

# The Attendance Matters Project

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Todd Rogers, Harvard University

Nancy Magee, San Mateo County Office of Education

Carly Robinson, Harvard University

Monica Lee, Stanford University

Gonzalo Pons, Harvard University

## Executive Summary

Across 14 school districts in San Mateo County, a total of 30,084 households were involved in the Attendance Matters Project. The project consisted of four different studies, all of which were randomized controlled trials: 1) Grades K-5 absence-reduction study; 2) Grades 6-12 symbolic awards study, 3) Grades 6-12 siblings study, and 4) consent form study. All four studies used mailings to test strategies for communicating with families. The grades K-5 absence-reduction study targeted parent beliefs about attendance, while the grades 6-12 studies both targeted students directly by offering symbolic awards for improved attendance. Lastly, the consent form study explored parents' attitudes towards education research. Mailings were sent in English or Spanish based on the student's home language as reported in district data.

In the following report, we focus on the primary study, the grades K-5 absence-reduction study (the driving motivation for this project). We also discuss the grades 6-12 symbolic awards study. Details regarding the consent form study and the grades 6-12 siblings study can be found in Appendix B.

The Attendance Matters Project was successful on two fronts. First, the project improved attendance for elementary school students. The grades K-5 absence-reduction study significantly decreased absences by more than one half of a day of school per student. The reduction in absences occurred across all K-5 student subgroups, and was most effective for the most at-risk students, decreasing chronic absenteeism by 16%.

Second, the project shed light on one common educational practice. The grades 6-12 symbolic awards study tested whether awards can motivate middle school and high school students to attend school more. Awards are commonly used by educators to incentivize students. We find that attendance is generally not a measure that can be motivated by symbolic awards, and that these awards can even be de-motivating when given as surprises for past performance.

The Attendance Matters Project was supported in part by grants from the Heising-Simons Foundation, the Silicon Valley Community Foundation, and the Laura and John Arnold Foundation.

This project would not have been possible without the support of the research team and participating school districts in collaboration with the San Mateo County Office of Education. We thank Anne Campbell, San Mateo County Superintendent of Schools, as well as Nancy Magee, Associate Superintendent of the Student Services Division, for their enthusiastic support and partnership throughout the duration of this study; Deann Walsh and Cameron Lewis for their assistance and expertise on San Mateo County student data; and the 14 participating districts within San Mateo County, as well as each respective superintendent and data specialist, for their collaboration on this project.

In addition to the San Mateo County Office of Education, we are grateful for Jessica Mihaly of the Silicon Valley Community Foundation, Hedy Chang of Attendance Works, and the Ad Council for their assistance on content development & design for the Grades K-5 absence-reduction study. Our study has also benefited greatly from thoughtful contributions by Eric Dearing, Professor of Applied Developmental Psychology at Boston College, and Jana Gallus, Assistant Professor at UCLA Anderson School of Management.

## About the Research Team

### *Student Social Support R&D Lab*

The Student Social Support Research & Development Lab (S3 Lab) develops scalable interventions that mobilize and empower students' social support systems to improve achievement. We do so by leveraging four recent developments:

- New behavioral insights. Behavioral economics and psychology have uncovered powerful levers of behavior change that are only recently being applied to social problems.
- Improved data and communications. With comprehensive data systems, new digital learning platforms, and increasingly scalable communications, we can now send low-cost, rapid, targeted, and tailored educational interventions to students and parents.
- Fast-cycle, low-cost randomized studies. Sometimes called A-B testing, rapid experiments allow for fast and cost-effective learning and innovation.
- Mounting evidence about the influence of friends and family on student achievement. Interventions aimed at students' friends and family can be more cost-effective at increasing student achievement than targeting students themselves or teachers.

The S3 Lab's work falls into three buckets:

- Connecting parents to what's happening in class
- Connecting other adults who care about the student with the student's education
- Correcting parents' miscalibrated beliefs

This work is conducted in more than 1,400 educational settings including K-12 schools, online universities, state and community colleges, and Massive Open Online Courses (MOOCs).

### *Professor Todd Rogers*

Todd Rogers, Ph.D., is an Associate Professor of Public Policy at the Harvard Kennedy School (HKS) and director of the Student Social Support R&D Lab. He is also Senior Researcher at the think tank ideas42. Professor Rogers is a behavioral scientist whose research sits at the intersection of education, psychology, judgment and decision-making, and behavioral economics.

Prior to joining the faculty at HKS, Todd Rogers was founding Executive Director of the Analyst Institute, LLC, which uses randomized field experiments and behavioral science insights to understand and improve voter communications. He received his Ph.D. jointly from Harvard's

department of Psychology and Harvard Business School and received his B.A. from Williams College, majoring in Religion and Psychology.

## Partnerships

The Attendance Matters Project was a research project in partnership with the San Mateo County Office of Education (SMCOE), The Big Lift (described below), and 14 school districts within San Mateo County. The 14 partnering districts were as follows:

- Bayshore Elementary School District
- Belmont-Redwood Shores School District
- Brisbane School District
- \*Cabrillo Unified School District
- Hillsborough City School District
- \*Jefferson Elementary School District
- Jefferson Union High School District
- \*La Honda-Pescadero Unified School District
- Millbrae School District
- Pacifica School District
- San Mateo-Foster City School District
- San Mateo Union High School District
- Sequoia Union High School District
- \*South San Francisco Unified School District

\*Districts participating in The Big Lift

## *The Big Lift*

The Big Lift is a collaborative effort led by the Silicon Valley Community Foundation, the county of San Mateo, and the San Mateo County Office of Education to close the achievement gap countywide. Funded in part by local tax dollars and the Social Innovation Fund, the Big Lift's collective impact model asks school districts to partner with public and private preschools and community-based agencies to work toward the long-term goal of achieving proficiency in reading for third-graders through the four programmatic "pillars" of the Big Lift, based on the Campaign for Grade-Level Reading priorities.

The Big Lift's four "pillars" are as follows:

- School Readiness: a goal of increasing the percentage of children ready for kindergarten from 50% to 80%

- Attendance Matters: a goal of reducing the incidence of chronic absenteeism by 50%
- Inspiring Summers: a goal of 80% of kids who are reading below grade level attending a quality summer enrichment program
- Family and Community Engagement: a goal of strengthening approaches and strategies to ensure greater family engagement

## Motivation for the Attendance Matters Project

The Attendance Matters Project is a research project examining how best to communicate to students and families about the importance of regular school attendance, with a goal of identifying best practices for low-cost, scalable interventions to reduce student absenteeism in San Mateo County. Because there is no one-size-fits-all strategy to improve attendance, this project employed several different strategies motivated by research on behavior change.

Why focus on attendance? Simply put, educators, families, policymakers, and researchers all agree that attendance is a key factor in student success. School attendance strongly predicts academic achievement, and is also among the strongest predictors of eventual high school graduation (Balfanz & Byrnes, 2012; Byrnes & Reyna, 2012). Given the strong connections among absenteeism, academic achievement, and high school graduation (Gottfried, 2009), one of the most effective strategies for increasing student success is a concerted effort to increase student attendance (Byrnes & Reyna, 2012). While research on the academic success continuously affirms the importance of attending school each day (attendance is the A of the ABCs of dropout prevention: Mac Iver & Mac Iver, 2009), school districts and administrators lack evidence-based interventions that can help them get students to school. This may even become a financial matter for many districts, where each absence results in less funding for their schools based on Average Daily Attendance (ADA).

In particular, we targeted grades K-5 and grades 6-12 with different studies, because we know that age matters when it comes to engaging parents and students. The grades K-5 absence-reduction study was built on research about how families are often less aware of the critical importance of attendance in the elementary school years. Furthermore, many parents have miscalibrated beliefs about how many days of school their child has actually missed.

