School dropouts in the Philippines: causes, changes and statistics

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Abstract: School dropout is a major problem as it has negative impacts that result in high social costs. A learner can be called a dropout when the learner fails to enroll in school despite having reached the mandatory school age. This paper aims to identify the root causes of school dropouts in the Philippines, specifically in all regions for the years 2008 and 2013. The secondary data on the proportion of population 6 to 24 years old who are not attending school from the website of the Philippine Statistics Authority were used. The data were analyzed using R version 4.2.1. This paper employed descriptive statistics, namely frequency and percentage to identify the root causes of dropping out in the Philippines when grouped according to region and year. Percentage change (increase and decrease) were explored to track changes in the causes of school dropouts. The findings indicated that the high cost of education, and student employment or when the student is seeking employment were the root causes of dropouts in the Philippines for the years 2008 and 2013, respectively. Based on the findings, it is recommended that the Philippine government, through the Department of Education, should prioritize programs that will address the root causes of the school dropouts with the goal of decreasing the dropout rate in general.

Keywords: School Dropouts, Education, Philippines.

INTRODUCTION

One indicator of how effective a country's education system is working is the school dropout rate and absenteeism. They are key predictors of the present and upcoming issues with the country's education system (Graeff-Martin et al., 2006). The cause of student dropout is usually referred as the "antecedent of dropout" as it is the critical circumstance that led to the decision to drop out. However, the dropout is just the end of a considerably extended process of quitting school that started far earlier than the day that a student officially stops attending. The term "school leaving" was first used in a monograph in 1927. The same paper also suggested that students who are at danger of dropping out might be mentally inferior (Fuller, 1927).

The United States faced the school dropout crisis in the 2000s wherein four years following the school year 2003–2004, approximately 25% of public-school pupils that started high school during the autumn of 2000 failed to receive a diploma (Kienzi et al., 2007). Meanwhile in California, over 26% of grade nine students failed to graduate during the same period. For other student populations, such as African-American learners, Hispanic learners, English language students, and learners with special needs, dropout rates are significantly higher. Up to 50% of all ninth-graders who start out in some community school fail to finish. Students who

dropout of high school suffer several negative effects as a result of their failure to graduate (Belfield & Levin, 2007). Higher rates of unemployment, lower income, poorer health and higher death rates, higher rates of criminal activity and imprisonment, increased reliance on government aid, and lower voter turnout are all characteristics of dropouts compared to high school graduates. Dropouts have negative effects that have high social costs (Kadil, 2017). In the United States, dropping out of school can occur for a number of reasons, such as family, work, and school-related reasons (Bridgeland et al., 2006, Rotermund, 2007).

In a report published by the Philippine Department of Education, on the average, within the school years 2005 to 2013, 26% of elementary school students drop out before the sixth grade, and 23% did not graduate from high school. In general, 6% of elementary school students drop out of school. Between SY 2006-2007 (6.4%) and SY 2011-2012 (6.38%), there was only a slight decrease in the overall elementary school dropout rate (UNESCO, 2015). Since 2008, the elementary dropout rate has been at or below 6%, whereas the secondary dropout rate has remained in the 7% range since 2007. Additionally, it has been noted that, though slowly, since 2007, dropout rates of elementary and high school levels have been increasing. The dropout rate increased progressively from 5.99% in 2007-2008 to 6.81% in 2012-2013. The secondary level dropout rate also shows a similar pattern, increasing from 7.45% in 2007-2008 to 7.82% in 2011-2012 (Amoroso & Bajo, 2014). According to reports, 3.8 million Filipinos, or 1 in 10 of those within the ages of 6 and 24, did not go to school in 2016. 53% of the 3.3 million people in this age group, who should already be in senior high school or college, come from the poorest families. They are between the ages of 16 and 24 (Golez, 2018). And as of 2018, it was noted that 18% of junior high school learners did not proceed to senior high school, compared to roughly 8% of sixth grade pupils who do not graduate and enter seventh grade (Cervantes, 2018). Given a rising enrollment rate, the Department of Education asserted that the numbers actually show improvement, noting that it is positive that enrolment rates are rising while dropout rates are nearly unchanged (Amoroso & Bajo, 2014). However, a high dropout percentage indicates issues with the internal effectiveness of the educational system, so the optimal dropout rate should be close to zero percent (UNESCO, n.d.).

