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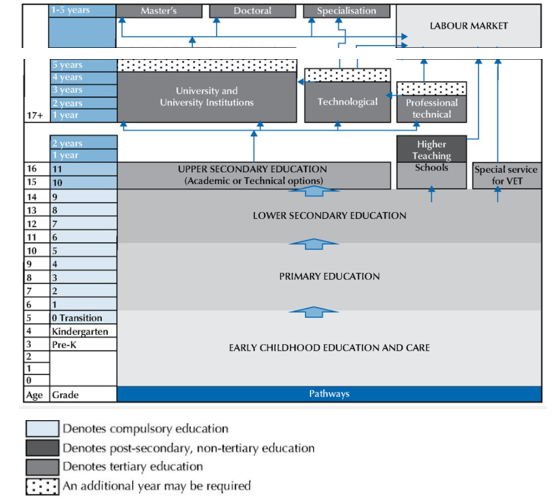
# INSTITUTIONAL CONTEXT

## Colombian education system

According to the Constitution of 1991 and the General Law of Education of 1994, education in Colombia is a civic right. Article 67 of the Constitution establishes that education is a public service with a social function and that all Colombians have the right to access education for their personal development and for the benefit of society.

Colombia´s education system is structured in four stages. The first stage is early childhood education and care (ECEC), which offers services for children from birth to six years old. The second stage is basic education, that includes primary (Grades 1-5) and lower secondary (Grades 6-9), this stage lasts nine years in total, normally from the age of six until 14. The third stage is upper secondary education, that lasts two years (Grades 10 -11) for 15 and 16 years old. The last stage is tertiary education, the duration of this stage depends on the selected track, university, technological or professional technical (OECD, 2016).

**Figure 1. Structure of Colombia´s education system**



Source: OECD, 2016

Currently, compulsory education in Colombia lasts 12 years, from ECEC (5 years old) until basic upper secondary education (16 years). Compulsory upper education is a recent development, it is being introduced gradually until 2025 in urban areas and 2030 in rural areas (Radinger, T., et al., 2018). Since 2012, public education, provided through schools managed by the Secretaries of Education, has been free of charge, from ECEC to upper secondary education. Moreover, regarding the average school hours, the General Law of Education of 1994 states that all schools must implement full-day schooling with a minimum of 7 hours, but most public schools operate an estimated of 5 to 6 hours school day (OECD, 2016).

In basic education, after completing the 9 years of study, students receive a certificate, Certificate of Basic Studies, that is a prerequisite to enroll in upper secondary education. In upper secondary education, upon successful completion of grades 10 and 11, students must take the national exam SABER 11 to obtain the certificate of completion for enrolment in tertiary education. In tertiary education, students can choose between three types of institutions. Universities, that offer undergraduate and graduate programmes, technological institutions that provide programmes to increase the level of knowledge and skills in a specific subject, and professional technical that gives professional training programmes for a particular job (SNIES, 2019).

Even though, education coverage in Colombia has improved in the last years, “in just a decade, school life expectancy has increased by two years and participation in early childhood education and care (ECEC) and tertiary education has more than doubled, to 40% and 50%, respectively” (OECD, 2016), student´s socio-economic background still has great impact on education access and achievement in the country. Inequality in education opportunities starts at an early age, children from the poorest backgrounds never go to school, start late, repeat years or dropout from school. In Colombia, “school life expectancy for students from the poorest backgrounds is just 6 years, compared with 12 years for the richest, and 9% enroll in tertiary education, compared with 53% from the wealthiest families” (OECD, 2016). According to the OECD´s report on Colombian school resources in 2018, the main challenges the Colombian education system faces are: increasing coverage, keeping students in school, and smoothing their transitions (SOURCE). Therefore, it necessary to increase access to education for children of all socio-economic backgrounds, but especially guarantee that all students have complete education trajectories, from early childhood education and care (ECEC) until upper secondary education. When students lack a strong foundation in their academic process, they tend to repeat years or drop out of school (OECD, 2016). Understanding school dropouts in Colombia and finding ways to reduce this phenomenon can contribute to reduce inequities in the educational system. The following section elaborates on this problematic and presents official statistics for Colombia.

