). Since all denominational schools are almost fully publicly financed they are as much public as the secular ones and therefore we consider using the western public vs religious not-appropriate and hence we will use the term 'secular' to refer to schools who do not have a religious subordination. The confessional schools operate in accordance with the legislation in force (article 22 of the NEL) and of the protocols signed by each cult with the Ministry of Education (article 19 of the NEL). According to article 60 of the NEL, the confessional education is organized according to the non-profit principle in pre-university education units, at all levels and forms, according to the legislation in force. The curricula are those elaborated by the Ministry of Education, approved by the order of the minister.

The current legislative context fully ensures the autonomy of the cults according to the Constitution of Romania article 29 paragraph (3), and, according to the provisions of Article 39 paragraph (4) of Law no. 489/2006, it is recognized and guaranteed to the confessional education units a real organizational and functional autonomy, according to their own statutes and practices in accordance with the legal provisions of the national education system.

The confessional schools were and are initiated with a high school class with theological specialization, and they need accreditation for all other specialties and classes of other lower cycles (lower secondary and primary). Most of these schools also have kindergarten groups in their administration.

The confessional schools from Oradea

In Oradea, several confessional schools were established in the years after the events of the 90s, under the coordination of some churches or Christian congregations. Thus we have at this date, the Baptist Theological School "Emanuel" with study formations from kindergarten, primary school, gymnasium and high school, the Pentecostal Theological School "Bethel" with study formations from kindergarten, primary school, gymnasium, high school and post-secondary health school, the Greek Catholic High School "Iuliu Maniu" with study formations from kindergarten, primary school, gymnasium and high school, the Orthodox High School "Episcop Roman Ciorogariu" with study formations from kindergarten, primary school, gymnasium and high school, the "Lorantffy Zsuzsanna" Reformed High School with study formations from kindergarten, primary school, gymnasium and high school, with teaching in Hungarian language, the "Szent Laszlo" Roman Catholic Theological High School with study formations from kindergarten, primary school, gymnasium and high school, with teaching in Hungarian language, the High School "Don Orione" with study formations from kindergarten, primary school, gymnasium and high school, this being a private school under the patronage of a Roman Catholic congregation.

⁴ NEL – National Education Law, Law 1/2011 issued on January 5, 2011.

Theory. The effect of the "Catholic schools"

The advantage of Catholic schools thesis was initially popularized in the 1980s by Coleman and his colleagues (Coleman, Hoffer, & Kilgore, 1982) based on the research data from US schools and stipulated that the Catholic school students have a net advantage in learning compared to the students in public schools. Even after controlling the variables of socio-economic status, race and previous results, the results of students in religious schools presented an advantage. The educational advantage of the Catholic schools has subsequently been found in many other studies and contexts (Dronkers, 2004; Jeynes, 2004). Jensen identified more than 15 years ago, 124 quantitative studies that compared the results of students in religious schools with those of students in public schools. The meta-analysis he conducted on 84 research shows a consistently significant positive impact of the religious schools in both the US and Europe, even though the effects are significantly stronger in the US than in the old continent. The same author resumed in 2008 the meta-analysis including the evaluation of the effect of Protestant schools using a total of 41 studies from all over the world, finding that the net positive effect is even greater for Protestant schools than for Catholic schools (Jeynes, 2008).

Coleman's initial findings and the debates he drew were particularly important as they not only emphasized the educational value of religious variables but also focused the educational discussion on several major topics: researching the school effects, studying the school choices, and investigating the impact of the social capital and of the social inequalities on school outcomes (Agirdag, Driessen, & Merry, 2017).

The explanations for these effects have been numerous, proving the extent to which the topic of the effect of the confessional schools has inspired the research and theorization in the field of determinants of school results. Coleman invoked as an explanation for the effect he found the more functional organization of school communities and those in which the school is integrated in the case of denominational schools, using for this the concept of social capital. Both within the school, but also in the relationships between the school and the community and within the community itself, there is a high network density and a level of social trust larger than the average which has beneficial effects on the results, the education of the children practically becoming a collective action effort at family and community level (Coleman, 1988). There have been also Central European attempts at investigating the issue (Hatos, 2006; Pusztai, 2007a; Pusztai & Bocskai, 2015).

