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PATHS Implementation and Outcome Study in the Cleveland Metropolitan School District

Final Report

Ann-Marie Faria

Kimberly Kendziora

Leah Brown

Brenna O'Brien

David Osher

American Institutes for Research

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Executive Summary

The Cleveland Metropolitan School District (CMSD) implemented an evidence-based social and emotional learning program—Promoting Alternative Thinking Strategies (PATHS)—districtwide beginning in the 2009–10 school year. The PATHS curriculum is designed to help elementary-age children increase self-control, choose effective conflict-resolution strategies, reject aggressive responses to frustrating situations, improve problem-solving skills, as well as to facilitate educational processes in the classroom and has strong evidence of improving students’ social development and academic performance (PATHS; Greenberg, Kusché, Cook, & Quamma, 1995; Kusché & Greenberg, 1994). Implementing PATHS in all elementary schools in CMSD represents the first large-district scale up of an evidence-based social and emotional learning program in the U.S.

The American Institutes for Research conducted an evaluation of the CMSD’s implementation of PATHS. The goals of the evaluation were to:

1. document and describe how PATHS was implemented in Year 1 (2010–11) and Year 2 (2011–12),
2. document change in students’ social emotional outcomes in PATHS classrooms over time,
3. examine how PATHS implementation was related to students’ social emotional outcomes, including social competence, aggression, and attention, and
4. examine how contextual factors such as school climate and teacher morale were related to both PATHS implementation and student outcomes.

The overall approach for the PATHS evaluation was a survey data collection that linked teachers with students in their classrooms, to examine how implementation of PATHS was related to students’ social competence, attention, and aggression. Teacher surveys were administered in the fall and spring of the 2010–11 and 2011–12 school years. Surveys included items on PATHS implementation, teacher-reported student outcomes (social competence, attention, aggression), and teacher morale. In addition, we administered surveys to elementary school principals, examined extant data from the school district on PATHS implementation, and analyzed student-level school climate data collected from students in Grades 2–4 from 2009 to 2012.

1. Findings regarding our first goal, **describing implementation**, were that in both year one and year two of the evaluation, PATHS was implemented in CMSD in all elementary schools in the district. Although training was extremely well-received, other implementation challenges emerged, such as insufficient coaching, teacher dissatisfaction with the coaching experience,¹ and relatively low numbers of PATHS lessons delivered. Although teachers valued the direct teaching of social and emotional skills to their students and generally liked the PATHS materials and strategies, they found it challenging to find time for the lessons and expressed concerns about whether PATHS was appropriate for all of their students. Teachers expressed a desire for greater levels of support in

¹ By dissatisfaction, we specifically mean the degree to which teachers reported (1) that they benefitted from meetings with their coach and received good feedback and support, and (2) the extent to which coaching meetings felt like collaborative working sessions, in which teachers were actively engaged.

implementing PATHS. In Year 2 of the study, the coach positions were eliminated due to district budget cuts and implementation ratings remained stable overall.

2. Regarding our second goal, the documentation of **change in students' social and emotional outcomes**, we found that in both years of the evaluation, students' social and emotional competence and attention improved from fall to spring. Aggression increased from fall to spring in both Years 1 and 2.
3. Related to our third goal, which was to understand **how PATHS implementation was related to student outcomes**, we conducted a series of analyses linking teacher reported implementation with teacher reported student outcomes. Findings were promising: as teacher-reported implementation of PATHS increased (positive ratings of training, experience of coaching, and overall levels of implementation), so did their ratings of students' social-emotional competence and attention. Also, in Year 2 of the evaluation, students in classrooms with higher PATHS implementation had smaller increases in aggression from fall to spring than students in classrooms with lower PATHS implementation, suggesting that PATHS may be a protective factor against increases in aggression during the school year.
4. Finally, regarding our fourth goal, which was to understand **how contextual factors such as school climate and teacher morale were related to both PATHS implementation and students' social and emotional outcomes**, we ran a series of related analyses. First, we examined how PATHS implementation was connected with conditions for learning (i.e., safety, challenge, support, and peer social-emotional climate) as rated by students in Grades 2–4 in all CMSD elementary schools. Although there was no documented relationship between PATHS and conditions for learning in Year 1, in Year 2, as teachers' reports of implementation of PATHS increased, so too did students' report of teachers' expectations in their school, supportive teachers in their school, their peers' social competence, and safety within the school. These findings suggest that during Year 2, schools with better implementation of PATHS also had better conditions for learning.

From our analysis of patterns of change in conditions for learning, we also observed that schools with higher and/or improving school climate demonstrated the most positive student outcomes, and schools with low or declining school climate demonstrated worse student outcomes.

We also examined how teacher morale was related to both PATHS implementation and student social outcomes. Overall, as teachers' morale increased, implementation of the PATHS program also increased, including teacher ratings of training, coaching, and overall implementation. With this correlational analysis it is unclear however of the direction of the relationships. For example, teachers who are more engaged may then be better implementers of the PATHS program, or vice versa, where teachers who implement the PATHS program may then become more engaged in general. Teacher morale was also related to better student social outcomes in all three domains.

In summary, the implications of our findings include the hopeful result that despite the many challenges faced by this complex urban school district, and even with imperfect implementation and uncertain fidelity, student outcomes improved. Furthermore, student improvements were positively associated with higher levels of implementation.

Introduction to the Promoting Alternative Thinking Strategies (PATHS) Evaluation

Educators who work with young children have long understood the importance of addressing social and emotional learning (SEL; Bowman, Donovan, & Burns, 2001; Shonkoff & Phillips, 2000). However accountability pressures that were so dominant during the No Child Left Behind era resulted in a focus on a relatively narrow set of knowledge and skills and the exclusion of social and emotional competencies (Alliance for Excellent Education, 2011). Social and emotional learning is the process through which children learn the skills to handle themselves, their relationships, and their work effectively and ethically. These skills include recognizing and managing emotions, developing caring and concern for others, establishing positive relationships, making responsible decisions, and handling challenging situations constructively. They are the skills that allow children to calm themselves when angry, make friends, resolve conflicts respectfully, and make ethical and safe choices (CASEL, 2012).

School districts are increasingly recognizing the value of addressing social and emotional learning as an essential part of education. The debate over *whether* schools should attend to the social and emotional aspects of learning is increasingly settled: evidence demonstrates that academic, social, and emotional learning are inextricably linked, and our emotions and our relationships affect how and what we learn (Bowman et al., 2001; Zins, Weissberg, Wang, & Walberg, 2004). Not only do school-based programs to teach and apply social and emotional skills improve attachment and attitudes towards school, decrease rates of violence/ aggression, disciplinary referrals, and substance use, but they also improve academic performance (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). However, one of the larger, more complicated sets of questions in SEL programming involves how all of the elements of evidence-based programs can fit together in the context of a districtwide effort, and how to ensure that coordinated, multiyear programs will be implemented effectively.

In this report, the AIR team reports on an evaluation of Promoting Alternative Thinking Strategies (PATHS) in the Cleveland Metropolitan School District (CMSD). CMSD implemented this evidence-based social and emotional learning program—PATHS—districtwide beginning in the 2009–10 school year. This represents the first districtwide implementation of an evidence-based social and emotional learning program in the U.S.

In this report, we first present a description of the PATHS program and the context for implementation of PATHS in CMSD. We next describe the methods used to conduct the PATHS evaluation during the 2010–11 (“Year 1”) and 2011–12 (“Year 2”) school years. We then detail the findings that (1) document and describe how PATHS was implemented in Years 1 and 2, (2) document change in students’ social and emotional outcomes in PATHS classrooms over time, (3) examine how PATHS implementation was related to student social and emotional outcomes, including social competence, aggression, and attention, and (4) examine how contextual factors such as school climate and teacher morale were related to both PATHS implementation and student outcomes. Finally, we offer an interpretation of the findings.

CMSD Context for PATHS Implementation and Evaluation

CMSD is in many respects a typical large, urban district. In the 2008–09 school year it was the 89th largest school district in the country based on enrollment (Sable, Plotts, & Mitchell, 2010). It currently has 41,000 students, 68 percent of whom are African American, 14.6 percent of whom are White, and 13.2 percent of whom are Latino (Gordon, 2012). Unlike many other large urban districts, 100 percent of students in CMSD receive free meals at school (Gordon, 2012). Compared with other cities, Cleveland had the highest rate of children with lead poisoning in 2009—the prevalence of elevated blood lead levels is 2 percent nationally and 21 percent in Cleveland (Environmental Health Watch, n.d.). More than 30,000 students have left CMSD over the past ten years, due to a combination of decreasing city population, declining birth rates, and parents opting out of traditional public schools and entering charter schools (Jackson, 2012). CMSD struggles with a dire fiscal situation: despite cost reductions of over \$100 million over the past two years, including 23 school closings, layoffs of hundreds of employees, compensation and benefit reductions and the sale of district buildings, it faced a \$64.9 million budget deficit in 2012–13, which was more than ten percent of the current fiscal year’s operating budget (Jackson, 2012). CMSD has a legal requirement to enter each fiscal year without a budget deficit, which leads to an unfortunate process in which staff (sometimes *many* staff) are laid off in the spring, only to be called back in October. This cycle appears to be disruptive to professional development and devastating to staff morale. Also, at the time of our initial data collection in the fall of 2010, CMSD had just closed 16 schools and laid off 773 employees—545 of whom were teachers. There was a flurry of reassignments for teachers who still had jobs, and many elementary teachers were new in their buildings, and district staff and other stakeholders reported teacher anger at the changes.

CMSD is currently engaged in what it has called its most significant reform effort in its history. Its approach combines a portfolio strategy for school management, transformation of instruction as it adopts the Common Core Standards, and a commitment to monitoring and improving the conditions for learning in all schools (Gordon, 2012; Jackson, 2012). In addition CMSD is implementing “Humanware” recommendations based on an audit conducted by the American Institutes for Research in 2008 that followed a school shooting. The term *Humanware* was originally used to distinguish approaches to school safety that focused on prevention and promotion rather than *hardware* such as metal detectors, special badges, and scanners. The audit resulted in recommendations to improve students’ social-emotional competence using an evidence-based program, as well as improve school connectedness, mental wellness, and safety over a 5-year period. All programs that are organized around responding to these recommendations are now collectively referred to as Humanware and are governed by the Humanware Executive Committee.

In Humanware’s first year, the CMSD Humanware Executive Committee formed a district-community task force to carefully review and select an evidence-based SEL program to implement as part of the district’s commitment to improving the well-being of all students. The task force selected PATHS (Greenberg, Kusché, Cook, & Quamma, 1995; Kusché & Greenberg, 1994) not only because of its strong evidence for effects on students’ social development, but also because of its positive effects on academic performance. The task force recommended scale-up for Grades prekindergarten–5 starting with a small number of schools. The chief academic officer indicated that a districtwide implementation

across all elementary schools was preferable due to high student mobility (28 percent of students have been in their school building less than one academic year) and CMSD's commitment to serve all students which meant that it did not want only some schools to have the program.

CMSD contracted with the PATHS developer and national trainer to begin training teachers in Grades prekindergarten–2 during the 2009–10 school year. Coaches for these teachers were not hired until March 2010, however, and the number of coaches hired was smaller than the number recommended by the national trainers. Because of incomplete implementation in the 2009–10 school year, the evaluators did not see this year as full implementation, and decided to delay the start of the evaluation until the 2010–11 school year. Year 1 of the evaluation represents the first year of full implementation of PATHS.

Description of the PATHS Program

The PATHS curriculum is designed to help elementary-age children increase self-control, choose effective conflict-resolution strategies, reject aggressive responses to frustrating situations, improve problem-solving skills, as well as to facilitate educational processes in the classroom. The PATHS program teaches children how to label their feelings and communicate clearly with others, leading to significant improvements in coping skills, classroom behavior, and verbal fluency. There have been three randomized controlled studies of PATHS: one with regular education children, one with special education-classified children, and one with deaf/hearing-impaired children that suggest overall positive impacts of implementing the PATHS program on students' outcomes (Greenberg & Kusché, 1993, 1998; Greenberg et al., 1995; Kam, Greenberg, & Walls, 2003; Riggs, Greenberg, Kusché, & Pentz, 2006). Specifically, the results of these combined experimental studies indicated that use of PATHS:

- Increased normal and special needs students' ability to plan ahead to solve complex tasks
- Increased students' cognitive flexibility and low impulsivity with non-verbal tasks
- Increased students' scores on cognitive skills tests by 20 percent
- Improved reading achievement for young deaf children
- Reduced teachers' reports of students exhibiting aggressive behavior by 32 percent
- Increased teachers' reports of students exhibiting self-control by 36 percent
- Increased students' vocabulary for emotions by 68 percent
- Improved students' ability to tolerate frustration plus their ability and willingness to use effective conflict-resolution strategies
- Reduced depression and sadness among special-needs students

The PATHS curriculum consists of an instructional manual, six volumes of lessons, pictures, photographs, and puppets for use in the classroom, as well as additional materials. The 20- to 30-minute lessons are designed to be taught by regular elementary classroom teachers approximately three times per week over the course of a school year. It is meant to be integrated into existing learning environments. Skill concepts are typically presented via direct instruction, discussion, modeling stories, or video presentations. Discussion and role-playing activities follow, giving children a chance to practice the skill and teachers a chance to monitor the level of understanding and skill attained by each class. Although a

standard script describes each lesson, teachers are encouraged to adjust the level of presentation and amount of practice as dictated by the level of progress of each class.