## School dropouts in Colombia (official government statistics)

In Colombia, school dropout is defined as the student that leaves the education system before completing the grade or level of education that is currently pursued. The variable is measured through the intra-annual dropout rate, which indicates the percentage of students who drop out of the education system before the end of the school year (Bayona-Rodríguez, H., et al, 2020). The public agency in charge of measuring and reporting the dropout rate in Colombia is the Ministry of Education. The data base used to follow up the behavior of the variable is the SIMAT (Sistema Integrado de Matricula), which contains the enrollment registration of all students in the formal education. The formal education in Colombia is structured by schools funded with public resources (official sector) and private schools (non-official sector).

Regarding the data, SIMAT contains longitudinal information of the students´ education trajectory, from early childhood education until upper secondary, with specific characteristics at the individual level, age, gender, and performance in school of the students, and at the institutional level, grade, location, and school methodology.

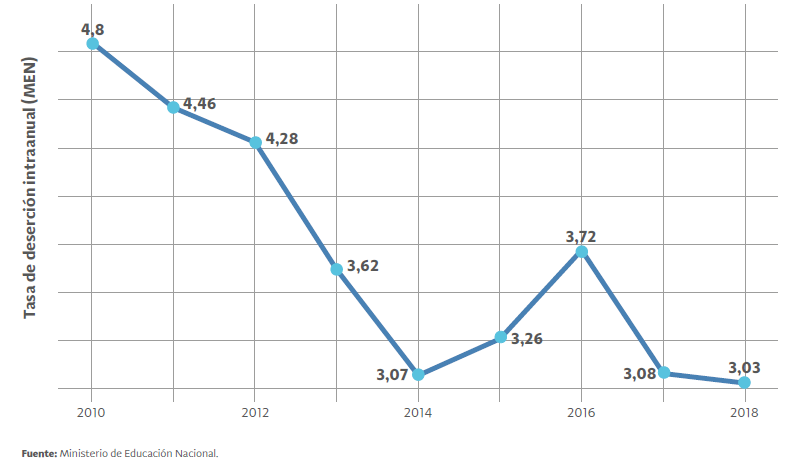
Based on SIMAT data, in figure 2, it is possible to observe that the intra-annual rate in the official sector has a downward trend in Colombia. Intra-annual dropouts decreased from 4,8% in 2010 to 3,07% in 2014, had a peak in 2016 with 3,72%, and continued to reduce until the lowest value in 2018 with 3,03%.

In 2018, the total number of enrolled students in the official sector was 7,968,080 (DANE, 2018). This means that around 241,432 students dropped out before the end of the school year. Even though, the inter-annual dropout rate is decreasing, the phenomenon persists, and a high number of students are leaving school annually increasing their vulnerability to poverty.

The research study “Information notes on dropouts” critically evaluated the way that school drops outs are measured and reported in Colombia (SOURCE). The main conclusions of this study are mainly two. First, the annual rate offers information to analyze the dropout phenomenon in the short term, but not in the medium or long term. For instance, this indicator does not provide information of the students that leave school without completing a school year but enroll next year in (another) school. Therefore, it is necessary to create new indicators to complement the measurement of the variable (see section XX).

**Figure 2.**

**Annual dropout rate in the official sector in Colombia**



# THEORTICAL CONSIDERATIONS & PRIOR FINDINGS

## Theoretical Considerations

Inequities in access to education and unequal educational attainment of children have been studied from different perspectives through out the academic literature. The most common approach relates these problematics to economic factors, but most recently sociological and cultural theories have emerged, accounting for cultural resources and the effect of stratified systems on the education opportunities of children.

### Cultural reproduction theory

On the one hand, Pierre Bourdieu´s (SOURCE) cultural and social reproduction theory opened the debate to new types of capital- social capital and cultural capital- as resources that can produce profit and ensure social status, beside the traditional economic capital, and are transmitted across generations. Bourdieu defines social capital as the aggregate of the resources given by the possession of a network of relationships that provides recognition and collectively owned capital; it can be institutionalized in the form of a title of nobility (Richardson, J., 1986). Additionally, cultural capital can be represented in three forms: in the form of long-lasting dispositions of the mind and body, in the form of cultural goods (books, pictures, instruments), and in the institutionalized form of educational qualifications. This type of capital is transmitted within the family, “(…) the most powerful principle of the symbolic efficacy of cultural capital no doubt lies in the logic of its transmission. The process of appropriating objectified cultural capital and the time necessary for it to take place mainly depend on the cultural capital embodied in the whole family” (Richardson, J., 1986: PAGE NUMBER).

