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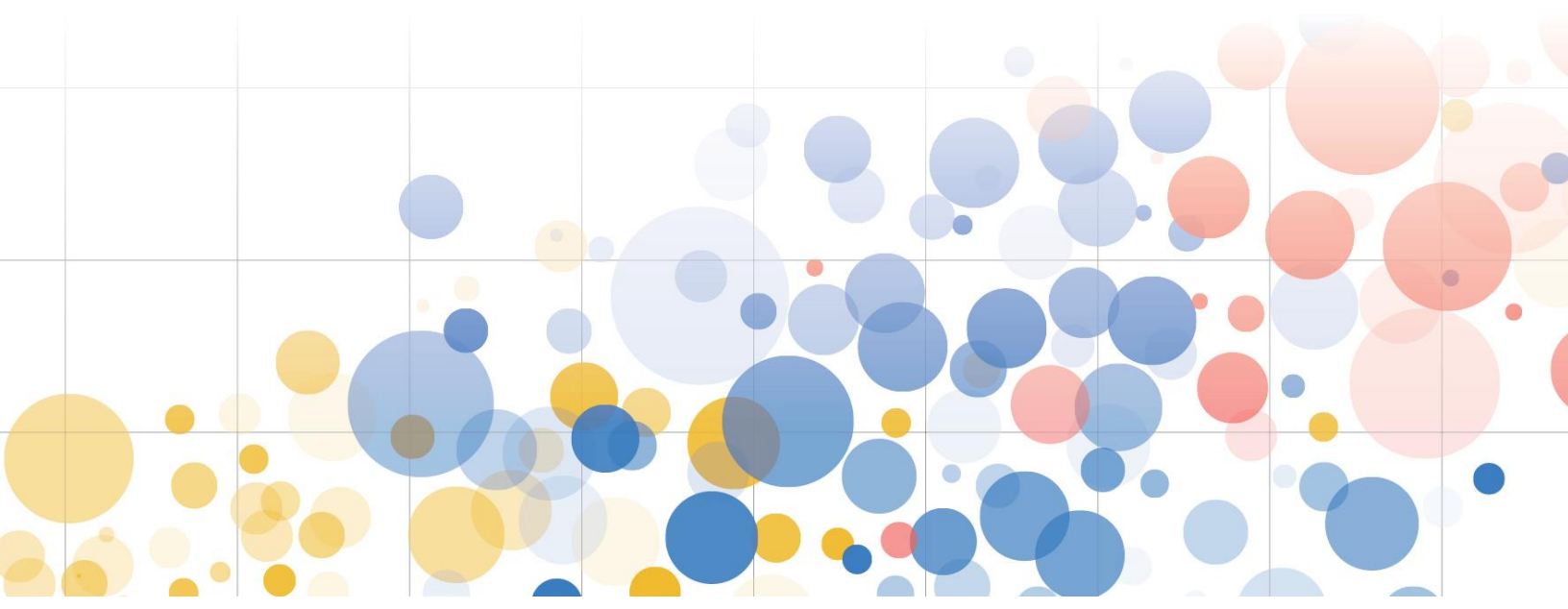
School Messaging Platforms and Student Attendance

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HIGHLIGHTS

- Four school districts in Georgia used their existing messaging platforms to send email and text messages to over 8,900 parents of students on-track to be chronically absent.
- Chronic absenteeism decreased by 7.8 percent after receiving the low-cost personalized message. This corresponds to, on average, one less day absent.
- Some parents are harder to reach than others. Students with more than 15 absences have valid parental contact information in the messaging system at nearly half the rate of students with five absences.

