THE BASIC DETERMINANTS OF ATTENDANCE AND ABSENTEEISM IN PRIMARY EDUCATION IN TURKEY

RESEARCH BRIEF

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In the 2011-2012 school year, unexcused absences in public primary education institutions increased by over 80 %, reaching an average of 5.8 days. In an era of increasing investment in public primary education in Turkey, absenteeism remains a major challenge. Moreover, the economic crisis of 2009 may have caused an increase in student absenteeism and this phenomenon should be investigated. Therefore, the Ministry of National Education, UNICEF Turkey and the Education Reform Initiative have collaborated to shed light on the causes behind this trend and devise policy recommendations. This collaborative study aims to provide a comprehensive picture of unexcused absences in public primary schools in Turkey. Its findings are thanks to its methodology, which benefits from in-depth information about more than 15 million students and their families, schools and regions, available through the "e-school" database. Based on the findings of this research, most important of which are presented in this brief, recommendations were presented to the Ministry of National Education through a policy report.

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The Basic Determinants of Attendance and Absenteeism in Primary Education in Turkey Research was undertaken in the framework of the Program Cooperation Agreement between UNICEF Turkey and the Education Reform Initiative, and in collaboration with the Directorate-General of Basic Education at the Ministry of National Education. The collaboration of these three institutions encompasses three research projects on the determinants of absenteeism in primary education, the transition from primary to secondary education and financial management of primary education institutions.

THE SCOPE AND METHOD OF THE RESEARCH

The e-school information system was opened for use in January 2007 by the Ministry of National Education (MoNE), establishing an information collection system for all students. e-School is a web-based education management information system that is used by the MoNE to regulate registration processes and facilitate the reporting of academic success and attendance to students and parents.[1] The scope of the data collected through e-school and the possibilities offered by the system enable it to be used for more ambitious purposes as well.

This research report is based on a wide range of information about more than 15 million students and their families, schools and regions, available through the e-school database. The report analyzes unexcused absenteeism by taking into account factors like age, gender, weighted GPA, participation in the SBS (academic assessment exams that students can take if they want to continue their education in academically selective high schools), the education level of the student's parents, the income level of the family, whether the student receives conditional cash transfers (i.e. education aid), the average GPA of the classroom, the teacher-student ratio in the school, the ratio of tenured teachers to the whole faculty, the school type, the region where the school is located, and the characteristics of the settlement area.

The report comprises two statistical analyses to establish the above factors' relation to unexcused absences. The first analysis uses the 2009-2010 academic year data sets for grades 1-5 and 6-8 to isolate the individual impacts of these factors on absenteeism by students. In the second phase of the study, the researchers investigated the extent to which 6th-8th graders, who were primary education students between the years 2007-2011, did not attend school without an excuse due to the factors outlined above, and also as a result of the economic recession.

KEY FINDINGS

Main findings show that the number of unexcused absences was an average of 3.2 days for all primary school students in 2007, and that it increased by over 80 % to 5.8 days in 2011. Additionally, the rate of unexcused absence is much higher for 6th-8th grade students, for whom average days of absence were 7.8 in 2007, and 11.6 in 2011 (Figure 1).

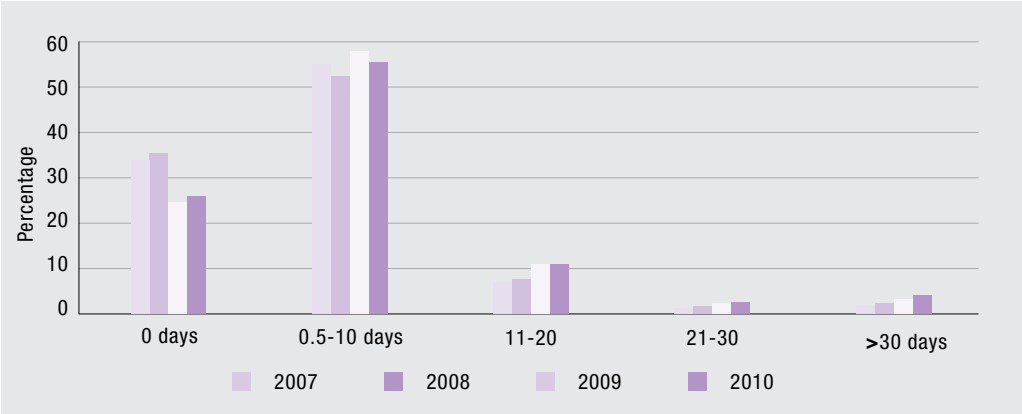
Unexcused absence was found to be rising at an increasing rate throughout the years, especially during 2009 and 2010. Figure 2 demonstrates that the ratio of students that had perfect attendance in 2009 and 2010 suffered a significant decrease in comparison to 2007 and 2008. Similarly, the ratio of students who did not attend school for more than 30 days in an academic year quadrupled between 2007 and 2010.