Moreover, cultural capital is intertwined with economic capital. Time is necessary to acquire and transmit cultural capital, in the case of the parents, usable time to spend with their children, and in the case of children, time to study school or higher education. According to Bourdieu (SOURCE), time is acquired by possession of economic capital (Richardson, J., 1986), for instance a child from a wealthy family does not need to worry about working, while a child from a poor background may need to stop studying to provide economic resources to its household. In the same way, parents from a poor household may need to work extra hours to financially support the family, reducing the time with their children. In this way economic constraints not only can affect a family income wise, but also reduce its cultural capital.

In this light, Bourdieu (YEAR) posits that different forms of capital and socialized habits are transmitted within the family (codes, values, attitudes) that ultimately reproduce social structure. “This theory [cultural and social reproduction] offers an explanation for intergenerational associations in educational attainment and for achievement gaps between children of diverse origins (Burger, K. and Walk, M., 2016: PAGE NUMBER). Hence, the effect of families´ social background on educational attainment of a child is due not only to economic resources, but also to a greater quantity of cultural and social resources of privileged parents (De Graaf, N. et al., 2000).

### Inequality in Education Opportunities theory

On the other hand, Boudon (YEAR) evaluates the basic mechanisms that generate inequality in educational opportunity. He establishes that a stratified system creates differences in cultural opportunities, which are afforded by families according to their social background, and this stratification generates inequality in the access and educational attainment of the children and youngsters. Thus, inequality in education opportunities (IEO) is generated by two components: the cultural effects of stratification system, and the assumption that even with other factors being equal, people´s choices are determined by their position in the stratification system. Similar to Bourdieu´s theory, Boudon relates the social background with cultural resources and determines a negative relationship of these factors with education opportunities: "The lower the social status, the poorer the cultural background- hence the lower the school achievement, and so on” (Boudon, 1974: PAGE NUMBERS). The introduction of cultural variables into the analysis of inequities in the access to education and unequal education attainment contributes to achieve a more holistic approach, that accounts for sociological and economic factors. This is the reason why the present research study includes Bourdieu´s cultural and social reproduction theory and Boudon´s IEO theory in the theoretical considerations.

## Prior empirical review

### Intergenerational transmission of education

Different methodologies have been proposed to empirically investigate the intergenerational transmission of advantages or disadvantages mentioned by Bourdieu and Boudon, as well as by authors like Blau and Duncan (1967), and Collins (1979). The most common approach in the literature to measure intergenerational transmission is the evaluation of the effect of parental education on the education of their children. For instance, Piopiunik (2014) exploited changes in compulsory laws in West Germany to estimate the causal effect of the education of parents on their children´s education using a difference-in-difference design. He found that education of the mothers has a strong positive effect on the education of their sons, but no effect on the education of their daughters. In contrast, the education of the father has no effect in the education of neither the sons nor the daughters. And parents with more schooling value their children´s education more highly, as a result, parents have higher education goals, they expect good school performance and studiousness from their children.

Also, (Fleury, N., and Gilles, F., 2018) performed a causal effect analysis using a multi-variate meta regression method using a dataset containing 23 articles published in the period 2001-2012. These authors concluded that transmission of education from parents to their children has a direct effect of 0.15. Additionally, they established that "empirical studies show that (raw) intergenerational correlations related to education amount to about 0,4 for Western Europe, 0,46 for the United States, and 0,6 for South America” (ibid: PAGE NUMBER).

Moreover, (Dagsson, E. et al., 2020) examines the correlation of the parents´ education and emphasis on education with their children´s level of education in Iceland. The study found that there is a positive correlation between the two variables, but it is lower than the correlation found in the Nordic countries, reflecting the extent to which the school system in Iceland benefits students from different backgrounds.

### Educational inequality in Colombia

In Colombia, several authors drawing from the intergenerational transmission of education theory, have tried to understand the educational inequalities in the country. For instance, Rangeland Lleras (2010) examined the effects of family socio-economic disadvantage and differences in school resources on student achievement. Using the results of the Colombian Standardized Academic Test -ICFES- now called SABER 11, and the database C-600 from the National Department of Statistics- DANE, they found that socio-economic background significantly affects student achievement, specifically, children from higher economic backgrounds performed better in mathematics and reading. The study also showed that that school composition and school resources have an important effect on student’s achievement.