MOTIVATION

School attendance is strongly associated with academic performance and achievement and is one of the strongest predictors of dropping out of high school (e.g., Allensworth and Easton, 2007; Balfanz and Byrnes, 2012). For example, estimated graduation rates for students missing fewer than 10 days in middle school is 70-79 percent, compared to 51-52 percent for students missing 11-20 days (Barge, 2011). Each year in the United States an estimated 5-7.5 million students miss nearly a month of school; that is one in every seven students (Balfanz and Byrnes, 2012; Ginsburg et al., 2014). In Georgia, around 11 percent of students miss more than 15 days of school each year¹, which, according to the federal definition, categorizes them as chronically absent.²

Students miss school for a variety of reasons such as lack of transportation, illness, unwillingness to attend, and household burdens (e.g., Ehrlich et al., 2014; Chang and Romero, 2008). These are all difficult problems to solve, but one additional and potentially straightforward reason is parents³ not having all the relevant information needed to make desirable attendance decisions (Rogers and Feller,

2017). Parents may not know how many days their child is absent. Even if they know the number of days the child is absent, they may think that is common. Finally, even if parents know that their child is absent and much more so than the child's peers, they may not know how it relates to longer-term success.

Given the aforementioned research, we partner with four metropolitan Atlanta, Georgia school districts to conduct an experiment to improve attendance by informing parents about their child's attendance. Specifically, school districts send monthly text and email messages to parents through the school districts' existing messaging platforms to inform parents about the number of days of school the child has missed, how that compares to her peers, and stating the relationship between attendance and academic success.

RESEARCH QUESTIONS

- 1) Do text and email messages through school messaging platforms reach the parents of students who are on-track to be chronically absent?

¹ Civil Rights Data Collection (CRDC) for the 2013-14 school year.

² In Georgia, chronic absenteeism is defined as missing 10 percent of enrolled days, which corresponds to roughly 18 days. All analyses are insensitive to the definition used.

³ We use the shorthand of "parents" for parents, guardians, or primary point of contact.

- 2) Do students who are on-track to be chronically absent see improvements in attendance after their parents receive personalized messages about the frequency of days absent?

MESSAGING DETAILS

The primary goal of the research and messages is to test whether there are improvements in attendance after sending parents personalized messages about their child’s absences. To do so, the districts’ communications team deploys text and email messages through their existing messaging platform⁴ in late 2018 to the parents of K-12 students who are on-track to be chronically absent by the end of the school year.⁵ These communication platforms are frequently used to send important messages regarding inclement weather, school closings and details about upcoming standardized testing procedures, but they also have the ability to be personalized by syncing up with the districts’ student information system. We make use of their email and text functionality, which are populated with contact information by parents, typically at the beginning of the school year.

Starting in November 2018, parents of a group of students are assigned to receive these personalized messages.⁶ Depending on the quality of their contact information—something we directly assess—parents receive text messages or email messages or both, depending on what’s available. The message content varies slightly for grades K-8 and 9-12 and typically read as follows⁷:

⁴ Three school districts use SchoolMessenger and one district uses BlackBoard.

⁵ In practice, this means students who have already missed approximately five days of school.

K-8 Message: “John missed 5 school days so far this year – more absences than 90 percent of his peers. Please make sure John gets to school.”

9-12 Message: “John missed 5 school days so far this year – more absences than 90 percent of his peers. Students with fewer absences are more likely to graduate.”

The underlined portion of the message are personalized and draw from the districts’ data. We calculate the percentile (e.g., 90 percent) from all students in the district either in grades K-8 or 9-12. Once each month through May 2019, the number of absences and corresponding percentile are updated, and text and email messages are sent out to the same set of parents.⁸

DATA AND METHODOLOGY

We assess our research questions using experimental methods. That is, we randomly assign students into two groups: one group’s parents will receive the messages about their child’s absences (treatment group) and the other group will not (control group). By randomly assigning which students belong to each group, the two groups of students have, on average, similar characteristics and attendance rates to one another.

There are two main advantages to using this experimental method. First, it allows us to determine the causal impacts of the messages on future attendance. Second, estimating the impacts of the messages is straightforward—we simply compare the attendance rates of students in each group to

⁶ We initially give parents the option to opt-out of future messages for this research. Only 1.1 percent do so.

⁷ Each district has slight variations on the messages.

⁸ Some districts missed a month or more of messages due to implementation issues.

