

# The space of socio-educational inequalities in Sao Paulo<sup>1</sup>

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## Abstract

This article presents the first results of a research on the current state of educational disparities in São Paulo. Based on a Principal Component Analysis (PCA) of the IBGE 2010 Census data, the relationship between social position, life conditions, and the social uses of the educational system is analyzed. The results show that a first axis opposes, as expected, rich and poor neighborhoods, and a second axis reveals a less evident opposition inside the districts of Sao Paulo. Based on high school credentials, this second opposition differentiates the neighborhoods in the middle and upper class regions as well as in the poorer regions of the city outskirts. In this extremely unequal city, we aimed to, first, have a structural representation of the city and identify the relative position of an industrial area, in the east side of the city, where we identified the growing number of private schools. The statistical analysis presented tries to understand the position of this district within the social space of São Paulo and offers elements to think about the changes in school supply and the emergence of new educational strategies in families of popular groups.

**Keywords:** educational inequalities, educational indicators, social structure, Sao Paulo, Brazil.

## Resumé

Cet article présente les premiers résultats d'une recherche sur l'état actuel des disparités en matière d'éducation à São Paulo. À partir d'une analyse en composantes principales (APC) des données du Recensement de 2010 de l'IBGE (Institut Brésilien de Géographie et de Statistique), on analyse la relation entre la position sociale, les conditions de vie et les utilisations sociales du système d'éducation. Comme prévu, les résultats montrent qu'un première axe oppose les quartiers riches et pauvres, et un second axe révèle un clivage moins évident à l'intérieur des régions. Fondée sur la répartition des diplômes d'études secondaires, cette deuxième opposition différencie les quartiers au sein des régions de classe moyenne et supérieure ainsi qu'au sein des régions les plus pauvres de la périphérie de la ville. Dans cette ville extrêmement inégalitaire, il s'agissait d'abord avoir une représentation structurelle de la ville et

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identifier la position relative d'une zone industrielle, dans le côté est de la ville, où nous avons identifié l'émergence des nouvelles stratégies éducatives, en occurrence, l'arrivée d'écoles privées. L'analyse statistique présentée permet de tenter de comprendre la position de ce district dans l'espace social de São Paulo et offre des éléments pour réfléchir sur les changements dans l'offre scolaire et l'émergence de nouvelles stratégies éducatives dans les familles des classes populaires.

**Keywords:** educational inequalities, educational indicators, social structure, Sao Paulo, Brazil.

## Rezumat

Acest articol prezintă primele rezultate ale unei cercetări asupra disparităților în materie de educație la São Paulo. Plecând de la o analiză a principalelor componente (APC) ale datelor Recensământului din 2010 al IBGE (Institutul Brazilian de Geografie și de Statistică), analizăm relația dintre poziția socială, condițiile de viață și utilizările sociale ale sistemului educativ. După cum era de așteptat, rezultatele arată că o primă axă opune cartierele bogate celor sărace, iar o a doua axă scoate la iveală o ruptură mai puțin pregnantă în interiorul districtelor regiunilor [zonelor]. Întemeiată pe repartizare diplomelor studiilor secundare, această a doua opoziție diferențiază cartierele în sânul regiunilor [zonelor] clasei mijlocii și superioare, precum și în sânul regiunilor [zonelor] celor mai sărace de la periferia orașului. În acest oraș extrem de inegalitar, era necesar mai întâi să dispunem de o reprezentare structurală a orașului și să identificăm poziția corespunzătoare unei zone industriale, în partea de est a orașului, acolo unde noi identificasem apariția unor noi strategii educative, respectiv apariția școlilor private. Analiza statistică pe care o prezentăm ne permite să înțelegem poziția care-i revine acestui district în spațiul social al São Paulo, oferind elemente necesare pentru a reflecta asupra schimbărilor intervenite în oferta școlară și apariția unor noi strategii educative în familiile claselor populare.

**Cuvinte cheie:** inegalități educaționale, indicatori educaționali, structură socială, Sao Paulo, Brazilia.

## Introduction

The central question presented in this article is part of a long tradition of studies about the contradictions of school democratization and the cleavages that cross the educational systems. From the classic studies of Max Weber in *The Protestant Ethic and the Spirit of Capitalism* (1904) to Pierre Bourdieu and Jean-Claude Passeron's *Les Héritiers* (1964), different sociologists have demonstrated the existence of an internal segmentation of educational systems. Objective or symbolic divisions, more or less evident, adjust to the positions of families in the social structure. Such works have

contributed to countering republican enthusiasm for universal education, the "liberating school," and the illusions that have been nurtured about the ability of the education system to cope with the privileges given by birth<sup>5</sup>.

At the beginning of the 21st century, assessments of school performance on an international scale (PISA, 2008) have made even more evident what these authors cited below (Bourdieu & Passeron, 1964, for example) have already shown. The social status and educational level of parents weigh heavily on differences in school performance and orientation within the education system<sup>6</sup>. This association occurs, without exception, in all the countries of the world, although in different intensities. In Finland, South Korea, Japan or Sweden such an association is more discreet. As Baudelot & Establet (2009) argue, such results observed on an international scale suggest that countries that occupy the top positions in school performance are often those that most limit social inequalities. As is well known, Latin America and Brazil in particular have high and strikingly stable levels of social inequalities<sup>7</sup>. When compared to OECD countries and measured from PISA, Brazil is among the countries with the lowest educational performance, following the rates of Indonesia, Peru and Lebanon. And it performs less than countries like Uruguay, Chile or Romania whose performance of education systems occupy intermediate positions in the universe of OECD countries<sup>8</sup>.