1 The Bylaw for Primary Education Institutions and the Bylaw on Secondary Education Institutions define the e-school as "an online system which contains information on students and administrations of schools/institutions affiliated with MoNE and through which works and operations on schools are conducted." These bylaws also define the roles and responsibilities of school directors and teachers in operating the e-school information system.

FIGURE 1: UNEXCUSED ABSENCES (AVERAGE NUMBER OF DAYS)

Source: MoNE's e-school database

FIGURE 2: UNEXCUSED ABSENCES (%)



Source: MoNE's e-school database

The number of days of absence is very different for male versus female students. In the 2010-2011 academic year, the average number of absences was 2.83 for female students and 8.13 days for males.

Furthermore, striking regional disparities exist in the case of unexcused absence. In Diyarbakır and Şanlıurfa provinces, the average is 15.6 days in an academic year, whereas in Trabzon, Ordu, Giresun, Rize, Artvin and Gümüşhane the average falls to 4.9.

DETERMINANTS OF ABSENTEEISM IN THE 2009-2010 ACADEMIC YEAR FOR GRADES 1-5 AND 6-8

The research report uses a statistical model that is cognizant of the intertwined (region-school-family-student) structure of the educational processes while analyzing the factors that affect attendance. It analyzes the extent to which the above-mentioned factors impact student attendance during the 2009-2010 academic year:

The attendance levels of students differ significantly in relation to gender, academic ranking, grade and type of settlement area. When all other variables used in the analysis are controlled for, male students in both grade categories (1-5 and 6-8) have higher levels of absenteeism than female students. In 6th grade and above, male students also display higher levels of absenteeism in comparison to earlier years. This might be caused by the increasing likelihood of entering the labor force, however it must be emphasized that this is the case only for students whose information in the database is complete.

Students whose GPA is lower than the class average tend to miss school at higher rates. Accordingly, absenteeism increases when the comparative success of the student in the classroom is lower than the performance of other students. When students are behind their peers in terms of learning, it reflects negatively on attendance, possibly by weakening the students' interest in the class, and leading to an increased risk of absenteeism.

The most important determinant of absenteeism is household poverty. The education level of a student's parents has a very limited impact in comparison to that of poverty. Poverty can result in decreased attendance both because of lack of resources for education, and due to problems of life quality, like health issues, arising out of the inadequacy of household income. It may also be the case that children in poverty have to work to provide additional, albeit irregular, income to the household.

It is observed that receiving conditional education aid increases attendance in rural areas, especially during the first five years of education. Keeping in mind the low levels of average income in rural areas, it is possible to suggest that the aid constitutes a significant portion of the household income.

The type of settlement area plays an important role in determining the level of absenteeism. Students in urban areas systematically miss more school days than students living in rural areas. This difference may result from the fact that the demand for child labor is higher in urban settings. On the other hand, higher absenteeism by the first group of students might result from the fact that a part of school time is devoted to external preparatory courses. *Dershanes*, the private tutoring institutions offering these external test preparation courses, provide services primarily in cities.

The impact of the independent variables on attendance levels differ significantly across the age groups included in the analysis. The absences in grades 1-5 versus 6-8 seem to display different characteristics. Whereas the impact of gender is relatively low in grades 1-5, it raises significantly to the detriment of male students in grades 6-8. Academic success within the classroom explains a great extent of absences in grades 1-5, but this significance decreases in grades 6-8. On the other hand, being in an urban setting has a deeper impact on absenteeism in grades 6-8, in comparison to grades 1-5. Lastly, whereas poverty is similarly significant in determining the absence levels of both age groups, the conditional cash transfers in rural contexts have a larger impact on attendance levels for grades 1-5. Conditional cash transfers are less effective in increasing the attendance levels of 6th-8th graders.

This analysis that explores the determinants of student absenteeism in the 2009-2010 academic year focuses on a single time period. Since students cannot be followed through time, these findings do not allow for exploring the possible impact of the economic crisis on student attendance. Moreover, since the coefficients for the independent variables are estimated for a certain time period, their definitiveness can be questioned. To overcome these problems, the research report investigates the factors determining absences between 2007 and 2011 by using different independent variables and observing the students over time.

