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# Using Behavioral Insights to Improve Truancy Notifications

## Faculty Research Working Paper Series

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## **Abstract**

Many states mandate districts or schools notify parents when students have missed multiple unexcused days of school. We report a randomized experiment ( $N = 131,312$ ) evaluating the impact of sending parents truancy notifications modified to target behavioral barriers that can hinder effective parental engagement. Modified truancy notifications that used simplified language, emphasized parental efficacy, and highlighted the negative incremental effects of missing school reduced absences by 0.07 days compared to the standard, legalistic, and punitively-worded notification—an estimated 40% improvement. This work illustrates how behavioral insights and randomized experiments can be used to improve administrative communications in education.

## **Introduction**

Attendance strongly predicts academic success. Informed by this, most states have added absenteeism as a core metric for evaluating district performance, and seven states tie district funding directly to schools' average daily attendance rates (Jordan & Miller, 2017). This manuscript reports a randomized experiment ( $N = 131,312$ ) evaluating the effect of behaviorally-informed improvements to existing state-mandated administrative parent communication on absenteeism. These minor changes reduced student absences by nearly 0.1 days, an approximate 40% improvement over the estimated impact of the standard letter. This illustrates how behavioral insights and randomized experiments can be easily applied to improve the efficacy of administrative communications in education.

Schools communicate with families in numerous ways to ensure student attendance. In many states, parents receive truancy notifications (i.e., warning letters) informing them that their child has missed school without a valid excuse. These state-mandated notifications generally take a deficit-view of families: they emphasize parental liability and are punitive in nature. Moreover, they tend to be long, difficult to understand, full of legal jargon, and can be perceived as threatening (Lambert, 2017). Despite the widespread use of truancy notifications there is little evidence on how to improve their efficacy.

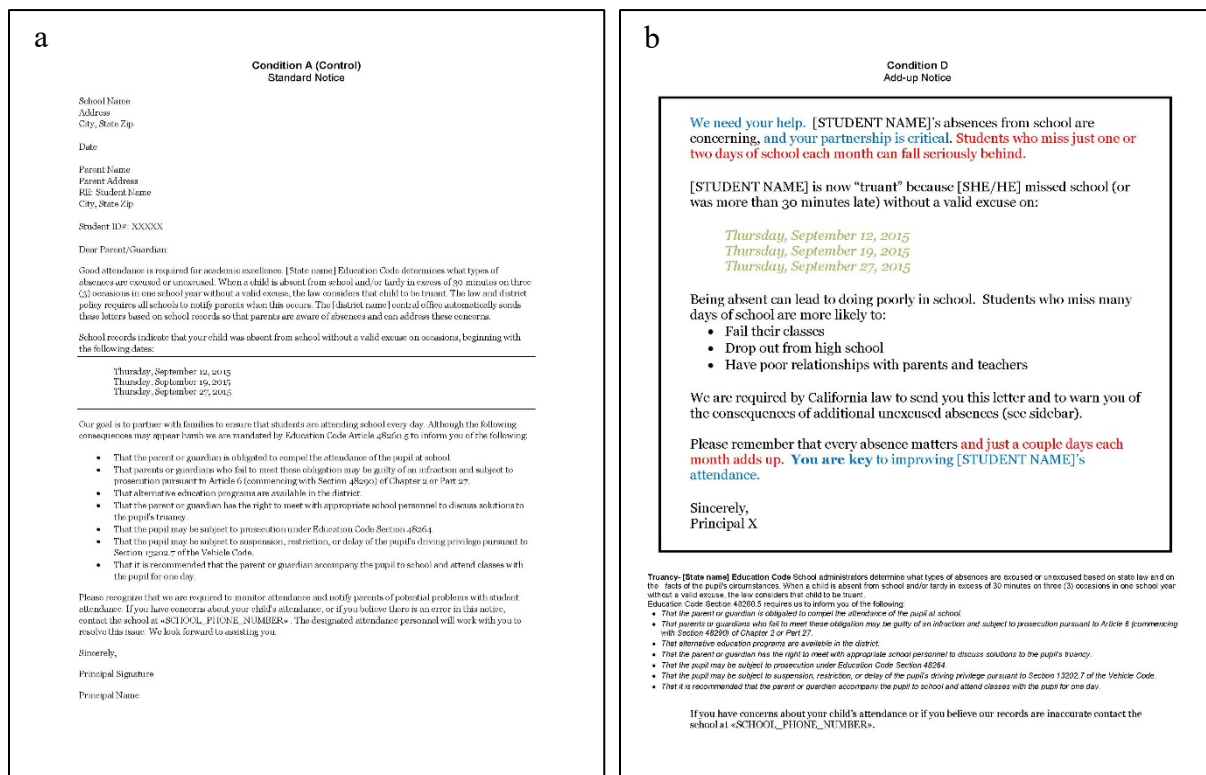
Empowering parents as partners in their child's education can positively impact student outcomes (Henderson & Mapp, 2002). However, several behavioral barriers, including limited attention, miscalibrated beliefs, and low literacy, can impact parents' ability to process and act upon information they receive about their child's education, thus hindering effective parental engagement (Damgaard & Nielsen, 2018). Behaviorally-informed interventions can reduce these barriers by providing parents with clear and actionable information. This brief reports on a large-scale randomized experiment evaluating the impact of sending parents behaviorally-informed notifications that targeted potential barriers to engagement on subsequent student attendance.