Other researchers have simply rejected the theory of the confessional schools' effect by trying to show that this is a purely statistical artifact determined by a selection effect (Willms, 1985). Many researchers believe that the effect is canceled if we consider that the confessional schools succeed in recruiting better academically and motivationally gifted students attracting them though more rigorously academically oriented programs (Lee & Bryk, 1989; Hoffer, 1997; Duncan, 2007; Hollis, 2009).

Finally, a third widespread thesis on the causes for which the denominational schools have a serious advantage over the public ones is that these schools are more academically oriented and impose more rigorous discipline and rigor than the public schools (Carbonaro & Covay, 2010). Studying longitudinal US data on the results of standardized math tests, the two authors show that almost the entire effect of denominational schools is covered by the increased number of tutorials and other forms of additional mathematics training organized by Catholic schools compared to public schools. These findings are consistent with the traditional mission of the church and confessional schools as a result of helping the people from disadvantaged categories, which probably explains the better school success of the children from various categories of disadvantaged SES – poor people, immigrants, discriminated minorities, etc. (Jeynes, 2002).

The baccalaureate in Romania

The Baccalaureate is one of the two national exams that mark the educational career of a participant in the education system, together with the National Assessment of the 8th grade. While the National Assessment determines the selection at the end of the lower secondary cycle in the upper secondary cycle (the so-called high school), that is in the 9th grade, the Baccalaureate is an eligibility criterion for admission to the faculty being thus decisive for the professional career of those pursuing to graduate from higher education. After a period of intense debate on the incidence of fraud of this examination in the years 2011-2012, drastic measures have been applied to combat the fraud, especially by introducing the surveillance cameras in the examination centers. As a result of these measures, the promotion rates decreased by about 20-30% compared to the previous years and the Baccalaureate examination became a much more valid indicator of the competences and

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knowledge accumulated by the candidates during the high school years, a good measure of the school performance, in other words⁵.

Difficulties in calculating the promotion rates for the Baccalaureate exam

Although it is a seemingly simple process to monitor, the Baccalaureate examination is actually relatively opaque in terms of quantitative description possibilities. An impediment in the correct calculation of the results is the lack of data regarding the number of students from the previous cohorts. In schools that have poor results and do not allow all graduates to participate in the exam in the year of graduation, some of the students will be present in subsequent sessions. On the other hand, it is quite obvious that the students from the previous cycles represent a relatively constant weight in the annual cohorts, which means that the number of those enrolled in the Baccalaureate compared to the total number of graduates of that year is a good approximation of the Baccalaureate enrollment rate.

Another source of inaccuracy in evaluating the performance of schools at the Baccalaureate examination derives from the so-called "Brăila phenomenon". This phenomenon could be explained by the fact that some schools wishing to increase the percentage of promotion and to show progress compared with previous sessions do not allow some of the less academically performant students to enter the exam session by leaving them to flunk in one or more disciplines. The question that arises is how these students promoted in the four years of high school and just on the threshold of the exam they are unable to promote in all disciplines. Thus, we observe a vicious practice for the education system, increasing the artificial promotion rate without actual beneficial effects on the students. Unfortunately for the education system it can be observed that this practice has expanded in almost the whole country, especially after the years 2012, 2013 when the effect of introducing the surveillance cameras appeared.

A large number of schools have used this method to increase the promotion rate and to do well in statistics. This is visible by comparing the number of students who graduated with those who took the exam. This practice has to be kept in mind in analyses because it does not reflect the reality of the school situation of the students and it hides the fact that in the upper secondary cycle no measures were taken to correct the situation and, artificially, these students were promoted until the end of the high school.

Research design and Methods

Hypotheses

Starting from the previous findings, described in the literature review, we expect that, on an aggregate level, the educational results of the pupils in the confessional schools in Romania will be better than those of the pupils in the secular schools. In view of the data and objectives of this research, the operational hypothesis of our study is that the confessional schools in Oradea obtained better Baccalaureate examination rates than the secular schools.

Manifested by actual lower enrollment and participation rates in national exams (National Assessment and Baccalaureate), the Brăila phenomenon will be manifested in our case by lower enrollment rates at the Baccalaureate exam in public schools than in confessional schools.