Brazil's poor position in international rankings can not be well understood without considering the scale of social inequalities in the country, which is characterized by strong historical economic and social disparities separating the (less developed) north and northeast regions from the South and (more developed) of the country<sup>9</sup>. Indicators such as HDI, infant mortality rate or illiteracy rate are quite different between these regions. This social inequality deepened strongly during the

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<sup>5</sup> This segmentation can be vertical (between social classes) and horizontal (among fractions of different social groups, for example). Cf. Ringer Fritz. La segmentation des systèmes d'enseignement. In: *Actes de la recherche en sciences sociales*. Vol. 149, septembre 2003. Les contradictions de la "démocratisation" scolaire. pp. 6-20.

<sup>6</sup> See especially, Christian Baudelot & Roger Establet (2009).

<sup>7</sup> The Gini Income Index is a useful tool for comparing the patterns of economic inequalities between countries. According to the Political Observatory of Latin America and the Caribbean, in 2012, the Gini Income Index was 0.47 for Latin America as a whole, from 0.56 for Brazil. Source: *Political Observatory of Latin America and the Caribbean*, 2012. In 2016, the city of São Paulo has a slightly higher index than the country of 0.57. Source: Citizen's Observatory, by the NGO Rede Nossa São Paulo, 2016.

<sup>8</sup> Source: <https://www.oecd.org/pisa/pisa-2015-results-in-focus-FR.pdf>

<sup>9</sup> See, BARROS, Ricardo Paes de; HENRIQUES, Ricardo and MENDONÇA, Rosane. "Desigualdade e pobreza no Brasil: retrato de uma estabilidade inaceitável". *Revista brasileira ciências sociais*. 2000, vol.15, n.42, pp.123-142.

period of economic growth during the military regime. This led the Brazilian economist Edmar Bacha to call the country *Belindia*, a mixture of Belgium and India, with laws and taxes of the first (small and rich) and the social reality of the second (immense and poor). In his book *The King of Belindia* (1974) he argued that the military regime was creating a country divided between those living in similar conditions to Belgium and those who had the standard of living in India<sup>10</sup>.

If the national averages hide very different regional and social configurations, the study of educational inequalities within the city of São Paulo allows us to capture some of the internal differences of the country. Based on the notion of *social space* developed by Pierre Bourdieu (1979, 1989) and supported by statistics from the Population Census of 2010 of IBGE (Brazilian Institute of Geography and Statistics), we present in this article a study on the state of socioeducative inequalities in São Paulo, the economic capital of the country and Latin America.

Without looking at differences in access and performance at school, we explore a set of attitudes, measured by a wide range of educational indicators for decisive choices within the educational system: the demand for vocational schools, early school leaving and enrollment in large universities and different forms of school investments. Such "choices" are decisive because they tend to produce long-lasting effects on the often irreversible trajectories of schooling and professionalization.

The advantage of the notion of social space is to allow operational and relational approach to the "positions" without abstracting the social conditions of existence. Thus, without abandoning them to a reductive subjectivism, we try to observe in what urban configurations and in what social conditions, one or another position is more incidental. Based on a statistical database and on a geometric analysis of the data, we relate behaviors that can be interpreted as subjective in light of the objective conditions, particular to the city of São Paulo.

The originality and the demonstrative power of this research device are largely due to the correspondence analysis that allows the construction of a system of objective relations, based in relevant properties of that universe, in which individuals and groups can be thought in relation to one another. In this perspective, the interpretation of the results presupposes a relational, non – essentialist apprehension of the individuals and the groups.

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<sup>10</sup> See especially, CARVALHO, 2018.

The inspiration of this research in the bourdieusian sociology can also be justified by the fact that, in it, the role of education and its effects are never neglected. On the contrary, they are amplified. A series of his and his collaborators studies, such as *Les Héritiers* (1964), *La distinction* (1979), *La Noblesse d'État* (1989) and *Le Bal des Célibataires* (2002), urge us to think on the effects that are not only material or financial in the expansion of education, beyond the school and the job market, much further than the effects predicted by the theory of human capital. Such studies shed a light on the internal cleavages of the education systems, with less evident symbolic divisions and, therefore, not always visible to the population in general.

The notion of social space has a special importance in the sociology of Pierre Bourdieu as it allows us to go beyond a long tradition of studies about social structure mainly based on the economic dimension or on the distribution of socio-professional categories within this dimension. It also can inspire the creation of research devices that are able to grasp the social cleavages in their multiple dimensions, which cannot be reduced to the economic dimension. It also allows us to relate the position in the social structure to variables that express *world views* and *position taking*, such as vote, religion, etc. Through a statistical inquiry, Bourdieu proposes to identify the pertinent characteristics to a certain population, that is, principles of differentiation that place in the universe researched<sup>11</sup>. We argue that use of the notion of social space can precisely allow a conceptual transposition, without implying an empirical transposition, foreign to the historical contexts of the different national realities (Hjellbrekke and Korsnes, 2013).

