

RESEARCH INSIGHTS



Can Low-Cost Communication Technologies Bridge Information Gaps between Schools and Parents?



We document large gaps between parents' knowledge and school reports of students' attendance and grades. Sending frequent text messages with information on attendance, grades and school behavior shrinks those gaps. Parents of at-risk students adjust their understanding of their children's performance to the greatest degree.



High-frequency text messages had positive impacts on grades and attendance. Math GPA increased 0.08 of a standard deviation; the probability of earning a passing grade in math increased by 2.7 percentage points (relative to a mean of 90 percent). The intervention also reduced school absenteeism by 1 percentage point and increased the share of students who met attendance requirements for grade promotion by 4.5 percentage points.

CONTEXT

Grade retention and early dropout are two of the greatest challenges facing education systems in middle-income countries. In Latin America, only 52 percent of students graduate from high school on time, and researchers have identified absenteeism, failing grades, and classroom misbehavior in middle school and in earlier grades as strong predictors of grade retention and the probability of dropout. While schools routinely record these early warning signs, families often do not have timely access to this information. Without such information, parents may be limited in their ability to work with young adolescents and schools to reduce absenteeism and improve grades.

PROJECT

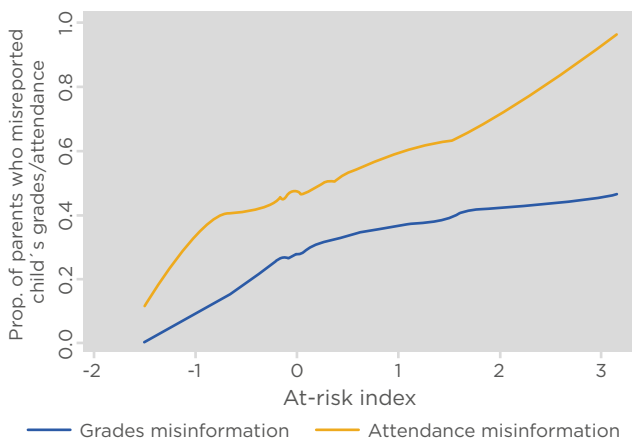
We conducted a randomized experiment in Chile to evaluate the effects of using weekly and monthly cellphone text messages to provide parents with information on students' attendance, grades, and classroom behavior. The intervention focused on students in the last five grades of primary school and lasted for two school years, during which 44,000 text messages were delivered. Our main experimental sample includes about 1,000 children enrolled in seven low-income schools in a metropolitan area. Classes were randomized into groups with a high (75%) or low (25%) share of students whose parents participated in the texting program and then students were randomized to treatment within each classroom. Parents of treated students received *weekly* text messages on attendance and *monthly* text messages on math grades and classroom behavior. The text message intervention (*Papás al Día*) was deliberately designed to be "low-touch." We did not teach parents how to interpret or use the information, nor did we provide any guidance to students, teachers, or principals.

RESULTS

We find that parent misinformation is widespread. About one in four parents was unable to report correct information about a child's grades and attendance. Figure 1 plots the share of parents who reported grades/attendance that differed from the child's actual school performance before the intervention began. This misreporting share is plotted against a summary measure—an at-risk index—of whether a child is at risk of retention or dropping out before the intervention. For students with the highest values of the at-risk index, over 80 percent of the parents were misinformed about attendance (red line) and about half had incorrect information about grades (blue line). These are the gaps that our information intervention was designed to shrink, and the text message treatment does shrink information gaps between parents and schools. Parents of at-risk students “correct” their understanding of their child's performance to the greatest degree, although the results are not statistically significant at normal levels.

The intervention had positive impacts on both grades and attendance, and those effects were greater for students at higher risk of later grade retention and dropout. Figure 2 plots the estimated intent-to-treat estimates: effects are largest for those with the lowest initial math grades (Panel A) and attendance rates (Panel B).