PATHS Training

Training for the PATHS program is an integral part of successfully implementing the PATHS curriculum. In CMSD, PATHS training included an initial day of training, followed by 6–8 weeks of instruction for teachers to “try-out” the curriculum in their own classrooms, with 1 more day of training after the 6–8 week teaching period. The first day of initial training covered topics such as “What is PATHS?” “What are the lessons,” and “How can PATHS be integrated into other areas of instruction in the classroom?” This initial training is very interactive with role modeling techniques used to mirror PATHS lessons.

After the initial day of training teachers are then left to implement PATHS in their own classrooms for 6–8 weeks. A second “booster” training is then conducted with a focus on how PATHS implementation is going for each teacher. The second day is characterized by teachers sharing their own “celebrations and challenges” of implementing PATHS. This session is split by grade level groups in which teachers use problem-solving posters to address problems in implementation. Teachers also present lessons to each other as a way to model PATHS teaching. The second day of training ends with a session on reflection, where teachers can “look at where they are, and how far they’ve come.”

PATHS Coaching

Along with training, PATHS coaching is also offered as part of typical PATHS implementation. PATHS coaches help administrators, teachers, and support staff begin PATHS implementation. The coach can coordinate PATHS supplies, model integrating PATHS into curriculum areas such as language arts, math, science, and social studies, and provide general support for implementation.

At the beginning of the 2010–11 school year, a cadre of seven PATHS coaches supported the 77 schools with elementary grades in the district. Thirteen coaches had been recommended, but district resources limited the number that could be hired. Coaches were supported by the national PATHS trainer on an ongoing basis. Each PATHS coach was responsible for close to 180 teachers. There were also limitations on the types of interactions between coaches and teachers. For example, although coaches could give verbal feedback to teachers, there could be no written feedback about teaching practices provided in coaching sessions, per union agreements. At the end of the 2010–11 school year, the seven PATHS coaching positions were eliminated due to budget cuts. Although there was some discussion about asking the literacy coaches to incorporate PATHS into the scope of their work, this never came to pass. A second idea was to have a lead teacher within each school that would attend monthly PATHS booster trainings, and become a PATHS champion within his or her school. However, the inability to compensate teachers for these extra responsibilities made this option unworkable. Therefore, for the 2011–12 school year, there was no coaching support for teachers using PATHS in their classrooms.

Methods

In this section, we begin by describing the procedures through which we collected data for this evaluation, including teacher surveys and principal surveys. Teacher surveys were administered in the

fall and spring of 2010–11 and 2011–12 (see the sample teacher survey in Appendix A). In the fall, we asked teachers to provide ratings of students' behavior; in the spring, we collected both student ratings and information about implementation and morale. Principal surveys related to implementation of PATHS were collected in the fall 2011 (see Appendix B). After describing our surveys, we review other data sources we used, including information from the Humanware committee about implementation, student-rated conditions for learning in CMSD elementary schools, and basic school information collected from a federal database. Survey administration procedures are described in Appendix C.

Data Sources and Measures

Teacher and principal survey data was combined with other data sources to expand our range of outcomes, including principal data collected by the CMSD Humanware team, the Conditions for Learning (CFL) surveys conducted yearly in each CMSD school, as well as the Common Core of Data (CCD), which provided school level demographics and characteristics. Our data sources used in the evaluation are described in detail below.

Teacher Surveys of PATHS Implementation

Teacher surveys of PATHS implementation asked teachers about PATHS training (2 items), coaching (3 items), and overall implementation of PATHS in their classrooms (15 items). The surveys included demographic items such as grade taught, classroom setting (regular vs. special education), and years of teaching experience. There were also questions on the number of PATHS lessons taught in the last month and the entire school year (dosage). Finally, teachers were asked 15 Likert scale items asking how much they agreed with statements about PATHS implementation, with responses ranging from 1 (not at all) to 5 (very much). Examples of items included "PATHS has been effective in improving the behavior of students in my classroom" and "I actively model PATHS strategies by using my own feeling faces, the CSP, does turtle, etc."

The Year 2 surveys also included an open-ended item where respondents could write in additional comments related to the strengths and weakness of the PATHS program. An additional open-ended item was presented on the spring 2012 survey where respondents could provide recommendations for additional resources and supports that would help program implementation. The responses from these two survey time points were qualitatively coded and analyzed using the software program NVivo 10 (QSR International Pty Ltd., 2012).

Because of the unstructured nature of the open-ended questions, the analysts free-coded the responses to produce inductive codes that could be grouped under larger themes. This means that there was not an *a priori* structure with pre-determined themes but that results emerged based on the content of respondents' answers. Several steps were taken to ensure that the coding was done consistently across analysts. At the beginning of the analysis, a team meeting was held and several survey responses were coded by the group of analysts together to reach inter-rater agreement. The qualitative lead performed spot checks during the analysis, and any issues that arose were discussed with the team. After the coding phase, the analysts looked for patterns, themes, and categories among the coded text to determine the most important findings to be presented in the report. The final results were then

reviewed by the qualitative lead to verify that the coded text was accurately reflected in each of the emergent themes.

Principal Surveys of PATHS Implementation

Principals responded to 15 Likert scale items asking how much they agreed with statements about PATHS implementation, with responses ranging from 1 (not at all) to 5 (very much). Sample items included “PATHS has been effective in improving the behavior of students” and “PATHS has improved the way teachers interact with students in my building.” The survey also included two open response questions asking principals “How are teachers in your school being supported to implement PATHS this school year?” and “How helpful is the support from the Humanware team for you as a principal in implementing PATHS?”

Student Outcomes: Social and Emotional Competence, Attention, and Aggression

Teachers rated a sample of their students on social and emotional competence, attention, and aggression in the fall and spring of each school year. These surveys were used in a pre-, post- design where teachers rated a random sample of students in their classroom in the fall and again in the spring. The survey included seven items of attention, six on aggression, and 21 on social and emotional competence. Attention and aggression items were measured on a six-point Likert scale ranging from 1 (never to almost never) to 6 (almost always). Sample items included “pays attention” for attention, and “verbally fights (e.g. argues, yells)” for aggression. Social emotional items were measured on a four-point Likert scale ranging from 1 (describes poorly) to 4 (describes very well). A fifth response option was “not able to rate/not sure.”² Sample items included “helps others” and “takes responsibility for his or her mistakes.”

Humanware Implementation Surveys

The CMSD Humanware team conducted Academic Achievement Planning (AAP) meetings with all schools during January 2011. In these meetings, 88 out of 117 school leaders (75 percent) completed brief surveys that asked about key Humanware elements: PATHS, Planning Centers, and student support teams. Seventy of these schools were elementary schools that were asked three questions about their PATHS implementation:

1. Are all prekindergarten to Grade 5 classroom teachers at your school trained in PATHS?
2. Are all prekindergarten to Grade 5 teachers at your school teaching PATHS lessons?
3. Have PATHS coaches visited your school this year?

These data were used to compliment the PATHS specific surveys, and add to our understanding of how PATHS is implemented in CMSD.

² This response option was dropped from the surveys in the 2011–12 school year.

Conditions for Learning Data

The CFL survey was administered annually to all students in Grades 2–12 from the 2008–09 to 2011–12 school years. The current study uses only student report from Grades 2–4.³ Paper-based surveys were distributed to students during their primary class. The CFL surveys measure four key components of conditions for learning: safety, challenge, support, and peer social and emotional climate (Bryk & Schneider, 2005; Osher & Kendziora, 2010).

- *Safety* refers to both physical and emotional safety in school.
- *Challenge* reflects students' engagement in academic content and perceptions of relevance.
- *Support* includes how helpful, fair, and caring students think their teachers are.
- *Peer social and emotional climate* describes students' perceptions of the persistence, self-regulation, and problem-solving of their peers.

The CFL scales have adequate reliability (α ranging from .74 to .88), and demonstrate predictive validity with students' achievement, GPA, and school dropout rates (Osher & Kendziora, 2010). Student social and emotional outcomes were measured with teacher-rated student attention, aggression, and overall social and emotional competence scales, collected as part of an evaluation of the districtwide implementation of a social-emotional curriculum used in Grades prekindergarten–5.

Common Core of Data

Information about schools was downloaded from the National Center for Education Statistics' CCD. The data were used to look at how school characteristics relate to PATHS implementation. We examined school enrollment, pupil to teacher ratio, number of full time teachers, student gender, and student race. Free or reduced price lunch participation was not included because CMSD provides free meals to all students in the district.

PATHS Survey Response Rates and Sample Description

Teacher Sample

Teachers were surveyed in the 2010–11 and the 2011–12 school years. In the fall of the 2010–11 school year, all Grades prekindergarten–5 teachers in CMSD were trained to implement PATHS. These same teachers were invited to participate in a survey that asked them about PATHS implementation as well as their students' social emotional competence, attention, and aggression.

In the fall 2010, 1,227 teachers were invited to participate in the survey. Of these, 297 teachers responded (24 percent). In the spring, 1,206 teachers were invited and 511 responded to the survey (42 percent) (see Table 1). There was also overlap between the fall 2010 and spring 2011 samples, such that 187 teachers responded to both surveys.

³ Students in Grade 5 completed a middle grades version of the CFL, which was not directly comparable to the elementary version.

Surveys were also collected in the 2011–12 school year from all Grades prekindergarten–5 teachers in CMSD who were trained to implement PATHS. In Year 2 of the evaluation, the school sample for fall 2011 included 72 schools. In those 72 schools, 1,083⁴ teachers were invited to participate in the survey.

In the fall 2011, 1,083 teachers were invited to participate. Of these, 808 responded (75 percent). In the spring 2012, 1,049 were invited to participate and 789 responded (75 percent) (see Table 1). 626 teachers responded to both the fall 2011 and spring 2012 surveys.

Table 1. Survey Response Rates by Year

	Year 1 (2010–11)		Year 2 (2011–12)	
	Fall 2010	Spring 2011	Fall 2011	Spring 2012
Total number of teachers invited	1,227	1,206	1,083	1,049
Total number of teachers responded	297	511	808	789
Response Rate	24%	42%	75%	75%

Student Sample

There were two groups of students included in the PATHS Implementation evaluation: one group of students from the 2010–11 school year, and a second group from the 2011–12 school year. Student data were collected through teacher ratings, so coverage rates were similar between the teacher survey data and the student outcome data (see Table 2). The student coverage rate was slightly lower than the teacher response rates because some teachers did not complete the entire survey, therefore they may have rated a smaller number of students than those assigned to them.

Table 2. Student Sample Coverage Rates by Group

	Year 1 (2010–11)		Year 2 (2011–12)	
	Fall 2010	Spring 2011	Fall 2011	Spring 2012
Total number of K–5 students selected	7,070	7,117	7,443	7,184
Total number of students rated	1,613	3,014	5,088	4,480
Coverage Rate	23%	42%	68%	62%

⁴ Of the 1,083 teachers, 19 were either no longer teaching (currently an administrator, retired, no longer in district, etc.) or did not use PATHS because they were not trained.

Principal Sample

Principals were also surveyed on PATHS implementation. Principal surveys were administered in November 2011, during study Year 2. Principal surveys were administered online in coordination with a separate AIR data collection in CMSD. Of the 115 principals invited to participate in the online survey, 80 completed the survey, translating to a 70 percent response rate.

Results

This section addresses the findings of the twelve research questions examined in Years 1 and 2 of the PATHS implementation evaluation. The findings are grouped into four sections:

1. Documenting and describing PATHS implementation in Years 1 and 2;
2. Change in PATHS classrooms over time;
3. Linking PATHS implementation with student social emotional outcomes;
4. Contextual factors related to paths implementation and student outcomes.

The analyses in this section include: **descriptive statistics** (means, standard deviations, frequencies, and percentages) to describe how PATHS was implemented in Year 1 and Year 2, **t-tests and growth models** to understand change over time in student outcomes and conditions for learning, **hierarchical linear models** to link classroom level PATHS implementation with student outcomes and conditions for learning, as well as **latent profile analyses** to understand patterns of conditions for learning at the school level and how they relate to student outcomes.

PATHS Implementation in Year 1 and Year 2

In this section, we describe our findings for PATHS training, coaching, dosage/number of lessons delivered, and then our overall measure of PATHS implementation.

PATHS Training

Research question 1: How did teachers rate the quality of the PATHS training?

This section describes the PATHS training received by teachers in the 2010–11 and 2011–12 school years. The PATHS national trainer reported that 92–94 percent of all teachers who were scheduled to be trained did attend training. In Year 1, 72 percent of teachers reported that the PATHS training “pretty much” or “very much” prepared them well to use the curriculum. Sixty-seven percent of teachers also reported that the time between PATHS training sessions felt right (see Table 3).

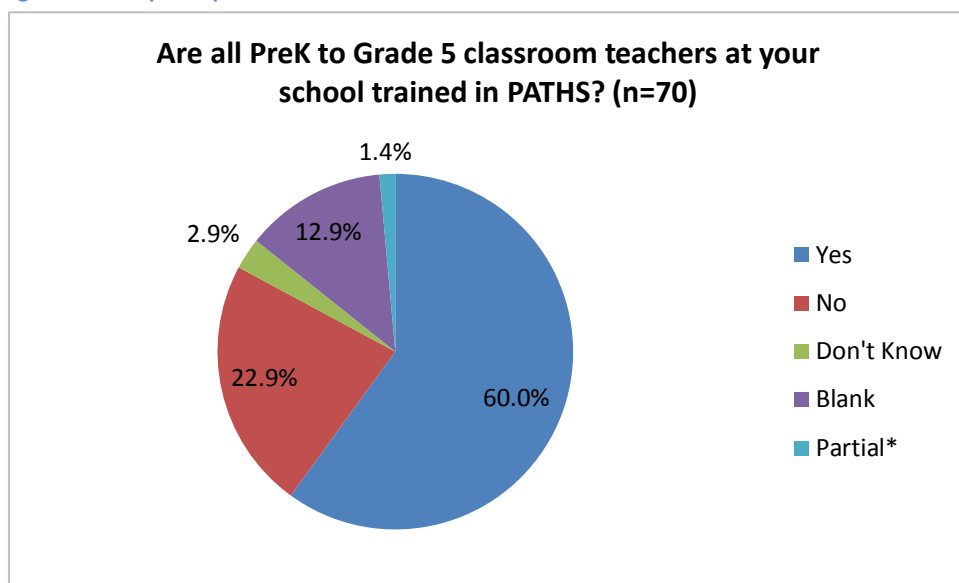
Findings were similar in Year 2, where 66 percent of teachers reported that the PATHS training “pretty much” or “very much” prepared them well to use the curriculum. In Year 2, 61 percent of teachers reported that the time between PATHS training sessions felt right (see Table 3).

