

THE IMPACT OF TEACHER ABSENTEEISM ON STUDENT ACHIEVEMENT:
A STUDY ON U.S. PUBLIC SCHOOLS, USING RESULTS OF THE 2011-2012 CIVIL
RIGHTS DATA COLLECTION

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By

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ABSTRACT

The present work intends to deepen our understanding of teacher absenteeism and student achievement. The hypothesis is that teacher absenteeism is a strong predictor of student test scores, and that teacher absenteeism has a direct negative impact on student learning. In this case, I run a regression with teacher absenteeism and the amount of students that don't pass AP exams in each school. Results of this thesis show that the effect of teacher absenteeism is positive (meaning it leads to fewer students passing the AP exams), but that the magnitude decreases when additional control variables are added to the model.

This thesis work and my Master degree is dedicated to my wife Inés, who encouraged me to pursue this Master and with whom I enjoyed every day of this step. I am truly thankful for having you in my life.

This work is also dedicated to my parents, Carlos and Ana, who have always supported me unconditionally and whose good examples have taught me to work hard for the things that I aspire to achieve. To my parents in law, who are always another example to follow.

This work could not have been completed were it not for my friends, who helped me and motivated me throughout the process. Especially, I want to mention those who were like T.As for me in the past months: Tomas Wind, Alejandra Arrieta, Luis Felipe Jimenez, Jesús Gallegos, Eliana Carlin and Amir Jilani.

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To my son/daughter who is on it's way.

Many thanks,
Agustin Porres

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INTRODUCTION

Across societies, education affects everyone in some way. Education is always a concern, a perpetual issue of debate and an important challenge for all sectors. Education is an interdisciplinary issue that can be approached through the lens of economic theory, psychological theories, and political science. Teachers and principals provide education, the government funds and regulates education; parents and students consume education, and society at large benefits from the impact of educational outcomes. Education can promote better societies; can create new jobs; and prepare people to work in manufacturing, the service sector and government.

The debate on education has been present since the beginning of civilization. People debate about how education is provided, who should receive it, what should be taught and when education should be provided. In previous decades the debate was focused on inclusion because half of the society wasn't able to participate in the education system. Today a main concern is on quality. Everyone has the possibility of attending school but not all receive the same quality education. New questions have arisen around the debate. How can we improve teaching? How can teachers be more effective? How can we increase students' attention? What gives students more opportunities? How can we engage parents in students' education?

In the past, debate surrounding the quality of education has focused on principal responsibility, framed as the principal-agent theory (Ross 1973). In contrast, the present paper will focus on teachers. Teacher impact can be studied through multiple avenues including salaries, training, school environment, and parent engagement with teachers. However, in this study I will look at teacher absenteeism and the impact it has on student achievement.

Because of the increased expenditures for government or companies to substitute for absent teachers, absenteeism has been studied as an economic issue. The 2013 National Council on Teacher Quality (NCTQ) report made with data for the 2012-2013 school year from 40 of the biggest urban school districts in the U.S. that integrated more than 200,000 teachers. Of them, 44% of the teachers missed more than 10 days in that period. All together, the 40 districts spent \$424 million on substitute teachers, representing an average of \$1,800 per teacher to cover absences for the period 2012-2013.

However, teachers are unlikely to respond to district budgetary issues and appeals to lower their rate of absenteeism. Instead, they may be more willing to change their behavior if their absenteeism is linked to poor student outcomes.

Many studies explore the relationship between student absenteeism and low-test scores. However, I intend to deepen our understanding of teacher absenteeism and student achievement. My hypothesis is that teacher absenteeism is a strong predictor of student scores, and that teacher absenteeism has a direct negative impact on student learning.