### **The school in the city**

A great part of the studies on social inequalities in Brazilian metropolises approaches the social structure under the scope of socio-spatial segregation and the distribution of the population according to socio-occupational categories (Villaça, 1998; Ribeiro & Lago, 2000; Marques & Torres, 2005; Marques, 2014; Cardoso & Prêteceille, 2017), and the educational dimension is relatively less explored. In dialogue with these

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<sup>11</sup> If a notion of social space is widely used in the books *La Distinction* (1979) and *La Noblesse d'Etat* (1989), the reader will find a partially clear and operative summary in an article published in 1984. See, Bourdieu (1984).

studies, the contribution of this study is to stress the centrality of education in understanding the social differences observed in the city. The hypothesis that kindled this research is that the unequal division of Brazilian educational system is a crucial aspect in the maintenance of social differences, observed and described by social scientists.

The rapid demographic growth of Sao Paulo during the first half of the 20th century was followed by a re-composition of the social structure of the urban space, having as the main effect the installation of the working class on the outskirts of the city, mainly migrants from the Northeast of Brazil, as well as from the countryside of Sao Paulo and other states. Urban studies on Sao Paulo argue that the dichotomy center-outskirts is related to the unequal occupation of the space, in which there is a distance between the spaces occupied by the elites and by manual workers (Kowarick, 1993; Villaça, 2001; Marques & Torres, 2005, Rolnik, 2017). The notion of outskirts was associated to poverty, precariousness, violence, and other “city dangers” (Kowarick, 1993; Cabanes et al., 2011). As it has happened in many other metropolises, this negative image contributed to a stigmatized and stigmatizing representation of their inhabitants.

More recent studies, that examine the patterns of social segregation in Sao Paulo, reveal a scenario that goes beyond this dichotomy, pointing to more and more selective spaces in the richer regions and revealing that the outskirts have become more heterogeneous, contradicting the hypothesis of polarized metropolises described by some urbanists (Sassen, 2013; Marques, 2014; Oberti & Preteceille, 2016). One of the advantages of working with the notion of social space and the techniques of Geometric Data Analysis is the possibility of thinking the city as a whole and the extremes as possible positions in this scenario. To think of the city as a relational space (Rosenlund, 2009) makes it possible to identify the weight of intermediate social positions and to go beyond the description of its extremes. By favoring a kind of social topology, the notion of social space contributes to a rupture with the pre-notions and the ethnocentrism of the researcher.

Based on the study of the social space, we also conducted a field research in an old industrial district of São Paulo. In this region, we identify important changes in the school supply and in the educational strategies of families. Initially, the team had a representation of the region as a suburban neighborhood. The statistical survey and the

analysis of the social space of the city as a whole allowed to analyse the region as occupying an "intermediate" position in the city as a whole. As argued by Oberti and Preteceille (2016), most studies on social inequalities in contemporary metropolises emphasize and illustrate the discussion with extreme cases, as if those were representative of the ensemble of society, hiding the intermediary positions.

This research originated upon a question raised by the arrival of private schools in the subprefecture of Ermelino Matarazzo, this district in the east region of the city where, since 1990, there is a growth of private schools. The decision to study the changes on school supply in Ermelino Matarazzo aimed to shed a light in the process of social differentiation that is making the outskirts more heterogeneous and question such morphologic modifications of the population which are translated in school supply. For various reasons, historically, the Brazilian private school receives the children of great rural and urban landowners, of liberal professionals and of employees with higher education of the public and private sector (Nogueira, 1998; Almeida & Nogueira, 2002; Perosa, 2009; Almeida et. all. 2017). How to explain the transformations of school supply in the outskirts of São Paulo, a region in which only 9% of the population in 2010 had higher education?

The spread of education systems was followed by a clear internal segmentation (Ringer, 2003), hierarchization of schools (Bourdieu, 1989), and differentiation of school flow strategies (Oberti, 2007; Merle, 2012). Such segmentation can be materialized by the tracks that lead to the university and those guided to professional training<sup>12</sup>. One of the main ways to segment Brazilian education system is the differentiation between public and private schools<sup>13</sup>. Even though both segments can be heterogeneous and unequal between them, the social groups with higher income and educational attainment tend to keep their children in private schools and the groups with less economic and educational resources tend to be concentrated in public schools. The average enrollment rate in the public middle school, in 2010, was 79%, against 20,2% in the private system<sup>14</sup>. It could have been considered as a numeric minority, with little relevance to the analysis of education inequalities, if it were not for the completely

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<sup>12</sup> Analysing the cases of France and Germany, between 1865 and 1920, Fritz Ringer (2003) proposed that "the segmentation is a subdivision in schools and parallel programs that are different simultaneously for their curriculum and the students' social origin" (RINGER, 2003, p. 6).

<sup>13</sup> Historically, private education has been neglected in the study of educational inequalities. More recently, however, the study of elite and private school groups has increased in different countries around the world, as argued by Marco Oberti (2005).

<sup>14</sup> Source: Censo Escolar MEC/Inep e Centro de Informações Educacionais da Secretaria de Estado da Educação, 2008.

unequal enrollment distribution. The demand for private education grows as it rises in the social hierarchy. The simple observation of the distribution of enrollment in regions with greater and smaller economic capital allows us to identify the magnitude of school segregation and social segregation and the quasi-monopoly situation of elite education by the private school.