The grades 6-12 study capitalized on research about the motivating influences of symbolic awards (i.e., certificates sent in the mail). A small study recently found that symbolic awards can increase attendance in an out-of-school tutoring setting (Springer, Rosenquist, & Swain, 2015). Building on this research, the grades 6-12 study determines whether prospective (e.g., “you will receive a certificate if you achieve perfect attendance this month”) or retrospective (e.g., “you received a certificate because you have already achieved perfect attendance in a previous month”) symbolic awards are more effective, and whether symbolic awards increase attendance because of what they signify to the student, or because of the knowledge that school leaders (e.g., students’ principals and superintendent) are sent a list of which students earned the symbolic award.

In addition to the grades K-5 absence-reduction study and the 6-12 symbolic awards study, the research team conducted two other exploratory studies. The first explored whether siblings can

motivate one another to improve their attendance and the second attempted to tease apart how communications affect parents' attitudes towards research. Both of these studies are described in Appendix B.

## Data Security

Every aspect of the Attendance Matters Project met the standards of the Harvard University Institutional Review Board. The Attendance Matters Project has been reviewed by the Committee on the Use of Human Subjects in Research at Harvard University, and was monitored by the research team, consisting of researchers from Harvard University and staff from the San Mateo County Office of Education, throughout the entirety of its duration.

Since spring of 2015, district superintendents were apprised throughout the design of the study, including various communications from the Superintendent's office, regarding the high legal standard for the project. Furthermore, three-party Data Use Agreements have been in place since May 2015 with every partnering district to ensure a) utmost data security; and b) assurance that data is only being used for the purpose of communicating the importance of school attendance to households (and nothing else).

## Consent

The research team mailed informed consent forms to every household with at least one student attending one of the 14 participating districts. Only one consent form was sent to each household in an effort to reduce mail clutter and to be environmentally conscious. A household was considered as participating in the project if a parent or guardian did not opt-out their child from the study. If a parent or guardian opted out one child from the project, the entire household (all other children attending San Mateo County schools) were also automatically opted out of the project.

Informed consent mailings were sent to 46,631 households, reaching a total of 68,124 students. The research team logged 1,117 requests to opt out by September 14, 2015, which was the recommended deadline to opt out on the parent consent letter. This reflects approximately 2.4% of the population of the study, without accounting for duplicates (e.g., parents who call or email multiple times to request opt outs). As of August 31, 2016, the research team received 1,754 requests to opt out of the study. This reflects approximately 3.8% of the population of the study,



without accounting for duplicates. It is standard for 1-3% of all households to opt-out of similar education mail-based studies; the opt-out rates seen in San Mateo County are consistent with what we expect.

## Participating Districts

A total of 14 school districts and 30,084 students participated in the Attendance Matters Project. Table 1 shows the participating districts, and the number of households that participated in each of the three studies. The Grades K-5 absence-reduction study only included students who were in the bottom 60<sup>th</sup> percentile of attendance of participating districts countywide during the previous (2014-15) school year.

Table 1. Participating districts and number of participating households by study.

District	K-5	6-12 (Awards)	6-12 (Siblings)	Total
Bayshore Elementary	0	57	11	68
Belmont-Redwood Shores School District	1,335	458	75	1,868
Brisbane School District	173	22	1	196
Cabrillo Unified	607	130	28	765
Hillsborough City School District	138	195	41	374
Jefferson Elementary School District	1,518	687	102	2,307
Jefferson Union High	0	1,900	422	2,322
La Honda Pescadero Unified District	75	9	4	88
Millbrae Elementary	716	217	0	933
Pacifica School District	859	124	16	999
San Mateo-Foster City School District	3,548	1,470	353	5,371
San Mateo Union High School District	0	4,104	984	5,088
Sequoia Union	0	4,651	1,032	5,683
South San Francisco Unified	1,998	1,605	419	4,022
Total	10,967	15,629	3,488	30,084

## Diagnosing the Problem

Chronic absenteeism is a critical warning sign that students are headed in the wrong direction. In this report, chronic absenteeism is defined as students with 18 or more excused and unexcused absences. Table 2 shows the percentage of students who were considered chronically absent in grades K-5, by district. We do not include information on chronic absenteeism in grades 6-12 for the 2014-15 school year because absences may have been recorded differently in secondary schools.

Table 2. Chronic absenteeism rates (K-5) for participating districts in the 2014-15 school year.

Grade	% of chronic absenteeism, 2014-15 SY
K	11.55
1	6.54
2	4.5
3	5.61
4	5.31
5	5.63

Note: These counts do not include Hillsborough City School District, because researchers did not receive their 2014-15 absence data.

## Project Overview

The four studies in this project are all randomized controlled trials, which make it possible to clearly identify whether a given strategy actually had an effect on student attendance, as well as the size of each effect. All four studies used mailings. The grades K-5 absence-reduction study targeted parent beliefs about attendance, while the grades 6-12 studies both targeted students directly by offering symbolic awards for improved attendance. Lastly, the consent form study explored parents' attitudes towards education research.

### *Grades K-5 absence-reduction study*

The grades K-5 absence-reduction study focused on improving communications directly to parents surrounding the importance of regular attendance for improved school success.

Specifically, the study explores whether sending parents mailings that 1) report how many days their child has been absent, and 2) emphasize the importance of regular school attendance in the early grades, has an impact on students' absences. Furthermore, the study aims to 3) measure the marginal impact of adding an insert to the mailing that encourages parents to reach out to others they could enlist to help improve their child's attendance.

### *Methods*

To better understand the effects of different types of communications, K-5 families were randomly assigned to one of three conditions:

Condition	Description of condition	Freq.	%
Control	Received no additional communications beyond what is typically administered by schools and districts.	4,388	40%
Intervention 1: Mailing only	Mailings emphasized the importance of regular school attendance during earlier grades and reported the number of days the student was absent. (See Figure 1 in Appendix A for an example mailing.)	3,307	30%
Intervention 2: Mailing + supporter	In addition to receiving the above mailings, communications included inserts that encouraged parents to reach out to their "attendance supporters" (e.g., relatives, friends, and other community/school members who support parents with dropoff/pickup and other attendance-related issues). (See Figure 2 in Appendix A for an example insert.)	3,272	30%
Total		10,967	100%

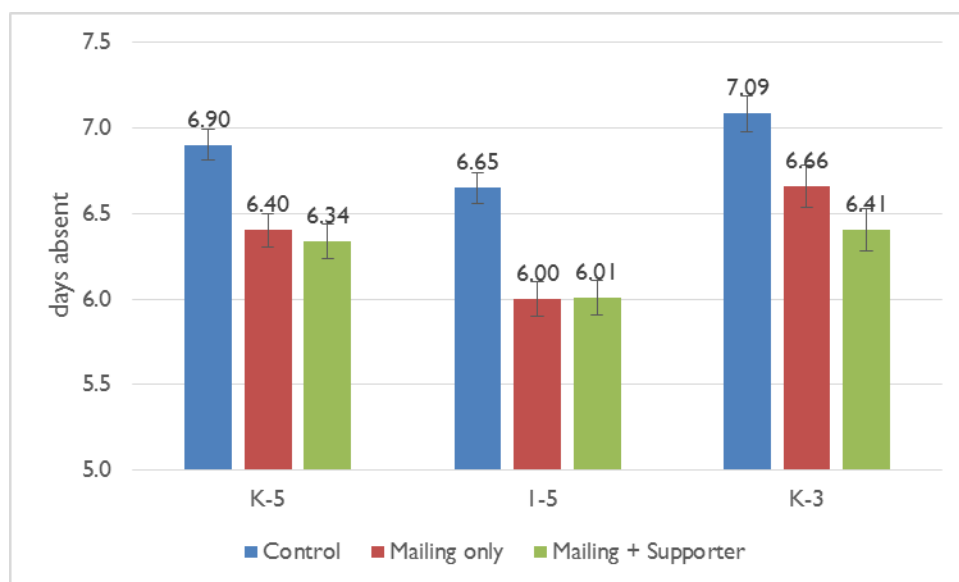
After the initial consent form mailing, a series of six mailings were sent home to families in either English (N = 9,025) or Spanish (N = 1,942). See Table 3 in Appendix A for an overview of the mailing topics. The participating households included all kindergarten students and all 1<sup>st</sup> through 5<sup>th</sup> grade students who were in the bottom 60<sup>th</sup> percentile of attendance for all participating schools countywide during the 2014-15 school year. For households with two or more K-5 students attending schools in the same district, one student was randomly selected to participate in the study. At the end of the school year, the research team conducted a phone survey of participating eligible households to learn more about parent experiences in the study.