## **Current Study**

For this study, we partnered with a large urban public-school district that generates and mails truancy notification letters each month to all parents whose child has been recently truant. The district's Standard Notice informs parents that their student has been classified as truant, and highlights the potential legal consequences if unexcused absences persist (Fig. 1, condition A). We developed six modified versions of the Standard Notice (conditions B-G). We varied the messaging of each notice to target three known barriers to parental engagement: limited attention and low literacy; feelings of inefficacy; and the common misbelief that a small number of absences is inconsequential. Each modified notice was written at a 5<sup>th</sup> grade reading level and had a primary message of less than 150 words. Conditions C-G included language reinforcing

parental efficacy, and conditions D-G added additional language emphasizing the negative incremental effects of missing school. See Table 1 for a description of each condition. Conditions D-F—the cumulative conditions—targeted all three behavioral barriers.

From November 2015 to February 2016 we conducted a randomized experiment with 131,312 truant students, each of whom were randomly assigned to receive either the Standard Notice or one of the six modified notices. We examined the effect of each modified notice relative to the Standard Notice on student absences in the month following receipt of the letter, as well as the combined effect of the three cumulative conditions relative to the Standard Notice. In a pre-registered analysis plan (OSF, <https://osf.io/snf9z/>), we specified our outcome of interest as a log-transformed measure of full day absences. However, because both full and partial day absences can trigger truancy notifications, the total number of full and partial day absences is a more policy-relevant outcome measure. Thus, all analyses presented here deviate from the analysis plan by considering the sum of full and partial day absences as the primary outcome. All pre-registered analyses are discussed in the Supplemental Online Materials (SOM).



**Fig. 1. (a)** Standard truancy notice; and **(b)** the most effective modified notice (Condition D), which was modified and simplified using behavioral insights. The Add-up Notice reduced student absences compared to the Standard Notice in the one month following each truancy notice mailing by nearly 0.1 day. All letters were mailed in black and white; colors are only used to illustrate modifications. See SOM for examples of all modified truancy notifications. Red font highlights the “Add-up” language; blue font highlights language emphasizing parental efficacy.

## Results

Table 1 presents the impact of each condition relative to the Standard Notice on raw and log-transformed absences. The three cumulative conditions used simplified language, emphasized parental efficacy, and highlighted the negative incremental effects of absences. Each of these conditions reduced absences by about 2% in the month after receiving the notice ( $SE = 0.007$ , all log-transformed  $ps < .05$ ), or by approximately 0.07 days from the Standard mean of 3.5 absences. The other three conditions—Simplified (B), Efficacy (C), and Benefits (G)—did not significantly reduce absences relative to the Standard Notice. See the SOM for sensitivity analyses.

Other published mail-based absence-reduction interventions have reduced absences on average 0.2 days per mailing (Rogers & Feller, 2018; Robinson, Lee, Dearing, & Rogers, 2018). If we assume the Standard Notice is as effective as these other mail-based interventions—although we expect it is likely less effective—then the improvements increased the impact of the notice by nearly 40%.