**Table 1: The distribution of private enrollment among the regions of São Paulo**

Districts		% ENROLLMENT IN private schools	Districts		% ENROLLMENT IN private schools
Economic Capital +++	Pinheiros	<b>63,8</b>	Economic Capital -	Campo Limpo	14,8
	Vila Mariana	61,8		Vila Prudente	13,4
	Sé	46,6		Itaquera	13,3
	Santo Amaro	42,7		Pirituba	10,5
	Lapa	39,6		São Miguel	10,5
	Santana	38,8		Jaçanã	10,2
	Mooca	38,6		São Mateus	9,6
	Butantã	27,5		Capela do Socorro	8,9
	Aricanduva	24,4		Cidade Ademar	8,9
	Ipiranga	24,2		Freguesia	8,7
	Penha	23,8		Perus	5,0
	Jabaquara	21,4		M'Boi Mirim	4,2
	Casa Verde	16,8		Guaianases	4,1
	Vila Maria	16,6		Itaim Paulista	3,9
Economic Capital +/-	Ermelino	<b>14.0</b>	Economic Capital ---	Cidade Tiradentes	1,3
	Matarazzo			Parelheiros	<b>0,1</b>

Source: Censo Escolar MEC/Inep e Centro de Informações Educacionais da Secretaria de Estado da Educação, 2008. Available on: <http://infocidade.prefeitura.sp.gov.br> . Accessed on: July 08th, 2017.

The preference for the private sector in Brazil, however, cannot be understood without considering the dimension of school results, measured by indexes such as Enem (Exame Nacional do Ensino Médio- High School National Exam). These measures, far from being perfect, allow us to identify the extent to which social segregation is accompanied by school segregation and proper academic segregation, as Merle (2012) argues. In countries like Germany or France, this segregation is differently institutionalized. In secondary school, or even prior, the students are enrolled in different tracks according to their school *performance*, which is strongly correlated to the socioeconomic level of the families (Merle, 2012). But, when observing the results of Enem (2015) in Sao Paulo, we can see how much the academic segregation is based



on the subdivision between public and private sectors. Among the 100 establishments with the best academic performance in Enem 2015, only 9 were public schools<sup>15</sup>.

The entrance in the higher education in the most prestigious schools is another indicator of this reality. The public universities have a dominant position and their diplomas grant a higher social prestige and in these universities, students from private schools represent an average of 60% of the enrollments, a reality that recent public policies have been trying to change. In 2012, President Dilma Rousseff approved the Quotas Law, which reserves 50% of vacancies in federal universities for former public school students, which has significantly altered the profile of students in major tertiary education institutions, including courses such as Medicine and Law<sup>16</sup>.

In a context of general access to very unequal schools on one hand and the strong professional competition in the job market on the other, families would tend to develop several strategies, including fertility control, the search for certain public school, the choice for private school or even the preference for neighborhoods with good school options. Those practices express family strategies to maintain or keep its position in the social space. To approach this complex and multifaceted universe, we opted to include a broad range of variables of social and educational indicators and to do a multidimensional statistical analysis, capable of offering a synthesis of the relation between the current state of the educational system and the social structure of the city of Sao Paulo.

### **The social space of São Paulo**

São Paulo currently has more than 11 million inhabitants - 18 million people per metropolitan area - in an area of 1,530 km<sup>2</sup> and one of the world's cities largest gross products (GDP) in the world. To work based on the content of the giant area, complex and multifaceted, we seek to construct the social space of the city comparing to the distribution of the regions of the city. Data are collected from the 3,574,286 households of Sao Paulo – distributed in 31 subprefectures, which will be our level of analysis<sup>17</sup>. This choice implies that we leave aside intra-subprefeituras differentiation and that we

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<sup>15</sup> Available on: <http://www.brasil.gov.br/educacao/2016/10/inep-divulga-resultados-por-escola-do-enem-2015>

<sup>16</sup> See especially, Perosa & Costa (2015).

<sup>17</sup> The subprefeituras are administrative subdivisions of São Paulo that have a political representative indicated by the mayor of the city. In 2016, they were renamed by the mayor João Dória and are called regional prefectures.

do not focus on mobility inside the city, but on the structural inequality in its most stable aspects.

The statistics used are available in public and NGOs websites, such as *Infocidade*, *Fundação SEADE* and *Rede Nossa São Paulo*. We mainly used the data of Census 2010 (IBGE) related to household income, school attainment, age, housing precariousness, and school performance. Statistical data were treated using Geometric Data Analysis techniques, specially Principal Component Analysis which is especially adapted to study multidimensional realities grasped with numerical indicators. We opted to include a broad range of variables of social and educational indicators and to do a multidimensional statistical analysis, capable of offering a synthesis of the relation between the current state of the educational system and the social structure of the city of Sao Paulo. We particularly explored the relationship between social position, life conditions, and the social uses of the educational system in the subprefeituras of Sao Paulo.

The choice of variables included indicators of characteristics of the population regarding their volume and structure of capital, as well as variables that could indicate the social features of the administrative subdivisions. We examined this social structure from a set of 18 active variables (table 1) sociodemographic characteristics. It is divided into 4 headings: economic capital, cultural capital, public infrastructure, and age. We have kept a general balance between these headings. In the sources kept by the city the socio-occupational category, a key dimension to reconstruct the social space, was not available. This absence was partially bypassed by the detailed information on household income and educational level of the population. Regarding the active variables of cultural capital, we had the information on the educational level of the adult population.

