



A new program to prevent primary school absenteeism: Results of a pilot study in five schools



Philip J. Cook^a, Kenneth A. Dodge^b, Elizabeth J. Gifford^{c,*}, Amy B. Schulting^d

^a Terry Sanford Professor Emeritus of Public Policy, Sanford School of Public Policy, Duke University, Durham, NC 27708, United States

^b Pritzger Professor of Early Learning Policy Studies in the Sanford School of Public Policy, Professor of Psychology and Neuroscience, Center for Child and Family Policy, Duke University, United States

^c Assistant Research Professor in the Sanford School of Public Policy, Duke University, United States

^d Visiting Research Scholar, Center for Child and Family Policy, Sanford School of Public Policy, Duke University, United States

A B S T R A C T

Frequent absences in the primary grades are associated with school disengagement, academic failure, and eventual dropout. The Early Truancy Prevention Project (ETPP) was designed to improve attendance of primary-grade children by facilitating communication between teachers and parents and giving the teachers the lead role in intervening with students when attendance problems emerge. In 2013–14, the current version of ETPP was implemented in 20 classrooms in five high-poverty public elementary schools, with 21 other classrooms in the same schools serving as controls. Our analysis of attendance data indicated that ETPP significantly reduced the prevalence of absenteeism without excessively burdening teachers. Teachers reported improved communication between parents and teachers and had a positive assessment of the effects of specific program elements.

1. Introduction

Attending school is the logical precondition for classroom learning. During the 2013–14 school year, one in eight primary and secondary students in the United States missed at least 15 school days (U.S. Department of Education, 2016). Absenteeism is recognized as a problem in many developed countries, attracting the attention of researchers and policy makers (Askeland, Haugland, Stormark, Bøe, & Hysing, 2015; Gren-Landell, Ekerfelt Allvin, Bradley, Andersson, & Andersson, 2015; Mazerolle, Antrobus, Bennett, & Eggins, 2017; Thornton, Darmody, & McCoy, 2013). Such chronic absenteeism predicts poor grades, lower test scores, grade retention, school disengagement, delinquency, substance abuse, expulsion, and, ultimately, high school dropout (Aucejo & Romano, 2016; Gershenson, Jackowitz, & Brannegan, 2017; Kearney, 2008).¹

Throughout the school career, chronic absenteeism tends to be especially prevalent among students from disadvantaged homes and may contribute to socioeconomic gaps in reading and math test scores (Attendance Works, 2015; Balfanz & Byrnes, 2012; Harris, 2015; Romero & Lee, 2007). Furthermore, the effects of early absenteeism are moderated by social class: Using data from the Early Childhood Longitudinal Study, Ready (2010) found that the negative effects of first-

grade absenteeism on cognitive development were stronger for children of lower socioeconomic status than others, and that disadvantaged children who had good attendance rates gained more in literacy skills than their higher SES (socioeconomic status) peers.

While school and law-enforcement authorities traditionally focus truancy-prevention efforts on students in middle and high school, there is increasing recognition that primary-grade absenteeism is also problematic, both in itself and as a precursor to subsequent absenteeism (Attendance Works, 2014; Ehrlich et al., 2014). Students who ultimately drop out of school tend to have had more absences and greater disengagement from school as early as first grade (Alexander, Entwisle, & Horsey, 1997; Epstein & Sheldon, 2002). Notably, primary-school absenteeism is a strong predictor of middle-school absenteeism (Schoeneberger, 2012), despite the fact that as the child matures and becomes more autonomous the locus of control over the child's attendance tends to shift from the parent to child. In a multi-site sample of students tracked from kindergarten into adulthood, chronic absenteeism in either second or third grade increased the likelihood of eventual dropout by 15 percentage points (Cook, Gearing, & Ranby, 2012). Such findings suggest (though do not prove) that reducing primary school absenteeism would be instrumental to improving school engagement and, ultimately, graduation rates.

* Corresponding author.

E-mail address: beth.gifford@duke.edu (E.J. Gifford).

¹ In this article, we usually use the term “absenteeism” rather than “truancy” to refer to “frequent absences.” “Truancy” or “chronic truancy” denotes *unexcused* absences, whereas “absenteeism” is the more apt term for our research since in most of the discussion we do not distinguish between excused and unexcused absences. This topic is developed below.

Motivated by these considerations, we developed the Early Truancy Prevention Program (ETPP) and field tested it with first- and second-grade students (mostly aged 6–8). The details of the program and the results of our pilot evaluation are reported here. The ETPP is qualitatively different than truancy-prevention programs for older students, and in particular seeks to leverage the close relationship that students in primary grades typically develop with the teacher with whom they spend most of the day. Young children have little autonomy, so it is ultimately up to the parents or guardians to get them to school. The ETPP gives teachers the lead in working with parents to ensure regular attendance, and includes universal home visits and other mechanisms to facilitate communication. We pilot tested this program in five schools that are part of a mid-sized Southern school district, using a strong experimental design. Despite the small sample size (40 classrooms in all, with 20 in the treatment condition), the results suggest that the ETPP was effective in reducing the prevalence of frequent absences. Teachers reported improved communication between parents and teachers and had positive assessments of the effects of specific program elements. Most teachers indicated that their program responsibilities were not excessively burdensome. The cost was less than \$3000 per classroom.