Table 3. Teacher Ratings of PATHS Training, 2010–11 and 2011–12

	Year 1 (2010–11)										Year 2 (2011–12)									
	Not at all		A little bit		Some-what		Pretty much		Very much		Not at all		A little bit		Some-what		Pretty much		Very much	
	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N
The PATHS training prepared me well to use the curriculum.	2%	8	7%	37	19%	94	48%	241	24%	121	4%	31	7%	51	24%	176	47%	349	19%	139
The amount of time between my PATHS training sessions felt right to me.	6%	30	6%	31	20%	99	47%	230	20%	96	9%	63	8%	62	22%	164	45%	330	16%	117

Complementary analyses using the Humanware data from the winter of 2010–11 principal surveys concurred that most teachers received PATHS training during the course of the 2010–11 school year according to their school leaders (see Figure 1). Sixty percent of principals reported that all teachers in Grades prekindergarten–5 received PATHS training at their school, and 23 percent reported that not all teachers attended the training. The principal survey suggests that the training was successful and reached the majority of teachers in Year 1 of implementation.

Figure 1. Principal-Reported Percent of Schools Where All Teachers Trained on PATHS



In summary, although there were complications with scheduling the PATHS trainings in Year 1 and Year 2 (not all teachers were invited to participate, some teachers were invited on multiple occasions), and there was a slight drop in the percentage of teachers endorsing these items positively for Year 2, almost all teachers in both Year 1 and Year 2 were trained, and at least three out of five reported that the training they received prepared them well to implement PATHS in their classrooms.

PATHS Coaching

Research question 2: How did teachers rate the quality and amount of PATHS coaching they received?

The PATHS training, which was provided by PATHS national trainers, was received quite positively. The PATHS coaching provided by CMSD-hired coaches during the 2010–11 school year was not as positively rated by teachers, however. When asked how often teachers met with their coaches, most reported meeting rarely. Twenty-nine percent of teachers reported not having met with their coach at all in the past month, and 28 percent of the sample had met with their PATHS coach for less than 10 minutes in the last month (see Table 4).

Table 4. Teacher Reported Frequency of Meetings with PATHS coach, 2010–11

	Year 1 (2010–11)											
	I have not met with my coach at all		<10 min		11–20 minutes		21–30 minutes		31–45 minutes		45+ minutes	
	%	N	%	N	%	N	%	N	%	N	%	N
How much time have you spent with your PATHS coach in this past month?	29%	137	28%	132	16%	79	11%	55	6%	27	10%	50

Teachers also rated their PATHS coaching, when they received it, as unsatisfactory. The mean satisfaction rating on a scale of 1 = “Not at all satisfied” to 5 = “Very much satisfied” was 2.7 (SD = 1.4), suggesting low satisfaction. Also, 29 percent of teachers reported that they did not benefit at all from meeting with their PATHS coaches (they did not receive good feedback or support), while another 17 percent reported only benefiting “a little bit.” It should be noted, however, that 13 percent of teachers reported that they benefited “very much” from meeting with their PATHS coaches (see Table 5).

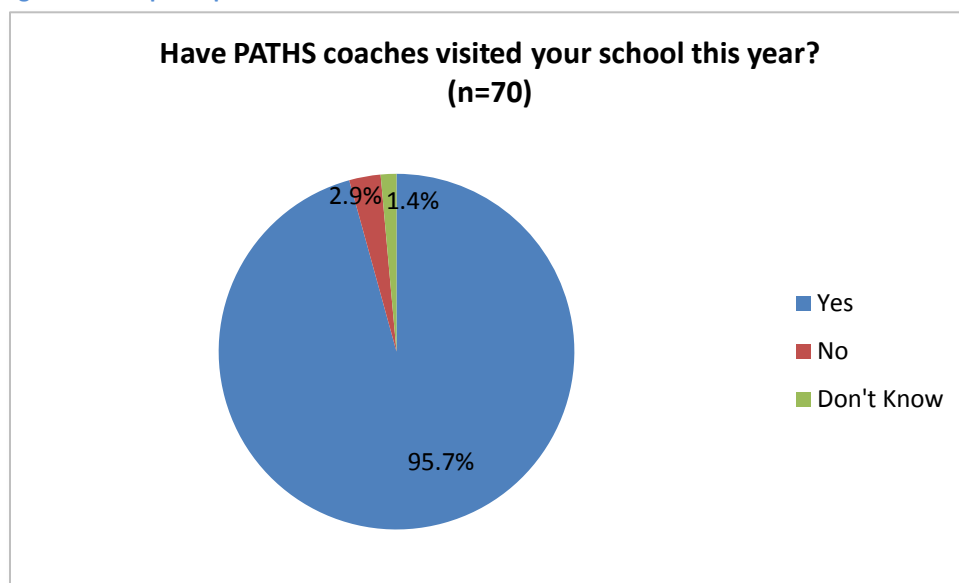
When teachers were asked about the degree to which their coaching meetings were collaborative and how much they were actively engaged in them, 67 percent of teachers indicated that this was “pretty much” or “very much” true regarding their meetings with coaches (see Table 5).

Table 5. Teacher Ratings of PATHS Coaching, 2010–11

	Year 1 (2010–11)									
	Not at all		A little bit		Somewhat		Pretty much		Very much	
	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>
I benefit from my meetings with my PATHS coach. I receive good feedback and support.	29%	139	17%	80	19%	99	20%	97	13%	62
Meetings with my coach feel like collaborative working sessions. I am actively engaged in the meeting, providing examples of situations and asking questions	6%	30	6%	31	20%	99	47%	230	20%	96

Principals reported that coaching occurred consistently at their schools. Ninety-six percent of principals reported that a PATHS coach had visited their school during the school year (see Figure 2). When combined with teacher data, this finding suggests that the coaches were able to get to all of their assigned schools, but did not spend time with every teacher.

Figure 2. Principal-Reported Percent of Schools Where PATHS Coaches had Visited the School



In Year 2 (2011–12), the coaching component of the PATHS program was dropped due to budgetary restrictions in CMSD. Therefore, teachers in Year 2 received no coaching. As a result, there are no data on coaching in Year 2.

In summary, although coaching is an important part of the PATHS model as designed, this component was not well-implemented in CMSD. The district was not able to hire the number of coaches recommended (13 were recommended, CMSD hired 7, and this group’s capacity was limited by multiple health issues, which resulted in a frequently-depleted cadre of coaches). In the one year that coaching was implemented, almost six out of 10 teachers reported spending no more than 10 minutes per month with a coach. Information supplied by the national trainer, who supervised the coaches, suggested that even when coaching meetings occurred, they did not focus as much on PATHS delivery and infusion as they did on PATHS supplies and materials.

PATHS Dosage/ Percent Units Completed

Research question 3: Were teachers able to implement the full PATHS curriculum?

In Year 1, when teachers were asked about how many PATHS lessons they completed, they reported finishing an average of 51 percent of the lessons. Percent completion of the PATHS curriculum varied by grade level; with the highest completion rates in Grade 2 for both Year 1 and Year 2 of implementation. Teachers in Year 2 reported slightly higher completion rates (see Table 6).

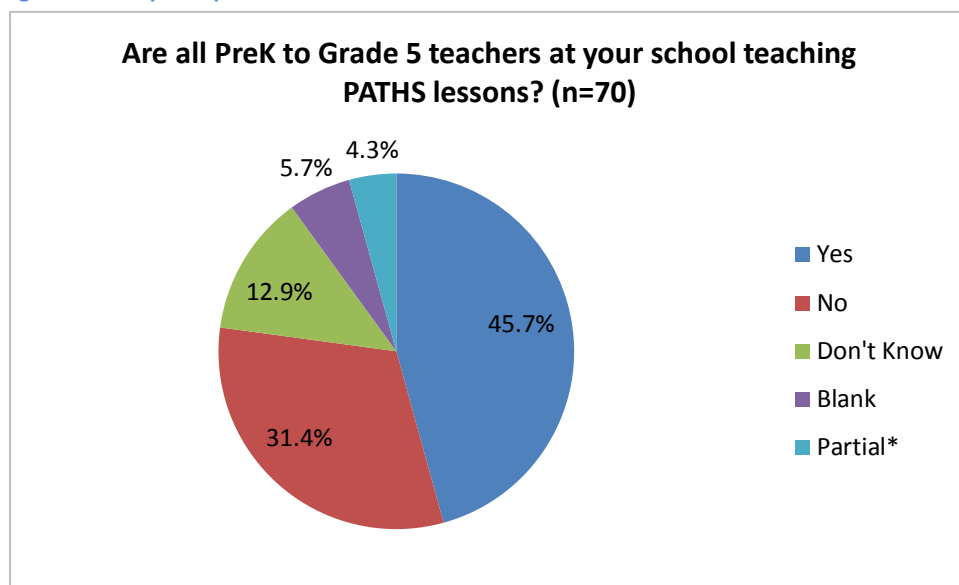
Table 6. Percent Completion of PATHS Curriculum

	Percent Completion of PATHS curriculum	
	Year 1 (2010–11)	Year 2 (2011–12)
Prekindergarten	52%	54%
Kindergarten	59%	61%
Grade 1	47%	53%

	Percent Completion of PATHS curriculum	
	Year 1 (2010–11)	Year 2 (2011–12)
Grade 2	73%	62%
Grade 3	49%	48%
Grade 4	44%	47%
Grade 5	41%	46%
Overall Dosage	51%	55%

Of the principals surveyed, there were also mixed data on the extent to which teachers were actually using the PATHS curriculum in their classrooms. For example, for the 2010–11 school year, 46 percent of the principals surveyed reported that *all* Grades prekindergarten–5 teachers in their schools were using the PATHS program (see Figure 3). However, 31 percent of principals reported that *not all* of their teachers were using PATHS, indicating incomplete penetration of PATHS in almost one-third of elementary schools.

Figure 3. Principal-Reported Teacher Use of PATHS Lessons



In summary, teacher and principal data suggest that not all PATHS lessons were delivered and that the PATHS curriculum did not penetrate all elementary classrooms in Grades prekindergarten–5.

Overall PATHS Implementation

The following section details overall implementation of PATHS including positive ratings of the program’s value and teacher-perceived effectiveness of PATHS.

Perceived value of the PATHS program

We first present teacher ratings of the value of the PATHS intervention, followed by principal ratings.

Teachers in both years were asked whether, compared to other strategies or programs, PATHS was a valuable program for students. In 2010–11, 54 percent of teachers agreed that PATHS was “pretty

much” or “very much” valuable in comparison to other strategies or programs (see Table 7). In 2011–12, the proportion of teachers who rated PATHS as valuable dropped to 46 percent.

Table 7. Teacher Rating of the Value of PATHS Compared to Other Strategies

	Year 1 (2010–11)					Year 2 (2011–12)				
	Not at all	A little bit	Some-what	Pretty much	Very much	Not at all	A little bit	Some-what	Pretty much	Very much
	%	%	%	%	%	%	%	%	%	%
	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>
	Compared to other strategies or programs I've tried before, I think that PATHS is a valuable program for students.	3%	14%	29%	36%	18%	6%	15%	33%	31%
	16	67	144	179	89	45	114	246	229	109

Principals also reported on the value of the PATHS program compared to other strategies in fall 2011. Sixty-eight percent agreed that PATHS was “pretty much” or “very much” valuable for students (see Table 8).

Table 8. Principal-Reported Value of the PATHS Program Compared to Other Strategies

	Fall 2011			
	Not at all	A little bit	Pretty much	Very much
	%	%	%	%
	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>
	Compared to other behavioral, education, or social emotional strategies or programs I have tried before, I think that PATHS is a valuable program for students.	3%	29%	46%
	2	21	33	16

Note. Missing data for 43 (37%) of principals.

Perceived effectiveness of the PATHS program

We first present teacher-reported effectiveness of the PATHS intervention in improving behavior, followed by principal-reported effectiveness.

In 2010–11, 62 percent of teachers reported that PATHS was either “a little bit” or “somewhat” effective in improving student behavior. Only 5 percent of teachers agreed “very much” that PATHS was an effective program (see Table 9). Similarly, in Year 2, 63 percent reported that PATHS was either “a little bit” or “somewhat” effective. Again, less than 10 percent of the teachers “very much” agreed that PATHS was effective in improving student behavior.

Table 9. Teacher-Reported Effectiveness of the PATHS Program

	Year 1 (2010–11)					Year 2 (2011–12)				
	Not at all	A little bit	Some-what	Pretty much	Very much	Not at all	A little bit	Some-what	Pretty much	Very much
	%	%	%	%	%	%	%	%	%	%
	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>
	PATHS has been effective in improving the behavior of students in my classroom.	10%	26%	36%	23%	5%	8%	26%	37%	21%
	48	131	177	116	24	63	196	275	154	59

In fall 2011, principals were surveyed and the 49 percent of principals reported that the PATHS program was “a little bit” effective in improving students’ behavior (see Table 10).