BACKGROUND

It is calculated by the National Center for Education Statistics that there are 3.5 million full-time-equivalent (FTE) teachers in the country, for elementary and secondary schools. This number is about 1 percent higher than in the fall of 2003. The 2013 expected number of FTE teachers includes 3.1 million of public school teachers and 0.4 million of private school teachers.¹

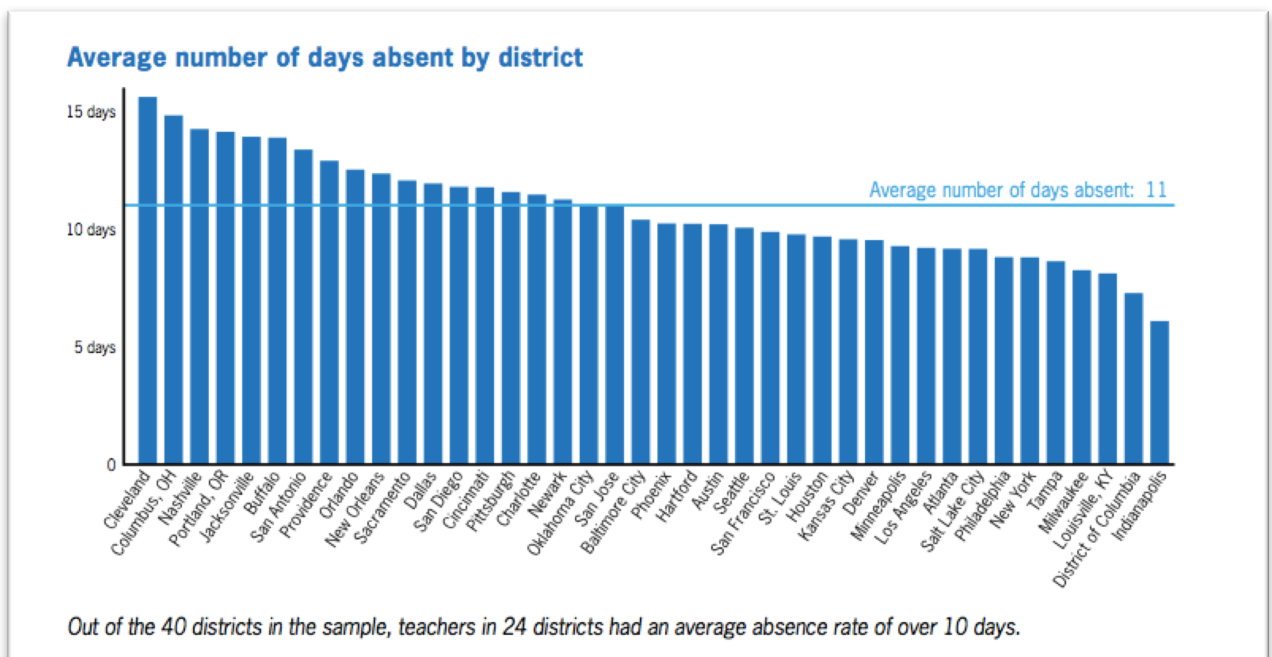
The demographics behind the big numbers are as follows. The 76 percent of public school teachers are female, 44 percent are under age 40, and 56 percent had a master's or higher

¹ National Center for Education Statistics. <http://nces.ed.gov/fastfacts/display.asp?id=28>

degree. Compared with the public school teachers, a lower percentage of private school teachers had a master’s or higher degree that certified them teach (43 percent).²

Studies that analyze teacher absenteeism and the impact on student’s score, generally focus on local district schools rather than on large areas. Opposite to them, I will try to find the effect of teacher absenteeism in the whole country.

Figure 1. Average number of days absent by district (2012)



Source: NCTQ, 2013

The average number a teacher is absent is 11 days per year. Considering a year of 180 days of class, this represents more than 5%. Miller presents a report on absenteeism showing that calculating the economic cost of a 5% absenteeism per year reflects an extra cost of more than US \$4billion on substitute teachers. Highlighting these results and showing the effect this absenteeism has on student’s achievements will be key point to start changing the trend.