2. Development of the early truancy prevention program

2.1. Previous absenteeism-prevention programs

While there are some promising leads, no absenteeism-prevention program for the primary grades has demonstrated efficacy by a randomized controlled trial.² There is a dearth of rigorous evaluations at all levels. Sutphen, Ford, and Flaherty (2010) review of 222 absenteeism intervention programs published in peer-reviewed journals from 1990 to 2007 identified only 16 studies that used sufficient methodological and statistical rigor to evaluate impact. Furthermore, only eight of the reviewed interventions targeted elementary school students, and none included a control group, let alone a randomized trial. A recent review of interventions to reduce chronic absenteeism considered all evaluations disseminated between 1990 and 2009 (Maynard, McCreary, Pigott, & Kelly, 2013). The authors found 391 evaluations of such programs in the literature, of which just five were randomized controlled experiments and 11 were quasi-experiments meeting guidelines of the Campbell Collaboration. Just two of these 16 well-evaluated studies were focused on elementary school, and neither of those found that the intervention was effective.

Perhaps the most prominent program in the short history of truancy prevention is the Check & Connect (C&C) Model (Anderson, Christenson, Sinclair, & Lehr, 2004). The best evidence for this model comes from intervention with middle school and high school students who have a prior-year history of chronic attendance problems and are targeted for a multi-year, multi-component intervention that consists of: 1) a paid mentor who spends time with the student; 2) systematic monitoring of attendance; 3) individualized intervention when needed; and 4) enhanced home-school communication (Christenson et al., 2008). Two small randomized trials support its efficacy (Sinclair, Christenson, & Elevo, 1998; Sinclair, Christenson, & Thurlow, 2005). A high attrition rate from the study (30%) led the What Works Clearinghouse (2006) to classify the study as having methodological “reservations.” These two studies indicate high rates of dropout for all high-risk groups, no matter what intervention was received, and modest intervention success, but they constitute the strongest evidence to date for absenteeism prevention.

² There may be a recent exception to this statement. A recent unpublished working paper on a randomized field trial of a low-cost intervention (notifying parents of their children's absences) reports an average reduction in annual absenteeism of about one day per school year at all ages (Rogers & Feller, 2016).

In 2011, Check & Connect was implemented on an experimental basis in 14 middle and high schools located in the Southwest (Maynard, Kjellstrand, & Thompson, 2014). While the treatment group experienced some improvement in grades and behavior, no effect was observed in a larger randomized trial that is underway in the Chicago Public Schools that assigned 540 elementary and high school students with a prior-year history of truancy to a two-year C & C intervention, or a control group (Guryan, 2010).

2.2. A three-tiered intervention

Kearney and Graczyk (2014) provided a useful conceptual foundation for designing interventions that may be effective in promoting school attendance. It drew on the Response to Intervention model, and in particular described a “three-tiered service-delivery approach with universal, targeted, and intensive interventions (p. 3).” The emphasis was on early identification and treatment, rather than focusing solely on those students who have already accumulated a large number of absences. The universal “tier 1” strategies focused on generic issues such as school climate and safety, health, and parental involvement, together with ongoing assessment to identify students with emerging attendance problems. Tier 2 interventions targeted students who were determined to be at risk (such as the Check and Connect program), while tier 3 consisted of intensive interventions for chronically absent students.

In response to the need for a cost-effective program focused on primary grades, we created the Early Truancy Prevention Program (ETPP), which incorporates all three tiers of the Response to Intervention model. ETPP is intended to improve attendance of primary-grade children by facilitating communication between teachers and parents (Tier 1), giving the teachers the lead role in intervening with individual students who begin to accumulate excessive absences (Tier 2), and encouraging referrals to specialists for chronic absentees (Tier 3).

2.3. Deep causes vs. proximate causes

Risk factors for absenteeism and later school dropout are well known, beginning with demographic factors such as low socioeconomic status, single-parent household, gender (males are at higher risk than females in some studies), ethnic minority, and low parental education (Cairns, Cairns, & Neckerman, 1989; Hunt & Hopko, 2009). The quality of early childhood caregiving and home environments also predicts school attendance (Chang & Romero, 2008). Once children enter school, behavioral problems, conflictual relationships with peers and teachers, and poor academic achievement have been linked to absenteeism and later dropping out of school (DeRosier, Kupersmidt, & Patterson, 1994; Kupersmidt & Coie, 1990; Rumberger, Ghatak, Poulos, & Ritter, 1990; Woodward & Fergusson, 2000). Parents' choices also affect school attendance, including parent-school involvement, parental monitoring of the child, and parent-child interactions (Dunham & Alpert, 1987; Rumberger et al., 1990). Parental mental illness, substance abuse, and child maltreatment prior to school entry and during the school years have been linked to poor attendance and dropout (Casas-Gil & Navarro-Guzman, 2002; Reid, 2008; Shonk & Cicchetti, 2001).

These deep causes of absenteeism are largely beyond the reach of teachers and other school officials. However, these causes are often mediated by day-to-day parent and child behavior patterns and impediments that *can* be addressed by teachers, such as transportation problems, chronic medical conditions that are not being treated effectively, or lack of an effective plan to ensure that the child is ready for school on time (Kearney & Graczyk, 2014). Teachers are also in a good position to communicate to wayward parents that regular attendance is important if the child is to succeed academically, not to mention mandated by law.