To address this problem, there must be a greater understanding of why students drop out (Kadil, 2017). In this way, the government would have a basis on what programs they will prioritize to address this problem. This study examined the proportion of the population within the ages of 6 to 24 that are not in school. This is to further study the roots causes of school dropouts in the Philippines, specifically each of its regions in the year 2008 and 2013. This paper aimed to identify the root cause of dropouts in the Philippines. Specifically, this study aimed to

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Objectives

1- identify what was the root cause of dropouts in the Philippines in 2008-2013.

2- determine what was the root cause of dropouts in each region in 2008-2013.

3- determine which regions, have the same root cause of dropouts in 2008-2013.

4- identify if there are changes in the proportion of population of the main reason why students are not attending school.

LITERATURE REVIEW

The term "school dropout" has not yet been defined by researchers in a way that is universally agreed upon (Selda, 2014). According to some researchers, "school dropout" defined as learner's inability to finish the level of education in which they are currently enrolled because of a variety of reasons (Dekkers & Claassen, 2014). Some researchers defined this issue as failing to attend class for two weeks in a row in one admission; while some defined this as failing to enroll in school despite having reached the mandatory school age (Selda, 2014). Transferring to another school, leaving for an extended period of time, and being rejected for admission can also be regarded as dropping out of schools (Goksen, 2006). Another definition of a school dropout is when a learner who is currently admitted in school leaves the current stage of their education without graduating or finishing their current course of study (Dekkers & Claassen, 2014, Suh, 2001). Additionally, leaving school without earning a minimal certification, such as a higher secondary education diploma, has been referred to as dropping out of school. School dropouts are a severe issue for the individual, the school, and society in general (Christle et al. 2007).

The Philippine Statistics Authority (PSA) defines dropout rate as "the percentage of students who left the school during the school year because of any reasons, as well as those who finished the previous grade level but did not enroll in the next grade level the following school year" (Dropout rate, 2006). The Philippines has been dealing with a high percentage of this situation since 2005, when 26% of primary school students did not complete the sixth grade and 23% did not complete high school (UNESCO, 2015). Additionally, it has been noted that, though slowly, since 2007, dropout rates at the primary and high school levels have been increasing. The dropout rate increased steadily from 5.99% in 2007-2008 to 6.81% in 2012-2013 (Amoroso & Bajo, 2014). Some have linked this high dropout rate to the "ill-planned" and "haphazard" implementation of K–12 education. According to data, 3.8 million Filipinos, or 1 in 10 of those within the ages of 6 and 24, did not go to school in 2016. 53% of the 3.3 million people in this age group, who should already be in senior high school or college, come from the poorest families. They are between the ages of 16 and 24 (Golez, 2018).

The K–12 program, according to the Department of Education, has steadily increased the number of dropouts who returned to their studies. Since senior high school began in 2016, the number of students who have returned to school has increased by half, from 158,000 to 370,000, according to a positive trend in the K–12 enrollment data (Hernando-Malipot, 2018). One contends, however, that millions of people continue to be denied of their right to education, even if the state "brags" about the growth in net enrollment in elementary and high schools (Golez, 2018). Some potential causes for dropping out include: the distance between schools, lack of a school in the barangay, lack of regular transportation, high cost of education, illness or disability, housework, marriage, employment or seeking employment, lack of personal interest, inability to handle schoolwork, issues with academic records, and insufficient family income to pay for a child's education.

METHODS

Source of Data

The data used in this paper is the "Proportion of Population 6 to 24 Years Old Who are not Attending School by Region, Reason and Period" that was taken from the Poverty and Human Development Statistics Division of the Philippine Statistics Authority database. The data was gathered using the Functional Literacy, Education and Mass Media Survey (FLEMMS) that have been undertaken every five years. Thus, the data is in the year 2008 and 2013. The method for computing the proportion is through dividing the total number of children by root cause of not going to school, by the total number of children who are not attending

school. Region VIII (Eastern Visayas) was not included in the 2013 FLEMMS because of Typhoon Yolanda (Haiyan) that made a landfall in the country.