Using school district data for 40 of the country’s biggest metropolitan areas for the 2012 – 2013 school year, the NCTQ makes a ranking on teacher absenteeism in the 40 largest metropolitan districts in the country. (See graph above)

² Idem

LITERATURE REVIEW

Education must be one of the topics most analyzed in the past century. It has been studied from all different perspectives. For the purpose of this research, I reviewed the literature regarding teachers and specifically teacher absenteeism. On the importance of teachers in general, Hanushek (2014) observed that over the last two decades, different researches on student achievement has pinpointed the central role of teachers. There are also other factors—families, peers, neighborhoods— that are obviously elements in a student’s learning, it is the school and specially the teachers who are given the public responsibility for the education of our youth. Similarly, Miller (2012) has affirmed that teachers are the most important school-based determinant of students’ academic success among all the other factors that intercede on education.

Among the issues related to teachers and teaching, teacher absenteeism is an increasing concern. In one national study of school personnel directors in the U.S. (Norton 1994), they reported that 71% of schools reported teacher absenteeism as one of their leading problems. The personnel directors have reported substitute teaching as their third highest-ranked “severe” problem facing school personnel directors and named teacher absenteeism as their number one ranked main problem. Schools spend more on salaries, especially on teachers, than any category of expenditure. The expenditures on teachers are close to 95% of the budget. The financial cost of teacher absence is high. Miller (2012) estimated that, for example, if 5 percent of teachers are absent on a given day, the stipends for substitute teachers and administrative associated costs a minimum of \$4 billion per year.

As mentioned before, the problem is not only the escalating monetary costs of teacher absenteeism, but also the difficulty of finding qualified substitute personnel and the impact that teacher absenteeism has on students. Miller (2012) notes that teacher absence has important nonfinancial costs. It negatively affects student achievement, a fact borne out by

research that finds that more than 10 absences of a teacher is related with lower average mathematics achievement equivalent to the difference between having a beginner teacher and one with a bit more experience. The author explained that estimating the amount of the impact is challenging because of multiples reasons. The most important is that the relationship is measured in different timelines. Absenteeism is a daily measure and achievements or scores is a more long period measure.

Classic approach to Teacher Absenteeism

Teacher absenteeism has been discussed in the framework of “Principal–Agent Theory”. This theory has been used not only in the education system but also to understand different models of job relationships and human behavior when it is possible to establish who is the principal and who is the agent. This theory explains how principals, like the employers of the system, design compensation structures to get agents, like employees, -in this case teachers- to work in the principals’ interest (Ross 1973). In education, the principal–agent relationship takes multiple forms for teachers, as agents, that can be considered as working with multiple principals, including parents, school principals, or education officials (Umansky, 2005). Principal–agent theory is based on the assumption that the interests of principals and agents are almost always not aligned. Instead, principals and parents want high employee productivity and efficiency while employees want more compensation for less effort. Principal–agent theory states that employers design schemes that tried to motivate their employees to perform in certain ways that they believe will result in high productivity and efficiency.

Particularly, in my study, I am approaching this relationship with a new framework, not any more a principal-agent problem, but a public good problem that involves teacher vocation and student's expectations and achievements.

Teachers are needed in the classroom

The consistent presence of the teacher in the classroom is of supreme importance to provide effective instruction to students. Some research has suggested that high employee absenteeism indicates poor worker morale (Lippman et al, 1996). In addition, some research looks specifically at absenteeism in relation to how teachers report their absences. This research established that teachers are most likely to be absent less often if they are required to notify their principal by telephone about impending absences. (Miller, 2012)

Research also shows that when a teacher is absent from the classroom, student learning is disrupted. Finlayson (2009) finds that when a teacher is repeatedly absent, student performance can be significantly impacted negatively. Her study shows that the more days a teacher is out of the classroom, the lower their students score on every test. She measured the relationship between third grade teacher absenteeism and third-grade student scores on the math and reading sections on the Criterion Reference Competency Test (CRCT). She also reports that, nationally, teachers are absent from the classroom on average ten days per year. These results are the same as found in the NCTQ 2013 report.