Data

We used in this article the statistics of the Baccalaureate graduates of Oradea from 2015 and 2016, in both annual sessions (summer-autumn). The data used here to test our hypotheses were obtained from the School Inspectorate of Bihor County. Although the information we process is, theoretically, of public interest, the enrollment rate is not made public, which makes it difficult to detect the phenomenon of the under-enrollment of the graduates in the Baccalaureate examination.

https://www.hotnews.ro/stiri-esential-9280798-bac-2011-cum-aparut-camerele-video-examenele-bacalaureat-cel-putin-9-judete-lipsit-camerele-supraveghere-majoritatea-procentele-promovabilitate-sunt-mari-sau-peste-medie.htm

⁶ It is called this way after analysts started questioning the unusual high promotion rates in Braila, a county in South-Eastern Romania.

Variables

Schools were classified from the points of view of religious subordination, on the one hand, and of tracks and specializations on the other.

Type of school from the point of view of religious subordination:

- Confessional schools: schools in the upper secondary cycle which have confessional administrative subordination. They are high schools whose administration is usually subordinated to a church council and which assigns an important place to religious activities.
- Secular schools: upper secondary cycle schools that do not have confessional administrative subordination.

Of the 24 schools with upper secondary cycle classes in Oradea, almost one third (7 that is 29,17%) have denominational subordination.

From the point of view of the tracks and the specializations, we have classified the schools based on the tracks in which the upper secondary education is differentiated in Romania:

- Vocational: schools with classes with vocational profile
- Theoretical: schools with classes with theoretical profile
- Technological: schools with classes with technological profile
- Mixed: schools with classes with vocational and technological profile
- Mixed 2: schools with classes with theoretical and vocational profile

These labels might be confusing so explaining them briefly is of use for the readers. The theoretical track is explicitly preparatory for higher education and does not provide a professional qualification compared to the other two – vocational and technological. Technological track classes are providing graduates professional qualifications in areas like services (i.e. sales, tourism, accounting) and in various areas of manufacturing or agriculture. The so-called vocational track classes on the other hand are preparing and certifying students upon graduation as low-level technicians in areas like sports, theology, visual arts, music and pedagogy. It is evident that most denominational schools have theology tracks.

Table 1. Number of schools by tracks

Type of school	N
Mixed (vocational + technological)	3
Mixed 2 (vocational + theoretical)	3
Technological	6
Theoretical	8
Vocational	4
Number of schools	24
Secular	17
Denominational	7
Number of schools	24

All schools that offer mixed courses are confessional schools, all of which have classes with theological (vocational) profile alongside which we have theoretical (e.g. mathematics - informatics) or technological classes.

The statistical indicators of the Baccalaureate exam are: the gross enrollment rate, the graduation rate and the graduation rate from the graduates.

- **Enrollment rate** the number of candidates enrolled for the baccalaureate examination reported to the total number of graduates;
- **The Baccalaureate gross pass rate** the number of candidates who passed the Baccalaureate exam reported to the total number of candidates;
- The Baccalaureate net pass rate the number of candidates who passed the Baccalaureate exam reported to the total number of graduates.

Results

The results of the Baccalaureate exam of 2015-2016

In the 2015 and 2016 sessions of the Baccalaureate examination, more than 2000 graduates from the 12th grades were enrolled, while the number of graduates decreased in the two years with more than 400 students, indicating first and foremost the declining demographics from one year to another. At the aggregate level of the two years the enrollment rate was 77%, while the comparison of the two years shows a decrease in the enrollment rate from 79% in 2015 to 73% in 2016.

Table 2. Baccalaureate in 2015 and 2016 in Oradea

Year	Graduates	Enrolled to BAC	Present	Passed
2015	3397.00	2709.00	2659.00	1990.00
2016	2938.00	2171.00	2114.00	1540.00
Total	6335.00	4880.00	4773.00	3530.00

The others were not enrolled for the exam for different reasons; either they did not pass all the disciplines being left to flunk, so they will take the flunked exams before the next exam session, or for other unknown reasons. Both the gross promotion rate (from graduates) and the net one (from those present at the exam) decreased in 2016 compared to 2015.