Figure 1. Baseline Share of Misinformed Parents

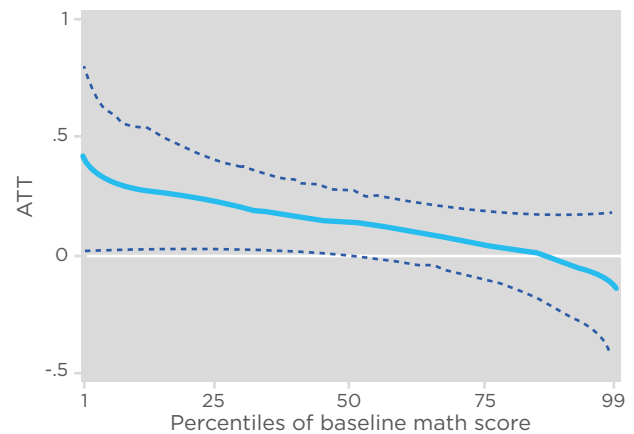


Note: Y-axis presents the (lowess-smoothed) share of parents misinformed regarding their child's grades and attendance as measured by the at-risk index. Based on parent surveys at baseline.

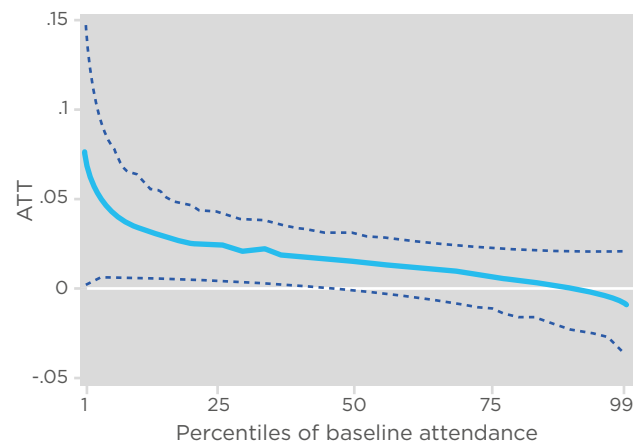
The intervention additionally changed parent behavior at home. Treated students perceived that they received significantly more family support after the intervention, and students perceived that their parents were more involved in school matters. Consistent with these changes in parental behavior, we show that some treated parents, especially those of at-risk students, are willing to pay for the information provided. We interpret this as parents learning about the value of that information.

Figure 2. Predicted Treatment Effect by Baseline Characteristics

Panel A: Math score



Panel B: Attendance rate



Notes: Figure shows linear predictions and 95% confidence intervals of the average treatment effect estimates on math grades and attendance rate.

POLICY IMPLICATIONS

Our results suggest that a low-touch easily scalable intervention can improve students' schooling outcomes. In addition, we find evidence of positive classroom-level spillovers. Exploiting the randomized variation in the share of students treated within a classroom, we examine whether there is extra value in being in the text-messaging program when many more classmates are also in the program. Such spillovers could be significant, especially if such parent-school communication programs scale up to cover all enrolled students. In all cases, the differential effect of being assigned to treatment in a high-share treated classroom improves educational outcomes of treated students—indeed, it is larger than the main effect of the treatment in low-share classrooms. This suggests that our main results are probably lower bounds on impacts at scale.

Exploring the timing and frequency of text messages through the week and through the school year allows us to draw out some important policy implications for the design of these types of information interventions. We show that the positive effect on attendance fades out over the week: effects are larger immediately after parents receive the text messages and decline as the days go by. We find that the intervention is effective

throughout the school year. Parents do not seem to get used to the information treatment. Taken together, these results suggest that the information treatments studied in this paper should be high frequency and sustained over time in order to increase their effectiveness.

Our text message intervention is characterized by low variable cost and a one-time setup cost. Using the treatment effects estimates, we find that a 0.01 of a standard deviation increase in math grades has a variable cost of about US\$ 1.18 per student per year at market prices (rising to US\$ 2/year when we include the fixed set up costs). This program is cost-effective when compared to other interventions designed to improve learning outcomes.



FULL STUDY

[Berlinski, Samuel, M. Busso, T. Dinkelman, and C. Martinez A. 2021. "Reducing Parent-School Information Gaps and Improving Education Outcomes: Evidence from High-Frequency Text Messages."](#)

DEPARTMENT OF RESEARCH AND CHIEF ECONOMIST

The Department of Research and Chief Economist generates new ideas to enrich the knowledge base that supports the policy agenda of the Inter-American Development Bank (IDB) and its member countries for achieving sustainable and equitable development in the region. To maximize the impact of its research, the Research Department carries out activities that serve as inputs to other IDB departments, governments, the academic community and public opinion in the region.