Teacher absenteeism studies are generally focused on local school districts. For example, the research mentioned before, by Finlayson, is focused on Cobb County, Georgia. Another important study (Miller et al., 2008) is focused on an urban school district in Camden City, New Jersey. The latter study used highly detailed data on teacher absences to shed light on the determinants and effects of teacher absences. The authors estimate the impact of teacher absences on academic student achievement matched to elementary school teachers. They estimate that 10 additional days of teacher absence per year reduce mathematics achievement of fourth-grade students by 3.2% of a standard deviation.

The 2013 NCTQ report provides a broader picture of teacher absenteeism in the United States. As mentioned above, the study gathered data for the 2012-2013 school year

from 40 of the biggest urban school districts in the country representing more than 200,000 teachers. The average teacher missed 11 school days out of 186. Also, 1 in 6 teachers were chronically absent (they missed 18 or more days or about 10% of the school year), and 44% of teachers missed more than 10 days (equivalent to one day every two weeks). All together, the 40 districts spent \$424 million on substitute teachers (average of \$1,800 per teacher to cover absences for the period analyzed).

Similarly, Miller (2012), using the same CRDC dataset that I use in this paper, established that regarding the 56,837 schools analyzed in the dataset, on average, 36% of teachers in the country were absent more than 10 days during the 2009-10 school year, the first period when absenteeism was reported. The percentages range from 0% to 100% reported by individual schools, with a 62% of variation occurring between districts and 38% occurring within districts. He finds that the latter statistic is significant because all schools within a given district operate under the same leave policies as are regulated by the district, and teacher absence levels well above a district average may be a indicator of a dysfunctional professional culture at the building level.

Another factor that must be analyzed is the type of school (charter vs traditional public school). Miller (2012) notes that teacher absence is an important issue that can be added to the list of habits in which charter schools differ from traditional public schools. Teachers are absent from traditional public schools more than 10 times per year than from charter school. This represent a rate that is 15.2 percentage points higher than in charter schools.

Studies of teacher absenteeism have produced conflicting results. For example, a study of schools in New York State found that higher student absenteeism is associated with lower pass rates for students on standardized tests (Ehrenberg, 1991). But on the teacher side, teacher absence from the classroom, at least at the levels currently observed in New York

State, for the most part does not appear to be related with students' pass rates on the same standardized tests. The author explains that one should not conclude from this last statement that teacher absenteeism has no impact on student learning. The analyses focuses on pass rates on standardized tests; they thus do not permit one to conclude anything about how teacher usage of leave days affects students whose academic performance is well above the minimum pass level on the exams and it not allow them to measure how it affects aspects of learning not measured by these exams.

What happened in developing countries?

In developing countries, the discussion has turned to education quality including the impact of teacher absenteeism. For example, recent research in a sub-metro area in Ghana, finds that when a teacher is absent from the classroom, student learning is disrupted (Obeng-Denteh, 2011). More specifically, Obeng-Denteh sought to determine whether student and teacher absenteeism affect the performance of students on Ghana's basic education certificate examination (BECE). The analysis indicated that student absenteeism was not significant, but that teacher absenteeism had an impact on the performance of the students on the BECE. The higher the teacher absenteeism rate Obeng-Denteh concluded, the lower the student mean score. Conversely, the lower the teacher absenteeism rate, the higher the mean student score.

Similarly, Suryadarma et al. (2006) using a nationally representative sample of fourth graders estimates the correlation of student performance in public primary schools in Indonesia. The authors' model performance using a common firm production function model, including teacher absenteeism and estimate separate sets of regressions for mathematics and dictation scores for these students. They find that higher teacher absence significantly correlates with lower student scores on a national mathematics test. Because prior studies of student achievement in Indonesia lacked access to data on teacher absence, this correlation had not been observed before. The results are consistent with the view that teacher

absenteeism is either a cause or a symptom of significant problems related to student achievement in the education sector.