Statistical Software

The software used for the statistical analysis in this paper is R. R is a programming language and environment for statistical computing and visualization (Introduction to R, n.d.). It serves as a vehicle for computational statistics, an environment for statistical analysis, and a quick prototyping environment for statistical approaches (De Leeuw, 2011). R has packages which are assemblages of community-developed functions and data sets. These packages enhance R's base functionalities, giving it more capability (Alvarez, 2019). The R packages and functions used in the statistical analysis in this paper were *ggplot2, R-base*, and *readxl*.

Statistical Treatments

This paper employed descriptive statistics, specifically frequency and percentage to identify the root cause of dropouts of each region and year. Percentage change (increase and decrease) were explored to track changes in the causes of school dropouts.

Frequency and percentage

Frequency and percentage are used to determine how often an event occurs and percentage for data on profile. Percentage (P), given frequency (f) and number of cases (N), is calculated using equation 1:

Equation 1: Frequency and percentage

$$P = \frac{f}{N} \cdot 100$$

[Equation 1]

Percentage change

Percentage change is used to see and understand the changes between values over time. The formula for percentage change (P`) for old value and new value is represented by equation 2:

Equation 2: Percentage change

$$P' = \frac{x_2 - x_1}{x_1} \cdot 100$$

[Equation 2]

RESULTS AND DISCUSSION

It was found that in 2008, as illustrated by Figure 1, the root cause of dropouts in the Philippines was the high cost of education. Although public schools have no tuition fees; school supplies, costs of uniform, meals and transportation add up to the costs as well and most parents forces their learner to drop out when an emergency occurs, such as a parent is losing his/her job and/or a family member is falling ill (Reyes, 2015). In 2013, as illustrated by Figure 2, students' root cause of not attending school was that they were employed or they were looking for work.

Figure 1 Root cause of dropouts in the Philippines in 2008

Main reason for dropouts in the Philippines in 2008

FIGURE 1
Root cause of dropouts in the Philippines in 2008
Functional Literacy, Education and Mass Media Survey (FLEMMS)

Note: Prepared by author with research data
Figure 2 Root cause of dropouts in the Philippines in 2013

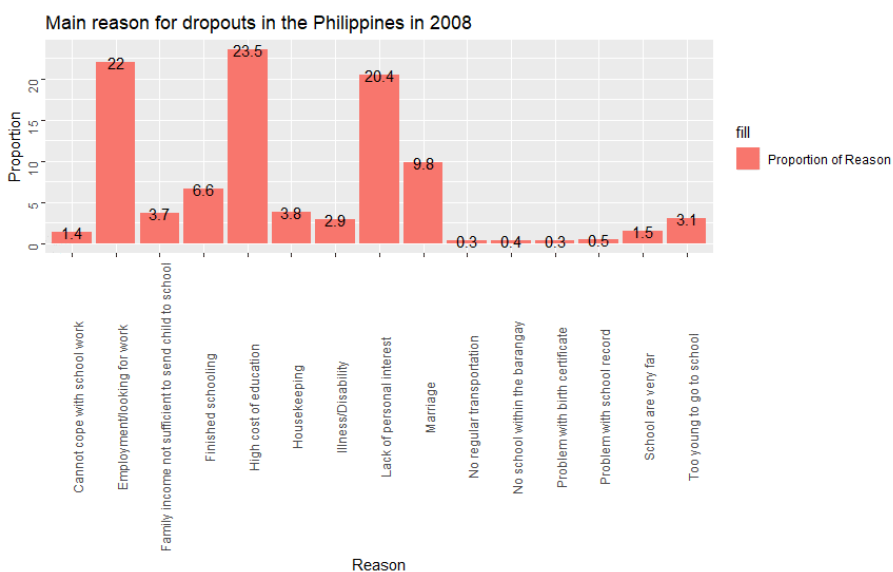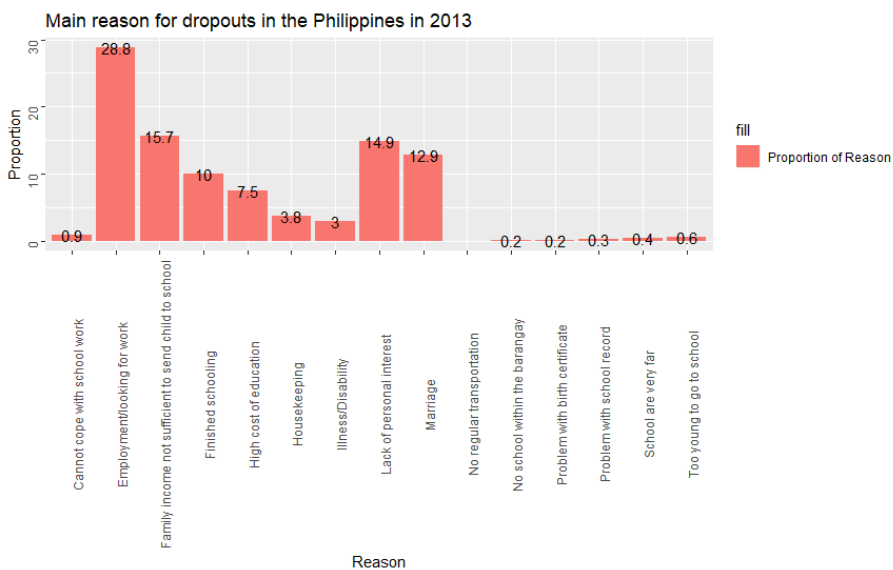**Main reason for dropouts in the Philippines in 2013**