**Tab. 2 Actives variables<sup>18</sup>**

<b>Economic capital (5 variables)</b>	<b>Cultural capital (4 variables)</b>	<b>Public infrastructure (5 variables)</b>	<b>Other demographic characteristics (4 variables)</b>
<b>Income up to ½ minimum wage (MW)</b>	Middle School	Houses with no sewage	Population over 60 years old
<b>Income between 1- 2 MW</b>	High School	Enrollment in public elementary school	Population between 15 and 24 years old
<b>Income between 2- 5 MW</b>	Higher Education	Enrollment public high school	Fertility rate
<b>Income between 5- 10 MW</b>	Age_grade distortion middle school	Public Libraries	Homicide rate
<b>Income Higher Than 20 MW</b>		Hospital beds	

The enrollment in private schools could be included in the list of active variables, as an indicator of economic capital. However, this variable is very strongly correlated with economic capital. In search of other not exclusively economic dimensions we chose to use this variable as supplementary. Based on this principle, we excluded from the set of active variables, some indicators that are very important in Brazil, such as race which is highly correlated with economic capital, and risks to make other differentiation principles invisible, even considering its importance to reveal the strong correlation between skin color and living conditions in Brazil. Again, we seek to shed light on less obvious dimensions of social structure in São Paulo.

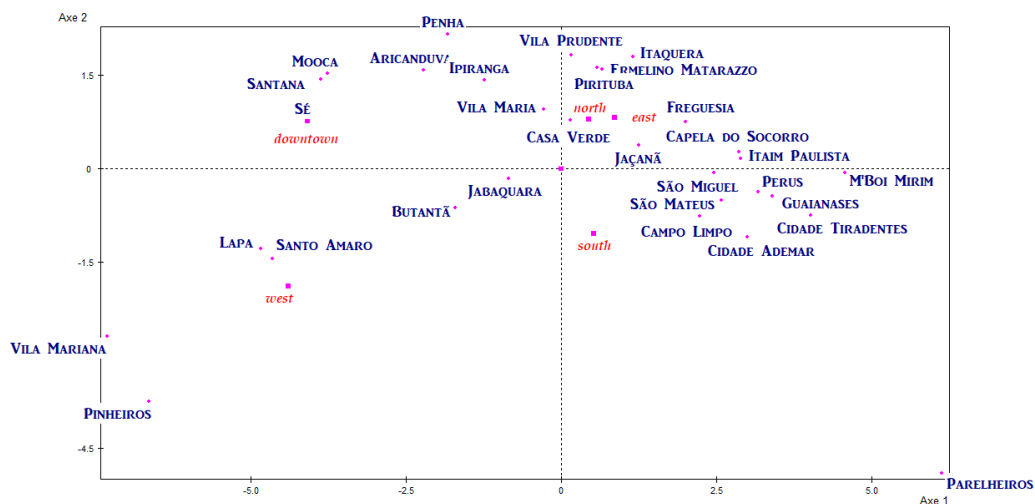
The search for technical schools, high school dropouts, the demand for private schools, the registration in admission exams from the University of São Paulo are examples of supplementary variables considered as position-takings. As supplementary variables, we included a large set of variables that could express both the highest school investments and forms of disinvestment in the education system (failure, dropout, etc). Beyond the “extreme poverty” we aimed to insert variables that allowed us to also grasp the “positional misery” (Bourdieu, 1993).

We also inserted, as a supplementary variable, the vote in the first round for mayor elections in 2012. By including this emblematic variable of positioning (the vote) we identify both the polarization of the vote among the poorest and richest regions of

<sup>18</sup> According to Lebaron (2006) and Le Roux (2014), the active variables are used to define the space of statistical variance. Supplementary variables are only projected over the space defined by the active variables.

the city, which is much explored by the press, and to identify a finer differentiation between the intermediate, socially more heterogeneous peripheries and the precarious peripheries, according to the study of Eduardo Marques (2014).

**Figure 1: Social space of subprefeituras in SP (2010) – Plane 1-2**

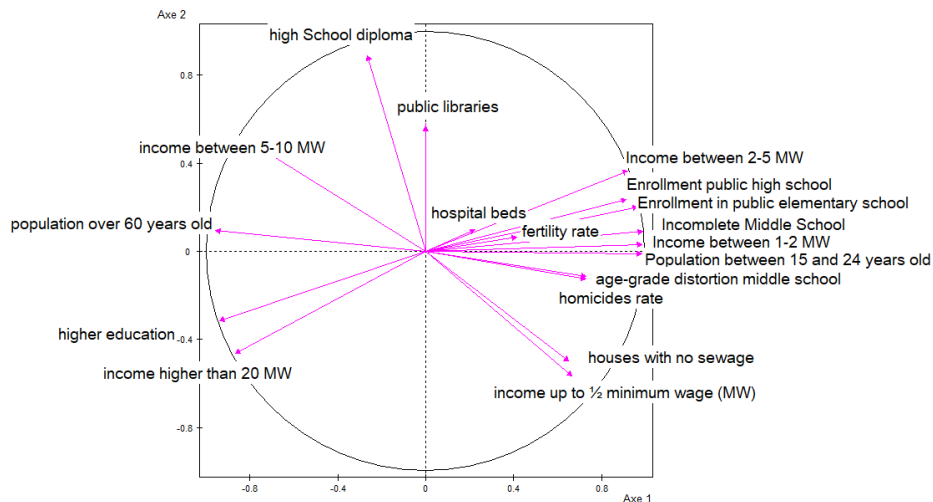


In figure 1 and in Tab.3, Axis 1 contributed for 60.43% of the overall variance of the cloud and clearly refers to the strong sociodemographic differentiation of the population. Axis 2 contributes with 14.1% of the variance and separates subprefectures with a higher number of high schools from those with less developed public infrastructures. Axis 3 results from the correlation between school performance, extreme poverty, and violence, and is responsible for 7% of the variance. Axes 4 and 5 account for 6.14% and 4.18 % of the variance and will not be analyzed here.