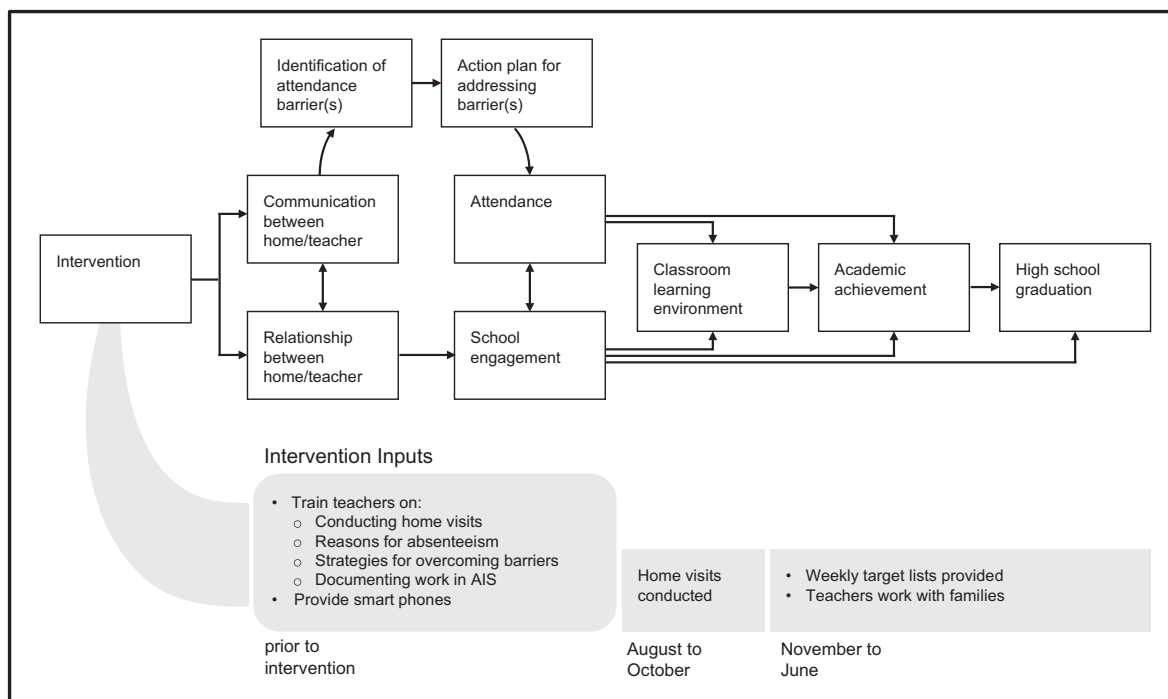


Fig. 1. Theory of change for the Early Truancy Prevention Project.

2.4. Strengthening the teacher-parent relationship

Establishing a strong relationship between the parent and the school in which goals for the child are aligned is a crucial component of successful early schooling (Pianta, Cox, Taylor, & Early, 1999; Powell, Son, File, & San Juan, 2010). Parental involvement is important for enhancing academic socialization (Hill & Tyson, 2009). Children with parents who are actively interested in their daily and long-term educational activities exhibit less absenteeism and other school-based misbehaviors (Jeynes, 2005; McNeal, 1999). Conversely, lax parental supervision is a key risk factor for problematic absenteeism (Ingul, Klöckner, Silverman, & Nordahl, 2012).

How to enhance the teacher-parent relationship is less clear. Based on strong albeit somewhat indirect evidence, our program begins with the teacher visiting the home of every child in his or her classroom. Although home visiting programs for early childhood have earned widespread support (Olds, Henderson, Tatelbaum, & Chamberlin, 1986), teacher home visiting is much less common. For example, in one study only 4% of kindergarten teachers reported that they conduct home visits (Schulting, Malone, & Dodge, 2005). While home visiting is included in some programs, it is rare, and typically used remedially rather than preventively. Our review of the literature identified just seven programs with home visits; most of these were at the secondary school level, were typically conducted by truancy officers or social workers, and occurred only in response to an already-established pattern of truancy. We did not identify a single program with universal teacher home visiting as a truancy prevention strategy in the elementary grades (Dembo & Gulledege, 2009; McCluskey, Bynum, & Patchin, 2004).

The ETPP is the first program to incorporate universal teacher home visiting as an absenteeism-prevention practice. Two of us have evaluated universal home visiting by kindergarten teachers in the Kindergarten Home Visit Project, a randomized controlled trial with 928 participating families and 44 teachers in 19 elementary schools (Schulting & Dodge, 2010). Findings indicated that home visiting led to several positive outcomes important for preventing truancy. Relative to teachers in the control group, a higher proportion of teachers who conducted home visits reported that they shared an affectionate, warm

relationship with their students. The positive effect of home visiting on teacher-child relationships was an important finding due to the substantial body of research demonstrating the link between teacher-child relationships in elementary school and the academic and behavioral outcomes of students (Birch & Ladd, 1997; Hughes & Cavell, 1999; Pianta, Steinberg, & Rollins, 1995). These findings further highlighted the importance of positive teacher-child relationships to support early school success, particularly for children facing multiple risk factors at school entry.

In the Kindergarten Home Visit Project, both parents and teachers in the home visit group reported that language differences were less of a barrier to home-school collaboration relative to parents and teachers in the control group. In addition, non-English speaking parents reported feeling more comfortable at the school than parents in the control group. Teachers who conducted home visits reported more positive attitudes toward diverse families and a greater willingness to reach out to parents who might have trouble getting involved (Schulting & Dodge, 2010). Teacher home visiting also influenced student outcomes directly. Students receiving a home visit demonstrated improved academic work habits compared to the control group. Latino children also demonstrated increased academic motivation in school.