FIGURE 2
Root cause of dropouts in the Philippines in 2013
Functional Literacy, Education and Mass Media Survey (FLEMMS)

Note: Prepared by author with research data

Results were summarized in Table 1. A further novel observation is that during the five-year period, there was a change of the root cause of dropping out – from high cost of education to employment or seeking employment. An explanation of this is that due to the high cost of education and poverty, students were forced to work in order to survive (David & Albert, 2012; Reyes, 2015; Sembrano, 2010).

Table 1 Root cause of dropouts in the Philippines within a certain year

TABLE 1
Root cause of dropouts in the Philippines within a certain year

Region	Reason	Proportion	Year
Philippines	High Cost of Education	23.5	2008
	Employment/	28.8	2013

Functional Literacy, Education and Mass Media Survey (FLEMMS)

Note: Prepared by author with research data
Table 2 Root causes of dropouts in each Regions

TABLE 2
Root causes of dropouts in each Regions

Region	Reason	Proportion	Year
NCR	Employment/ Looking for work	36.8	2008
	Employment/ Looking for work	36.9	2013
CAR	Lack of personal interest	25.1	2008
	Lack of personal interest	20.6	2013
Region I	High cost of education	33.7	2008
	Family income not sufficient to send child to school	20.1	2013
Region II	High cost of education	26.2	2008
	Lack of personal interest	26.2	2008
	Employment/ Looking for work	24.4	2013
Region III	Employment/ Looking for work	30.9	2008
	Employment/ Looking for work	30.4	2013
Region IV-A	Employment/ Looking for work	31.9	2008
	Employment/ Looking for work	41.4	2013
Region IV-B	Lack of personal interest	29.1	2008
	Lack of personal interest	25.7	2013
Region V	High cost of education	25.4	2008
	Family income not sufficient to send child to school	19.5	2013
Region VI	Employment/ Looking for work	23.1	2008

FLEMMS
* Region VIII Eastern Visayas was not included in the 2013 FLEMMS
because of Typhoon Yolanda Haiyan that made a landfall in the country

Note: Prepared by author with research data

Results showed that in 2008, the root cause of dropouts in each region were: employment or looking in work for NCR, lack of personal interest in CAR, high cost of education in Region I, high cost of education and lack of personal interest for Region II, employment or looking for work in Region III, employment or looking for work in Region IV-A, lack of personal interest in Region IV-B, high cost of education in Region V, employment or looking for work in Region VI, employment or looking for work in Region VII, lack of personal interest in Region VIII, high cost of education in Region IX, lack of personal interest in Region X, lack of personal interest in Region XI, high cost of education in Region XII, lack of personal interest in Caraga, and high cost of education in ARMM. Among the regions, Region II has two root causes of dropouts – high cost of education and lack of personal interest (proportion = 26.2).

In 2013, the root cause of dropouts in each region were: employment or looking for work in NCR, lack of personal interest in CAR, family income not sufficient to send child to school in Region I, employment or looking for work in Region II, employment or looking for work in Region III, employment or looking for work in Region IV-A, lack of personal interest in Region IV-B, family income not sufficient to send child to school in Region V, employment or looking for work in Region VI, employment or looking for work in Region VII, employment or looking for work in Region IX, family income not sufficient to send child to school in Region X, employment or looking for work in Region XI, employment or looking for work in Region XII, family income not sufficient to send child to school in Caraga, and lack of personal interest in ARMM. It is to note that Region VIII was not covered due to Typhoon Yolanda in 2013.