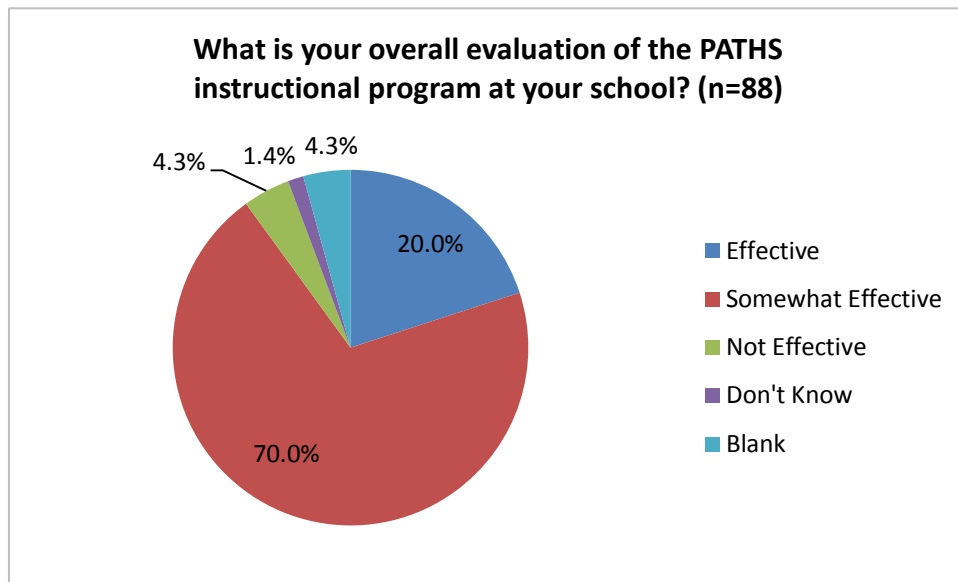
Table 10. Principal-Reported Effectiveness of the PATHS Program

	Fall 2011			
	Not at all	A little bit	Pretty much	Very much
	%	%	%	%
	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>
	PATHS has been effective in improving the behavior of students	7%	49%	33%
	5	36	24	8
PATHS has improved the way teachers interact with students in my building	12%	50%	29%	9%
	8	35	20	6
PATHS has been effective in improving the way students handle their emotions	3%	51%	37%	10%
	2	36	26	7

Note. Missing data for 46 (37%) of principals.

Principals also reported on the PATHS program in the surveys collected by the district. According to district data, the PATHS program was working well during the 2010–11 school year. Specifically 90 percent of principals reported that PATHS was an “effective” or “somewhat effective” instructional program at their school, suggesting principal satisfaction with PATHS (see Figure 4).

Figure 4. Principal Overall Evaluation for the PATHS Instructional Program



Findings from the analysis of open-ended teacher items

On the fall 2011 PATHS survey, teachers were asked to provide any written comments as a response to the question: *If you taught in Grades prekindergarten–5 last year and used PATHS in the 2010–11 school year, what do you believe were the strengths and weaknesses of using PATHS in your classroom?* Out of the 808 surveys collected at this time point, 605 respondents provided a written response to this question.

On the spring 2012 PATHS survey, the question was slightly revised and asked teachers to provide any written comments as a response to the question: *In your opinion, what are the successes and challenges of using the PATHS program in your classroom and/or school?* Out of the 789 surveys collected at this time point, 492 respondents provided a written response to this question.

An important observation is that consistent with the seasonality of teacher surveys, teachers tended to be relatively more positive in the fall and more negative in the spring. In the fall, 80 percent of responses included a strength and 44 percent included a challenge; in the spring, 49 percent included a strength and 77 percent included a challenge.

Table 11 displays the categories of the most frequently mentioned **strengths and successes** of the PATHS program from the two survey time points, based on the written responses. In fall 2011, there were 486 respondents who identified a strength of the PATHS program, and in spring 2012 there were 239 respondents who identified a success of the program from their classroom or school.

Table 11. Strengths and Successes of the PATHS Program (2011–12)

	Fall 2011	Spring 2012
Number of respondents who wrote a response	N = 605	N = 492
Number of respondents who identified a strength	N = 486	N = 239
Teaches students key social and emotional concepts	315	98
Materials and resources (e.g., puppets, books, Turtle)	105	36
PATHS Kid of the Day	74	43
Positive teacher response to PATHS	51	65
Positive student response to PATHS	45	46
Improvement in student self-esteem, behavior, academics	32	31
Appropriate curriculum for age level, involves all students (e.g., SPED)	18	6
Consistency with use of PATHS program	2	7
Support from staff (e.g., liaison, coach, administrator)	1	3

Most respondents indicated that the strength of PATHS was that it **taught students key concepts** related to self-regulation, social skills, conflict resolution, problem solving, self-expression, and awareness of their own and others feelings and emotions. One respondent wrote that a strength was *“Giving children the vocabulary for expressing their feelings with words; teaching the fact that feelings are okay, it’s the choices you make that can be poor or wrong.”* Another teacher indicated that a strength of the program was *“I feel that PATHS lessons are useful in teaching the kids how to behave. Actually having discussions about incidents that occur in the classroom is really important. We role play situations that have happened and brainstorm appropriate ways to resolve conflicts in the future.”* The majority of written comments from teachers indicated that the social and emotional skills taught by PATHS were important and necessary for the students in their classroom. As one teacher wrote, *“It is a foundation being laid for the rest of their lives.”*

Respondents also indicated that the **PATHS materials and resources** were a strength, particularly the puppets, trade books, Turtle strategy, posters, scripted lessons, and other provided materials such as the parent letters and newsletters. Most often teachers cited the puppets as being engaging and helpful in teaching the lessons to the class: *“My students responded positively to the puppets. They did well extending the concepts by creating their own scenarios verbally, then acted out the stories using the various character puppets.”* The stories and books focusing on different emotions and situations helped provide a context for students to talk about their own experiences, as one teacher stated: *“The children love the characters and the stories... The children really respond to them and they lead to wonderful discussions.”* Teachers also most frequently mentioned the Turtle from the PATHS program as a strategy used often with their students: *“The Turtle technique is a great tool for young children to help them calm down, keep their hands contained when they are upset, and allow them to gather their self-control and words to help resolve the situation.”*

The specific program component that was mentioned most frequently by respondents was the **PATHS Kid of the Day strategy**. Teachers indicated that students enjoyed this practice and that it had a positive effect on the classroom: *“Every morning the children will ask the teachers who is the PATHS kid for today. At the end of the day the PATHS kid gets to sit in a special classroom chair and receive*

compliments from his/her classmates and one of the teachers.” In some schools the names of the PATHS kids of the day would be announced over the school speaker system, and students were proud when their name was called. Several teachers indicated that they had modified the practice to be weekly instead of daily, as one teacher wrote, *“I like to do a PATHS kid of the week. I use the PATHS kid of the week to help out around the classroom for the week. My students really like the extra attention for the week. The other students cannot wait until they are the PATHS kid of the week because they like being the teacher’s assistant.”*

In the written responses to this question, there were many responses that stated that both teachers and students had a **positive reaction** to the PATHS program. Some of the positive written responses from teachers included *“I love this program,” “lessons are worthwhile,” “I’ve enjoy teaching these lessons in my class,” “this is an excellent program,”* and *“PATHS is a very helpful resource to help students learn.”* There were also many examples provided by respondents of students reacting positively to the different aspects of the program: *“Students really enjoy being able to verbally express their emotions and feelings in a safe environment,” “the program kept the students attention and they like doing PATHS,” “young children are very drawn to the PATHS characters,” “the children enjoyed and actively participated in all of the lessons,”* and *“when I am able to teach PATHS the students get very excited.”*

Related to the positive responses from teachers and students, respondents indicated that they had anecdotally seen **improvements in their students’ behavior** and in some cases academics from using the PATHS program. Most often the improvements related to student behavior, as in the example provided by one teacher: *“My students feel strongly that by using the ideas that they have learned in PATHS they can stay out of trouble and do their best work at school. I have very few behavior problems, so this has been proven to be true.”* Another result was an increase in self-esteem and confidence seen by teachers, something that respondents felt was very important for their student population: *“PATHS gave my students the opportunity to spend some time on reflecting how valuable they really are.”* Some teachers felt that these types of student improvements had a further effect of helping to increase their academic achievement: *“I believe PATHS helps students to succeed academically in the classroom because when a student has emotional problems, he will have difficulties concentrating on his academic performance.”* Respondents indicated that all of these positive aspects helped to improve the overall climate of the classroom, allowing students to focus more on their learning: *“The students felt more comfortable, and therefore, safer to learn.”*

Some of the **other strengths** mentioned by respondents were that PATHS was appropriate for the development level of their students, engaged all types of students including those with special needs, provided a consistent behavior program for the whole school, and that the support provided by other staff (liaison, coach, administrator) for the program had been helpful. One teacher wrote, *“The PATHS rules are easy for preschoolers to understand”* and another respondent emphasized that, *“Even though I have students with severe disabilities and who are nonverbal, the pictures of emotions and the puppets have been a strength in teaching my students how to react to their emotions.”* Teachers also liked that as a grade level or as a whole school that students were receiving consistent instruction on how to behave and how to deal with their emotions. A few respondents indicated that the support provided by

administration and other staff members had helped with implementation: *“We are supported and encouraged to make PATHS a part of our daily lessons/routines.”*

Weaknesses and challenges

Table 12 displays the categories of the most frequently mentioned weaknesses and challenges of the PATHS program from the two survey time points, based on the written responses. In fall 2011, there were 269 respondents who provided a weakness of the PATHS program, and in spring 2012 there were 381 respondents who provided a challenge related to using the program in their classroom or school.

Table 12. Weaknesses and Challenges of the PATHS Program (2011–12)

	Fall 2011	Spring 2012
Number of respondents who wrote a response	N = 605	N = 492
Number of respondents who identified a challenge	N = 269	N = 381
Difficult finding time for PATHS	128	222
Applying PATHS to all students (e.g., special education, ELL, severe behavior)	40	48
Student response to PATHS (e.g., not generalize, bored, misbehavior)	31	31
More training, coaching, support from administration	25	41
Criticism of PATHS materials, techniques, topics	41	24
Issues with getting/maintaining materials and resources	26	35
Age appropriate PATHS curriculum for all grades	29	11
Inconsistent implementation of PATHS	-	32
Outside challenges (e.g., urban population, parents, class size, mobility)	6	31

Difficult finding time for PATHS: More than any other challenge, the most frequently written response was that teachers had difficulty finding the time to plan for and implement PATHS in their classroom. The amount of time needed to focus on core curriculum teaching and test preparation could often leave little room during the day for PATHS lessons and activities.

- *“One thing I struggle with is getting the lessons in. I am in a testing grade and testing is so important I feel like I sometimes put PATHS on the back burner.”*
- *“I find it hard to work into our day when teaching ELA, math, science, social studies, etc. I find I do better just taking bits and pieces of PATHS lessons.”*
- *“The students, as a whole, are typically so academically deficient that every minute of classroom time needs to be spent on trying to catch them up academically. I find it extremely difficult to find an adequate amount of time to devote to the PATHS curriculum. I want to spend more time with it, but can't due to the academic demands.”*

Respondents also indicated that they had **difficulty applying PATHS to some students** in their classrooms who had IEPs, were English language learners, or had severe behavioral issues. Some teachers felt that there were not enough accommodations or variations for students who fell outside of the “normal” category: *“PATHS is for typical children or students without behavioral and emotional disabilities, the program works to a degree in a classroom like mine however there are so many more intensive situations that occur that the PATHS training is not enough to meet the level of need.”* Related

to this aspect, some teachers indicated that there were students who did not have a positive response to the program because they were unable to generalize the PATHS lessons to other situations, became bored or lost interest in the materials, or continued to misbehave and ignore the techniques. For example, one teacher wrote, *"We have many disruptive children and a lot of bullying is evident throughout the building. My children understand the lessons and give appropriate responses, but they continue to exhibit negative and disruptive behaviors."*

Some teachers reported **challenges with the training, coaching, or support from administration** for the PATHS program in their classrooms. One teacher wrote about their experience with the training: *"Training was not done in timely fashion. I was criticized for not teaching the program, however no one could give me the materials until I was trained. When I received the training, it was largely reading the manual aloud. I could have done that on my own and started the program right away."* Related to the PATHS coaches last year, some teachers indicated that the PATHS coaches had been *"invisible,"* had been *"a waste of money and resources,"* and that *"having a PATHS coach did not help in any way other than getting me supplied with feelings cards."* Several teachers wrote that there was little support from their administration, and that some principals did not understand the PATHS program and did not provide consistent discipline policies to help support implementation.

When asked to provide details about the **weaknesses of the PATHS curriculum**, teachers offered several criticisms as well as suggestions for changes. The most frequently mentioned issues related to the scripted structure of the lessons, the length and quality of the trade books, not having enough PATHS activities, a need for connecting the program to core subjects and standards, the face-feeling cards being ineffective or confusing, a dislike of the Turtle strategy, and a desire for more topic areas. Some of the teachers did not like the scripted structure of the lessons and felt that it *"doesn't allow for differences in school cultures."* For some teachers, the narratives and stories were *"contrived," "not very well conceived/written," "too long,"* and had *"too much repetition."* Other teachers reported running out of the PATHS created activities for the week, and stated that the activities were too *"free-form with little built-in guidance of students toward an outcome."* Some respondents indicated that the face-feeling cards were *"cumbersome"* and *"confusing"* and they would prefer to have real pictures of faces to explain certain feelings to the students. Several teachers also specifically did not like the Turtle technique, and noted that instead of helping students with self-control, they saw their students *"tighten their bodies in when they get angry and show an angry face."* Some teachers wanted a wider variety of topics (e.g., bullying) and a few expressed concern that some of the stories did not appropriately address the danger of approaching strangers.