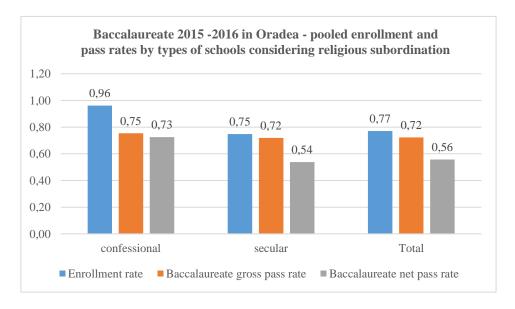
The Brăila effect in Bihor County

At the confessional schools in Oradea out of the total number of graduates of the respective year, 94% enrolled for the examination and only 74% from the secular schools. Statistics show that the confessional schools have resorted to such practices to a much lesser extent, which confirms our hypothesis.

Table 3. Aggregate enrollment and promotion rates by types of schools considering religious subordination (2015 and 2016 pooled)

	Enrollment rate	The Baccalaureate gross pass rate	The Baccalaureate net pass rate
Confessional	0,96	0,75	0,73
Secular	0,75	0,72	0,54
Total	0,77	0,72	0,56

Figure 1. Pooled enrollment and promotion rates by types of schools considering religious subordination (2015 and 2016)

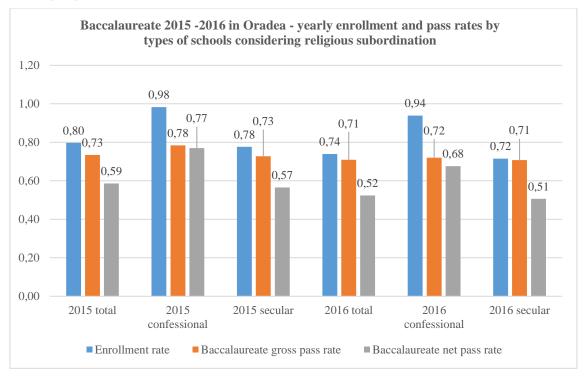


The results of the examination show an advantage for the confessional schools, these obtaining a gross promotion rate of 74% while the average of the results of the other schools in Oradea was of 72%, while the county average was similar in %. The relatively small difference of 3 percentage points between the gross promotion rates of students in confessional schools and those of the students in secular schools is explained by the fact that the participation rate in the Baccalaureate examination is over 20 percentage points lower in the secular schools compared to the confessional ones. By not enrolling 20% of their graduates in the Baccalaureate exam, the secular schools reach promotion rates close to those of the confessional schools. Figure 2 depicts the same data on a yearly basis indicating that the differences between types of schools are relatively constant across the two years.

Table 4. Enrollment and graduation rates for the 2015 and 2016 Baccalaureate exam by types of schools considering tracks (2015 and 2016 pooled)

	Enrollment rate	The Baccalaureate gross pass rate	The Baccalaureate net pass rate
2015 Total	0,80	0,73	0,59
2015 Confessional	0,98	0,78	0,77
2015 Secular	0,78	0,73	0,57
2016 Total	0,74	0,71	0,52
2016 Confessional	0,94	0,72	0,68
2016 Secular	0,72	0,71	0,51
Total	0,77	0,72	0,56

Figure 2. Yearly participation rates and graduation of the 2015 and 2016 Baccalaureate exams by types of schools considering religious subordination



The comparative statistics between the confessional and secular schools suggest a clear advantage of the confessional institutions. Obviously, the various theories that explain the advantage of the confessional schools can be invoked to explain the much better participation and promotion rates of the confessional schools in Oradea. We will try to understand the advantage of the confessional schools as being mediated by the structure of the confessional schools, as opposed to the secular ones. As we mentioned, all confessional schools in Oradea have a mixed educational bag to offer, half of them having theoretical classes while the other half having technological type classes alongside the vocational ones. Our working hypothesis is that the advantage of the confessional schools is recorded only in the case of schools with a theoretical background - which

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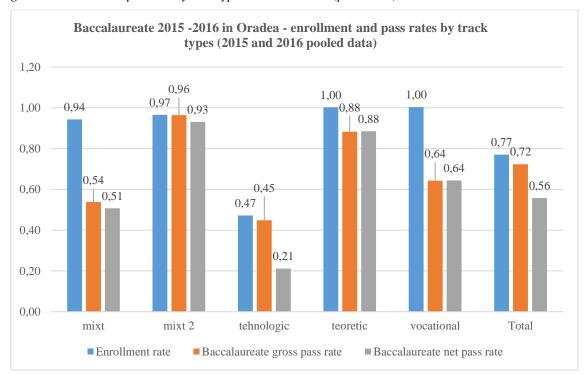
operationalizes the explanation through the theoretical orientation derived from the theorization of the advantage of Catholic schools (Lee & Bryk, 1989; Hoffer, 1997; Duncan, 2007; Hollis, 2009).