2.5. A logic model

Teachers play a critical role in students' academic outcomes, but they are frequently overlooked as a resource in the effort to reduce absenteeism. There is substantial evidence, including a prospective inquiry (Kohl, Lengua, & McMahan, 2000), that teacher-child relationships, teacher attitudes, home-school relations, and student engagement are important predictors of student outcomes (also see (Hamre & Pianta, 2001; Lareau, 1987; Reid, 2008)). Therefore, the proposed intervention targets these mediating mechanisms by utilizing the teacher as the primary change agent in improving attendance.

Fig. 1 presents the logic model. ETPP is designed to equip the primary school teacher with everything she needs to serve as an effective early responder to emerging attendance problems on the part of her students. Thus there are two channels by which ETPP may affect attendance. First, a better connection with the parents may improve their

“school engagement”—the value they place on education for their child, and their regard for the school and the teacher. Second, the interventions devised and implemented by the teacher in response to early attendance problems may help remove barriers to attendance.

We believe that the ETPP will also improve school achievement and, ultimately, school graduation rates. For any one student, improved attendance will enhance learning. If attendance is improved overall, one result will be that the teacher will find it easier to maintain the desired pace of the curriculum, and all the students will benefit (Goodman, 2014). It is also possible that the classroom environment will be improved by more active parent engagement engendered by the program.

2.6. Specific components of the ETPP

The ETPP has been designed to leverage the close relationship between students and their teacher in the primary grades. The teacher is encouraged and supported in taking on the role of first responder to emerging attendance problems on the part of her students. ETPP incorporates five intervention components, listed below. The first three are Tier 1 universal interventions with monitoring, while the remaining two components are in the spirit of Tiers 2 and 3, respectively, focused on students who have problematic attendance patterns:

- universal teacher home visiting to provide teachers with information about students' home life and establish a productive working relationship between parents and teachers;
- a smart phone for each teacher with a cellular plan sufficient to accommodate frequent communication with parents by text, email, or voice, as well as providing a mobile device to access on-line materials;
- bi-weekly attendance data to give teachers information needed to identify students with emerging attendance problems;
- an on-line Attendance Information System that guides the teacher's assessment of the main barriers to attendance for each student, as well as providing suggested interventions for removing barriers and a convenient method of keeping track of each target case; and
- consultation with staff to ensure that teachers are taking full advantage of the available resources in the school system and community, as well as coordinating with the truancy-court program and other established social-work programs.

2.7. Co-design of the ETPP with the local school system

The ETPP was co-designed with staff from a North Carolina school district and a university-based research team through a place-based design-research process (Coburn, Penuel, & Geil, 2013). In this multi-year process, school district staff with a range of perspectives on school attendance were involved in developing the program including elementary school teachers, principals, district-level administrators, and social workers associated. (For additional details regarding the design of the program see (Cook, Schulting, Dodge, & Gifford, under review)).

3. Evaluation

Following the design of the ETPP, it was implemented and pilot tested in five elementary schools from within the same school system that participated in developing the program. Most of the students from this school system were in lower-income families (65% qualify for free or reduced lunch), and the student body was diverse (50% African American, 25% Hispanic, with most of the remainder non-Hispanic white). Most relevant to the current study, the elementary grades (K–5) had an average daily absence rate of 5%, slightly higher than the statewide rate. Another way to describe school attendance patterns is to consider the prevalence of frequent absences: 20% of first and second graders in this school system were absent for ten or more days, and 3% were absent for 20 or more days, in 2011–12.

3.1. Sample

During the 2013–14 school year, the ETPP was piloted in five of the school system's 29 elementary schools. The schools were selected by system administrators, based in part on their judgment concerning need, suitability, and interest on the part of the principals. (In that sense, the experimental schools were not representative.) All of the first and second grade classrooms were included in the initial design, by agreement with both the teachers and the principals. While the principals were not compensated for their participation, each of the teachers was offered a small stipend (\$1000 for the treatment teachers, \$500 for the control teachers). The treatment teachers were also offered \$40 for each home visit. All teachers signed an informed consent form. (Unfortunately, one of the teams voted to withdraw from the experiment after they had signed up.)

The unit of observation is the classroom. The intervention was implemented by classroom teachers, who spend most of the day with their class of students. But because the same-grade teachers in each school are organized as a team, with considerable interaction, we chose to block randomize at the level of the grade and school; that is to say, in each of the five schools all first grade teachers were in the same treatment arm, and all the second grade teachers were in the other treatment arm. The effect was that all teachers on the same team received the same training and were coached and incentivized to deliver the same intervention.

3.2. Participants

Table 1 provides basic information on the classrooms that participated in the experiment.

First and second graders do not take standardized tests in North Carolina, but older students do. To provide a reference for the academic level of students participating in the ETPP, the last column presents the percent of 3rd–5th graders who were reading at or above grade level for each of the schools. Relative to a state norm of 44%, the percent of students at grade-level on this measure is 15–30 percentage points lower.

3.3. Measures and data collection

We used two types of data on outcomes. The first source was the administrative data on attendance, which were the basis for the impact analysis. The second was from surveys of teachers who participated in the experiment, which provided some information on intermediate outcomes.

a. Attendance data

The main outcome of interest was the number of absences. Specific measures included the classroom average attendance rate, and the percentage of students who were absent more than some minimum number of days. Attendance data were provided by the central office in

Table 1
Schools participating in the project during 2013–14.

Elementary School	# classrooms First grade	# classrooms Second grade	% Hispanic ethnicity	% of 3–5 Graders at or above Grade Level in reading ^b
A	5 ^a	5	34	26
B	6	5 ^a	44	14
C	4 ^a	4	26	28
D	4	4 ^a	29	17
E	2	2 ^a	15	19

^a Intervention grade.