**Tab. 3. Contribution of axes 1, 2 and 3.**

Axe	Eigenvalues	Percentage of variance	of Accumulated percentage
1	10,8775	60,43	60,43
2	2,5375	14,10	74,53
3	1,2669	7,04	81,57

**Figure 2: Circle of correlations of active variables**



When analysed together, the two figures (and the tables 2 and 3) above allow us to understand the disposition of the administrative subdivisions in the social space of Sao Paulo. **Axis 1** distances the few richer subprefectures and with the highest percentage of inhabitants with a higher education diploma (Pinheiros), where 5.7% of the population live, from a dense cloud of administrative subdivisions (in the lower right quadrant), concentrating 24.4% of the population, that are poor, many of them in precarious conditions with a high number of households with no sewage. High income, higher educational attainment, and longevity are strongly correlated with axis 1, corroborating with other researchers that describe the patterns of social segregation in the city (Marques & Torres, 2005; Marques, 2014).

**Axis 2** (vertical) results from the varying number of High School diplomas, unveiling not only the differences among the subprefectures, but also the distinctions among the regions of intermediary groups. High School attainment is negatively correlated to extreme poverty (income between  $\frac{1}{2}$  MW and households with no sewage), but also to an income over 20 MW. Thus, the incidence of High School diplomas appears as a protective resource against absolute precariousness and distinguishes the outskirts regions among themselves, as well as the regions of middle and high classes, regarding their volume of economic and cultural capital. **Table 4** presents the correlations of each variable with the axes shown in figures 1 and 2.

**Tab. 4. Correlations of the active variables with the factors**

	Axis 1	Axis 2	Axis 3
Population between 15 and 24 years old	0,98	0,09	0,05
Population over 60 years old	-0,96	0,11	-0,06
Middle School	0,99	0,08	0,04
High School	-0,25	0,89	-0,07
Higher Education	-0,94	-0,30	-0,05
Enrollment in public elementary school	0,96	0,19	0,05
Enrollment public high school	0,91	0,22	0,15
Public Libraries	0,01	0,57	-0,09
Income up to ½ minimum wage (MW)	0,66	-0,57	0,19
Income between 1-2 MW	0,99	0,02	0,13
Income between 2-5 MW	0,92	0,35	0,05
Income between 5-10 MW	-0,78	0,50	-0,26
Income Higher Than 20 MW	-0,87	-0,45	0,01
Houses with no sewage	0,64	-0,51	-0,24
Homicide rate	0,73	-0,14	-0,52
Hospital beds	0,22	0,10	0,63
Age_grade distortion middle school	0,73	-0,12	-0,39
Fertility rate	0,42	0,05	-0,47

**Source:** Prepared by the authors

**Axis 3**, in turn, points to a correlation between fertility rate, homicide rate, and age-grade distortion, a delicate correlation approached by other studies<sup>19</sup>. In this specific case, we need to consider that the population age is related to this type of correlation, which does not imply in a causation relation but shows that, in the regions of the city with a higher percentage of youngsters, there are also higher rates of homicide, age-grade distortion, and higher fertility.

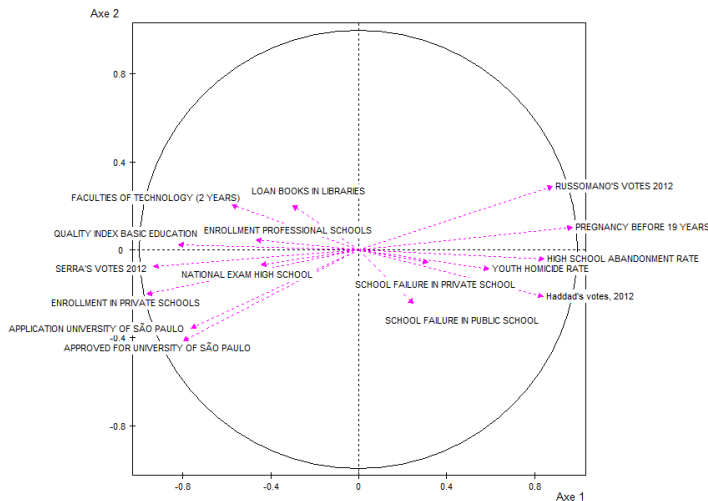
<sup>19</sup> See, especially the rich ethnographic studies made by Zaluar (1994).

In addition to the expected correlations between economic capital and cultural capital, measured here by household income and the educational level of the population, one of the most surprising results for us was the perfect correlation found between homicide rate and double school failure, as measured here by series-age distortion rate. Aware of the problems associated with criminal statistics, considered unreliable, especially because the agents that produce these statistics would be interested in their results, we use here the statistics of the single health system in Brazil (SUS). As shown by the studies of Brazilian social scientists, the high crime rates in the country can not be understood without considering the problem of police violence and organized crime, especially drug trafficking. We know that youths killed by homicide correspond to approximately 40% of gross homicide rates in Brazil (Zaluar, 1994). However, few studies explore the relationship between school failure, disbelief in the school institution, and entry into crime. The statistical study presented here was limited to verify this correlation, which we believe could only be interpreted with a field survey in the most precarious outskirts of the city, in which this correlation was most strongly expressed.