## Results

Graphs 1 and 2 (below) illustrate the results. We find that students of parents who were assigned to either treatment group during the 2015-16 school year (the Mailing only and Mailing + Supporter conditions) were absent significantly less than students of parents who did not receive mailings (the Control condition). Specifically, students in households assigned to receive attendance mailings were absent for 0.53 fewer days, on average, than students in households that did not receive attendance mailings. This translates to an 8% reduction in absences. This also corresponds with a 16% reduction in chronic absenteeism, from 5.45% of students being absent at least ten percent of school days to 4.6%.

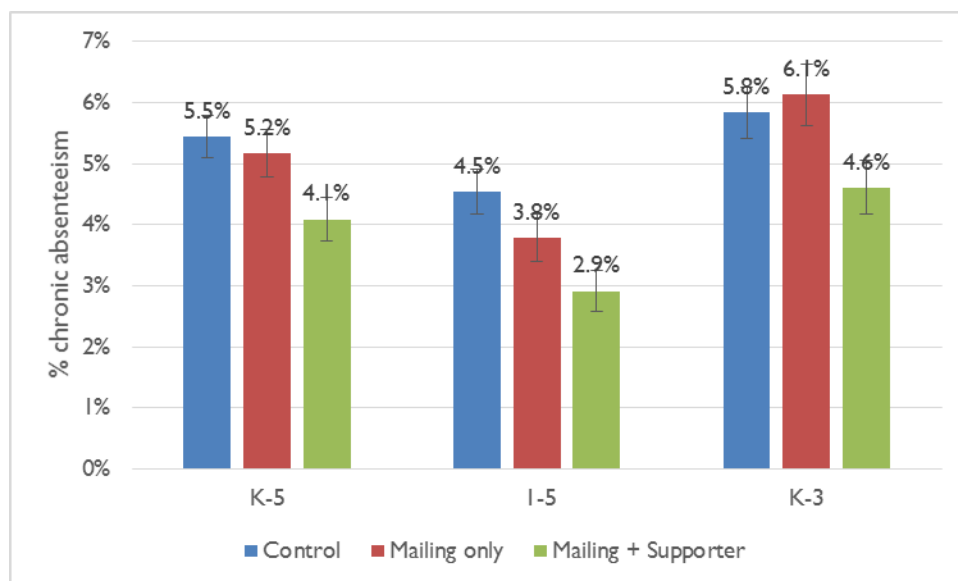
When limiting the analysis to grades 1-5 (i.e., to the students for whom we have knowledge about previous year's absences), we can control for prior absences. We find that, when controlling for prior year's absences, the mailings reduced absences by 0.65 days; this translates to a 9.74% reduction in absences. This corresponds with a 26.2% reduction in chronic absenteeism, from 4.5% to 3.4%. A major focus of our investigation was on the importance of attendance in grades K-3, so we include those results in the below graphs as well.

Graph 1. Differences in days absent by condition.



Note: Whiskers represent standard errors (SE).

Graph 2. Differences in chronic absenteeism by condition.



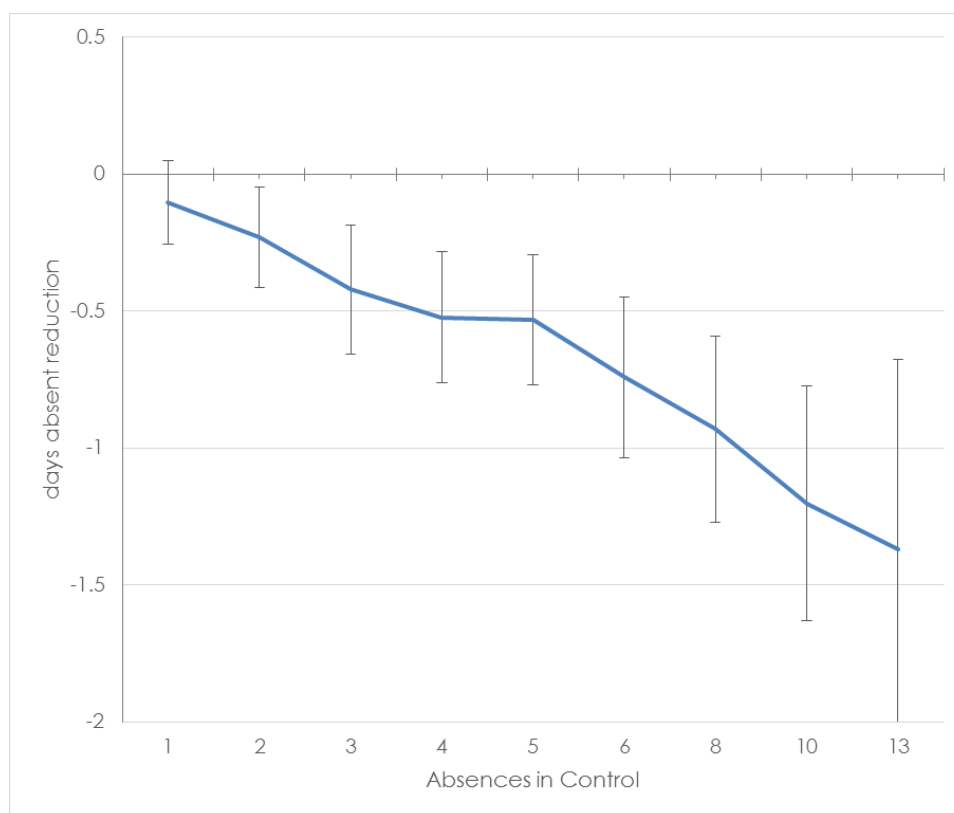
Note: Whiskers represent standard errors (SE).

We find that the pooled treatment conditions reduce absences and chronic absenteeism, and that there is a marginal impact on chronic absenteeism when we add an insert that encourages parents to reach out to “attendance supporters” (i.e., comparing the “Mailing + Supporter” condition to the “Mailing only” condition).

The phone survey provides some insight into why the mailings may have motivated parents to encourage their children to attend school more regularly. Parents in the control condition estimated that their child was absent 5.1 days fewer than he or she actually was during the 2015-16 school year. Comparatively, parents who received mailings were more accurate in their estimates, estimating that their child was absent only 3.8 days fewer than he or she actually was during the 2015-16 school year. Thus, the mailings increased parent accuracy regarding the number of days of school their child had missed by approximately 1 day, a statistically significant effect. For more results from the phone survey, please see Appendix C.

Additionally, the mailings appear to be more effective for students that had the poorest attendance, regardless of treatment type. Students in grades 1-5 who missed the median number of days of school (i.e., students with approximately 5 absences) attended school an average of 0.53 days more as a result of the mailings. Comparatively, students with 10 absences attended school an average of 1.2 days more as a result of the mailings. Graph 3 shows these results in more detail.

Graph 3. Effect of treatment by different levels of absences (grades 1-5).



Notes: The X-axis shows the equivalent number of absences of the control group for each quantile from 10(10)90. Whiskers represent 95% confidence interval. This graph includes students in grades 1-5.

Furthermore, an exploratory analysis showed that the treatment effect was larger for students who are identified as English Language Learners (ELL). The mailings reduced absences by 0.85 days, on average, for ELL students while the mailings only reduced absences for English speaking students by an average of 0.39 days. For reference, ELL students tend to have significantly fewer absences than English speaking students, in general (6.09 days absent vs. 6.82 days absent, respectively).

The mailings also appeared to have a larger effect for students who come from households that are socioeconomically disadvantaged, as indicated by the socioeconomically disadvantaged (SED) indicator. The mailings reduced absences by 1.02 days, on average, for SED students, as compared to an average reduction of only 0.42 days for non-SED students. In general, SED students have significantly more absences than non-SED students (7.41 days absent vs. 6.4 days absent, respectively). There was no difference in the treatment effect by grade level or race.