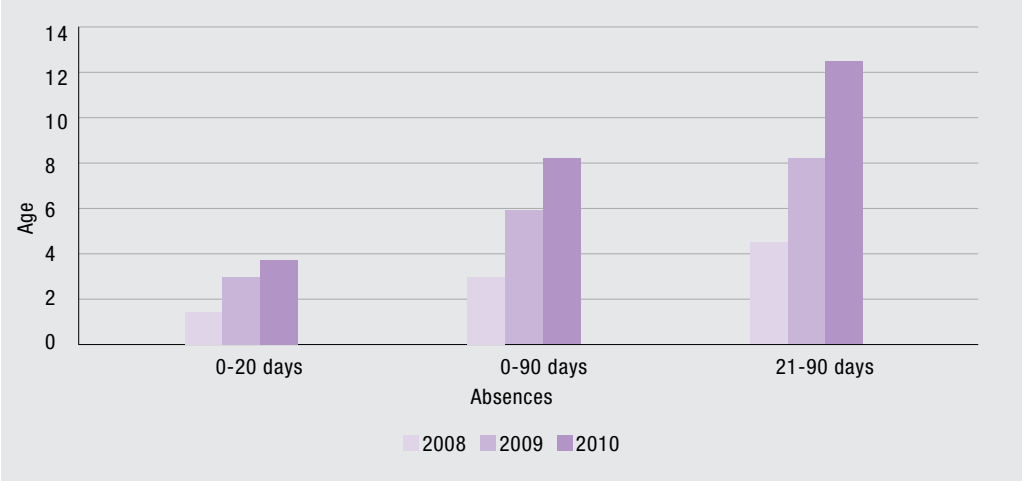
2007-2011 PANEL DATA ANALYSIS FOR GRADES 6-8

The e-school data set comprising the academic years between 2007 and 2011 presents important possibilities as it includes both a horizontal cross-section (students), and the time dimension (2007-2008, 2008-2009, 2009-2010 and 2010-2011). The time dimension allows for an investigation of the relationship between the economic crisis and student attendance. Moreover, the data structure allows following the students through time, and prevents the predictions from being affected by unobservable personal characteristics of students. When the same student can be observed in multiple cross-sections through time, it is possible to exclude factors that remain constant over time from the analysis. This general approach is panel data analysis.

The second part of the research report analyzes the determinants of student attendance by taking into account unobservable factors concerning the student himself/herself. To this end, differences in attendance levels are evaluated together with the variables of student's age, employment status, school type, region, SBS score, type of settlement and income level. The variables determining student attendance are estimated both cumulatively and separately for categories of 0-20 days and 21-90 days of absence.

In grades 6-8, as students become older, the risk of absenteeism increases. For instance, the days of absence of a student who was in the 6th grade in 2007 increases

FIGURE 3: THE RELATIONSHIP BETWEEN STUDENTS' AGE AND ABSENCES



Source: MoNE's e-school database

by 3 days in 2008, and 6 days in 2009. This age-related increase is very low for those in the 0-20 days of absence group, whereas it is quite high for students in the 21-90 days of absence group. For a student who did not attend school for 25 days as a 6th grader in 2008, this figure climbs up to 29 days in 2009 and 33 days in 2010 (Figure 10).

Working leads to increased absence. However, this impact is valid only in the case of students who do not attend school for 21-90 days. For students who do not attend school for 0-20 days, the variable does not have a statistically significant effect.

The overall level of academic success impacts the level of attendance. An increased level of academic success in the SBS exam is correlated with a decreased level of absenteeism. It is also striking that different types of public primary schools are not very different from one another with respect to attendance levels, and it is only private schools that are significantly different. The attendance levels in private schools are higher when compared to other schools.

Students residing in cities and towns have higher levels of absenteeism than students residing in villages. The coefficients demonstrate that the difference between towns and villages is comparatively lower, and the difference between villages and cities is relatively higher. This strong effect might be due to the fact that exam preparation is a more widespread phenomenon in cities, which in the end reflects negatively on attendance levels.

The panel data analysis reveals an inverse relationship between household income and student attendance. As income increases, absenteeism decreases and as income decreases, absenteeism increases. For students who have 0-20 days of absence, the impact of income on attendance is not statistically significant. On the other hand, for students who miss school for 21-90 days in an academic year, an increase in income level results in a considerable decrease in absenteeism. Controlling for other variables demonstrates that the students who miss school the most come from especially disadvantaged households in terms of income.

The research findings suggest that the economic crisis was an important determinant of student attendance via the income levels. The impact of income on attendance remained the same in 2007 and 2008, but the relationship between absenteeism and income became significantly stronger in 2009. While this impact decreased slightly in 2010, it was still significantly higher than in 2007.

The negative impact of the economic crisis on attendance is relevant only for students who missed school for 21-90 days. Therefore, in times of economic crisis, students in the risk group should be closely monitored. On the other hand, since household income is recorded in the e-school system as a proportional variable and because it depends on the subjective assessment of the parent, it is impossible to make a definitive evaluation of the connection between income and student attendance. This deficiency makes it impossible to comment on what the most appropriate level of conditional educational aid would be.

In sum, the panel data analysis demonstrates that age, employment status, academic attainment level of the student, and the quality of teaching-learning processes are the most important determinants of attendance. In addition, the analysis shows that the economic crisis had a deeper impact on students who missed school for more than 20 days, and that regional characteristics are also more important for those students with the most absences.

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