Another challenge often cited by teachers related to the **materials and resources** with respondents indicating that they received PATHS resources late, were not given replacements for items like the face-feeling cards, had to share teaching manuals, and did not have enough paper to make copies of student materials. Along with a lack of materials, there were a number of teachers who indicated that they did not have PATHS materials that were appropriate for the age or grade level of their students. This was primarily due to two reasons: Teachers had recently changed grade levels and did not have updated materials, or they felt that the grade level materials were either over or under their students' abilities. For example, one teacher stated, *"At times, the prekindergarten curriculum which we are using in our*

kindergartens is too juvenile and simplistic at times for some of the more mature kindergarteners.” Another teacher wrote, *“Personally I felt that the grade level I was given was too high for my students that I had at the time. It was even difficult to adjust the material and make modifications.”* A few teachers also indicated that they had multi-grade classrooms but did not have multi-grade PATHS materials.

One challenge that was identified on the spring 2012 survey that had not been highlighted on the fall 2011 survey was that teachers were frustrated with **a lack of consistent PATHS implementation in their buildings** this year. One teacher stated, *“I use the program from beginning of the year to the end, utilizing it throughout the day. Other teachers don't use it often, therefore lacking flow in our building.”* A few respondents also wrote that there were some staff in their buildings who had a negative view of PATHS which impeded schoolwide implementation: *“It is difficult to implement positive role models on a consistent basis when all adults are not willing to participate.”*

Finally, respondents indicated that there were also **outside challenges** such as risks faced every day by students in an urban setting, stressed home lives, overcrowded classrooms, and high student mobility that impacted their ability to successfully implement the PATHS program. As one teacher summarized, *“The anger in many of our children is much, much deeper than time allows and training provides for solving the hurt of many of our students. Many of them need the help of full time counselors to address issues such as parents in jail, neighborhood shootings, hunger, poverty, gangs, and negative peer pressure.”* Given the large class sizes cited by teachers and the frequent flow of students in and out of the school, respondents expressed concern that PATHS was unable to effectively reach all students in their classrooms.

Additional resources or supports

On the spring 2012 PATHS survey, respondents were also asked to provide any written comments as a response to the question: *What additional resources or supports would be helpful for you as you continue to implement PATHS in the future?* Table 13 displays the categories of the most frequently provided responses, with a breakdown of more specific details within those categories. Of the 349 respondents who provided a written response to this question, 43 respondents indicated that they did not have any issues with the PATHS resources or supports that were currently available.

Table 13. Additional Resources and Supports for the PATHS Program (2011–12)

	Spring 2012
Number of respondents who wrote a response	N = 492
Number of respondents who identified a helpful resource	N = 349
Physical resources, materials	101
Face-feeling cards	37
General materials (kits, manuals, consumables)	32
Pre-printed lessons or paper to copy PATHS resources	14
Feeling dictionaries	9
Posters	6
Student workbooks	3
Training	86

	Spring 2012
Number of respondents who wrote a response	N = 492
Number of respondents who identified a helpful resource	N = 349
PATHS refresher training	54
Parent training	11
Current grade level training	8
PD on high needs or special needs youth	7
More modeled lessons during training	3
Student in-service, assemblies	3
Lesson-related support	57
Developmentally appropriate materials	22
Videos/CDs to accompany the lessons and worksheets	13
Use Web/SmartBoard/technology for implementation and support	11
Additional lessons, expand curriculum	8
Bilingual support, materials	2
PATHS free choice activities, games	1
Workforce support	45
More support from PATHS coaches	24
Lead PATHS teacher/resource person in building	14
More support staff (Teaching assistants, social workers, psychologists, volunteers)	7
General support	40
Support of administration	17
Consistent use of PATHS and discipline policies	8
Support of parents	7
More teacher collaboration	5
Smaller class size	2
Stability in teaching assignment	1
Time	25
Classroom time for PATHS	22
Planning time	3
Connecting PATHS to curriculum and other programs	14
Integrating into core curriculum, core standards	7
PATHS as a separate elective course	4
Connect to character education programs	3
PATHS program adjustments	10
Reflect the needs of urban student population	6
More student incentives, recognition	3
Provide pre-tests and posts-tests to show student growth	1
No issues with resources or supports	43

The most frequent requests by teachers were **for more PATHS resources and materials**, specifically for more face-feeling cards, PATHS kits and manuals, and to either have the lessons pre-printed or provide additional copy paper that teachers could use for that purpose. To help ensure that teachers had the necessary resources, one teacher suggested, “*Having the kits and materials turned in and inventoried*

and replaced/replenished each year, so that you have the things you need to effectively teach the program is key.” Additional training was another request by respondents, with teachers indicating they would like a PATHS refresher training or grade-specific training if they have changed levels. Teachers suggested that this additional training could take place in the summer before school starts, as one respondent explained: *“It would have been helpful to have been given this training prior to the start of the year so routines could have been implemented correctly from the beginning instead of attempting to change routines to fit PATHS in.”* Other responses related to training suggested providing PATHS workshops for parents to help them understand how to use the techniques at home and support the work of the teachers, as well as more PD for school staff related to high-needs or special needs youth.

Specific to the PATHS lessons and activities, respondents most frequently requested having **more developmentally appropriate materials** available for their students; some activities such as the Turtle could seem too *“babyish”* for older students, while other reading materials may be too difficult for other students. Respondents also requested that PATHS provide supplemental materials such as videos and CDs to accompany lessons, and use more technology resources such as SmartBoards and computer activities to engage students. Teachers indicated that they would like for an expanded curriculum with a wider variety of lessons to be available, including more information on topics such as bullying and more activities for older children: *“New 5th grade lessons that are not exactly the same as 4th grade. If the class has done the buried treasure lesson in 4th grade, there is no point of doing it again in 5th grade.”*

Another area of support requested by respondents was related to having **more workforce support** from PATHS coaches, a lead PATHS teacher or resource person in building, and more support staff to help with the program. Some teachers indicated that they felt the impact of not having a PATHS coach available this year: *“I did a much better job with the PATHS program when we had PATHS coaches. They were extremely supportive and helpful.”* Since PATHS coaches were no longer available, respondents suggested that someone should still be designated in the building as a point of contact and be able to serve as a resource to staff who have questions and want some support: *“Maybe should be a leader within the school who could give a gentle reminder for all staff to use this program.”* Respondents also indicated that having support staff (i.e., Teaching assistants, social workers, psychologists, volunteers) to help with PATHS implementation would relieve some of the burden on teachers.

There were some areas of general support that teachers described in the written responses, and there was also an emphasis on the **need for more time** for planning and implementation. Teachers indicated that they would like more support from administrators to infuse the PATHS concepts throughout the school: *“Would like to see it used by the principals more. They too should know what we’re trying to accomplish with PATHS, and use it with the students.”* This could also help support consistency with program implementation and discipline issues in schools, a problem mentioned by some respondents. Increasing support from parents was again emphasized, where some teachers expressed that PATHS could sometimes be at odds with what a student learns at home. Reflecting the challenges highlighted in the previous survey question, teachers indicated that having more time to plan for PATHS activities and more classroom time to focus on the program would help improve implementation. One teacher suggested changing the lesson length to *“Maybe have lessons available that are 15-20 minute lessons for Monday, then 5-10 minute follow-up lessons for the week.”*

Finally, respondents indicated a need for more resources to help teachers **connect PATHS to the core curriculum** and other school programs, and offered some suggestions for adjustments that could be made to the PATHS program. Respondents requested clearer integration of PATHS into the core curriculum and the standards so that it did not feel like it was taking away time from tested subjects. Related to this, several teachers suggested that PATHS could be considered its own elective or special course and that students could go to a PATHS class every week instead of receiving the lessons in the regular classroom. Some of the recommended program adjustments related to tailoring PATHS to the specific needs of the urban student population and reflecting difficult situations the students faced every day: *“Change the PATHS program into a realistic program for the Cleveland kids.”* A few teachers suggested providing students with more incentives for good behavior like stickers or ribbons, and one teacher recommended collecting pre- and post-test assessments to chart student social and emotional growth.

PATHS implementation and school characteristics

To examine how the quality of implementation was related to school characteristics, such as school size, percent of students who are English language learners, or percent of students with disabilities, a series of correlations were estimated that related teacher and principal reported implementation with school level characteristics from the CCD (National Center for Education Statistics, 2011).

For teachers, the **overall implementation scale** was created by averaging 15 items of teacher-rated PATHS implementation (see item below). An average score was computed if teachers answered 7 of the 15 items.

Please rate the following items on PATHS training, support, implementation, and climate (from “not at all” to “very much”).

- 1. The PATHS training prepared me well to use the curriculum.*
- 2. The amount of time between my PATHS training sessions felt right to me.*
- 3. I benefit from my meetings with my PATHS coach. I receive good feedback and support.*
- 4. I feel like my PATHS teaching is being judged (Reverse Coded.)*
- 5. Meetings with my coach feel like collaborative working sessions. I am actively engaged in the meeting, providing examples of situations and asking questions.*
- 6. It is easy to fit PATHS lessons into my weekly schedule given my other teaching requirements.*
- 7. PATHS has been effective in improving the behavior of students in my classroom.*
- 8. I am committed to a high level of implementation of PATHS in my classroom.*
- 9. I project positive feeling, energy, and enthusiasm during lessons.*
- 10. It is clear when you enter my classroom and look around that it is a PATHS classroom.*
- 11. I cue students to stop and calm down (for example, “do turtle”) when they experience strong emotions.*
- 12. I encourage my students to communicate how they feel, particularly when they are upset.*
- 13. I actively model PATHS strategies by using my own feeling faces, the CSP, Does Turtle, etc.*
- 14. I am communicating with parents about the PATHS curriculum.*
- 15. Compared to other strategies or programs I’ve tried before, I think that PATHS is a valuable program for students.*

A principal scale for overall PATHS implementation was created by averaging six items that asked about various aspects of PATHS implementation (see item below). The scale scores ranged from 1.8 to 4.0 with a mean of 2.8 ($SD = 0.5$). An average score was computed if principals answered at least three of the six items. The items included:

Please rate the following items on PATHS training, support, and implementation (from "not at all" to "very much").

1. *The PATHS training prepared my teachers well to use the curriculum*
2. *It is easy to fit PATHS lessons into the weekly schedule given other demands at my school*
3. *I am doing everything I can to ensure a high level of implementation of PATHS in my school*
4. *It is clear when you enter my school and look around that it is a PATHS school*
5. *I actively model PATHS strategies with students in my building*
6. *I communicate with parents about the PATHS curriculum*

The correlational analyses revealed no significant correlations between teacher- or principal-reported PATHS implementation and school characteristics (see Table 14).

Table 14. Correlations Between Principal-Reported Effectiveness of the PATHS Program and School Characteristics

	Teacher		Principal
	Year 1 (2010–11) (<i>r</i>)	Year 2 (2011–12) (<i>r</i>)	(Fall 2011) (<i>r</i>)
1. Total school enrollment	-0.01	0.04	0.04
2. Pupil to teacher ratio	0.01	0.00	0.18
3. Number of full time teachers	-0.02	0.04	-0.05
4. Percentage female students	0.02	0.02	0.01
5. Percentage of American Indian students	-0.06	-0.05	0.11
6. Percentage of Asian students	0.04	-0.01	0.08
7. Percentage of Black students	0.03	-0.02	-0.15
8. Percentage of White students	0.00	0.00	0.17

In summary, findings for overall PATHS implementation revealed a moderate level of enthusiasm for PATHS among teachers and principals. Among teachers, perceptions that PATHS was a valuable program relative to other strategies dropped from 54 to 46 percent from Year 1 to Year 2. The percentage rating PATHS as “effective” in improving student behavior went from 28 to 29 percent. Principals were slightly more positive about PATHS than teachers, with 68 percent indicating it was valuable and 44 percent indicating it was effective. Implementation of PATHS in CMSD elementary schools was not associated with school characteristics.

Change in PATHS Classrooms Over Time

In this section of this report, we describe how student outcomes changed from fall to spring in classrooms that implemented PATHS. Findings are reported separately for Year 1 and Year 2. First we present the descriptive statistics for students’ attention, aggression, and social competence. Next we present a series of t-tests that compare classroom averages in student outcomes from fall to spring in

Year 1. Finally we present growth models that examine how students’ attention, social competence, and aggression changed from the fall to spring of Year 2. Both sets of analyses demonstrated that students did improve from fall to spring on attention and social competence. In Year 2 we also saw a general increase in aggression for all students; however, in classrooms with stronger PATHS implementation, aggression did not increase as much as in classrooms with weaker implementation.

Descriptive Statistics for Student Outcomes (Attention, Aggression, and Social Competence)

First we present the descriptive statistics for social competence, aggression, and attention (see Table 15 and Table 16). From these tables, we can see that in both years of the evaluation, students’ social and emotional competence and attention improved from fall to spring, while aggression appeared to increase from fall to spring in Years 1 and 2. The fall ratings for social and emotional competence were somewhat lower in Year 2 than in Year 1, suggesting that at the population level, the gains did not accumulate over successive school years.