### *Grades 6-12 Study: Prospective/Retrospective Symbolic Awards*

The grades 6-12 symbolic awards study explored whether symbolic awards are more effective at improving attendance in San Mateo County when the award is offered prospectively (“you have the opportunity to win the award in the future”) vs. retrospectively (“you have already won the award”). Additionally, the study aimed to understand the marginal impact of the publicity of a symbolic award (i.e., the knowledge that others have been informed that the symbolic award was earned).

#### *Methods*

To measure the effects of the different awards, 6-12 households were randomly assigned to one of three conditions, as listed below:

Condition	Description of condition	Freq.	%
Control	Received no additional communications beyond what is typically administered by schools and districts.	5,216	34%
Prospective Symbolic Awards	Student was offered a symbolic award for perfect attendance in targeted future month. (See Figure 3 in Appendix A for an example.)	5,209	33%
Retrospective Symbolic Awards	Student received a symbolic award for perfect attendance in a past month. (See Figure 4 in Appendix A for an example.)	5,204	33%
Total		15,629	100%

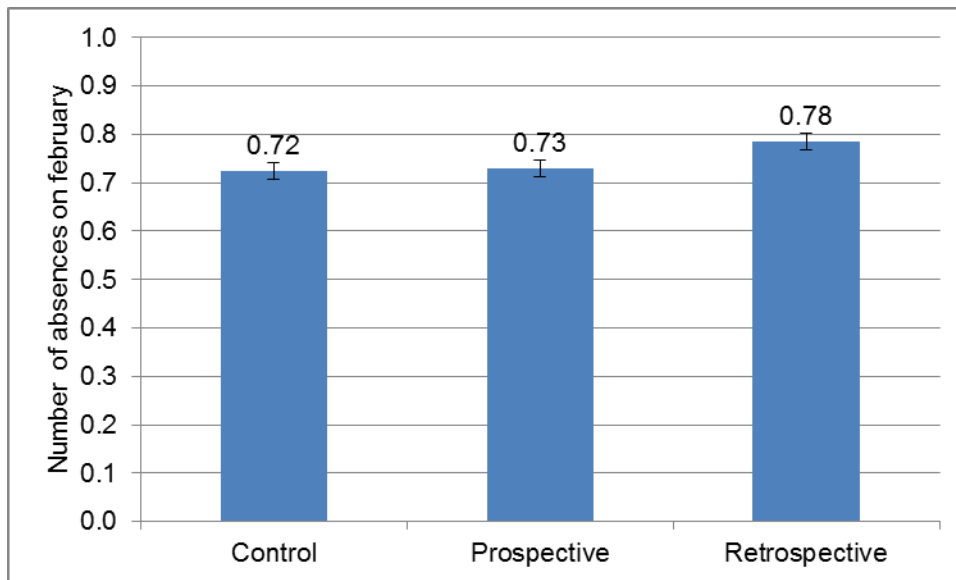
To estimate the marginal impact of knowing the award was going to be publicized, half the students in each of the symbolic award conditions were also told that their principal or superintendent would be informed of their achievement (see Figure 3 in Appendix A for an example), while the other half were not.

This mailing was sent home directly, addressed to students (not parents). The participating households included all households with a student in grades 6-12, who had achieved perfect attendance in at least one month in the fall of the 2015-16 school year (i.e., zero absences in September, October, or November 2015). Households that already had a student participating in the grades K-5 absence-reduction study or the grades 6-12 siblings study (see Appendix B) were also excluded from this study.

## Results

Graph 4 (below) illustrates the results. We find that students who are offered a prospective award for perfect attendance in the following month show no improvements in attendance, as compared to the control condition. Contrary to what the research team expected, we found that students who receive a retrospective symbolic award for perfect attendance in a past month actually attended school less than those in the control condition. While the increase in absences for students in the retrospective award condition is small (on average, 0.06 more days absent in the target month, or an 8% increase), it is a statistically significant difference. Finally, we find no difference in attendance between students who were told the awards would be publicized and those who were not. The research team conducted a follow-up online study to explore why receiving a retrospective award led to a reduction in attendance. See Appendix B for more information on the follow-up study.

Graph 4. Differences in absences by condition, 6-12 awards study.



## Discussion & Takeaways

In the Attendance Matters Project, we successfully replicated the effects first shown by Rogers and Feller. We increased grades K-5 attendance in SMCOE, using a light-touch, scalable intervention that involved sending personalized and automated communications to guardians. Across these 14 districts, students attended 3,486 more days of school during their participation in the Attendance Matters Project during the 2015-16 school year (0.53 days \* 6,579 students in the treatment conditions). Importantly, the intervention appeared to be most effective for the most at-risk students, decreasing chronic absenteeism by 16%. This study builds on the body of research that supports an asset-based view of families: correcting guardians' beliefs about their student's absences and encouraging their involvement can significantly improve student attendance.

The Attendance Matters Project also generated revenue for some participating districts, taking into consideration the fact that a number of San Mateo County districts qualify as high property value areas and are therefore funded as "Basic Aid" directly through property taxes. Nevertheless, in considering the costs associated with the treatment, it is likely that some of the participating districts realized increased revenue because of state aid being dispersed on a per-student, per-day basis. Second, regardless of whether districts received incremental revenue from the state, if participating districts spend \$10,000 per-student, per-year (\$56 per-student, per-day), then the grades K-5 absence-reduction study generated upwards of \$200,000 in value for participating districts. The grades K-5 study can be implemented by the districts at a cost of around \$10 per-student, per-year. Sending mail-based, behavioral-science informed messages that target parents' inaccurate beliefs about absenteeism can reduce chronic absenteeism at a fraction of the cost per incremental day of the next best interventions (e.g., absence-focused mentors and social workers). Our lab has spun off a social enterprise to help districts implement interventions like this, at scale. *In Class Today* can be reached at [johannes@inclasstoday.com](mailto:johannes@inclasstoday.com)

In the grades 6-12 symbolic awards study, our analysis revealed insight into the effect of symbolic awards on middle and high school students. Most educators believe that awards are motivating for students, and symbolic awards are utilized in many classrooms to incentivize students to perform on many measures (i.e., grades, exams, attendance). The research team's original hypotheses were in line with this assumption, as we believed symbolic awards would motivate students to attend school more. Our analysis reveals that attendance is generally not a measure that can be motivated by symbolic awards. While more research is underway to understand why the retrospective awards increased student absences, it is possible that a retrospective award lacks a clearly outlined goal for moving forward and can be de-motivating, in part because this particular type of award serves as a license for students to perform more poorly than they did before. Our preliminary research suggests that students who receive a retrospective award for excellent attendance make two counterproductive inferences regarding

attendance. First, students who receive the retrospective award assume that they are attending school at a higher rate than their peers. Second, these students also appear to believe that their school has low expectations for their future attendance. Both of these inferences may contribute to why students attend school less after receiving retrospective awards for excellent attendance.

## Appendix A. Example Mailings

Figure 1. Example of the K-5 attendance mailing (exterior and interior).