^b State average = 44% for % at or above grade level (2012–2013 school year);

de-identified form – that is, the research team saw the daily record of attendance for every student who was in a treatment or control classroom, but the individual students were only identified by the classroom and by a unique identification number, with no student names attached.

The ultimate source of attendance data was the classroom teacher. According to district policy, each teacher was supposed to record absences as of 9:30 each morning. There were several possible sources of error in recording absences. In some cases the teacher may have been uncertain if the student was in the school because the student may have been attending a “pull out” class at the beginning of the school day. A more likely source of error was that the teacher did not submit attendance data. (One reason may be that she herself was absent, and the substitute teacher did not take attendance.) Unfortunately, the school system's record keeping was not designed to distinguish between days when the teacher did not submit an attendance report, and days when all students were in attendance – in both cases no absences were recorded.

We conducted an informal interview study to ascertain teacher practices and views about taking attendance. These interviews confirmed that several teachers did not always submit their attendance report. To remedy the situation, we identified classrooms that appeared to have an exceptionally high number of days with “perfect” attendance (suggesting in reality that attendance was not reported). In fact only one classroom was identified as an outlier in this respect, and hence has been dropped from the analysis that follows. (That classroom was in the control group.)

The school system's attendance data did distinguish between “excused” and “unexcused” absences. Absences may be excused in advance (if, for example, the family is going on a trip that is deemed to have an educational purpose), or by written excuse following return to school if the student was sick or had a medical appointment or religious observance. The school principal is required to contact the parent after six and ten unexcused absences over the school year, informing the parent of a possible violation of the Compulsory Attendance Law, and the school social worker is notified. Our analysis did not distinguish between “excused” and “unexcused” absences. The goal of the ETPP was to improve student attendance with the belief that it was possible for teachers to help parents reduce excusable absences due to such matters as illness and medical appointments. Furthermore, in practice, whether a particular absence was “excused” or “unexcused” may not reflect the actual circumstances of the absence; rather it may reflect the parent's conscientiousness about writing excuses.

The research team analyzed attendance data through April 25th of the 2013–14 school year, a total of 145 school days. We used as outcome measures the percentages of students in a class who had at least some minimum number of absences (4, 6, or 10) over 145 school days.

b. Data from teacher surveys

To provide data on the fidelity of implementation and the intermediate outputs of the intervention, teachers in both the treatment and the control group were asked to fill out surveys. In May, treatment-group teachers filled out an ETPP survey with questions regarding their experience with home visits, the smart phone, and the Attendance Information System. Finally, every teacher, both intervention and control, was asked to fill out a brief questionnaire on each student in her class, asking about the frequency and nature of the communication between the teacher and parent. Teachers were asked to report separately about who initiated the contact—a) teacher contacted parent/caregiver and b) parent/caregiver contacted teacher.

3.4. Analysis

As noted, our impact analysis treated the classroom as the unit of observation. We used the classroom rather than the individual student

as the unit of observation because the intervention was implemented by the classroom teacher.

The effect of the intervention was estimated by comparing the outcomes in the intervention-group classrooms with those in the control group, either as a simple difference, or by using a regression specification (with errors clustered at the school level) such as the following:

$$A_c = \alpha + \beta I_c + \gamma G_c + \varepsilon_c$$

where for each classroom c

A = a measure of attendance, specifically the prevalence of students in the classroom with frequent absences, utilizing one of three measures: the percent of students who missed 4 or more days of school; 6 or more days of school; and 10 or more days of school.

G = grade level (1 if 2nd, 0 if 1st).

I = indicator of whether the class was included in the intervention group.

In this specification, β is a measure of the treatment effect.

4. Findings

4.1. Implementation

Most teachers in the treatment group visited most of their students' homes during the fall. Of the 20 teachers, 15 visited more than half, and 8 visited > 80%, of their students' homes. In the program feedback survey filled out by 17 of the 20 treatment teachers, 88% reported that the visits were “useful” or “very useful” in learning about the child and family; 100% reported that the home visits had positive impact on their relationship with parents; and 94% reported positive impact on the relationship with students. The details are in Fig. 2.

To further facilitate teacher-parent communication, each treatment teacher was provided with a smart phone. In their survey, 89% of the treatment teachers reported that the phone increased communication with student families, and most of them (77%) indicated that it increased communication “a lot.” To obtain more systematic information, we also asked a series of questions to both treatment and control teachers about their frequency of communication with each of their students' parents by mode of communication. The two relevant mechanisms were the home visit, which might be expected to increase communication generally, and the smart phone, which would be expected to increase communication by voice and text. Table 2 summarizes the results, reported in the form of averages across the relevant classrooms. For teacher-initiated contacts, the treatment group was over twice as likely to text parents at least once in the course of the year (70.7% vs. 32.8%). To some extent text messages appeared to displace the ancient practice of sending a note home with the child. Interestingly, the more pervasive changes appear in the tabulation of parent-initiated contact; a large jump in text messages with little displacement of notes on paper, and an increase in both in-person and telephone contact. Of particular interest is the large proportional increases in the prevalence of parents who made frequent contacts with the teacher by text (12.8% of treatment parents vs. 7.6% of control parents), in person (9.0% vs. 4.4%), or by phone (7.4% vs. 3.4%).

What were these teacher-parent communications about? In part the teachers were talking to the parents about attendance issues – especially in the case of teachers in the treatment group. Fig. 3 tabulates the prevalence on teacher-parent consultation on attendance by topic. The most common attendance-related issue was the health of the child, followed, in order, by (1) the parent needed the child at home (e.g., as translator or caregiver); (2) household management issues (such as creating a routine for getting going on time in the morning); and (3) transportation difficulties. For each potential attendance barrier, the treatment teachers were more likely than the control teachers to be in touch with the parents about that issue, by a relatively wide margin.