## Discussion

This study presents a low-cost, scalable intervention that uses behavioral insights to improve state-mandated truancy notifications. The most effective modified notices used 60% fewer words than the Standard Notice, highlighted parents' role in reducing student absences, and reminded parents that absences can add-up to have negative consequences on academic performance. These adjustments reduced absences by approximately 2% in the month following receipt of the truancy notice. While the average per-student effect is modest, sending the most effective modified notice to all truant students could generate tens of thousands of additional days of attendance in a single state.

This research offers two important lessons for policymakers. First, simplification may be a necessary, but insufficient, step toward increasing parental engagement in their child's education. The simplified truancy notice alone did not meaningfully reduce absences. However, combining simplified language with messaging that reinforced parental efficacy and emphasized the potential cumulative consequences of periodic absences yielded improvements in student attendance.

Second, using behavioral insights to modify educational communications can impact student outcomes at low- or no-cost. The district is required to identify truant students and mail truancy notifications, and our experiment relied on existing district processes for doing so, thus improving attendance without adjusting administrative burdens or imposing additional costs.

Reducing student absenteeism on a broad scale requires a combination of interventions. This intervention is not a standalone solution, but it offers a virtually costless way to generate modest improvements in student attendance, thereby freeing district resources to pursue more intensive interventions aimed at addressing the deep structural factors that contribute to absenteeism.

**Table 1.** Description of each condition

Condition	<i>N</i>	Effect relative to Standard – raw absences [SE]	Effect relative to Standard – log absences [SE]	Description	Details
(A) Standard	32,786			Parents received the district’s standard truancy notification letter (see Figure 1).	The Standard Notice is 382 words, is written at a 10 <sup>th</sup> grade reading level, and includes seven bullet points of legally-mandated language on parental obligation and potential ramifications of repeated offense, including legal prosecution.
(B) Simplified	16,375	-0.054 [0.035]	-0.009 [0.007]	Parents received a simplified notice that included information on how many unexcused absences their student had accumulated and highlighted the negative consequences of missing school. The legally mandated language was included in fine print at the bottom of the letter.	Each of the modified notices were written at a 5 <sup>th</sup> grade reading level and had a primary message consisting of fewer than 150 words. All state mandated legal language was included in fine print at the bottom of the letter (see Figure 1 and SOM).
(C) Efficacy	16,348	-0.021 [0.035]	-0.006 [0.007]	Parents received the Simplified Notice (condition B) with an added sentence reinforcing parental efficacy.	
(D) Add-up	16,512	-0.076** [0.038]	-0.021*** [0.008]	Parents received the Efficacy Notice (condition C) with an added sentence emphasizing that 1-2 absences per month adds up and can lead to students falling behind.	
(E) Add-up + superintendent	16,462	-0.076** [0.035]	-0.022*** [0.007]	Parents received the Add-up Notice (condition D), except the letter was signed by the district superintendent instead of the student’s principal.	
(F) Add-up + tips	16,403	-0.068* [0.036]	-0.018** [0.007]	Parents received the Add-up Notice (condition D) with a paper insert listing tips for improving attendance.	
(G) Benefits	16,426	0.016 [0.035]	0.000 [0.007]	Parents received the Add-up Notice (condition D), but instead of language on the negative consequences of poor attendance, this notice emphasized the benefits of good attendance.	

Notes: The modified truancy notices targeted three known behavioral barriers to parental engagement: (1) limited attention and low literacy; (2) feelings of inefficacy; and (3) the common misbelief that a small number of absences is inconsequential. Condition B targeted the first barrier; condition C targeted the first and second; and Conditions D, E, F—the “cumulative conditions”—targeted all three behavioral barriers. Condition G is described in more detail in the SOM. Average treatment effect estimates come from OLS estimates of full + partial day absences in post-mailing period regressed on an indicator for condition assignment (see SOM). \*\*\* implies statistical significance at 1% level, \*\* at 5% level, \* at 10% level.

## **Supplementary Materials**

Supplementary methods, analyses, and discussion are included in the Supplemental Online Materials, available [here](#). Restrictions apply to the use and availability of the data used to support the findings of this study, so they are not publicly available.

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