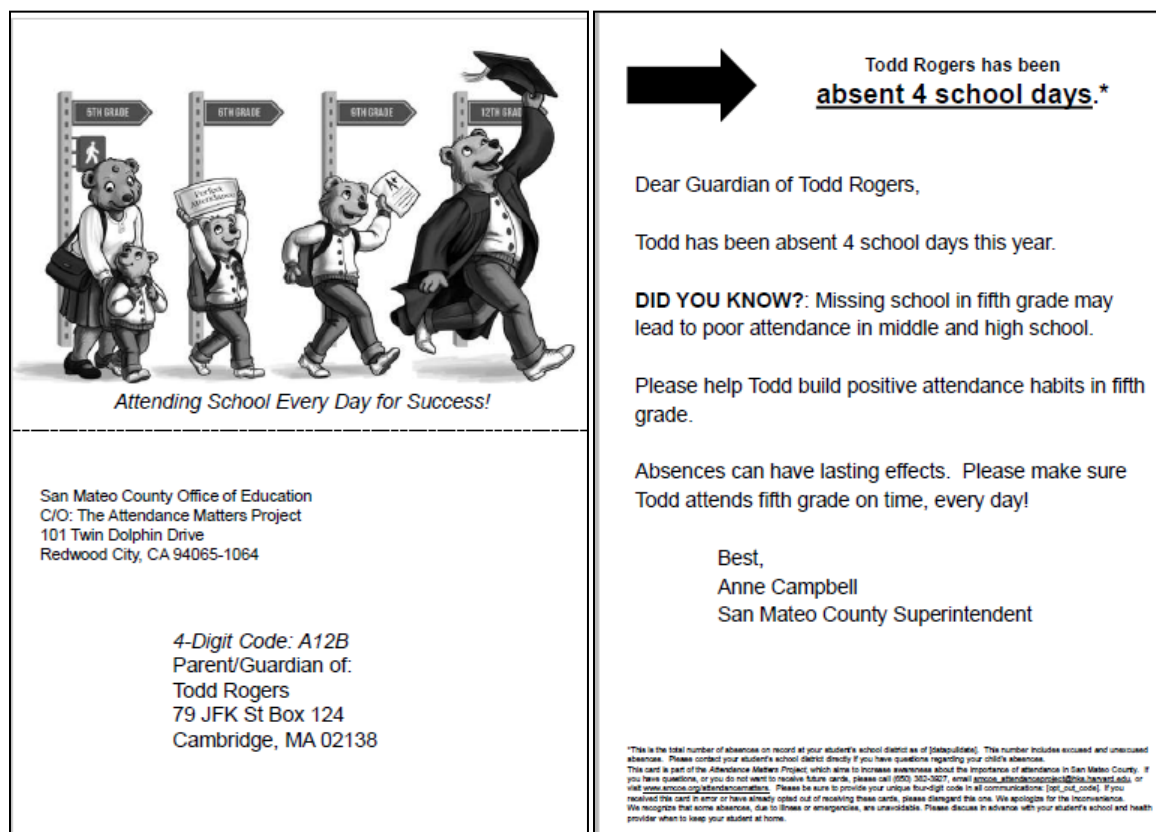


Figure 2. Example of the “Mailing + Supporter” mailing insert.

**Do you have a friend, relative, community member, school staff, or neighbor who helps Sammy get to & from school on time, every day?**

Please thank someone who supports Sammy by sharing this note with him/her.

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Dear \_\_\_\_\_,

(Supporter Name Here)

You're an important part of Sammy's school success!  
Thank you for:

- ☐ Taking Sammy to school
- ☐ Picking up Sammy from school
- ☐ Encouraging Sammy to go to school on time, every day
- ☐ Being someone we can count on to support Sammy's attendance

**Every school day matters!** Thank you for all you do for Sammy.

Sincerely,

\_\_\_\_\_  
(Parent Name/Signature Here)

\_\_\_\_\_  
(Student Name/Signature Here)

**THANK YOU!**

Figure 3. Example of the Prospective Symbolic Awards mailing (with publicity).

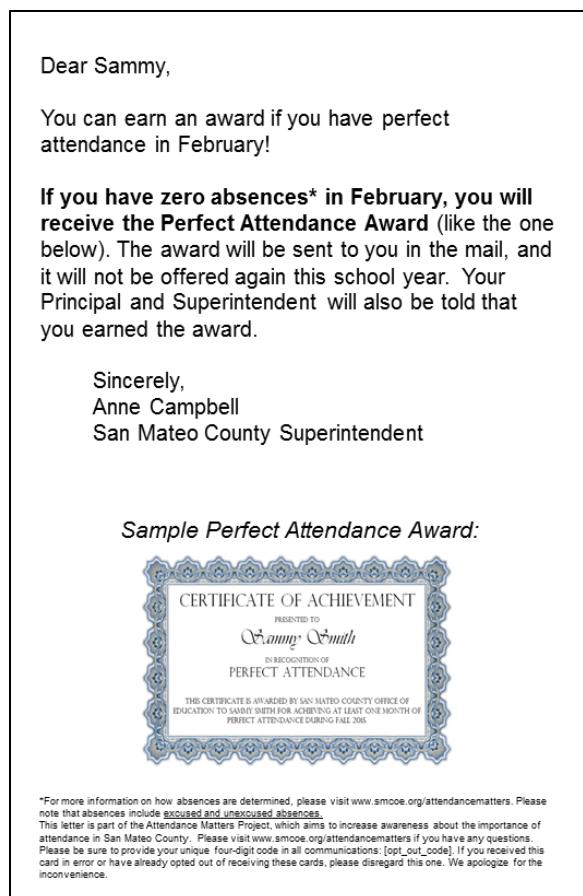
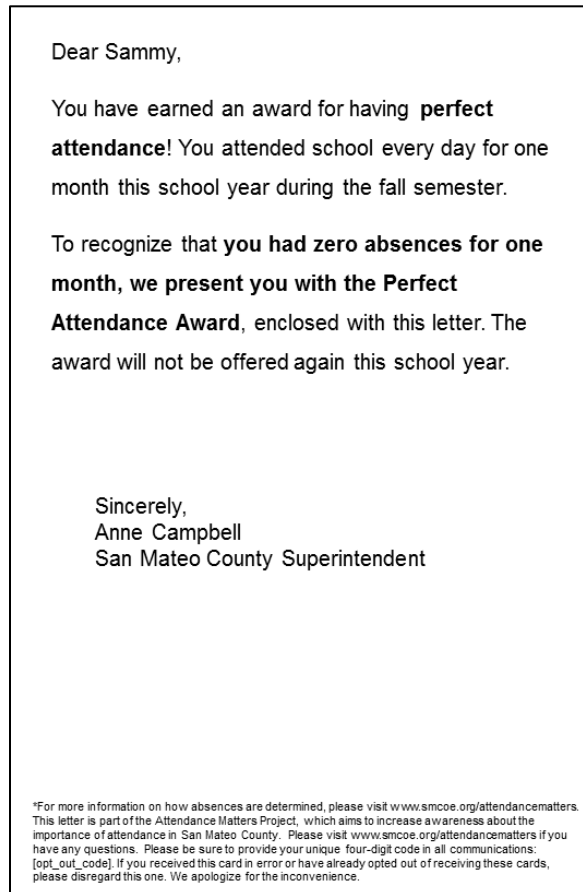


Table 3. Overview of six mailings sent to grades K-5 households.

<b>Mailing</b>	<b>Date</b>	<b>Messaging</b>
1	Nov 16-20, 2015	Attendance in early grades affects student learning (English Language Arts Common Core State Standards).
2	Feb 2-5, 2016	Absences in earlier grades can build long-lasting habits that result in absences in later grades.
3	Mar 1-7, 2016	Absences result in missed learning opportunities that cannot be replaced.
4	Mar 23-25, 2016	Attendance is linked to literacy skill development.
5	Apr 25-27, 2016	Attendance in early grades affects student learning (Math Common Core State Standards).
6	May 11-13, 2016	Strong attendance is associated with higher likelihood of high school graduation.



Figure 4. Example of the Retrospective Symbolic Awards mailing (without publicity).



## Appendix B. Additional Study Results

### *Consent Study*

To ensure parents were fully informed about the project, the research team mailed informed consent forms which allowed families to opt-out from participating of the study. The title of the informed consent was subtly varied in order to study what titles are most and least acceptable to parents. Like all elements of the Attendance Matters Project, this study was vetted and approved by the Harvard University institutional review board, as well as the research team at San Mateo County Office of Education. The consent study explored whether families are more likely to opt-out of a research study if it is conducted by the school district vs. external researchers, or if the research study is referred to as a “research project” vs. a “randomized experiment.”