Table 15. Descriptive Statistics for Student Outcomes (Year 1)

	Fall 2010					Spring 2011				
	<i>N</i>	Min	Max	Mean	SD	<i>N</i>	Min	Max	Mean	SD
Social Competence	1,601	1	4	2.82	0.86	2,957	1	4	2.91	0.87
Aggression	1,606	1	6	1.86	0.90	2,986	1	6	1.92	0.95
Attention	1,606	1	6	3.81	1.19	2,989	1	6	3.91	1.25

Table 16. Descriptive Statistics for Student Outcomes (Year 2)

	Fall 2011					Spring 2012				
	<i>N</i>	Min	Max	Mean	SD	<i>N</i>	Min	Max	Mean	SD
Social Competence	5,079	1	4	2.69	0.83	4,477	1	4	2.77	0.84
Aggression	5,067	1	6	1.80	0.87	4,470	1	6	2.00	0.97
Attention	5,069	1	6	3.95	1.29	4,472	1	6	4.13	1.32

Change Over Time in Student Outcomes in Year 1 of PATHS Implementation

The following section examines how teacher ratings of student attention, aggression, and social competence changed in classrooms administering PATHS. In Year 1, to conduct analyses that examined change from fall to spring, teacher ratings of six students in the fall and a different six students in the spring were averaged by teacher, creating a “classroom index” of social and emotional competence. Each teacher had one value that represented the average behavior for students’ attention in the fall, and one value that represented the average behavior for students’ attention in the spring, and so on for aggression and social competence. These classroom averages were then compared across the sample of teachers who completed surveys in *both* fall and spring to determine if PATHS classrooms had any discernible changes in student behaviors.

In Year 1, t-tests⁵ were conducted that examined changes in the average student behavior scores from fall 2010 to spring 2011. For prekindergarten–Grade 5 classrooms, both social competence and attention increased from fall to spring. For social competence, there was a 0.10 point increase in socially competent behaviors in PATHS classrooms. Attention scores also increased by 0.20 points from fall to spring. For aggression, there were no statistically significant increases from fall to spring (see Table 17).

Table 17. Kindergarten–Grade 5 Classroom Paired Differences (Fall to Spring)

	Year 1 (2010–11)						
	Mean Fall 2010	Mean Spring 2011	Mean Difference	SD	t	df	p value
Social Competence	2.82	2.98	0.17	0.47	4.35	167	<0.001
Aggression	1.86	1.90	0.04	0.04	1.13	167	0.262
Attention	3.81	4.00	0.19	0.66	3.75	167	<0.001

Sample Size: 168 teachers completed both a fall and spring survey in Year 1 (2010–11).

Change Over Time in Student Outcomes in Year 2 of PATHS Implementation

In Year 2, similar positive patterns were found, where students’ social competence, and attention improved, however, student aggression also increased from fall to spring. The analyses were slightly different for Year 2, because unlike Year 1, the students sampled in the fall were included in the spring sample, allowing for a comparison of fall to spring change at the student level. Therefore, we conducted a series of three-level hierarchical linear growth models with time at level one, students at level two, and teachers at level three. Each student had two time points (fall 2011 and spring 2012). All models controlled for the student covariates of gender, age, and grade. All variables at level two and level three were centered around the grand mean. An example of the equations specified using aggression as the outcome is included below.

Level-1 Model (Time)

$$\text{Aggression}_{ijk} = \pi_{0jk} + \pi_{1jk} * (\text{Time (Fall to Spring)})_{ijk} + e_{ijk}$$

Level-2 Model (Student)

$$\pi_{0jk} = \beta_{00k} + \beta_{01k} * (\text{Gender}_{jk}) + \beta_{02k} * (\text{Grade}_{jk}) + \beta_{03k} * (\text{Age in Months}_{jk}) + r_{0jk}$$

$$\pi_{1jk} = \beta_{10k}$$

⁵ Although these analyses yield an indication of change in the “classroom index” from fall to spring in the 2010–11 school year, the students sampled in the fall were not the same students sampled in the spring. Therefore, differences found between fall and spring could be attributed to differences in the students sampled, and not the PATHS program. With this caveat in mind, the t-tests demonstrated promising patterns that indicated improvements in classroom averages of student behaviors from fall to spring in the 2010–11 school year.

Level-3 Model (Teacher)

$$\beta_{00k} = \gamma_{000}$$

$$\beta_{01k} = \gamma_{010}$$

$$\beta_{02k} = \gamma_{020}$$

$$\beta_{03k} = \gamma_{030}$$

$$\beta_{10k} = \gamma_{100}$$

Table 18 presents the estimated intercept (or the average fall outcome score for the average student) and the estimated growth from fall to spring (the slope in the growth model). Positive slope estimates indicate increases from fall to spring in student outcomes. Negative slopes estimates indicate decreases from fall to spring in student outcomes. All three student outcomes had positive and significant slopes, suggesting that students’ attention, aggression, and social competence all increased form fall to spring in Year 2 of PATHS implementation in CMSD. Again, there were promising patterns, where social competence and attention improved for students nested within classrooms that implemented PATHS. However, simultaneously, students’ aggression also increased from fall to spring (see Table 18).

Table 18. Change in Student Outcomes from Fall to Spring in PATHS Classrooms During the 2011–12 School Year

	Estimated Fall Average Value (Intercept)	Estimated change from Fall to Spring (slope)
Social Competence	2.68	0.09**
Aggression	1.78	0.23**
Attention	3.95	0.17**

Note. ** $p < .01$, two-tailed; * $p < .05$, two-tailed.
 Sample Size. Teachers = 536, students = 4,127.

Linking PATHS Implementation with Student Social and Emotional Outcomes

In this section, we examine how PATHS implementation is related to student outcomes. By “implementation,” we refer to the full cycle of implementation, from teacher training and coaching to actual delivery of PATHS lessons in the classroom. We present the relationship between ratings of PATHS training, ratings of PATHS coaching, dosage, and overall implementation as it relates to student outcomes in the spring of each year of implementation. Finally, we present how PATHS implementation was related to change in students’ outcomes for Year 2.

For all of these analyses, the relationships between different aspects of PATHS implementation and student outcomes were tested using hierarchical linear modeling (HLM) framework using HLM 7.0 that adjust for the clustered nature of the data where students were clustered within teachers/classrooms (Raudenbush, Bryk, & Congdon, 2004). Therefore, all standard errors are adjusted for the non-independence of observations within classrooms. All models controlled for student level covariates including gender, grade, and age in months.

Positive Ratings of PATHS Training and Student Outcomes

To test if student outcomes were related to teachers' experience of training, two items from the spring 2011 teacher survey were combined: "The PATHS training prepared me well to use the curriculum" and "The amount of time between my PATHS training sessions felt right to me." Both items were on a 5-point Likert scale ranging from "1 = not at all" to "5 = very much." The average of both items was calculated and used at level 2 (teacher) to predict the student outcomes at level 1 (student). Average scores were calculated for teachers who had answered both of the items training items. If teachers answered only one item their response was excluded from the HLM analyses. An example of the equations specified using aggression as the outcome is included below.

Level-1 Model (student)

$$\text{Aggression}_{ij} = \beta_{0j} + \beta_{1j} * (\text{Gender}_{ij}) + \beta_{2j} * (\text{Grade}_{ij}) + \beta_{3j} * (\text{Age in Months}_{ij}) + r_{ij}$$

Level-2 Model (teacher)

$$\beta_{0j} = \gamma_{00} + \gamma_{01} * (\text{Positive Ratings of Training}_j) + u_{0j}$$

$$\beta_{1j} = \gamma_{10}$$

$$\beta_{2j} = \gamma_{20}$$

$$\beta_{3j} = \gamma_{30}$$

In Year 1, higher teacher ratings of PATHS training was associated with higher social competence, higher attention, and lower aggression (see Table 19). In Year 2, similar patterns revealed that higher teacher ratings of PATHS training were associated with higher social competence, higher attention, and lower aggression.

Table 19. Positive Ratings of PATHS Training and Student Outcomes

	Year 1 (2010–11)			Year 2 (2011–12)		
	β	<i>se</i>	<i>p</i> value	β	<i>se</i>	<i>p</i> value
Social Competence	0.11	0.02	<0.001	0.13	0.02	<0.001
Aggression	-0.08	0.03	0.001	-0.08	0.02	<0.001
Attention	0.18	0.03	<0.001	0.17	0.03	<0.001

Sample Sizes. Year 1: Social Competence: Teachers = 485, Students = 2,823; Aggression Teachers = 485, Students = 2,847; Attention Teachers = 485, Students = 2,850

Year 2: Social Competence: Teachers = 743, Students = 4,333; Aggression Teachers = 743, Students = 4,332; Attention Teachers = 743, Students = 4,334

Positive Ratings of PATHS Coaching and Student Outcomes

To test if student outcomes were related to teachers' experiences of coaching, data from Year 1 were analyzed using HLM. Data were not available for coaching in Year 2, because coaching was not implemented in the 2011–12 school year. Using data from the 2010–11 school year, three items from the spring 2011 teacher survey were combined: "I benefit from my meetings with my PATHS coach. I receive good feedback and support;" "Meetings with my coach feel like collaborative working sessions. I am actively engaged in the meeting, providing examples of situations and asking questions;" and

“Including classroom visits, teaching, co-teaching, formal meetings (grade level, faculty meetings), and informal conversations, how much time have you spent with your PATHS coach this past month?” The first two items were on a 5-point Likert scale ranging from “1 = not at all” to “5 = very much.” The third item measured minutes spent with PATHS coaches and the six categorical response options ranged from “1 = I have not met with my coach at all” to “6 = more than 45 minutes.” Because the items were on different scales, each item was first standardized to a Z score with a mean of zero and a standard deviation of one. Next, the average of all three items was calculated and used as the independent variable at level 2 (teacher) to predict the student outcomes at level 1 (student). Average scores were calculated for teachers who had answered two out of the three items. If teachers answered only one of the three coaching items their response was excluded from the HLM analyses. An example of the equations specified using aggression as the outcome is included below.

Level-1 Model (student)

$$Aggression_{ij} = \beta_{0j} + \beta_{1j}*(Gender_{ij}) + \beta_{2j}*(Grade_{ij}) + \beta_{3j}*(Age\ in\ Months_{ij}) + r_{ij}$$

Level-2 Model (teacher)

$$\beta_{0j} = \gamma_{00} + \gamma_{01}*(Positive\ Experience\ of\ Coaching_j) + u_{0j}$$

$$\beta_{1j} = \gamma_{10}$$

$$\beta_{2j} = \gamma_{20}$$

$$\beta_{3j} = \gamma_{30}$$

Like ratings of training, more positive teacher experience of coaching was associated with higher teacher ratings of student social competence and higher attention (see Table 20). However, there was no relationship between experience of PATHS coaching and student aggression (see Table 20).

Table 20. Positive Ratings of PATHS Coaching and Student Outcomes (Kindergarten–Grade 5 Teachers)

	Year 1 (2010–11)		
	β	se	p value
Social Competence	0.08	0.02	<0.001
Aggression	0.02	0.02	0.408
Attention	0.12	0.03	<0.001

Sample Sizes. Social Competence: Teachers = 485, Students = 2,823; Aggression Teachers = 485, Students = 2,846; Attention Teachers = 485, Students = 2,848

PATHS Dosage and Student Outcomes

To test if student outcomes were related to the “dosage” of the intervention, one item from the spring 2011 teacher survey was examined: “What is the highest lesson you reached this year?” Because each grade level used a different curriculum, the data needed to be standardized across grade into percent completion scores. Teachers’ responses were first coded to represent the number of lessons they completed. Next, they were divided by the total number of lessons in that grade’s curriculum. The number of total lessons varied by grade (prekindergarten and kindergarten = 44; first and second grade

= 37; third grade = 42; fourth and fifth grade = 41). If a teacher taught a mixed grade classroom, the average number of total lessons across all grade levels was used as the denominator to calculate their percent completion, 40.8. Percent completion scores for teachers (level 2) were then used to predict student outcomes (level 1) in hierarchical linear models that controlled for the student covariates of gender, grade, and age in months. An example of the equations specified using aggression as the outcome is included below.

Level-1 Model (student)

$$Aggression_{ij} = \beta_{0j} + \beta_{1j}*(Gender_{ij}) + \beta_{2j}*(Grade_{ij}) + \beta_{3j}*(Age\ in\ Months_{ij}) + r_{ij}$$

Level-2 Model (teacher)

$$\begin{aligned} \beta_{0j} &= \gamma_{00} + \gamma_{01}*(PATHS\ Dosage_j) + u_{0j} \\ \beta_{1j} &= \gamma_{10} \\ \beta_{2j} &= \gamma_{20} \\ \beta_{3j} &= \gamma_{30} \end{aligned}$$

In general, the average number of lessons completed was low across the sample, only 51 percent in Year 1 and 55 percent in Year 2. In Year 1, higher dosage predicted higher student social competence. There also was a trend ($p = 0.052$), where the higher the percentage of lessons completed, the higher student attention (see Table 21). However, there was no relationship between dosage and aggression in the first year of implementation.

Findings were similar during the 2011–12 school year. In Year 2, as the percentage of units completed increased, so too did students’ social competence and attention. However, there was still no relationship between dosage and student aggression.

Table 21. Dosage and Student Outcomes (Kindergarten–Grade 5 Teachers)

	Year 1 (2010–11)			Year 2 (2011–12)		
	β	se	p value	β	se	p value
Social Competence	0.24	0.09	0.012	0.32	0.09	<0.001
Aggression	0.12	0.10	0.261	-0.14	0.11	0.203
Attention	0.26	0.13	0.052	0.34	0.13	0.010

Sample Sizes. Year 1: Social Competence: Teachers = 411, Students = 2,402; Aggression Teachers = 410, Students = 2,307; Attention Teachers = 411, Students = 2,423

Year 2: Social Competence: Teachers = 539, Students = 3,176; Aggression Teachers = 539, Students = 3,177; Attention Teachers = 539, Students = 3,178

Overall PATHS Implementation and Student Outcomes

To determine if teachers’ overall ratings of PATHS implementation were related to student outcomes, a summary score for of implementation averaging responses across the 15 implementation items was created and used as an independent variable in a series of HLM analyses that controlled for the student covariates of gender, grade, and age in months (please see the PATHS Implementation and school

characteristics section of this report for a description of the items included in the overall measure of PATHS implementation). An example of the equations specified using aggression as the outcome is included below.