Furthermore, (Gamboa, L. and Londoño, E., 2015) assessed educational unfair inequalities at a regional level in Colombia also using as outcome variable the test score SABER 11. The study identifies a correlation between father´s and mother´s level of schooling and student achievement and posits that income inequality have encouraged the segmentation of educational markets. This means that children from lower socio-economic background tend to go to public schools and children with higher status tend to go to private schools. “The incidence of students with highly educated parents in public schools is low, generating higher differences in the quality of educational services between students from low-income” (Gamboa, L. and Londoño, E., 2015: PAGE NUMBERS). As a result, educational inequalities in Colombia are not only reproduced through intergenerational transmission, but through the school system too. To illustrate, the average of enrolment in independent private schools in Colombia is much higher than in the OECD countries, 19% compared to 4% (OECD, 2018).

Additionally, other studies employed different data to analyze inequality in Colombia and found parent´s education as an important explanatory variable. (Vélez, C. et al., 2010) used the human opportunity index (HOI) to measure inequality of opportunities and concluded that parent´s schooling and household location (urban-rural) are highly important in explaining inequality. Also, (Ferreira, F. and Melendez, M., 2012) performed a diagnosis of inequality using several Quality-of-Life National Surveys and found that parent´s education and the place of birth are determinants to explain inequality in Colombia (Gamboa, L. and Londoño, E., 2015).

## Empirical review on school dropouts

### Evidence based on government registers

The study created two new indicators to measure dropouts: the annual dropout rate which accounts for the students who completed the school year but did not enroll in the next one, and the dropout rate that considers both the -annual rate and the inter-annual rate. Second, based on the new dropout rate variable, the paper identified the main factors that increase the probability of dropping out of school in Colombia, which are: having a disability, be new at school, grade retention, temporary stopping school or not completing a grade, and study in a rural area. Also, dropouts are higher in lower secondary (Grades 6-9) than primary (1-5) (SOURCE). Additionally, comparing the dropout rate between women and men, men tend to dropout more than women, but the overall trend is downward. In 2015, the dropout rate of women was 8,4% and for men was 9,3%, and in 2017 the rate decreased to 6,1% and 7,2% accordingly, a reduction of 2 percentual points in both cases. Regarding the urban and rural areas, the rural areas tend to dropout more than urban areas, but again both have a declining trend. In 2015, the dropout rate in rural areas was 10,4% and urban areas 8,4%, and in 2017 the rate decreased to 7,5% in rural areas and 6,4% in urban areas. Finally, with respect to dropouts per grade, the study found that the most sensitive grades are transition, 5th grade, sixth grade, and ninth grade. This can be explained by the transition between educative cycles from early childhood education to primary, from primary to lower secondary education and then to upper secondary education (ibid.).

The Quality-of-Life National Survey is a research held by the National Department of Statistics -DANE- that collects information on different aspects and dimensions of household’s well-being, such as access to public services, health, and education, amongst others (SOURCE). In the education section, the survey asks people from 5 to 24 years old that have not completed secondary and are currently not studying, the main reason why they did not culminate their studies. The main reason identified was lack of interest in studying (24%), followed by the need to work (18%), the need to take care of the house (13%), and lack of economic resources or high costs of education (12.5%). It is most frequent that men respond lack of interest in education or the need to work, while women manifest the need to take care of the house. This information shows the complexity of school dropouts, as it is possible to imply that not only economic factors impact the decision of an individual to leave its education, but also cultural factors like the value of education.

### XX

School dropouts is a problem that has been extensively studied. On the one hand, the literature has analyzed its impact in society, early school leaving is associated with long-term unemployment, poverty, bleak health prospects, sustained dependence on public assistance, single parenthood (in females), political and social apathy, and juvenile crime (De White, K. et al., 2013). On the other hand, several authors have defined and measured the variable through different methodologies, but all agree that this phenomenon is a wicked problem, hence, the factors associated to it must be analyzed in an intertwined way (Bayona-Rodríguez, H., et al, 2020).

The empirical research on dropouts is generally divided into two perspectives: the first one, is an individual perspective that focuses on individual factors of the student, for instance, school performance, students´ attitudes and behavior, and prior experiences; the second one, is an institutional perspective that accounts for contextual factors, such as the students´ family, school, peers, and social context (Rumberger, R. and Ah Lim, S., 2008).