### *Methods*

To tease apart the effects of the different types of messaging sent to parents about education research, all eligible families that had English as listed their first language were randomly assigned to one of four conditions:

Condition	Description of condition	Freq.	%
Research Project + External Researchers	Informed consent included title that highlighted a “research project” conducted by “external” researchers.	8,488	25%
Research Project + School District	Informed consent included title that highlighted a “research project” conducted by the “school district.”	8,490	25%
Experiment + External Researchers	Informed consent included title that highlighted a “randomized experiment” conducted by “external” researchers.	8,469	25%
Experiment + School District	Informed consent included title that highlighted a “randomized experiment” conducted by the “school district.”	8,419	25%
Total		33,866	100%

All other information regarding the project remained identical across the four different conditions, including the description of the project, researcher/institutional review board contact information, and opt-out procedures.

### *Results*

The varying language used on the title of the consent form only slightly affected opt-out rates. While households who received informed consent mailings that highlighted a “research experiment” opted out at a higher rate (2.66%) than those who received informed consent mailings that highlighted a “research project” (2.12%), this difference was only marginally statistically significant. There was no difference in opt-out rates when the informed consent highlighted that the research was being conducted by external researchers vs. the school district.

School districts increasingly collaborate with universities and other external partners to conduct research, so learning how to communicate research endeavors to families is important. These results suggest that families are wary of experiments, and less likely to opt-out of participating in research projects. Notably, parents do not appear to react differently when learning school districts are conducting research as compared to external researchers.

### *Grades 6-12 Study: Sibling Awards*

This study examined the effect of symbolic attendance awards on improving siblings' attendance. Recent analyses show that siblings' absences tend to be highly correlated with one another. In other words, if one sibling is absent, there is a 50% chance the other sibling will also miss school. Other research found that when absence-reduction interventions were sent home to families addressing one student's absences, the intervention reduced the absences of the focal students, and also reduced the unmentioned sibling's absences as well. This study explored whether siblings influence one another's attendance when an award is dependent on both siblings' attendance, as compared to when the award only depends on an individual sibling's attendance.

### *Methods*

First, both siblings in a cohabitating household received letters with a suggested goal for improved attendance for the next month. Specifically, siblings were told that if they met a goal of reducing their respective absences by 50%, they would receive an attendance award and their superintendent and principal would be notified. Participating households were randomly assigned to one of two conditions:

Condition	Description of condition	Freq.	%
Two Independent Symbolic Awards	The symbolic awards are treated independently. That is, both siblings do not have to meet their attendance goal in order for one sibling to receive the award (See Figure 5 below for an example).	875	50%
Two Dependent Symbolic Awards	The symbolic awards are treated dependently. That is, both siblings must meet their goals in order for either sibling to receive the award (See Figure 6 below for an example).	869	50%
Total		1,744	100%

These mailing were sent home directly to students. All 6-12 grade student households with two siblings were included in the study, as long as neither sibling had perfect attendance in September, October, or November. Those households who already had a student participating in the grades K-5 absence-reduction study were also excluded.

### *Results*

The research team hypothesized that students in the dependent awards condition would have fewer absences in the target month than students in the independent awards condition. There was no significant difference in attendance for the target month between the independent awards and

the dependent awards. Students who were offered the dependent award missed an average of 1.31 days of school in the target month, while students who were offered the independent award missed an average of 1.24 days of school. Due to the unexpectedly small sample size, this project was unable to have a control condition. Therefore, it is possible that the offer of symbolic awards to siblings had an effect on attendance overall, but we are unable to estimate it.

Figure 5. Example of Two Independent Awards mailing for Siblings.

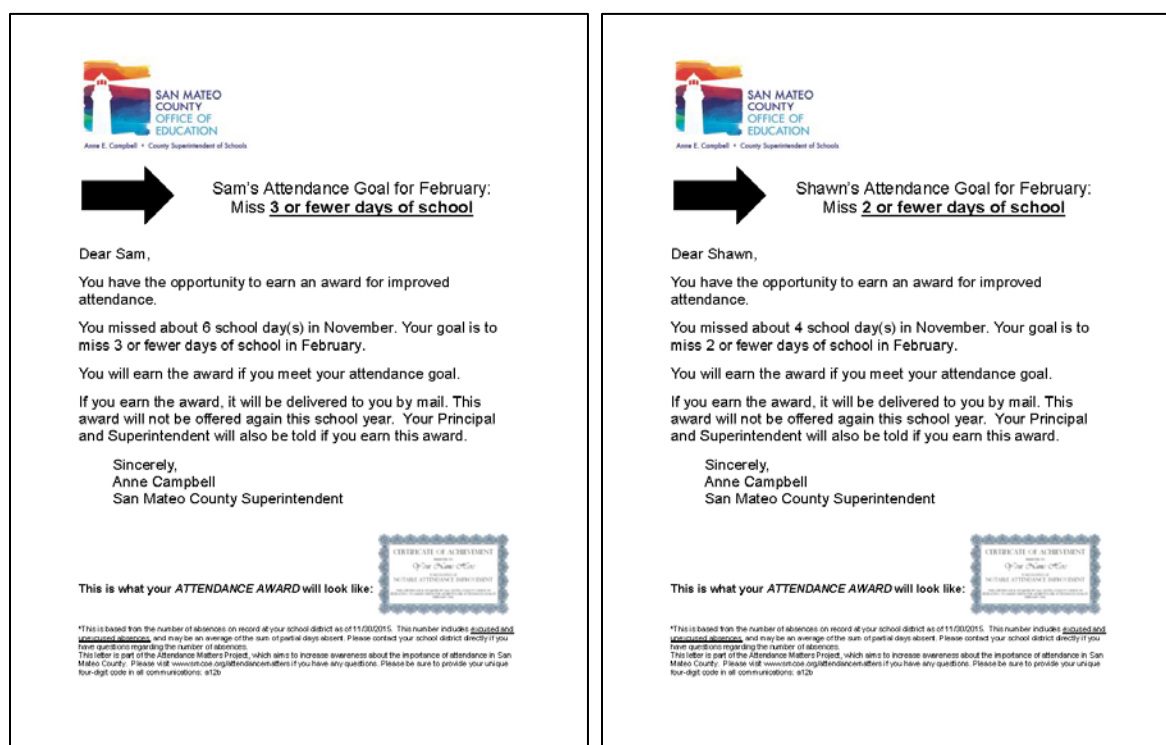
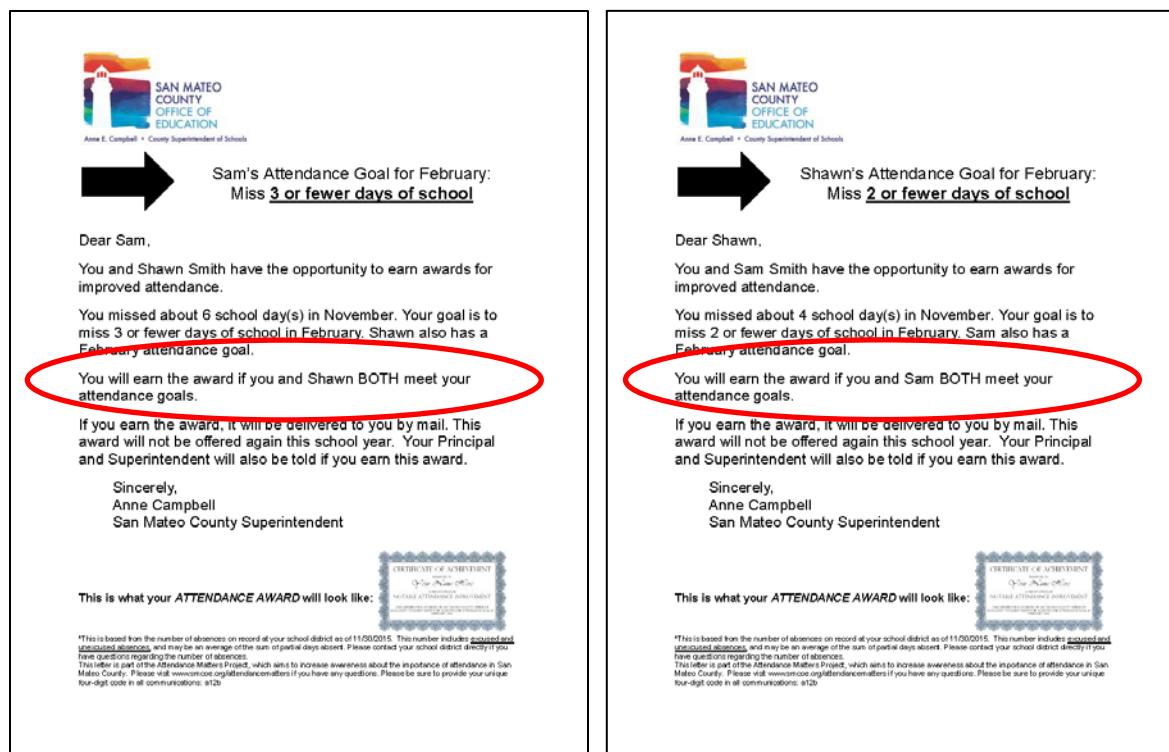


Figure 6. Example of Two Dependent Awards mailing for Siblings, emphasis added.