Level-1 Model (student)

$$Aggression_{ij} = \beta_{0j} + \beta_{1j}*(Gender_{ij}) + \beta_{2j}*(Grade_{ij}) + \beta_{3j}*(Age\ in\ Months_{ij}) + r_{ij}$$

Level-2 Model (teacher)

$$\beta_{0j} = \gamma_{00} + \gamma_{01}*(Overall\ PATHS\ Implementation_j) + u_{0j}$$

$$\beta_{1j} = \gamma_{10}$$

$$\beta_{2j} = \gamma_{20}$$

$$\beta_{3j} = \gamma_{30}$$

Similar to dosage, higher ratings of overall implementation predicted higher student social competence and attention, but not students’ aggression (see Table 22). In Year 2, the pattern was similar, whereas overall implementation increased, so did students’ social competence and attention. Uniquely, in Year 2 of implementation of PATHS, there was also a trend (p = 0.083) that suggested that as overall PATHS implementation increased, student aggression decreased.

Table 22. Overall Implementation and Student Outcomes

	Year 1 (2010–11)			Year 2 (2011–12)		
	β	se	p value	β	se	p value
Social Competence	0.18	0.03	<0.001	0.19	0.03	<0.001
Aggression	-0.06	0.04	0.149	-0.05	0.03	0.083
Attention	0.27	0.05	<0.001	0.26	0.04	<0.001

Sample Sizes. Social Competence: Teachers = 496, Students = 2,888; Aggression Teachers = 496, Students = 2,911; Attention Teachers = 496, Students = 2,914

Year 2: Social Competence: Teachers = 746, Students = 4,350; Aggression Teachers = 746, Students = 4,349; Attention Teachers = 746, Students = 4,351

PATHS Implementation and Change in Student Outcomes

In Year 2, it was possible to track change over time for individual students from fall 2011 to spring 2012 in classrooms implementing PATHS. Therefore, we are able to test the relationship between teacher reported PATHS implementation (in terms of overall implementation, dosage, and teacher morale) and students’ change in social competence, aggression, and attention in the second year of PATHS implementation. These models were conducted using a series of three level hierarchical linear models with time at level one, students at level two, and teachers at level three. Each student had two time points (fall 2011 and spring 2012). All models controlled for the student covariates of gender, age, and grade. All variables at level two and level three were centered around the grand mean. An example of the equations specified using aggression as the outcome is included below.

Level-1 Model (Time)

$$\text{Aggression}_{ijk} = \pi_{0jk} + \pi_{1jk} * (\text{Time (Fall to Spring)})_{ijk} + e_{ijk}$$

Level-2 Model (Student)

$$\pi_{0jk} = \beta_{00k} + \beta_{01k} * (\text{Gender}_{jk}) + \beta_{02k} * (\text{Grade}_{jk}) + \beta_{03k} * (\text{Age in Months}_{jk}) + r_{0jk}$$

$$\pi_{1jk} = \beta_{10k}$$

Level-3 Model (Teacher)

$$\beta_{00k} = \gamma_{000}$$

$$\beta_{01k} = \gamma_{010}$$

$$\beta_{02k} = \gamma_{020}$$

$$\beta_{03k} = \gamma_{030}$$

$$\beta_{10k} = \gamma_{100} + \gamma_{101}(\text{Overall Implementation}_k) + u_{10k}$$

In this model, different aspects of PATHS implementation were included as predictors of the average change over time in student outcomes from fall to spring. Again, there were promising patterns (see Table 23), where overall PATHS implementation predicted larger gains in social competence and attention for students nested within classrooms that implemented PATHS. Finally, students nested within classrooms that completed more units of the PATHS curriculum (dosage) also had higher rates of growth in attention from fall to spring in Year 2 of implementation.

The findings for aggression were interesting. In Year 2 of PATHS implementation, there was significant growth in aggression from fall to spring (an estimated increase of 0.24 on a scale that ranged from 1 to 5) as presented in Table 23. However, in classrooms with higher PATHS implementation, there was also a trend, ($p < 0.10$) for overall PATHS implementation where the growth in students' aggression was attenuated in classrooms with higher PATHS implementation. Specifically, classrooms with higher PATHS implementation had smaller increases in aggression from fall to spring. Students in classrooms with higher overall PATHS implementation did not display as much growth in aggression as students in classrooms with lower PATHS implementation. For example, Table 25 demonstrates that the overall estimate of change over time for aggression is 0.24; the positive and significant coefficient suggests that students' aggression increases from fall to spring. However, the coefficient associated with PATHS Dosage (the last row in the table) is -0.18, suggesting that classes that complete more PATHS units actually have a lower change over time in aggression than classrooms that complete fewer PATHS units. These findings suggest PATHS may be a protective factor against developing more aggressive behaviors in Grades prekindergarten–5.

Table 23. The Relationship between PATHS Implementation and Change in Student Outcomes from Fall to Spring in PATHS Classrooms During the 2011–12 School Year

	Social Competence		Aggression		Attention	
	Change over Time (π_{1jk})	Prediction of change over time (γ_{101})	Change over Time (π_{1jk})	Prediction of change over time (γ_{102})	Change over Time (π_{1jk})	Prediction of change over time (γ_{103})
Intercept of the Slope	0.08***		0.24***		0.16***	
Overall Implementation		0.12***		0.03		0.10*
PATHS Dosage		0.15†		-0.18†		0.29**

Note. *** $p < .001$, two-tailed; ** $p < .01$, two-tailed; * $p < .05$, two-tailed.

Sample sizes: Social Competence: Teachers = 536, Students = 4,124; Aggression Teachers = 536, Students = 4,125; Attention Teachers = 536, Students = 4,126

In summary, findings were promising: in both years of the evaluation, as teacher-reported implementation of PATHS increased (ratings of training, experience of coaching, and overall levels of implementation), so did their ratings of students’ social-emotional competence and attention. Furthermore, in Year 2 of the evaluation, students nested in classrooms with higher PATHS implementation had smaller increases in aggression from fall to spring than students in classrooms with lower PATHS implementation, suggesting that PATHS may be a protective factor against increases in aggression during the school year.

Relation of Climate and Morale to PATHS Implementation and Student Outcomes

The following section examined how two key contextual factors (1) school climate, also known as conditions for learning and (2) teacher morale, were both related to PATHS implementation and student social emotional outcomes. In Year 2 (and not in Year 1) there were consistent positive relationships between PATHS implementation and school climate. Also, looking at school level patterns of school climate, students who were nested in schools with higher levels of safety, challenge, support, and peer climate also had better student social emotional outcomes, suggesting that school climate was in fact related to both PATHS implementation and student outcomes. Teacher morale was also related to higher PATHS implementation and better student outcomes (higher attention and social competence, and lower aggression). Findings suggest that these key contextual factors may be important elements of successful district wide implementation of PATHS.

Descriptive Statistics for School Climate

Before examining the change over time or patterns of strength and weakness, we present descriptive statistics for school climate. All scores for school climate are reported as IRT-based theta scores, ranging from -3 to 3. A value of -3 indicates very low levels of school climate, 0 would indicate mean values of school climate, while a value of 3 indicates very high levels of school climate. Descriptive statistics across all CMSD elementary schools by year (see Table 24) suggest a potential increase in mean levels of school

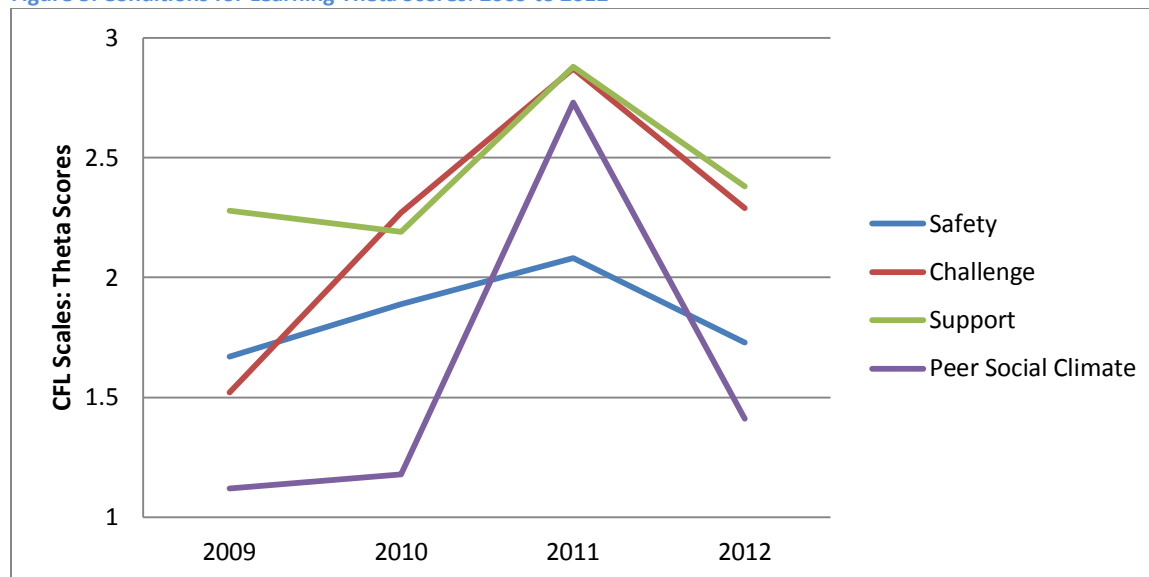
climate across the district in safety, challenge, and peer social climate. However, the dimension of support was more variable over the study period.

Table 24. Conditions for Learning Descriptive Statistics for CMSD Elementary Schools by Year

	2009			2010			2011			2012		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
Safety	66	1.67	0.54	67	1.89	0.45	72	2.08	0.52	72	1.73	0.44
Challenge	66	1.52	0.27	67	2.27	1.52	72	2.87	1.47	72	2.29	1.47
Support	66	2.28	1.39	67	2.19	1.40	72	2.88	1.37	72	2.38	1.34
Peer Social Climate	66	1.12	0.14	67	1.18	0.25	72	2.73	0.32	72	1.41	0.28

These statistics are presented graphically in Figure 5.

Figure 5. Conditions for Learning Theta Scores: 2009 to 2012



PATHS Implementation and Student-Reported Conditions for Learning (CFL)

The following section presents two sets of analyses that link PATHS implementation with school climate, as measured by the CFL surveys. The first set of analyses examine how teacher reported PATHS implementation predicted student reported conditions for learning for students in Grades 2, 3, and 4. The second set of analyses examine patterns of change in school climate from 2009 to 2012 and how those school level changes in school climate related to teacher-reported student outcomes of attention, aggression, and social competence.

To understand how PATHS implementation related to student reported conditions for learning, we conducted a series of HLM models with students at level 1 and teachers at level 2. In these models, teacher reported PATHS implementation were entered at level 2 as the independent variable and student reported conditions for learning were entered at level 1 as the dependent variable. An example of the equations specified using conditions for learning as the outcome is included below.

Level-1 Model (student)

$$\text{Conditions for Learning}_{ij} = \beta_{0j} + \beta_{1j}*(\text{Gender}_{ij}) + \beta_{2j}*(\text{Grade}_{ij}) + \beta_{3j}*(\text{Age in Months}_{ij}) + r_{ij}$$

Level-2 Model (teacher)

$$\beta_{0j} = \gamma_{00} + \gamma_{01}*(\text{PATHS Implementation}_j) + u_{0j}$$

$$\beta_{1j} = \gamma_{10}$$

$$\beta_{2j} = \gamma_{20}$$

$$\beta_{3j} = \gamma_{30}$$

Results are shown in Table 25.

Table 25. The Relationship between PATHS Implementation and Student-Reported Conditions for Learning

	Paths Overall Implementation					
	Year 1 (2010–11)			Year 2 (2011–12)		
	β	<i>se</i>	<i>p</i> value	β	<i>se</i>	<i>p</i> value
Challenge	0.06	0.08	0.460	0.19	0.05	<0.001
Support	0.01	0.08	0.876	0.25	0.06	<0.001
Peer social and emotional climate	-0.16	0.09	0.069	0.21	0.06	<0.001
School Safety	-0.05	0.10	0.588	0.20	0.06	0.002

Sample Sizes. Challenge: Teachers = 234, Students = 3,221; Year 2: : Teachers = 354, Students = 5,238

The pattern of findings suggests that there was no relationship between PATHS overall implementation and students’ report of school climate in Year 1 of implementation. However, in Year 2 as teachers’ report of implementation of PATHS increased, so too did students report of teachers’ expectations in their school, supportive teachers in their school, their peers’ social competence, and safety within the school. These findings suggest that in Year 2 of implementation, schools with better implementation of PATHS also had better school climate.

School-Level Conditions for Learning and Student Outcomes

To understand how schools with different patterns of conditions for learning were related to student outcomes, we conducted multi-level latent profile analysis that examined what patterns of conditions for learning existed in CMSD elementary schools from 2009–2012 and how schools with different patterns of conditions for learning also differed in their student outcomes. All analyses included 72 elementary schools, 956 teachers of Grades prekindergarten–5, and 4,477 students in Grades prekindergarten–5 in CMSD.

School level patterns of conditions for learning. Latent profile analyses were conducted to simultaneously understand patterns of strengths, weaknesses, and change over time on the four scales of the CFL surveys (safety, challenge, support, and peer climate; Osher & Kendziora, 2010; Osher et al., 2008). Based on model fit indices (AIC, BIC, sample size adjusted BIC, and entropy), profile analyses revealed between three and four groupings of schools for each dimension of school climate; Peer Climate (4 profiles), Safety (4 profiles) Support (3 profiles), and Challenge (3 profiles; see Table 26).