Table 3 Regions with the same root cause of dropouts by year

TABLE 3
Regions with the same root cause of dropouts by year

Reason	Region	Year
Employment/ Looking for work	NCR Region III Region IV-A Region VI Region VII	
High cost of education	Region I Region II Region V Region IX Region XII ARMM	2008
Lack of personal Interest	CAR Region II Region IV-B Region VIII Region X Region XI Caraga	
Employment/ Looking for work	NCR Region II Region III Region IV-A Region VI Region VII Region IX Region XI Region	2013

Functional Literacy, Education and Mass Media Survey (FLEMMS)

Note: Prepared by author with research data

The result shown in Table 3 highlights that in 2008, out of the different possible causes of drop outs, employment or looking for work, high cost of education, and lack of personal interest were the root causes. The root cause of dropouts in NCR, Region III, Region IV-A, Region VI, and Region VII was because the students were employed or looking for work. For the dropouts in Region I, Region II, Region V, Region IX, Region XII, and ARMM, the reason for dropping out was because of the high cost of education. And dropouts in CAR, Region II, Region IV-B, Region VIII, Region X, Region XI, and Caraga, dropped out because of lack of personal interest.

The results further lead to the similar observation in 2013, employment or looking for work, family income not sufficient to send the child to school, and lack of personal interest were the root causes of dropping out. For NCR, Region II, Region III, Region IV-A, Region VI, Region VII, Region IX, Region X, and Region XII, the common reason for dropping out was employment or looking for work. Meanwhile, family income not sufficient to send the child to school was the root cause of not attending school for students in Region I, Region V, Region X, and Caraga. Lastly, dropouts in CAR, Region IV-B, and ARMM, dropped out because of lack of personal interest. This further suggests that regions that have the same root cause of dropouts shares common characteristics and factors leading to the said root cause.

Table 4 compares the changes in the proportion of population of the root cause why students were not attending school in 2008 and 2013. It is possible to see from the table that there was a downward trend in most of the root causes, and Region II's high cost of education was the highest percentage decrease (72.137%). It can also be observed that there were few upward trends in the root causes, and Region VII's employment or looking for work was the highest percentage increase (77.075%).

NCR has a very slight percentage increase of proportion of its root cause of dropout, employment or looking for work, from 36.8 to 36.9 (an increase of 0.271%). CAR has a 17.928% decrease in the proportion of its root cause, lack of personal interest. Region I has a 71.216% decrease in the proportion of its root cause, high cost of education. Region II's high cost of education has a percentage decrease of 72.137 and lack of personal interest decreased by 54.961%. Region III's employment or looking for work has a slight decrease of 1.618%. Employment or looking for work in Region IV-A increased by 29.780%. Lack of personal interest in Region IV-B decreased by 11.683%. Region V has a 58.661 decrease of proportion of its root cause of dropout, high cost of education. Region VI's employment or looking for work increased by 19.480%. Region VII's employment or looking for work increased dramatically from 25.3 to 44.8 (a decrease of 77.075%). Region IX's high cost of education decreased by 71.617%. Lack of personal interest in Region X decreased by 28.832%. Lack of personal interest in Region XI decreased by 33.467%. Region XII's high cost of education decreased by 67.330%. Caraga's lack of personal interest decreased by 18.431%. High cost of education of ARMM decreased from 25.9 to 14.9 (a decrease of 42.471%).

Table 4 Changes in the proportion of population of the root cause why students were not attending school

TABLE 4

Changes in the proportion of population of the root cause why students were not attending school

Region	Reason	2008	2013	Percentage Change
Philippines	High cost of education	23.5	7.5	-68.085
NCR	Employment/ Looking for work	36.8	36.9	0.271
CAR	Lack of personal interest	25.1	20.6	-17.928
Region I	High cost of education	33.7	9.7	-71.216
Region II	High cost of education	26.2	7.3	-72.137
	Lack of personal interest	26.2	11.8	-54.961
Region III	Employment/ Looking for work	30.9	30.4	-1.618
Region IV-A	Employment/ Looking for work	31.9	41.4	29.780
Region IV-B	Lack of personal interest	29.1	25.7	-11.683

FLEMMS

* Region VIII Eastern Visayas was not included in the 2013 FLEMMS because of Typhoon Yolanda Haiyan that made a landfall in the country

Overall, the Philippines' proportion of the root cause of dropout – high cost of education – decreased dramatically from 23.5 to 7.5 (a decrease of 68.085%).