Teachers role model and other issues related to teacher absenteeism

A program implemented by PREL (Pacific Resources for Education and Learning) encourages policymakers to offer research-based recommendations that focus on incentive-based systems in which intrinsic and extrinsic rewards are the keys to encouraging teacher attendance (Uehara, 1999), in part because teacher absenteeism in the Pacific region is significantly higher than the U.S. national average. Research on teacher absenteeism in the Pacific region finds another aspect of why teacher absenteeism is a problem that affects students' scores. Teachers represent for students a role model and influence students' perception about what is an acceptable behavior and what is not. Chronic teacher absenteeism sends an essential message that school attendance is not important and students read their models behaviors very well (Uehara, 1999).

The message that teachers send when they are absent impacts student behavior, but also teacher behavior. Researchers have estimated the impact of group interaction on the absence behavior of primary and secondary teachers (Bradley et al. 2007). They suggest that absenteeism is influenced by prevailing group absence behavior at the school. The finding suggests that a worker takes one more day of absenteeism if their average colleague takes 12 more days per quarter for primary school, and 8 more days of absenteeism per quarter for secondary school teachers, respectively.

A North Carolina study relates the impact of teacher absenteeism and the economic status of the population (Clotfelter, 2009). The authors examine the incidence, frequency, and consequences of teacher absences in public schools, as well as the effect of an absence disincentive policy. They find that incidence of teacher absences is economically regressive: in the poorest quartile schools averaged almost one extra sick day per teacher per year than

schools in the highest income quartile, and schools with obstinately high rates of teacher absence were much more likely to serve low-income than high-income students. They ran a regression model including teacher fixed effects and their absences are associated with lower student achievement in elementary grades. Finally, they present evidence that the demand for discretionary absences is price-elastic. Their estimates in the study suggest that a policy intervention that simultaneously raised teacher base salaries and increased financial penalties for absences could at the same time raise teachers' expected income and lower districts' expected costs on teachers.

In addition, Bruno (2002) argues that school reform efforts aimed at promoting equity and excellence at school settings should focus on the differences in teacher absenteeism rates across geographical locations of schools and how school site location impacts on access to educational opportunity. Specifically, the study examines the relation between the quality of the environmental and geographical context of the school setting and the rates of teacher absenteeism at the school site for all high schools that are located in a large urban district. Finally, he concluded that the study partially validates that the dual problem of school district resources and intensification of student risk are both impacted by teacher absenteeism.

In addition, the quality of the environment as measured by the median income of the area is also highly associated with teacher absenteeism. This association between the quality of the geographical space, teacher absenteeism, and educational achievement raises issues of social justice and has the potential to damage school reform efforts at promoting equity and quality in schools.

There are many studies discussing the causes of teacher absenteeism, and externalities that the issue generates. I specifically focus on those papers that focused on measuring the

impact that teacher absenteeism has on students' achievement. But I have included in the literature review other approaches to show how multidisciplinary the issue is.

CONCEPTUAL FRAMEWORK AND HYPOTHESIS

This paper analyzes the impact that teacher absenteeism has on student achievement by running an OLS regression with data from the Civil Rights Data Collection (CRDC) from 2011-2012 (see Data section for more details). The data is organized at the school level and includes all schools in the country.