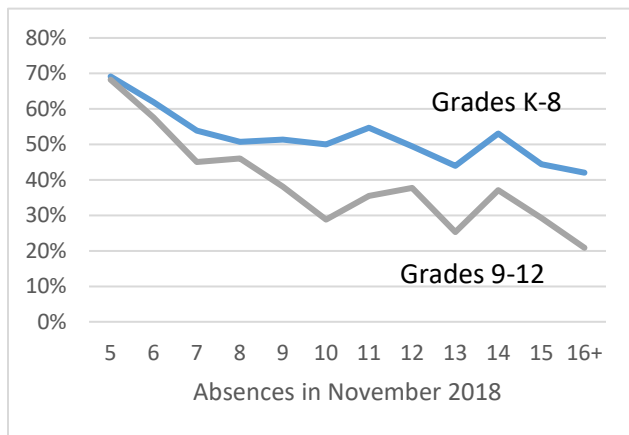
one another.⁹ In total, the group of students whose parents are set to receive messages (treatment group) consists of 8,924 students, and those who are not (control group) consists of 18,544 students.

RESULTS

RESEARCH QUESTION #1

Overall, we find that 55 percent and 49 percent of students in grades K-8 and 9-12, respectively, have at least one valid email address that receives messages or a phone number that receives texts on record to contact at least one parent. However, only 23 percent of students in the treatment group have a parent who received a text message, so a lot of the contact is driven by email communication.

Figure 1. Percent of Parents Who Received Message through Districts' Communication Platform



We further investigate what type of students and parents are unreachable through the messaging platform, focusing on attendance and student characteristics. Figure 1 shows parents of children in high school are harder to reach than parents of children in lower grades. There is also a strong

⁹ We use ordinary least squares in an intent-to-treat analysis and two-stage least squares for a treatment-on-the-treated analysis because some parents do not receive the messages.

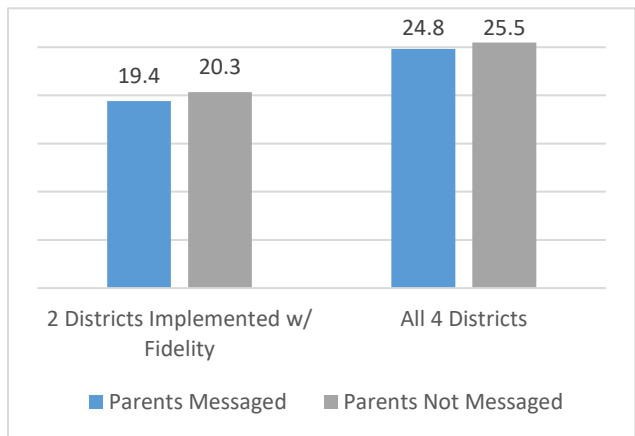
negative relationship with initial absences, showing that students with relatively fewer absences are more likely to have valid contact information.

Overall, we find that the students who are most in need of the outreach to improve attendance have parents who are the hardest to contact.

RESEARCH QUESTION #2

We find evidence that messaging parents about their child's absences can improve attendance. The left side of Figure 2 shows the reduction in absences in the treatment group (19.4 absences) compared to the control group (20.3 absences). The 0.9 day reduction in absences represents an approximately 4.6 percent reduction in number of absences when the messages are sent out each month.

Figure 2. Students' Number of Absences at End of Year



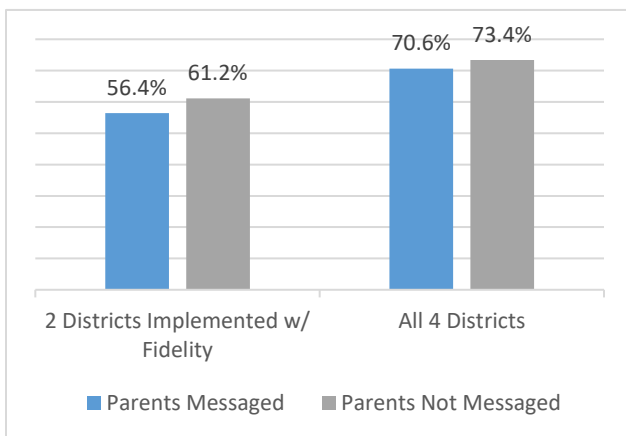
The 0.7 day reduction in absences on the right side (24.8 absences in the treatment and 25.5 in the control) includes all four districts, two of which did not successfully message parents every month.¹⁰