### **The social space as space of possible**

As expected, in the richer administrative subdivisions of **Figure 1**, there is a concentration of the private schools on the top positions of the press-made rankings based on the results of national exams. The uses of the education system in this extreme of the city correspond to what is described in the studies about elite groups, from the school choice to the definition of the type of school preparation, and the participation to friendship networks (Almeida & Nogueira, 2002; Bonvin, 1979; Cookson & Persell, 1985; Faguer, 1991; Saint-Martin, 1990). The logic of the success at the university admittance exams imposes strong economic investments to the families, demanding a great deal of energy and time to the students and, according to some studies, tend to result in a relation with culture that is simultaneously docile and secure, predisposing them to exercise power (Wagner, 2012). The preparation for school competition is done by an intense pedagogical work that demands the concentration of students around school worries.

**Figure 3: Correlations of the supplementary variables**



We can also see, in **Figure 3**, the presence of structures such as the Technical Schools, placed mainly in the former working districts of the city and the central regions. Thus, in the socially intermediary regions we see educational strategies aiming to increase of schooling, as can be seen by the indicators of enrollment in the Technical Schools and the use of public libraries. The different social distribution of enrollment rates in Technical Schools (FATECs) and the application for the University of Sao Paulo express a double system to access Higher Education, which leads to unequal and socially hierarchized careers, as the diplomas from technical schools do not have the same symbolic value as those from Brazilian public universities. This results confirm a long tradition of studies that highlight how the school handicaps (early dropout, age-grade distortions, etc.) and trumps (diplomas, cultural capital, etc.) are statistically strongly correlated with the families' social position (Bourdieu & Passeron 1964; Hasenbalg & Valle, 2003; Ribeiro, 2011).

We shed the less evident distinctions on the school performance of young people from the outskirts that are not restricted to the income and educational attainment of their parents. The “school pathologies” (failure, dropout, and age-grade distortion) are higher in regions where the objective living conditions are extremely precarious (households with no basic sanitation and income of up to ½ minimum wage). In those conditions, school investment gets much more difficult, rare, and unlikely. In the less precarious outskirts areas, where the educational level of the parents may not exceed high school and only 9% of the families have higher education present better school



results when compared to those found in the most precarious outskirts areas. Also noteworthy is the strong statistical correlation between double school failure and the homicide rate.

In the 21st century, we have in the city a typical “bourgeois” youth, but also an interrupted youth from the low-income groups, which are frequently cut off by school dropout, teen pregnancy, and doubly exposed to institutional violence: the police violence from the police, described in the ethnographic studies of Alba Zaluar and Sérgio Adorno in Brazil; and the symbolic violence of school, whose verdict is based on negative representations of the poor and the favela inhabitants (Patto, 1990). Against all sorts of essentialization and psychologization of school success determinants that surround the values of meritocracy and common sense, we see how material conditions of existence- derived from income, schooling, and housing conditions- have a viciously strong effect over educational destinies. We can see more clearly how lower school performance is a result not only of low income and low educational attainment of parents, but the overlapping of these factors with other dimensions connected to the public infrastructure accessible for households.

Last, but not least, we can see that the space of educational inequalities is also a space of struggles and investment in the “school game” (do not give up, do not dropout, search for better alternatives on the local school offer, etc) and, therefore, of *illusio*, of believing in the value of school titles, what explains the emergence of different educational strategies among social groups that have the objective conditions to subscribe to the logic of educational investments.

### **From structural inequality to specific context-based educational strategy**

However, the results of this statistical study make even more sense when we observe the results of a field research developed in Ermelino Matarazzo, an administrative subdivision in an intermediary position in **Axis 1** and an important position in **Axis 2** and situated in the upper left quadrant of **Figure 1**. When we began this research in 2012, Brazil had experienced a singular period of its recent history, marked by the combination of economic growth and reduction of social inequalities. The initial hypothesis proposed that the modification of local school supply would reveal the process of internal differentiation of low-income groups, derived from the increase of income at the basis of Brazilian social pyramid during Lula’s government.

This field research aimed to investigate the arrival of private schools in a district in the east side of Sao Paulo.

This intermediate position of Ermelino Matarazzo in axis 1 means that it combines families living in extreme precarious conditions, predominant in the extreme regions of axis 1 (like M'Boi Mirim, Cidade Tiradentes) and families with higher income (2-5 minimum wages) or a lower percentage of families with 5 to 10 minimum wages as in the upper right quadrant of **Figure 1**. This social heterogeneity is well described in the demographic study of Eduardo Marques (2005 ; 2014) on the social composition of the population of São Paulo. It could be captured through photographs in neighborhoods, on the streets, and in houses where we conducted our field research<sup>20</sup>.



**Photo 1:** Houses reformed in the gentrified district of Ermelino Matarazzo (2012).

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<sup>20</sup> We thank Adriana Dantas, Paloma Sanches and Jean-Pierre Faguer who participated in different stages of this field research through the photographs 1, 2 e 3.



