Abstract Title Page

Title: Successful Researcher-Practitioner RCT Partnership: Increasing Attendance by 15,000 Days

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Background / Context:

　　While the adjusted cohort graduation rate of students in the United States has reached 80 percent during the 2011-12 school year (Stetser & Stillwell, 2014), in the School District of Philadelphia (SDP) only 57% of its students graduate from high school in four years, which is typical of large urban school districts (Swanson, 2009). Moreover, less than 20% of SDP students graduate high school, enroll in college, and persist to the second year (The School District of Philadelphia Action Plan, 2013). School attendance correlates with academic achievement and is also among the strongest predictors of high school graduation (Balfanz & Byrnes, 2012; Byrnes & Reyna, 2012). Educators care greatly about the amount of time students spend in the classroom because absenteeism results in substantial loss of classroom learning time. Teachers and administrators estimate that some students may lose not just days, but weeks of learning time, due to tardiness and absences.

　　One of SDP's priorities is to improve student attendance as part of its Action Plan. The district created a task force dedicated to re-think the existing report card structure that is sent to guardians. Currently, student performance data (e.g., course grades and attendance) is presented to guardians in report cards in a way that is often convoluted and confusing. The task force intends to develop new formatting and, potentially, new content for the report cards. By making absenteeism information more meaningful, relevant, and contextualized, guardians might be enabled to take on a more active role in improving their student's attendance and academic performance.

　　The Student Social Support R&D Lab at Harvard (S3) and the Office of Research and Evaluation (ORE) at the School District of Philadelphia (SDP) collaborated on the "SDP Attendance Project", a research project in the form of a randomized control trial (RCT) to study strategies to improve student attendance in SDP. The project developed a low-cost, easy-to-implement innovation that could be widely used to reduce student absences. Overall, the project generated between 15,000 and 20,000 increased days of attendance (fewer days of absence) among some of the district's most at-risk students. This is valued at between $1,100,000 and $1,400,000.

　　Successful execution of this project required a close collaboration between the S3 Lab team and SDP departments, including ORE, throughout all steps of the project.

Purpose:

　　Jointly reflecting on our RCT collaboration, we have identified characteristics of the district and the research team that made this a successful project. We hope to share these reflections in this session so that other research collaborations can be more effective.

Settings:

　　Description of SDP: SDP is the eighth largest school system in the country, serving over 200,000 preK-12 students. The District enrolls a diverse population of students: 9.4% of students are classified as ELLs, and 13.8% as having disabilities; 52% are African American, 19% are Hispanic/Latino, 14% are Caucasian/Euro-Americans, 8% are Asian, and 4% identify as multiracial or other (SDP, 2014a, 2014b). SDP seeks to build on it successes and address its challenges to better serve its students through innovative avenues and partnerships. The Office of Research and Evaluation is in charge of research and program evaluations at SDP. Their focus is to develop data-driven information to be used by SDP and the City of Philadelphia to produce the knowledge needed to improve programs and services for the students and families of SDP.

Description of S3: The Student Social Support R&D Lab (S3 R&D Lab) is led by Todd Rogers, Associate Professor of Public Policy at the Harvard Kennedy School. The team uses data and behavioral science to develop and prove easy-to-implement, high return-on-investment interventions that mobilize and empower students' social support systems to improve achievement.

Research Study Design:

The project's objective is to inform and motivate parents/guardians to reduce student absences through multiple mail-based communications during the school year. The study involves 30,000 grade 1-12 students (and their guardians) enrolled in public elementary, middle, and high schools in the 2014-15 school year in SDP (about 200 schools total). Participating households were randomly assigned to one of four conditions: (1) a *Control* group that receives no additional outreach as part of this experiment, (2) an *Encourage* treatment group that receives mail stressing the importance of attendance, parental efficacy, and absence-reduction as part of parental role, (3) an *Encourage + Self* group that receives mail that has the same content as the *Encourage* mail but also states the number of days of school the guardians' student missed, and (4) an *Encourage + Self + Norms* group that receives mail that contains all the same information as the *Encourage + Self* mail but also compares the student's attendance record to that of the typical student in their school and grade. Those assigned to the three treatment arms received 5 mailings over the course of the 2014-2015 school year. Mailing 1 showed absence records from the 2013-14 school year and mailing rounds 2, 3, 4, and 5 reflect up-to-date absence records from the 2014-2015 school year.

The project addresses the following research questions (analysis plan pre-registration: X):

1. Does contacting guardians and encouraging them to improve their students' attendance reduce absences?
2. Does communicating to guardians the total number of days their student missed reduce absences? That is, are parents miscalibrated on their beliefs about how many days their students have been absent, and does this miscalibration matter?
3. Does communicating to guardians the total number of days their student missed as compared to the absences of a typical student reduce absences? That is, are parents miscalibrated on their beliefs about how their students' number of absences compare to their students' classmates' absences, and does this miscalibration matter?

There is one more exploratory ex ante research question:

4. Do these interventions also impact the attendance of other students in the household not explicitly mentioned in the mailings (e.g., siblings)?