As mentioned before, the present study will focus on an institutional perspective, more precisely in the student´s family. According to (Rumberger, R. and Ah Lim, S., 2008), the literature has studied the family factor along three lines: family structure, family resources and family practices. First, family structure evaluates the number and type of individuals in a child´s household. Several studies have identified that “students living with both parents had lower dropout rates and higher graduation rates, compared to students living in other family-living arrangement" (Rumberger, R. and Ah Lim, S., 2008: PAGE NUMBER). Additionally, residential mobility is associated with a higher risk of dropping out of school.

Second, family resources ensure the promotion of emotional, cognitive, and social development of the children, and are categorized as financial resources, human resources, and social resources. The most common indicator of family resources is the socioeconomic status -SES- which is an index constructed by several financial and social measurements, such as parents´ years of education, family income, and occupational status. At the high school level, (Rumberger, R. and Ah Lim, S., 2008) identified 27 studies that concluded that students from higher SES families are less likely to drop out than students from low SES families. Furthermore, 67 studies found that higher levels of parental education are associated with lower dropout rates, hence, higher graduation rates.

Regarding the SES indicator, Frank (1990) argued that separating the effect of income and parent education on dropout, using a direct measure of each variable, can provide a more accurate assessment of the relationship between these variables and dropout, than the measures the SES indicator gives. Accordingly, Frank (1990) investigates the independent relationships between family income and dropout, parent education and dropout, and family stressors and dropout. He concluded that “the frequently found correlation between socioeconomic status and dropout may be primarily due to parent education, not to family income” (ibid: PAGE NUMBERS), hence, income is a predictor of dropout due to its correlations with parent education and household stressors.

Third, family practices account for parental expectations, within-home practices, and home school practices. Here the amount of schooling the parents expect of their children is evaluated, as well as the supervision and help with homework and the communication of the parents with the school. According to 35 studies, positive parenting decreases the risk of dropouts (Rumberger, R. and Ah Lim, S., 2008).

In the same line, (Rumberger, R., et al., 1990) analyzed the mechanisms by which families influence children´s decision of leaving school, through a survey conducted in one Californian high school. The research concludes that family exerts an important influence on dropout behavior and that dropouts are more likely in households with permissive parenting style and less involvement of the parents in their kid´s education. Furthermore, (Chevalier, A., et al., 2013) through a causal effect design, using the UK Labor Survey, found that paternal education has a positive effect on the probability of the daughters to remain studying and that maternal education has no statistical significance on the probability of remaining in education for either son or daughter. This finding contrasts with results of previous research on intergenerational transmission of education that identify the importance of maternal education on their children.

## Conclusion & Hypothese

From the above, it is possible to observe that the intergenerational transmission of education is an important sociological approach to study inequities in access of education and education attainment and it is commonly measured by correlating family background with education achievement of the children. This measure of education achievement, through national test scores and grades, has an important limitation, it only accounts for the share of students that achieve upper secondary education and are about to graduate, consequently, the high percentage of dropouts, that did not make it to that educational level, are disregarded. As a result, the impact of family background is not been analyzed on the process of dropping out of the school system. Each dropout is an indication and origin of fundamental inequities and is the final consequence of a complex and multidimensional process of disengagement, which includes low performance, amongst other variables (Rumberger, R. and Ah Lim, S., 2008).

Following this, the present thesis pretends to analyze the relationship between the intergenerational transmission of education theory and the dropout phenomenon in schools in Colombia. To the best of my knowledge there is no study so far in Colombia that relates these two components, so this research can build on the existing literature and ignite a debate about the role of family background on dropouts in Colombia. The next section provides an empirical literature on dropouts, specifically the impact of family background on this variable.

Based on the intergenerational transmission of education theory, that establishes the importance of family background on the education trajectory of children, and the empirical review on dropouts, specifically Rumberger´s (YEAR) and Frank´s (YEAR) findings, which posit that parent education is the most powerful predictor of dropout and that socioeconomic variables must be analyzed independently, the hypotheses of the present thesis are:

**Hypothesis 1**

*Parent education level is inversely related to school dropouts.*

**Hypothesis 2**

*Household income is inversely related to school dropouts*.

**Hypothesis 3**

*Family structure is inversely related to school dropouts.*

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