**Photo 2:** houses of a more precarious neighborhood of Ermelino Matarazzo (2016).



**Photo 3:** Apartment building in Ermelino Matarazzo (2012).

The pattern of housing construction in Ermelino Matarazzo for many years corresponds to what urban studies in São Paulo call "self-construction" (Dantas, 2013). It refers to houses that were built by the residents themselves and often have undergone reforms over the years, when the situation of the families improved. There are few apartment buildings in the district. This pattern of housing is more present in the central regions of the city, although the buildings in Ermelino bear no resemblance to the luxurious buildings of the neighborhoods with the greatest economic capital, described by Pulici (2015). Although we can not go further in the analysis of these images here, they show the social heterogeneity of the region and the cohabitation of families that have experienced a certain social upheaval as the facades of photograph 1 and

photograph 3 express. The ubiquitous grids in the houses and the security system captured in photograph 3 express the social aspiration and fear of social decline.

### Educational strategies in the making

Our field research was conducted between 2011 and 2016. It included direct observations in five schools (three public and two private), three neighborhoods and promoted activities in a catholic church. We applied a questionnaire (n = 340) in three public and two private schools, with 31 questions related to the social characteristics of the families, the students' perceptions about the school, their perceptions about political and religious issues and was answered by secondary school students (between 15 and 17 years). In all three schools, the percentage of mothers inserted in the formal labor market was above the city average, in which the female EAP (Economically active population) was 52% (2010). The summary table of the social characteristics of the mothers reveals the differences that we could perceive among the public of these three schools.

**Tab. 5. Synthesis of the mothers' social characteristics**

	Work outside home	Manual workers	High- school level jobs	High- education level jobs	With higher education diploma	Families with 2 children or less
<b>School 1 (private)</b>	77%	13%	46%	17%	65%	80%
<b>School 2 (public)</b>	68%	24%	12%	5%	12%	53%
<b>School 3 (public)</b>	65%	47%	0	5%	8%	26%

Source: questionnaires. Created by the authors.

On table 4, we notice that more than 65% of mothers in these schools are workers, a number superior to the average number of economically active women in São Paulo (52%). In School 1 (private) and in the public ones, the families are composed by working mothers which differ, mainly, considering schooling level and position in occupational structure. In the category defined as *manual workers*, we included cleaning ladies, maids, clerks, cashiers, etc. They constitute 13% in School 1, 24% in School 2 and 47% in School 3. In the category *high school level jobs*, we

included commerce employees, such as saleswomen, office assistant, and nursing technicians. We can see that 65% of private-school mothers have higher education. However, it is worthy to highlight that 46% of them have high school level jobs and not higher education ones<sup>21</sup>.

Interviews were conducted with parents, teachers, principals and alumni of public and private schools in the region (n = 59), in which we followed a same script that sought to gather information about the school and occupational trajectory of three generations of families. The interviews revealed a slow process of cultural capital accumulation and lifestyle modifications, connected to the university diplomas owned by the second generation of interviewed families. This fraction of low-income classes, in which cultural capital is higher, essentially composes the demand for private education in the district. On the particular case of this district, the study approaches the characteristics of offer and educational strategies identified in this reduced group of families, a process connected to the acquisition of cultural capital during two generations, as well as to women's work. Signs of changes in educational strategies as a result of this slow social rise in three generations can be found in a picture of the room of one of the former students of a private school in the region. In this small room, all the signs of cultural goodwill are gathered: the books, the computer, the jacket with the USP inscription, the piano and an old typewriter.



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<sup>21</sup> For a more complete description of the results of this research, see, Perosa & Dantas, (2017).

**Photo 4:** Student room former student of private school and now enrolled in a public university of the region (2017).

This research calls attention to the second generation of families from low-income groups, originated mainly from Brazilians coming from the Northeast region of the country, the country side of Sao Paulo, and from other states, that came to the city of Sao Paulo to work during the industrialization and growth of the city. The presence of this second generation is a central aspect to understand this new social group, which is at the frontier between low-income classes and the middle-classes. This new middle class would be the product not only of the elevation of life conditions and rising purchasing power, but also the result of a long process of cultural capital accumulation acquired by the graduation on high school and attendance to private universities night courses.

### **Final remarks**

The fieldwork research has allowed us to go further in the understanding of the specific positions and trajectories of households situated in intermediary zones of the social space of São Paulo. Showing that a social space is the product of permanent movements of agents, families and groups, the fieldwork research confirms the centrality of educational strategies as one of the key vectors of social and urban change, which of course needs to be combine with an analysis of economic processes and changing division of work, etc.

The study seeks to shed light on the interdependence between social stratification, living conditions and educational strategies. The interviews, in which we collected information on three generations of families, suggest that such strategies are not individual, closed on the nuclear family. On the contrary, our results suggest that it is the study of intergenerational trajectories of displacement in a social space that allow us to restore the logic of educational aspirations. Finally, the sociological study of this school supply and demand aimed to provide elements to create public policies that recognize the needs of families from different fractions of low-income groups and proposes a public school supply that maintains a dialogue and matches their interests.

This paper hence contributes to the promotion of a multidimensional and dynamic conception of the social space, which can be transfered, taking contextual variations into consideration, to a large set of contemporary situations in “emerging”

countries, and more largely. The potential of generalisation of this research needs to be tested in various situations. By connecting educational strategies to the position of families in the social space and their potential / probable evolutions, one has tried to promote a more integrated perspective in empirical social sciences of inequality, combining qualitative and quantitative tools and analysing the social space at various levels.

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