Data Collection and Analysis:

The project incorporated various data sets exported directly from the administrative records of SDP. The data sets included student demographics and enrollment data, guardian contact information, and attendance data. The research team also conducted a live phone survey of guardians in our experimental universes after Mailing 5 (between 6/20/2015-6/25/2015). The survey has two primary purposes: (1) internal validity – a set of questions address whether the

guardians received, read, and understood the mail and (2) assessing impact on parental beliefs – how did the mail pieces impact parental beliefs about the importance of attendance and their role in ensuring their students get to school?

Data analyses were conducted using OLS regressions to generate treatment effect magnitudes and one-sided Fisher Randomization Tests to evaluate statistical significance (i.e. p-values). The primary outcome of interest was the mailings' impact on the number of recorded absences between the day immediately after mailing #1 was sent out and the end of the school year. Households with two students who were both eligible for inclusion in the experiment were also analyzed to evaluate the possibility of spillover effects.

Research Project - Results:

We see strong evidence that the attendance mail reduced absences. We find that the *Encourage* component reduced absences by 0.60 days as compared to *Control* ($p<0.001$). The *Self* component reduced absences by an additional 0.45 days as compared to *Encourage* ($p<0.001$). There was no significant reduction in absences caused by the addition of the *Norms* component above the effect of *Encourage + Self,* however ($p=0.24$).

Additionally, there were indications that these mailings had spillover effects on other students in the household. Namely, while in two student households, the *Self* and *Norms* mailings reduced the focal student's absences by approximately a day ($p<.001$), the non-focal student's absences were also reduced by .42 days ($p=.018$).

A phone survey of guardians provided strong evidence of internal validity for the RCT. The mail successfully reached guardians, guardians read and comprehended it, and it changed the beliefs for the relevant conditions regarding the number of days their students had been absent and how those absences compared to their classmates.

Overall, this project generated between 15,000 and 20,000 increased days of attendance (fewer days of absence) among some of the district's most at-risk students. This is valued at between $1,100,000 and $1,400,000.

Findings: The Partnership

Our collaboration has resulted in sustained and increased dialogue about strategies to improve attendance across the district. We have been able to share details about the project and partnership at SDP events, such as the annual SDP Research, Policy, and Practice Conferences. Jointly reflecting on the project, we have identified characteristics of the district and the research team that have made this collaboration successful and possible. We hope to share these reflections in this session so that other research collaborations can be more effective.

Project Design and Set-Up.

From the perspective of SDP
- The project aimed to improve student attendance, a priority for SDP.
- The project was also straightforward for SDP to implement. It required regular monitoring and data sharing, but implementation was handled by the S3 Lab at Harvard.
- The S3 Lab was careful to comply with all relevant regulations involving FERPA, human subjects research, and data security.
- There were adequate resources. The S3 Lab raised funds to pay for the project, and offset some of the districts costs for monitoring and data sharing.

- The SDP team carefully monitored the project, so SDP was always informed.
- The SDP team maintained district buy-in by keeping district leadership involved and informed from the very beginning of the project.
- The SDP team had capable, informed, and motivated people who were the S3 Lab's regular points of contact for immediate logistical and implementation questions.
- The SDP team linked the S3 Lab researchers with the district attendance and truancy staff to ensure they were aware of the project and had the opportunity to share feedback.
- The research teams were transparent to parents and school leaders, and were extremely responsive to anyone with questions.

From the perspective of the S3 Lab.
- Data security, FERPA compliance, and Human Subjects Research compliance were paramount concerns. This helped earn the trust of SDP's and Harvard's relevant leaders while also maintaining the rights of research participants.
- The S3 Lab maintained regular communications (nearly weekly) with relevant Harvard and SDP compliance officers to ensure that rights were protected.
- A similar approach was taken with mail printing vendors – the S3 team chose vendors focused on data-security while also be responsive to modifications. These characteristics were crucial to ensure mailings remained on track and that the vendors could work within the parameters of the project.
- All S3 Lab team members working on the project or handling data had the appropriate certifications, i.e. CITI or NIH Certifications.
- The S3 Lab secured reviews and approvals for the project (IRB, data agreements, and vendor agreements).
- The S3 Lab used secure data systems to safely store, analyze, and transfer student data.
- The S3 Lab team was able to scale up staff support for the project during periods of high demand, such as when opt-outs came in after the initial informed consent mailing.
- The S3 Lab team was responsive and willing to adjust the implementation of the RCT based on SDP or parent feedback, while maintaining the fidelity of the RCT.
- Each mailing allowed guardians to contact the research team with any questions or concerns, and to opt out. All people who fielded phone calls participated in a training process and used a pre-determined script for replying to emails and calls.

Conclusions
     This collaboration was a success for both the district and the research team. It generated 15,000 to 20,000 net days of increased attendance by reducing absences among some of the most at-risk students in the district. It also generated deep insights into the influence of parental beliefs on student absences, while also expanding more basic understanding of human motivation. We believe other researchers and practitioners will benefit from the best practices we have learned from this two year collaboration.

Appendices

Appendix A. References

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