The reduction in the number of absences also corresponds to a reduction in the probability of being categorized as chronically absent at the end of

¹⁰ The two districts that had relatively low fidelity in implementation saw no statistical impacts of receiving messages. All results are treatment-on-the-treated analyses.

the school year for these students who were all on-track to be chronically absent early in the year. The left side of Figure 3 shows the relatively lower percent of students who are chronically absent in the group that received messages (56.4 percent) compared to the group that did not receive messages (61.2 percent). This corresponds to an almost 8 percent reduction in the probability of being categorized as chronically absent at the end of the year for these students who were at-risk of being chronically absent.

Figure 3. Percent of Students Who Are Chronically Absent at End of Year



CONCLUSION AND RECOMMENDATIONS

Overall, our results show that simple personalized outreach to parents can improve student attendance and reduce the incidence of chronic absenteeism. We cannot tell what piece of the message is driving the results, whether it be the number of absences, the percentile relative to the child's peers, or just the outreach in general. Previous research (Rogers and Feller, 2017) suggests the number of absences is more important than the percentile but that is not necessarily true in this context; further research could answer that question.

Through this experiment, we show that school districts have a powerful, yet underutilized, tool in their possession. Most of the school messaging platforms are used for mass communication, not personalized messages. They are also not commonly used by different constituents, like school counselors, social workers, physical education teachers, etc. There is a lot of opportunity to use these platforms as most contracts allow for unlimited messaging under a single price. That is to say, the experiment had no out-of-pocket costs to the districts.

However, the potential power and low-cost of the messaging platforms relies on the validity and completeness of the parental contact information. We show that there is room for improvement in gathering those data, especially for the students most in need of outreach. Once the platform has sufficient contact information, districts should look for opportunities to use the functionality they are already paying for to improve student outcomes.

More details about the methodology of this study will be posted in an academic working paper at gpl.gsu.edu. Jonathan Smith is the corresponding author (jsmith500@gsu.edu).

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ABOUT THE AUTHORS

Tareena Mussaddiq is a Ph.D. candidate in economics at Georgia State University and works with Georgia Policy Labs as a graduate research assistant. Her research interests are in education, health, and development economics. Her current work focuses on impact of school nutrition on child health and education outcomes in the United States and long run and intergenerational effects of girls' education in developing countries. Prior to pursuing her Ph.D., she worked as a teaching fellow at Lahore University of Management Sciences in Pakistan. She received her master's in economics and finance from University of Warwick, U.K and B.Sc. (Hon.) in economics from Lahore University of Management Sciences.

Alexa Prettyman is an economics doctoral student at Georgia State University studying labor, public, and urban/regional economics and a graduate research assistant with the Georgia Policy Labs. Her research evaluates and develops interventions and evidence-based policies that overcome the disparities of educational attainment for vulnerable youth, such as chronically absent students and children in foster care. She is also

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ABOUT THE GEORGIA POLICY LABS

The Georgia Policy Labs (GPL) is a collaboration between Georgia State University and a variety of government agencies to promote evidence-based policy development and implementation. Housed in the Andrew Young School of Policy Studies, GPL works to create an environment where policymakers have the information and tools available to improve the effectiveness of existing government policies and programs, try out new ideas for addressing pressing issues, and decide what new initiatives are promising enough to scale up. The ultimate goal is to help government entities more effectively use scarce resources and make a positive difference in people's lives. GPL contains three focus areas: The Metro Atlanta Policy Lab for Education (MAPLE) works to improve K-12 educational outcomes in metro Atlanta; the Career and Technical Education Exchange (CTEx) focuses on high-school-based career and technical education in multiple U.S. states; and the Child and Family Policy Lab looks at issues of the whole child and whole family with Georgia's state agencies. In addition to conducting evidence-based policy research, GPL serves as a teaching and learning resource for state officials and policymakers, students, and other constituents. See more at gpl.gsu.edu.