Finally, Fig. 4 summarizes the strategies that teachers used for addressing attendance-related issues, regardless of what barriers were

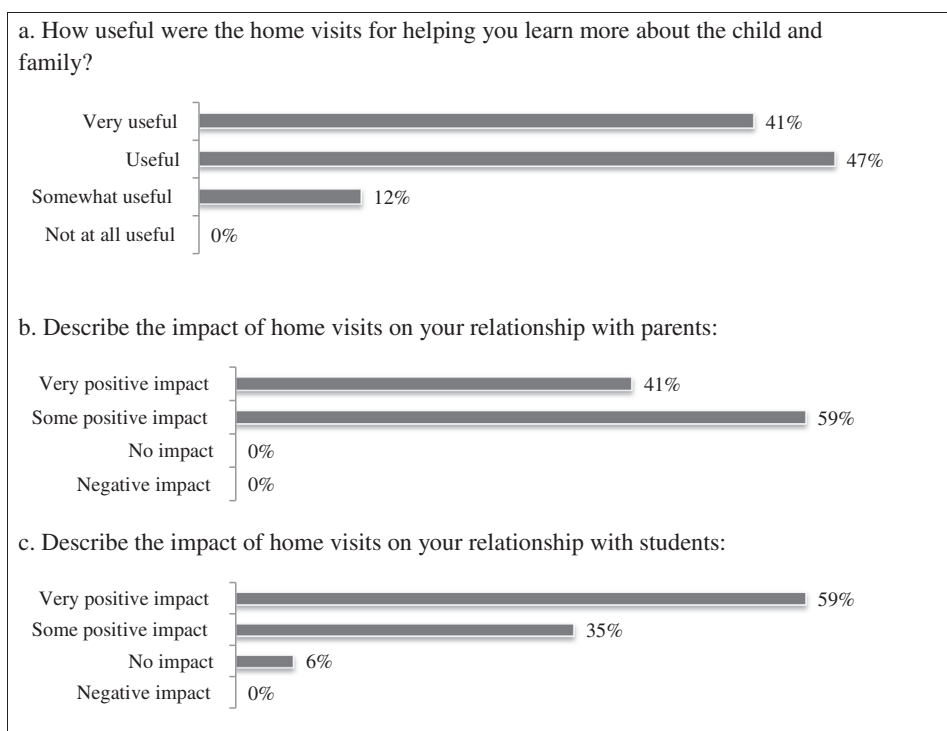


Fig. 2. Teacher's assessment of home visits.

Table 2
Teacher survey results on frequency of contacts with parents by various media (spring 2014).

	Teacher Initiated Contacts			Parent Initiated Contacts		
	Treatment	Control	Δ	Treatment	Control	Δ
Text						
Frequent	14.2	10.3	3.9	12.8	7.6	5.2 ^b
Ever	70.7	32.8	37.9 ^a	58.4	25.6	32.8 ^a
Note on Paper						
Frequent	10.5	17.4	- 6.9 ^a	5.9	5.4	0.5
Ever	78.6	88.9	- 10.3 ^a	72.0	72.9	- 0.9
In person						
Frequent	10.3	7.3	3.0	9.0	4.4	4.6 ^b
Ever	93.3	91.5	1.8	83.1	83.8	- 0.7
Phone						
Frequent	11.1	8.2	2.9	7.4	3.4	4.0 ^b
Ever	87.2	87.9	- 0.7	69.4	59.7	9.7 ^a

Key:
Control = The average across control classrooms (n = 20) of the percentage of student households.
Δ = The difference between averages of the treatment classrooms (n = 18) and control classrooms.

Frequent = “Almost every week” or “more than once per week”.
Ever = Once or twice a year.
Source: Survey administered to teachers participating in the Early Truancy Prevention Program (both treatment and control) in spring, 2014.

^a Statistical levels following a two-tailed test of proportions (p < 1%).
^b Statistical levels following a two-tailed test of proportions (p < 5%).

involved. Treatment teachers reported that for two-thirds of their students there was a discussion about attendance issues with the parents, compared with just one-third of the control students. With a majority of treatment students, the teacher also worked directly with the student on attendance issues (compared with one-third of the control students). Also fairly common for both treatment and control teachers was to consult with other school staff, and for about one in five students to actually make a referral to a professional within the school system. More rarely the referral was to a professional outside the school system (8.7% of treatment students, 2.5% of control students). Every one of the

strategies was more likely to be employed by the treatment teachers than were the control teachers. However, the differences were in most cases not statistically significant.³

4.2. Impacts on attendance

Overall for the first and second graders in the five schools in our pilot project who were enrolled for the entire year, and without regard to treatment vs. control condition, the order statistics on absences were as follows:

- 25th percentile: 3 days
- 50th percentile: 5 days
- 75th percentile: 9 days
- 90th percentile: 15 days
- 95th percentile: 18 days

Thus, 10% of students missed the equivalent of three weeks of school or more. (Because for this outcome measure we do not distinguish between excused and unexcused absences, we do not use the term “truancy.”) Note that most first and second grade students miss school occasionally, and one quarter of them are absent often enough (10 times or more) to constitute a violation of the mandatory attendance law if those absences are unexcused. (Overall, 53% of absences in our sample were unexcused.)