### *Follow-up: The Retrospective Awards Online Study*

We conducted an online study to explore why receiving a retrospective award led to a reduction in attendance. The purpose of this study was to simulate the conditions of the original study and see what beliefs and inferences individuals operate on when presented with a retrospective award. We measured the impact of receiving a retrospective award on perceptions of social norms and institutional expectations about attendance, as well as beliefs about future motivation for attending school.

### *Methods*

To measure the effect of retrospective awards, participants were randomly assigned to one of two conditions, as listed below:

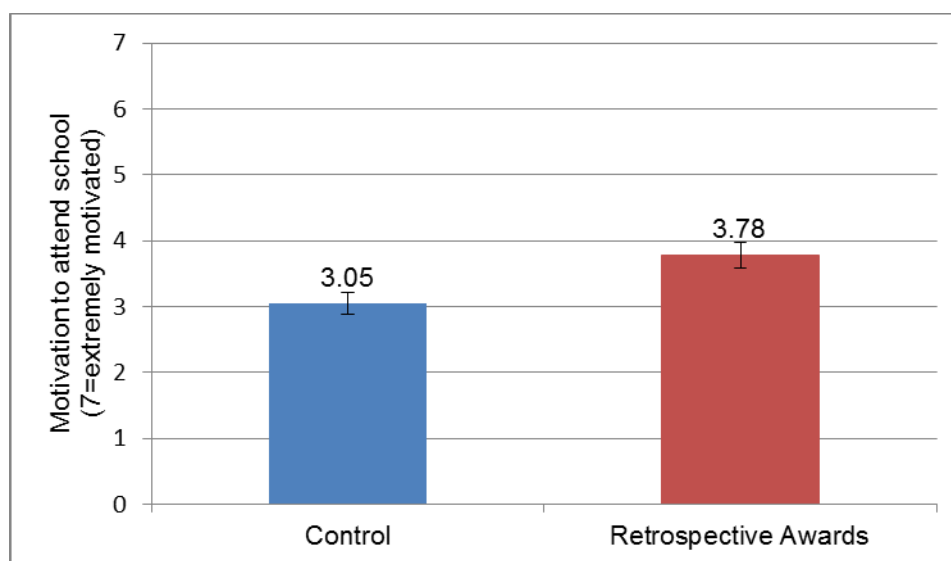
Condition	Description of condition	Freq.	%
Control	Participants read the vignette (no award)	77	50%
Retrospective Symbolic Awards	Participants read the vignette where students received a retrospective award for their attendance	78	50%
Total		155	100%

The vignette asked participants to imagine themselves as a 10<sup>th</sup> grader living in a suburban town in California, near San Francisco, in the end of January. In the retrospective symbolic awards condition, participants in the online study learn that they received an award for having perfect attendance for attending school every day for one month during the fall semester. Mirroring the original study, participants in the control condition are also presented with the vignette, but unaware of the existence of the award. The vignette concludes by telling participants in both conditions that they wake up on Monday, February 1<sup>st</sup> feeling tired and having forgotten to do homework for one of their classes. Finally, participants answer a series of questions about their perceptions.

### *Results*

Graph 5 shows the impact of receiving a hypothetical retrospective award for attendance on participants' motivation for attending school. In line with the research team's original hypothesis, the participants who read about receiving the retrospective award believed that they would be more motivated to attend school that day (an average motivation rating of 3.8 out of 7) as compared to the control group (who had an average motivation rating of 3 out of 7).

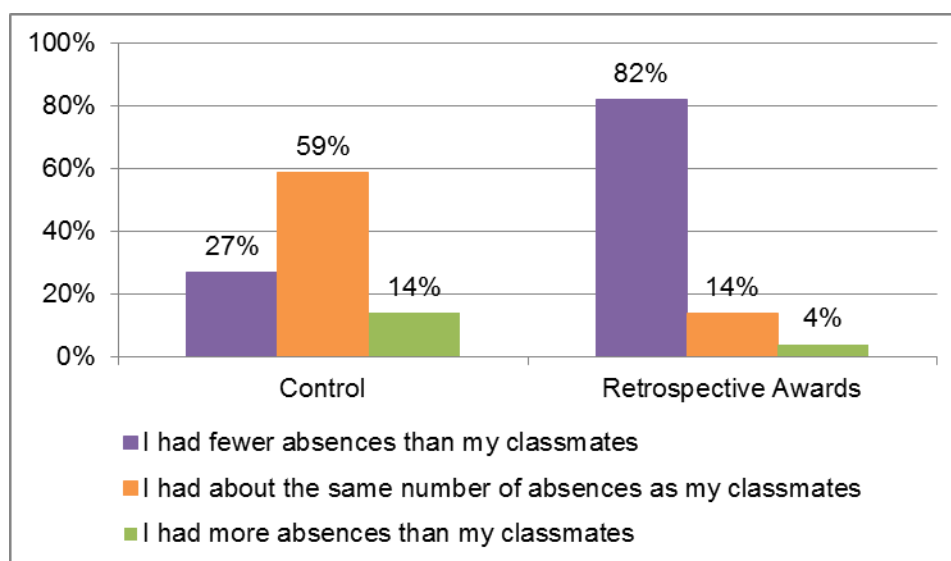
Graph 5. Differences in motivation to attend school by condition.



Note: Whiskers represent standard errors (SE).

The retrospective award also had an impact on the inferences participants made about how their absences compare to those of their classmates. As seen in Graph 6, 82% of the participants in the retrospective award condition deduced they had fewer absences than their classmates, compared to only 27% of participants in the control condition. This difference suggests that receiving a retrospective award for attendance leads to positive social comparisons about one's own attendance.

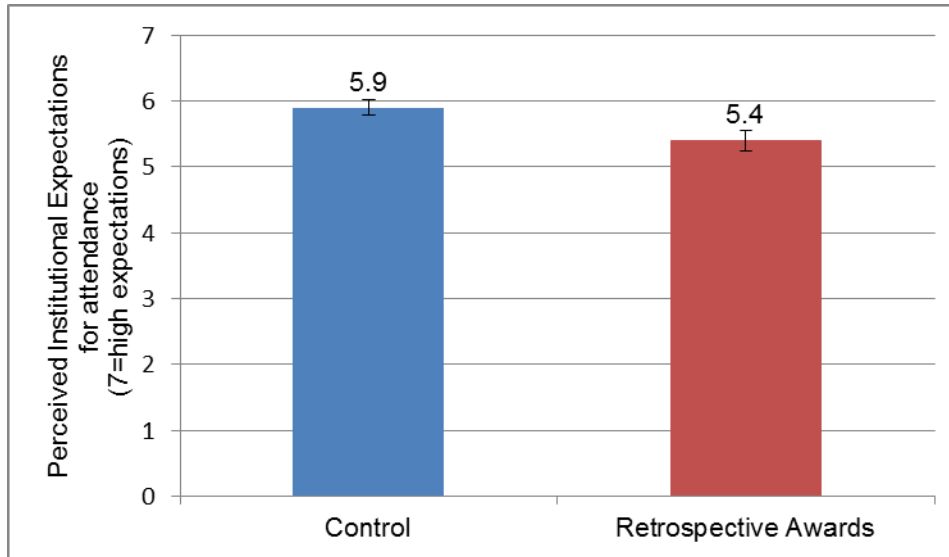
Graph 6. Participants' social comparison inferences by condition.