Table 5. Enrollment rates, and	l pass graduation rates	by types of tracks	(pooled data for 2015 and 2016)
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	Enrollment rate	The Baccalaureate gross pass rate	The Baccalaureate net pass rate
Mixed (vocational + technological)	0,94	0,54	0,51
Mixed 2			
(vocational +	0,97	0,96	0,93
theoretical)			
Technological	0,47	0,45	0,21
Theoretical	1,00	0,88	0,88
Vocational	1,00	0,64	0,64
Total	0,77	0,72	0,56

The calculation of the enrollment and pass rates by types of tracks shows that the confessional schools are strongly heterogeneous in terms of graduation success but have a similar behavior, regardless of the degree, in terms of enrollment. The enrollment rates are actually low only in the secular schools with a technological profile, while in all the other types of branches, including the mixed ones from the confessional schools, the enrollment rate is almost total. However, the graduation rate is almost twice as high in the confessional schools with theoretical classes than in the confessional schools with technological classes. Interestingly, the promotion rate in the confessional schools with theoretical classes is even higher than in the laic schools with a theoretical background. On the other hand, the graduation rate of 51% of the confessional schools with technological classes, compared to the 21% of the schools with a technological branch must be understood also from the fact that in all the confessional schools we have at least one class with a theological profile (vocational), which increases the graduation rate.

Figure 3. Enrollment and pass rates by track types in 2015 and 2016 (pooled data)



From these analyses it results on the one hand that, at a descriptive level, the confessional schools have much better graduation rates than the secular ones, but, on the other hand, the simple bivariate analyses suggest that part of this advantage is due to the fact that half of the confessional schools have classes of theoretical tracks. Based on our simple results one cannot reject the hypothesis of a net advantage of the confessional

schools that would originate in attitudinal or practical components of educational activity in schools with confessional subordination. Another interesting finding is that low enrollment rates (the Braila effect) are almost exclusively recorded for schools with a technological background.

However, our analyses are not conclusive. Having only aggregate statistical comparisons at hand there is the suspicion of an ecological error. Some decisive investigations should model a reliable measure of the school results controlling for individual and contextual characteristics via multivariate statistical techniques.

Conclusions

The results of the research regarding the performance of students in confessional schools and their comparison to pupils of secular schools confirm the hypotheses that, in general terms, in the confessional schools the results are better.

From the analysis of the research it appears that the confessional schools have a serious advantage over the public ones. One source of this advantage is that these schools are more academically oriented - half of them have classes with a theoretical background, while all have classes with a vocational-theological background. At the same time, the confessional schools with technological classes have much lower graduation rates, without showing the same advantage. Of course, it is not the theoretical track itself that results in a higher or lower success rate, but it produces it by signaling the academic orientation of the school and by a stricter selection of the students with better academic skills and higher aspirations.

It is possible, on the other hand, that both inside the school, but also in the relations between the school and the community and in the community itself, there is a high network density and a higher level of social trust, which has beneficial effects on the academic results, the education of the children becoming practically an effort of collective action at the family and community level. Our summary data suggests some net benefits of the students from the confessional schools, regardless of the subject area, which can be explained by the mentioned psycho-sociological and motivational mechanisms. However, based on the data on the Baccalaureate results of the students from Oradea, a net effect of the confessional schools receives a fragile support, being evident that a good part of the higher performances are explained more by the academic orientation of these schools and, implicitly, by the selection of the students with better educational skills.

Schools that resort to methods such as the "Brăila effect" bring serious damage to the education system by inducing false aspects with economic effects on the system but also ethic effects on the students. While the confessional schools have higher enrollment rates in the Baccalaureate exam, they are not better in this regard than the secular schools with theoretical or vocational backgrounds, and, therefore, it is apparent that the difference in enrollment figures is more specific to track than to confessional subordination.

Conflicts of Interest: The authors declare no conflict of interest.

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