FINAL CONSIDERATIONS

The research findings indicated that among the causes of dropping out, the high cost of education has the highest proportion in 2008 and employment or seeking employment has the highest proportion in 2013. Thus, high cost of education and employment or seeking employment were the root causes of dropping out in the years 2008 and 2013, respectively.

The common reasons for dropouts that were shared by the different regions in the Philippines were employment or looking for work, family income not sufficient to send a child to school, high cost of education, and lack of personal interest. This suggests that some regions have the same characteristics and factors affecting the root cause of their dropouts.

There are some regions that experienced changes in the proportion of population of those who were not attending school from years 2008 and 2013. These regions include: Region I (from high cost of education to family income not sufficient to send child to school), Region II (from high cost of education and lack of personal interest to employment or looking for work), Region V (from high cost of education to family income not sufficient to send child to school), Region IX (from high cost of education to employment or looking for work), Region X (from lack of personal interest to family income not sufficient to send child to school, Region XI (from lack of personal interest to employment or looking for work), Region XII (from high cost of education to employment or looking for work), Caraga (lack of personal interest to family income not sufficient to send child to school), and ARMM (from high cost of education to lack of personal interest). The Philippines, as a whole, experienced changes in the proportion, from high cost of education to employment or looking for work. This is because the high cost of education and poverty are one of the driving forces that pushes the students to work in order to survive.

There are also regions who have not experienced changes in the proportion of population of those who were not attending school from years 2008 and 2013. These regions include: NCR, CAR, Region III, Region IV-A, Region IV-B, Region VI, and Region VII. It can be concluded that the Philippine government recognized these reasons and made necessary actions to address the problems. Though it helped some regions (there are regions that experienced changes in the proportion) there are also regions who have not experienced changes.

There are some regions that experienced an increase in proportion of its root cause of dropout. These regions include: NCR, Region IV-A, Region VI, Region VII. In addition, there are also regions that experienced a decrease of proportion of its root cause of dropout. These regions include: CAR, Region I, Region II, Region III, Region IV-B, Region V, Region IX, Region X, Region XI, Region XII, Caraga, and ARMM.

RECOMMENDATIONS

The Philippine government must implement programs that would address the dropout crisis with an aim of decreasing the proportion of the root causes of dropping out (employment or looking for work, family income not sufficient to send children to school, high cost of education, and lack of personal interest). Specifically,

1. The government should develop programs that alleviates poverty so that families would be able to send their child to school and students will not be forced to look for work.

2. Encourage schools to implement government's programs. For instance, a study shows that schools that implement 4Ps have lower dropout rates (UNESCO, 2015).

3. Reduce push-out elements like the cost of projects and school field trip attendance (UNESCO, 2015). This can help minimize the cost of education. One of the other possible policy solutions is to intertwine

conditional national cash transfer programs (Diaz, 2021) with the educational outcomes of schoolchildren per household, as is done in some emerging economies (Simoes & Sabates, 2014).

4. Support schools with high dropout rates by providing more basic resources. Most schools with high dropout rates have a shortage of classrooms. This means that classrooms are overcrowded, which leads to decline learning and teaching conditions, and eventual dropping out of the student (Cervantes, 2018).

5. Encourage teachers to apply teaching methodologies that awaken the interest of the students. Since lack of interest is one of the culprits that leads students to dropout in school (UNESCO, 2015).

One of the main limitations of this research was the period analyzed, future research should take our results into account and apply them to the most recent set of data available from FLEMMS. Visibly, the recent COVID-19 pandemic can be a before and after framework for inferences based on the evidence presented here or also for those generated with the most current data from FLEMMS. Moreover, research with statistical inference approach could bring new interesting insights for the discussion of public policies.

Contribution of each author to the manuscript

Contribution of each author to the manuscript

Task	% of contribution of each author
	A1
A. theoretical and conceptual foundations and problematization:	100%
B. data research and statistical analysis:	100%
C. elaboration of figures and tables:	100%
D. drafting, reviewing and writing of the text:	100%
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