Fig. 5 depicts the histograms for absences, overlaying the histogram for the treatment group with the histogram for the control group. The mass of the treatment group is shifted to the left, with fewer students in the very high categories and over 5% more in the lowest.

For each outcome measure, the treatment classrooms had a somewhat better record than the control classrooms. To refine this estimate of the impact of the treatment, we ran a series of regressions on the data for the 40 classrooms. The regression specification included an indicator of whether the classroom was in the treatment group, and also an indicator of whether it was first or second grade. The regression procedure treated each school as a “cluster” and accounted for the

³ The significance test reported in Fig. 3 is conducted with the classroom as the unit of observation and the implicit assumption that these units are statistically independent.

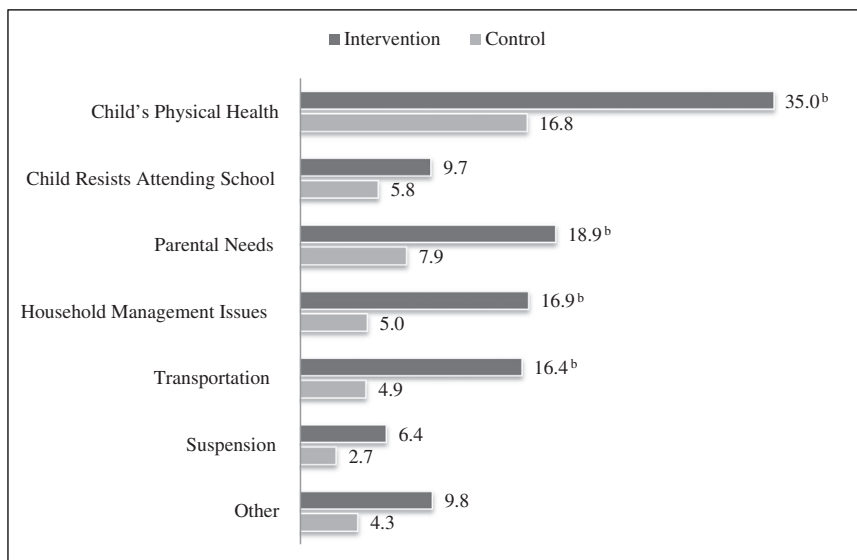


Fig. 3. Teacher reports of working with this student and/or family to address attendance issues.
 Note: Data aggregated to Classroom level (18 intervention and 20 treatment classrooms)
 Statistical levels following a t-test: a ($p < 1\%$); b ($p < 5\%$); c ($p < 10\%$).
 Source: Survey administered to teachers participating in the Early Truancy Prevention Program (both treatment and control) in spring, 2014.

intercorrelation of attendance results school by school. The results are reported in Table 3.

Again the direction of the estimated effect was encouraging – for every outcome measure, the treatment appeared to reduce absences and the prevalence of frequent absences. For two of the outcome measures the effects were significantly different than zero by the usual standard.

Translating the point estimates into percentage reductions revealed that all three impact estimates on prevalence of frequent absences were quite close to 10% of the control group average.

- 4 + absences: $6.29/70.5 = 8.9\%$
- 6 + absences: $5.33/51.5 = 10.3\%$
- 10 + absences: $3.00/25.3 = 11.9\%$

5. Discussion and conclusion

The intervention components included in the Early Truancy Prevention Program model are feasible for schools to implement and together constitute a promising way to improve student attendance in the primary grades. For home visits and other components of the ETPP, the feasibility of implementing the ETPP is a matter of resources. The ETPP gives primary school teachers responsibility for serving as early responders to emerging attendance problems among the children in her class. To be effective in that role requires that she or he make the acquaintance of the parents and have some training, occasional

consultation with experts, access to relevant data and information, and a device for conveniently communicating with parents.

While this role was a natural extension of the typically close relationship between primary-grade students and their teachers, there was some extra burden on the teachers' time. Teachers received extra compensation totaling about \$2000 (together with the use of a smart phone, which adds \$750 to the cost), which in our study was adequate to convince most of them to volunteer. There were also costs of supervising the teachers in this new role, providing consultation on difficult cases, and maintaining the Attendance Information System. Overall the resources required were quite modest, less than \$150 per student.

The current evaluation used an experimental design and found strong evidence that the ETPP was effective in reducing the prevalence of students with frequent absences (6 or more). It should be noted that the evaluation was limited to 40 classrooms in 5 schools. A more robust evaluation with greater statistical power would require a larger experiment. Ideally that experiment would include more than one school system to determine whether factors specific to the location affect feasibility, cost, or efficacy.

Other than statistical power, the main limitation of the current study was that the primary outcome measure, attendance, was based on the daily reports of the teachers, which we on the experimental team were not in a position to audit. It should be noted that there was no