The equation for estimating the impact of teacher absenteeism in student's achievement is the following:

$$Y_s = \beta_0 + \beta_1 \text{teacher absenteeism}_s + \beta_2 \text{charter}_s + \beta_3 \text{race}_s \\ + \beta_4 \text{Certified Teachers}_s + \beta_5 \text{number AP courses}_s \\ + \beta_6 \text{Student choice}_s + \beta_7 \text{retention11}_s + \beta_8 \text{retention12}_s + u$$

where the dependent variable (Y) is student achievement, as measured by achievement on Advanced Placement (AP) exams. The subscript "s" means that the information is presented at the School level. This data set I used, CRDC, has results for AP exams, and it is presented in different ways. AP courses are offered for advanced high school students which can earn them college credit if they pass the end-of-course exams. They have a scale from 1 to 5, where 3 or more is considered passing. AP classes are offered in 34 subjects. There is no charge for AP classes; they are available as part of the high school curriculum but the fee for each AP exam is \$87. Some states provide AP exam fee reduction or complete subsidy.

I took the amount of students that don't pass AP exams in schools where they provide AP courses. It wasn't possible to measure the students who successfully passed the exam because

the data was provided inaccurately. In many schools this number was presented as equal or more than 2, and not the exact amount of students.

The key independent variable *teacher absenteeism* is measured as the number of full time equivalent teachers in a classroom that has been absent for more than 10 days.

The control variables are *race minority*, *charter schools*, *percentage of certified teachers*, *number of AP courses that each school provides*, *students choice and retention*.

For the control variable on race I created a new variable with the percentage of student population in each school that is non-white. This includes Hispanic, American-Indian, African-American, Black, Pacific Islander. I took the overall enrollment of each school and then subtract the amount of white American students. Then I divided that number by the overall enrollment to find the percentage of race minority. *Charter schools* is a dummy variable if the school is a charter school. *Percentage of certified teachers* is a variable created by dividing the numbers of certified teachers with the number of full time equivalent teacher per school. Certified teachers are the full time equivalent of classroom teachers meeting all state licensing and certification requirements. *Number of AP courses that each school provides*, is a variable representing the amount of AP courses each school provides. *Students choice* is a dummy variable that shows if the students are allowed to self-select to participate in any AP courses. *Retention* are two control variables reflecting the amount of students that are retained in grade 11 and 12.

A control variable that would be important to include but is not possible with this data base is the income level of schools or teachers. As mentioned in the literature review, income level is strongly associated with teacher absenteeism, and in consequence to the impact on student achievement. Family income is another variable that I would have included but not possible either with the information of this data base. When it is not possible to measure school average family income or neighborhood income, other papers discussing education

issues commonly used a proxy of free meals provide at each school to measure income level of the school. The CRDC does not provide any income information. The only variable related to money is the total amount spent on teachers, but it is not a school decision, as it is regulated by the districts. Because the lack of information in this sense, the model doesn't include any economic control variable. (See: 8. Limitations)

DATA AND DESCRIPTIVE STATISTICS

The analysis of this paper is based on the 2011-12 Civil Rights Data Collection dataset. The purpose of the U.S. Department of Education Civil Rights Data Collection (CRDC) is to gather data related to the nation's public school districts and elementary and secondary schools' responsibility to provide equal educational opportunity. To fulfill this objective, the CRDC collects a range of information, that includes student enrollment and educational programs and services data, all of them disaggregated by race, sex, and disability. The CRDC is a lasting and important asset of the Department's Office for Civil Rights (OCR) overall strategy for managing and implementing the civil rights statutes for which it is responsible. This information is also used by other offices in the Department of Education, as well as policymakers, and researchers outside of the Department.

The U.S. Department of Education has the authority to conduct the CRDC, and this data collection is mandatory. It was first conducted in 1968. The 2011-12 CRDC collected data from a universe of all public schools and school districts, including charter schools, alternative schools, juvenile justice facilities and schools that serve students with disabilities. To collect it, each school district had the option of providing their data through a web-based survey or through submitting an electronic file. The variable "teacher absence" has been included since 2009. Find in Appendix 1 the list describing the data collected for the 2011-12 CRDC.