Finally, the participants answered questions about their perceptions of the institutional expectations for attendance. That is, to what extent does the school expect the student in the vignette to attend school? Graph 7 illustrates the results. Participants in the control group inferred that the school had statistically significant higher expectations for their attendance (an average institutional expectation rating of 5.9 out of 7) than participants in the retrospective award condition (who had an average institutional expectation rating of 5.4 out of 7).

Graph 7. Differences in perceptions of institutional expectations for attendance by condition.



Note: Whiskers represent standard errors (SE).

## Appendix C. Phone Survey Results

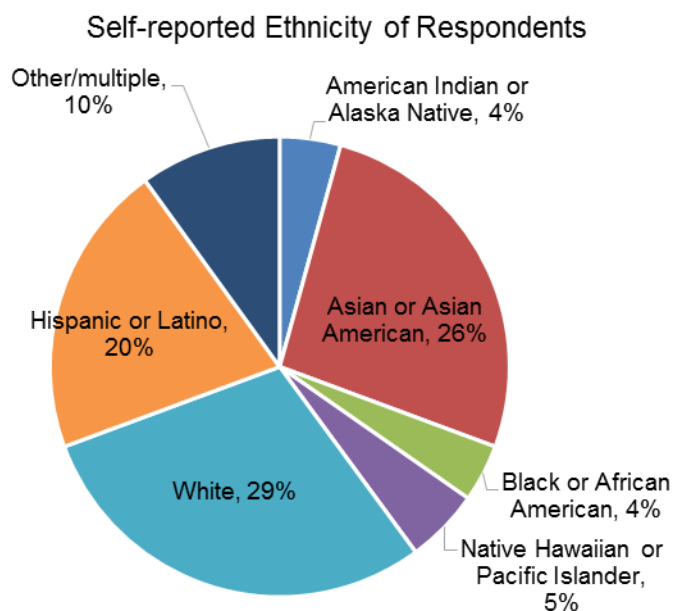
As a means of understanding the mechanisms via which the treatment affects parents and students, the research team administered a 15-minute phone survey to a subset of parents of K-5<sup>th</sup> grade students in early June 2016. To summarize the findings, respondents consisted mostly of parents who responded positively about the importance of daily attendance as an element of school success. Notably, respondents were less concerned about students missing school when the absence is excused. Respondents also strongly agreed to statements identifying the county and district officials as those who can be trusted as partners in their students' education.

### *Demographic Information of Respondents*

The phone survey reached 1,710 families in San Mateo County, and 432 respondents completed the survey.

- 96% of respondents were a parent;
- 1.4% of respondents were a grandparent;
- 1.9% of respondents were a step parent; and
- 0.5% of respondents were either an aunt, uncle, or sibling

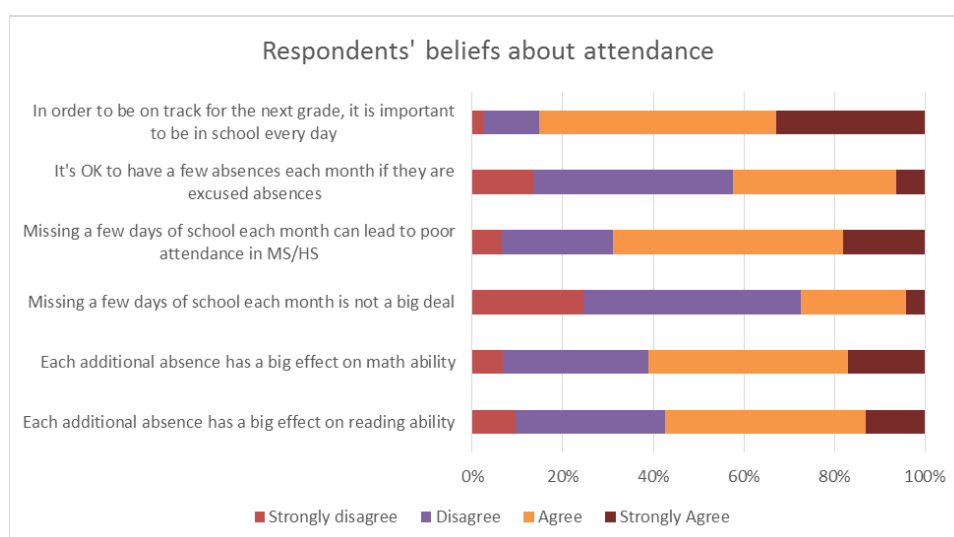
The ethnicity breakdown of respondents is as below:



## Parental Beliefs

Overall, the phone survey indicated the following beliefs surrounding school attendance:

- Over 50% of respondents believe that each additional absence has a big effect on their student's math and reading ability.
- Over 80% of respondents believe it is important for their student to be in school every day in order to be on track for the next day.
- 73% of parents disagree with the statement that “missing a few days of school each month is not a big deal.” However, 42% of parents believe “missing a few days of school each month” is okay, if the absences are excused.

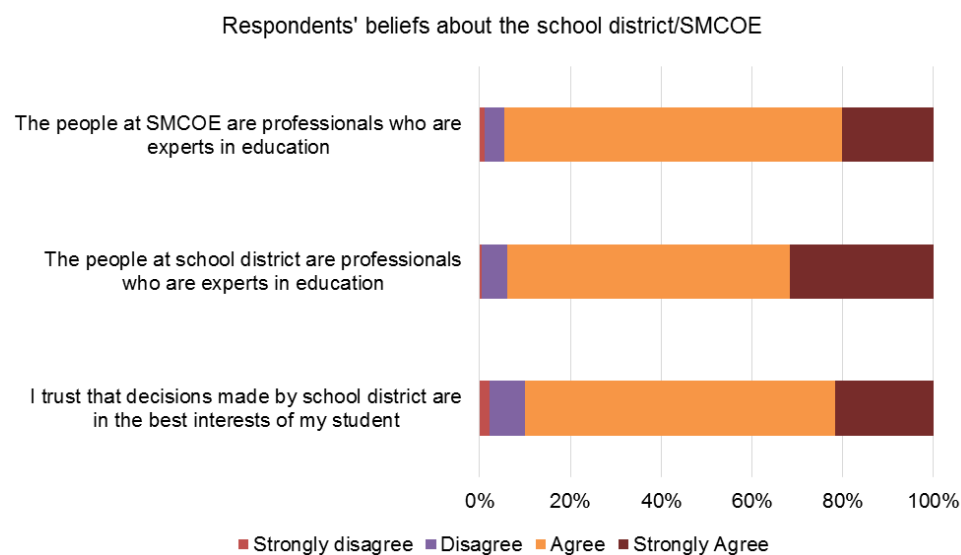


A factor analysis revealed that a subgroup of questions explained a lot of the variance in parents' attitudes towards attendance. Specifically, the seven questions in Table 4 indicate parental attitudes towards attendance. Parents in households that received the treatment mailings were more likely to believe that attendance is important, and absences affect current and future performance.

Table 4. Questions associated with the belief that attendance is important, and absences affect current and future performance.

Each additional absence has a big effect on student's math ability.
Each additional absence has a big effect on student's reading ability.
Missing a few days of school is not a big deal.
Missing a few days of school can lead to poor attendance.
In order to be on track, it is important for students to be in school every day.
What student learned in this grade is critical to succeed in HS.
What student was taught this year is based on rigorous standards.

In addition, the vast majority of respondents believe that the people who work at SMCOE and their school district are experts in education, and that the decisions made by their respective school district are in the best interests of their students:



In general, parents would appear to have a high degree of trust in the people working at the San Mateo County Office of Education and their school district. This has implications for how schools consider communicating to families, as parents have faith that decisions are being made in the best interests of their children.