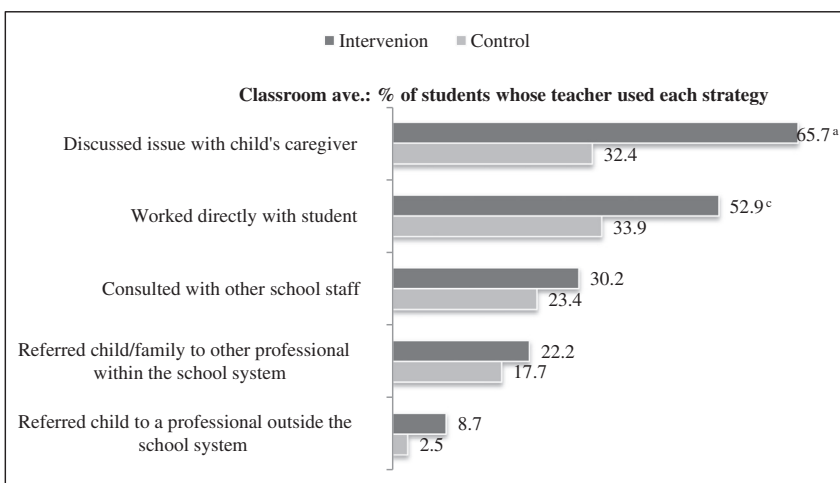


Fig. 4. Teacher reports of use of strategies for addressing attendance-related issues with each student.
 Note: Data aggregated to Classroom level (18 intervention and 20 treatment classrooms)
 Statistical levels following a t-test: a ($p < 1\%$); b ($p < 5\%$); c ($p < 10\%$).
 Source: Survey administered to teachers participating in the Early Truancy Prevention Program (both treatment and control) in spring, 2014.

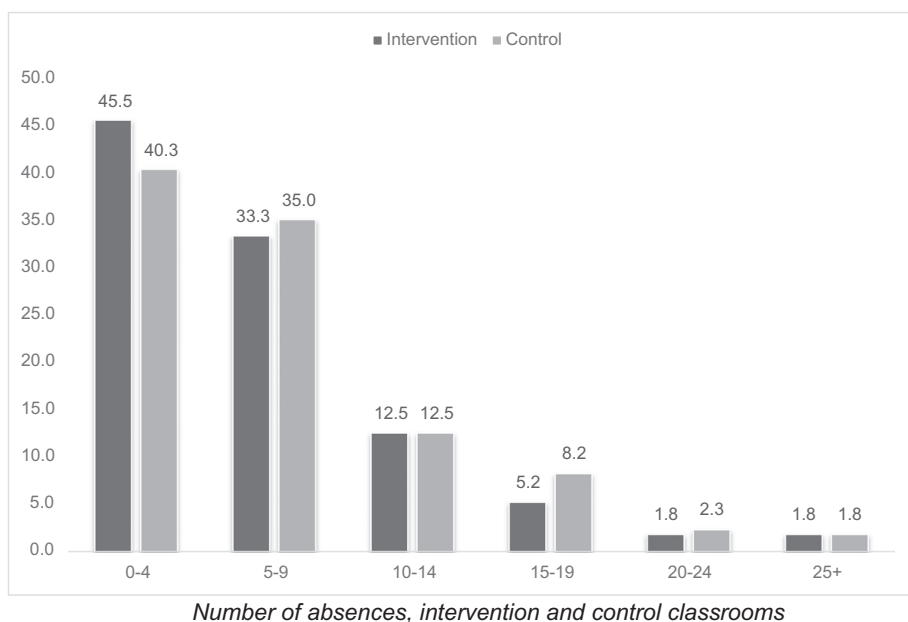


Fig. 5. Histogram of absences, treatment and control classrooms.

Table 3
Regression results, effect of treatment on absences.

Outcome Var.	% of students with 4 + absences	% of students with 6 + absences	% of students with 10 + absences
Independent Variables			
Treatment	- 6.29 ^b (1.98)	- 5.33 ^b (1.48)	- 3.00 (4.48)
2nd grade	- 0.35 (2.01)	- 1.59 (1.61)	- 4.43 (4.59)
Intercept	71.9 ^a (3.20)	52.2 ^a (4.64)	27.0 ^a (4.82)

Note: Each column reports the results of a single multivariate regression, including coefficient estimates and the associated standard error. The sample is the 40 classrooms, including 20 in the treatment group and 20 in the control group.

^a Statistical level ($p < 1\%$).
^b Statistical level ($p < 5\%$).

incentive in the program for the teachers to misrepresent absences, and so that errors and omissions in attendance were unlikely to be systematically different between the treatment and control classrooms. Nonetheless, future evaluations should include a regular audit of teacher attendance data.

Based on our literature review, we concluded that this was the first evaluation of a program to reduce absenteeism in primary grades that found evidence of success. While the program should be evaluated further, it appears promising. Given the modest cost per pupil, and the importance of regular school attendance in the primary grades, the ETPP may be an attractive option for school systems with high rates of early absenteeism.

It is of interest to compare the ETPP model with Check & Connect, the other intervention with some evidence of success in improving attendance. The ETPP and the C & C Model share a focus on relationship-building, monitoring indicators leading to absenteeism, and targeted interventions for high-risk students. Positive outcomes associated with C & C lend support to the ETPP's focus on these important factors. However, important differences between these two approaches include the provider, caseload, populations served, and model. C & C employs a specially hired “monitor” who works at three to four schools with up to 48 individual students referred for existing absenteeism problems (Anderson et al., 2004). In contrast, given the substantial literature

demonstrating the importance of teacher-child relationships to student outcomes (Birch & Ladd, 1997; Hamre & Pianta, 2001; Hughes & Cavell, 1999; Sabol & Pianta, 2012), the ETPP utilizes the teacher as the primary change agent. Teachers conduct individual home visits for universal prevention and then individualized early intervention for emerging student absences. Another important difference is that teachers begin targeted interventions immediately after initial truancy is flagged, whereas C & C targets students who were truant in the prior school year.

At the secondary level, hiring monitors makes sense because there is not a primary teacher responsible for a student's outcome. At the primary-school level, the classroom teacher is responsible and could be trained to lead this effort so that the hiring of additional staff members may be unnecessary. Similar, if not larger, effect sizes might be obtained with a greater focus on the teacher and at substantially less cost, presuming that the teacher is well-supported.

Conflicts of interest

None.

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