The CRDC has information for more than 95,000 schools in the country. I selected only the 24,000 that have grades 11 and 12. These are the years where more AP courses are taken. Some of them could be taken in 10th grade but there are only a few courses offered. As AP is my more accurate measure of student achievement, I decided to reduce the sample to have a cleaner measure of the relationship excluding schools without these grades.

Table 1. Descriptive Statistics used in the regression.

DESCRIPTIVE STATISTICS					
Variable	Obs.	Mean	Std. Dev.	Min	Max
Total students passed no exam	12584	47.75747	70.91143	4	1167
Total Student Enrollment	24608	634.6725	730.5952	2	23010
% Teacher Absent	24509	0.2419623	0.6793562	0	100
Charter School	24603	0.0794619	0.2704638	0	1
Race Minority	24608	0.4245187	0.3320485	0	1
Percentage of Certified Teacher	24509	0.961518	0.1322029	0	1
Number AP courses school provide	12703	9.306935	7.236802	1	37
Students allowed to self-select to participate AP courses	12703	0.7559632	0.4295316	0	1
Total Retention Grade 11	24600	5.670366	25.52838	0	2071
Total Retention Grade 12	24600	7.230285	28.08793	0	2314

Source: CRDC 2011-2012

Finally, among the 24,000 schools with grade 11 and 12, I selected the ones that provide AP courses, which reduced my sample 50%. At the end, I ran the different models with the 12,578 schools that provide AP courses and where I know how many students failed on their AP exams.

EMPIRICAL RESULTS

Following the model explained before, I run four different regressions including different controls. In Model 1, I look at the impact of the percentage of teacher absenteeism in each school on student achievement, measuring the total amount of students that do not pass the AP exams. Table 2 shows there is a positive impact. For every percentage point increase in the proportion of teachers in a school who are absent for 10 or more days in a school year, the number of students who take but do not pass AP exams increases by 20.

In Model 2, I add a control variable which indicates if the school is a charter school or not. Results in Table 2 show the effect of teacher absenteeism increases the number of students which do not pass AP exams, but the effect is muted when charter school status is taken into account. If a school is a charter school, on average, 18 fewer students do not pass AP exams. All of these results are statistically significant ($p < 0.01$).

In Model 3, I include a control for race by using a variable representing race minority. Results show a positive effect of teacher absenteeism on the number of students not passing the AP exam, but it is a smaller effect when students' race is taken into account. On its own, schools with more students who are racial minorities have more students not passing the AP exams.

Table 2. OLS results for the four models

VARIABLES	OLS Results			
	(1)	(2)	(3)	(4)
Total students passed no AP exam	Bivariate	add dummy charter	add race control	Full model
% Teacher Absent	20.43*** (3.16)	16.96*** (3.21)	15.63*** (3.20)	9.45*** (2.80)
Charter School		-18.22*** (2.93)	-18.92*** (2.92)	-10.87*** (2.58)
Race Minority			83.46*** (9.72)	22.35*** (8.54)
Percentage of Certified Teacher				-71.59*** (5.77)
Number AP courses school provide				4.31*** (0.08)
Students allowed to self-select to participate AP courses				9.05*** (1.28)
Total Retention Grade 11				0.35*** (0.03)
Total Retention Grade 12				0.02 (0.03)
Observations	12,578	12,578	12,578	12,578
R-squared	0.00	0.01	0.01	0.25

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1
 Source: CRDC 2011-2012

In the last and complete model, Model 4, I include the controls mentioned before and I include the number of AP courses each school provides and also if the students have the possibility of choosing to enroll or not in AP courses. Lastly I include two more variables to measure other characteristics of teachers: the percentage of certificated teachers each school has, this means if they have the requirement and certificated approval to teach, and also the number of students that are retained in the last two grades, the ones I am using to measure student achievement. This reflects the number of students that are held back a grade. The results are similar to the results in the model showed before. The only two variables with a negative impact (meaning that they lead to fewer students not passing AP exams) are if the

school is a charter school and the percentage of certified teachers. All the other variables have a positive impact, meaning that with an increase of each variable more students do not pass the AP exams. At the same time, all variables are statistically significant at the $p < 0.01$ level except for total students retained in grade 12.

Results show that the effect of teacher absenteeism is still positive (meaning it leads to fewer students passing the AP exams), but that the magnitude decreases when additional control variables are added to the model.

LIMITATIONS

The data base I worked with presents some limitations to find a causal effect on the relationship between teacher absenteeism and student achievement. The unit of observance is at the school level. The perfect data set for this analysis should have the unit of observance at the student level with the possibility of matching the student achievement with the absenteeism of his/her current teacher.

Another potential limitation is that the measure used for student achievement is not accurate enough. The student achievement measure I used only takes into account the effects of teacher absenteeism on high-achieving students (those that take AP exams). It is possible that the effects would be different if there were a variable that measured the effect of teacher absenteeism on all students in the system. In this sense, the main limitation is the measure of student achievement: students that failed on a particular exam without exact scores, only passed or not passed. The good point about this measure is that the exam is standardized and the same for everyone who takes it. For a better estimation, it would be important to have the exact results of each student on another standardized exam that students have to take at the same point.

Lastly, as mentioned before, an important limitation of this model is that I am missing a control variable that considers the income level of schools, families or teachers. It is expected that income level will be strongly associated with teacher absenteeism, especially because the environment in the neighborhood. Poor neighborhoods are related with higher teacher absenteeism because the schools can be an unsafe place to work and this will have an effect on the quality of the education as well.

POLICY DISCUSSION

Based on the results presented above it is important to point out that teacher absenteeism has not only a strong economic impact on the system (salary of substitute teachers) but also there is a relationship with students failing exams. This study doesn't clarify on the reasons for teacher absenteeism. There are different types of absenteeism (e.g., planned vs. unplanned) and they have different effects. It's possible that teachers with planned absences have time to make detailed lesson plans and find higher quality substitute teachers, and that would not have as detrimental of an effect on student achievement. Future studies could focus the research on causes and types of teacher absenteeism.

The present study points out the necessity to find solutions to reduce teacher absenteeism. The objective of the study was to present a negative relationship between teacher absenteeism and a different variable than the economic costs of this absenteeism. Framing the issue on the effect of teacher absenteeism on student achievements promote a different approach that may appeal to teacher behavior to reduce their absenteeism.

Not only communication, but appealing to a teacher's behavior is necessary. As mentioned in the literature review, policy implementations are needed to motivate and award teachers in their classroom on the one hand and punish absenteeism on the other. A policy intervention that touches both sides could have positive impact without economical cost.

CONCLUSION

Through the worked presented above, I confirmed the hypothesis that mobilized me to start the research. There is a negative impact from teacher absenteeism to student achievements. This paper is to say that teacher absenteeism is affecting the quality of education. As mentioned in the introduction, the debate surrounding education is focusing on quality (Sanchez Zinny et. al, 2011). Teachers play one of the most important roles regarding the quality of education. Finland has these days the most effective education system, and they score on the first positions on international standardized test. The Minister of Finland explained the achievements of the education system by establishing three main priorities: teachers, teachers and teachers. The challenge is to have in the education system motivated teachers that could motivate students to learn, to develop, and to succeed.

Teacher absenteeism, as this work explains, is affecting educational quality. Teacher absenteeism is affecting student's achievements and also is affecting teachers performing. Policies are needed to reduce this behavior and to motivate teachers to give them the confidence that they have a real impact on student achievements. The work above was conducted trough a negative way: I analyzed how many students failed on exams when teachers are absent. This negative path was used to define an issue and develop a theory. The positive conclusion is that less teacher absenteeism is related with more students passing AP courses, that is to say less absenteeism improves student's achievements. This results are also shown as a way to increase the social value we have for teachers and their mission.

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