Table 26. Model Fit for the Latent Profile Analyses by Conditions for Learning Scales

Fit Indices	Number of Profiles			
	2 profile	3 profile	4 profile	5 profile
Peer Climate				
Loglikelihood	-19357.3	-19311.1	-19283	-19283
Akaike (AIC)	38758	38682	38642	38658
Bayesian (BIC)	38909	38887	38902	38973
Sample-Size Adjusted BIC ($n^* = (n + 2) / 24$)	38839	38792	38782	38827
Entropy	0.9310	0.929	0.915	0.927
School Safety				
Loglikelihood	-19389	-19326	-19287	††
Akaike (AIC)				††
	1.568	1.54	1.268	
Bayesian (BIC)	38822	38713	38651	††
Sample-Size Adjusted BIC ($n^* = (n + 2) / 24$)	0.8950	0.846	0.9020	††
Entropy	0.9400	0.946	0.9540	††
Support				
Loglikelihood	-19329.9	-19287.6	-19261.1	-19275.4
Akaike (AIC)				
	38703.83	38635.19	38598.26	38642.9
Bayesian (BIC)	38854.44	38840.56	38858.4	38957
Sample-Size Adjusted BIC ($n^* = (n + 2) / 24$)	38781.53	38745.23	38737.65	38811
Entropy	0.9060	0.939	0.93	0.959
Challenge				
Loglikelihood	-19299.6	-19256.6	-19238	—
Akaike (AIC)				
	38643	38573.24	38552	—
Bayesian (BIC)	38793	38778.24	38812.19	—
Sample-Size Adjusted BIC ($n^* = (n + 2) / 24$)	38723	38683.28	38691.44	—
Entropy	0.9180	0.911	0.884	—

Note. Lower values of log-likelihood, AIC, BIC, and sample size adjusted BIC indicate better fit, higher values of Entropy indicate better fit.

Bolded values represent the final best-fitting solution for each scale of school climate

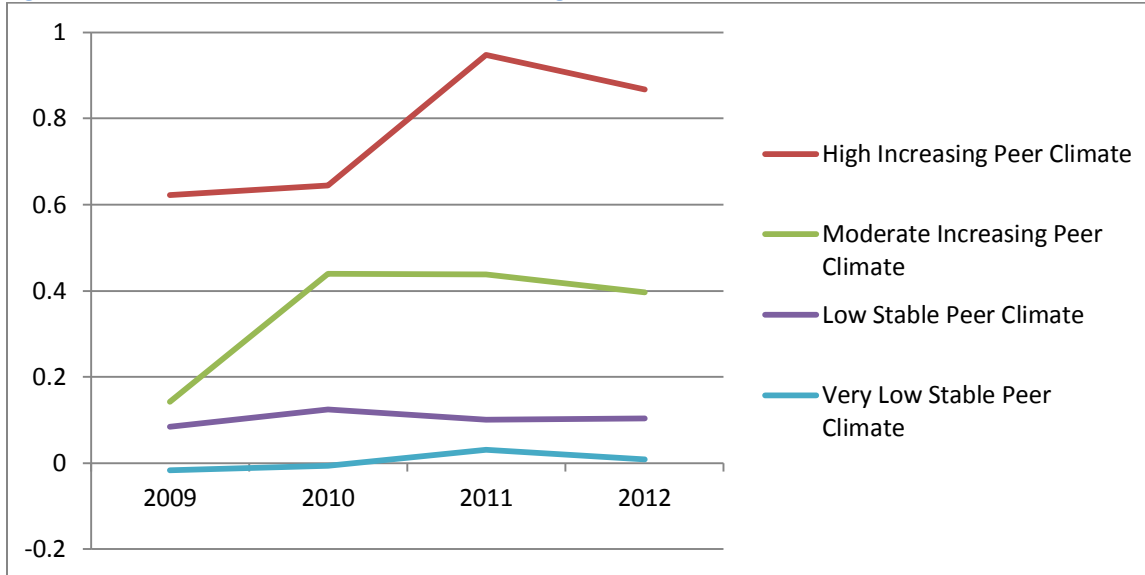
†† indicates problematic convergence, with too few students classified in the profile.

— indicates that the model was not estimated because the best and final solution was already identified

Profiles of the conditions for learning at the school level included a mix of school where some increased in school climate, some decreased in school climate, while others were high and stable or low and stable. The findings are explained for each of the four dimensions of school climate below.

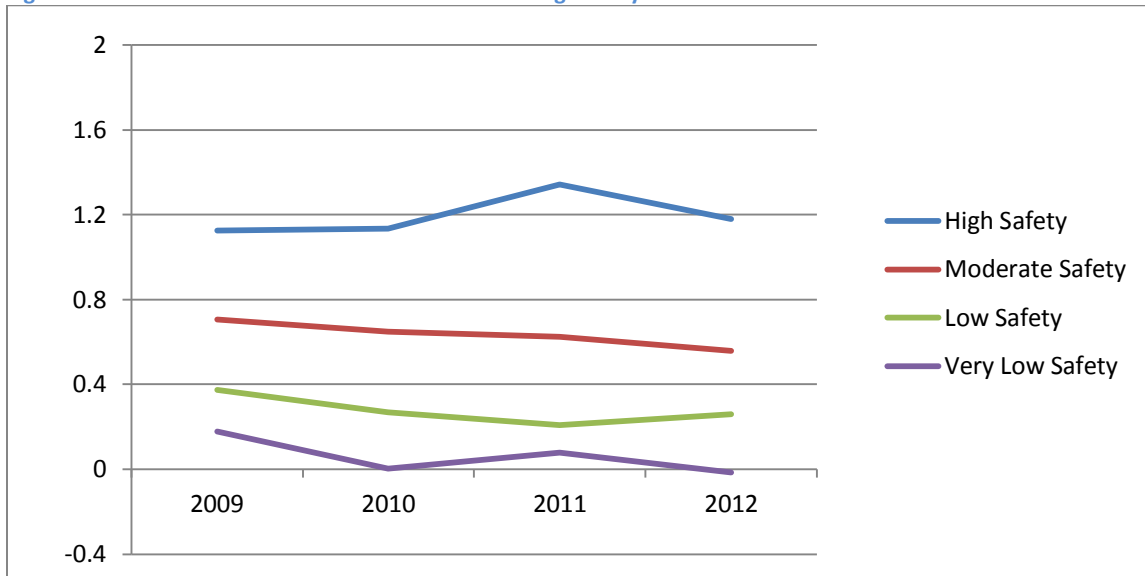
Profiles for peer climate included four different groups of schools: high increasing, moderate increasing, low stable, and very low stable (see Figure 6).

Figure 6. School Level Profiles of Conditions for Learning: Peer Climate



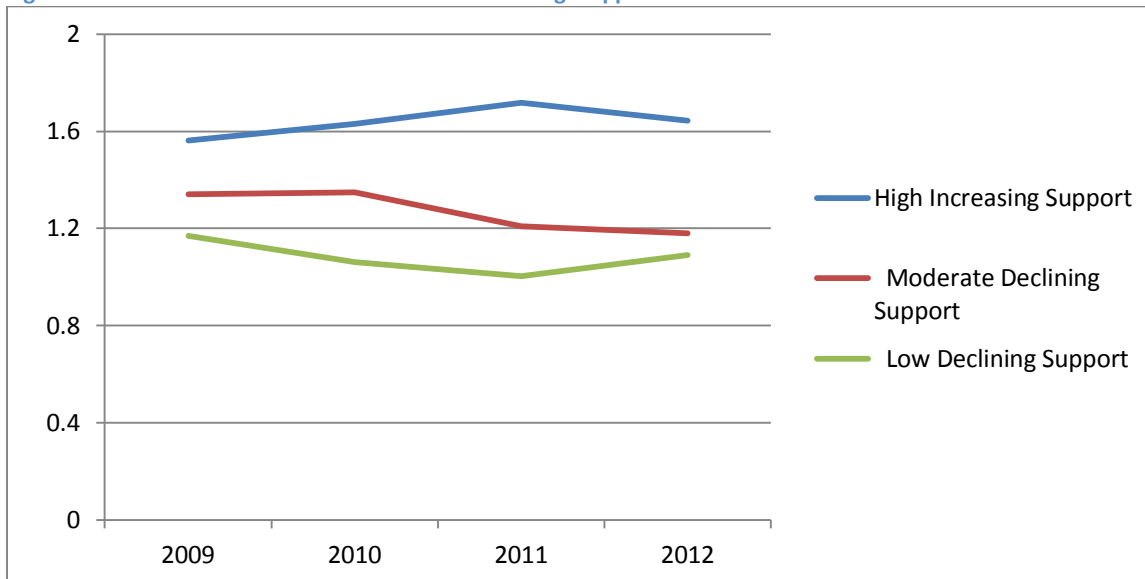
The profiles for safety included profiles that demonstrated predominantly flat or stable patterns at four levels: high, moderate, low, and very low; see Figure 7).

Figure 7. School Level Profiles of Conditions for Learning: Safety



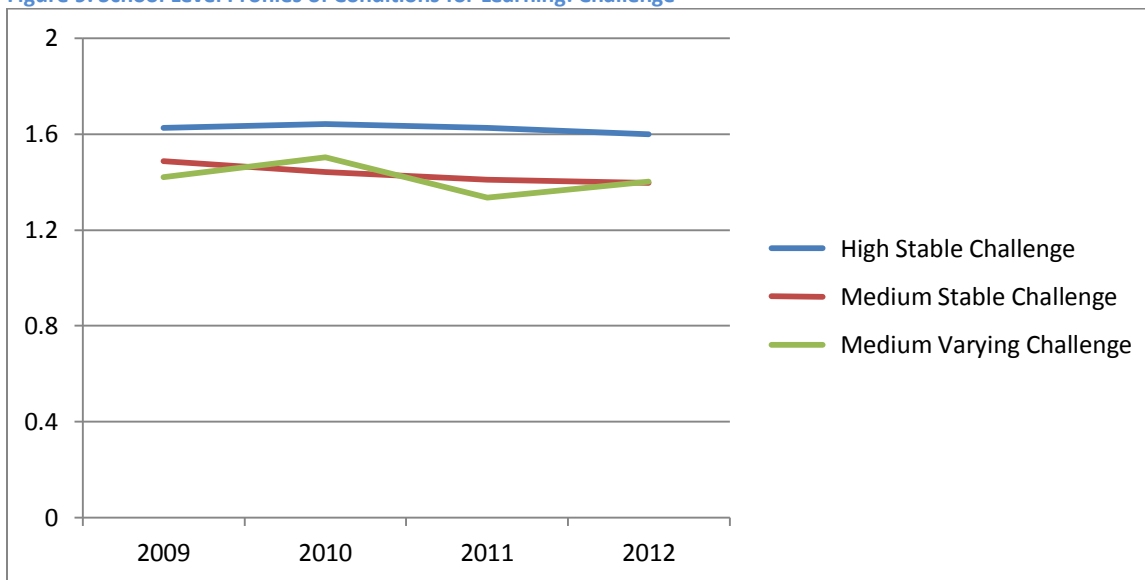
Profiles for support revealed one that increased (high increasing) and two that decreased over time (moderate declining and low declining; see Figure 8).

Figure 8. School Level Profiles of Conditions for Learning: Support



Challenge profiles similarly suggested decreases in school challenge and categorize schools into high stable, medium stable, and medium varying; see Figure 9).

Figure 9. School Level Profiles of Conditions for Learning: Challenge



Linking school level patterns of conditions for learning with student outcomes. Finally, to understand how these school level profiles of conditions for learning were related to student outcomes, we conducted a series of HLM analyses with students at level 1 and schools at level 2. School level profiles of school climate were entered as predictors of students' attention, aggression, and social competence, controlling for student gender, grade, and age. Results indicated that school climate was related to students' social and emotional outcomes (see Table 27). An example of the equations specified using aggression as the outcome and school profile membership as a predictor at level 2 is included below.

Level-1 Model (student)

$$Aggression_{ij} = \beta_{0j} + \beta_{1j}*(Gender_{ij}) + \beta_{2j}*(Grade_{ij}) + \beta_{3j}*(Age\ in\ Months_{ij}) + r_{ij}$$

Level-2 Model (school)

$$\beta_{0j} = \gamma_{00} + \gamma_{01}*(School\ Profile\ Membership) + u_{0j}$$

$$\beta_{1j} = \gamma_{10}$$

$$\beta_{2j} = \gamma_{20}$$

$$\beta_{3j} = \gamma_{30}$$

A summary of findings for each of the conditions for learning scales is as follows:

- **Peer Climate.** Students in schools that were initially high and increased in peer climate from 2009 to 2012 had better attention and social competence, and lower aggression than their peers in schools with low and stable peer climate.
- **School Safety.** Students in schools that had higher levels of school safety had higher attention, higher social competence, and lower aggression than their peers in schools with lower school safety.
- **Support.** Students in schools that were initially high in support that also increased from 2009 to 2012 had better attention and social competence, and lower aggression than their peers in schools with moderate declining and low declining support.
- **Challenge.** Students in schools with high stable challenge from 2009 to 2012 had higher attention, higher social competence, and lower aggression than their peers in schools that were either static or stable but lower in challenge.

Table 27. Student Outcomes by Profile Membership for Each Dimension of School Climate

Average Student Outcomes by Profile Membership					
Peer Climate	Profile 1	Profile 2	Profile 3	Profile 4	Significant Differences between Profiles
	Very Low Stable Peer Climate	High Increasing Peer Climate	Low Stable Peer Climate	Moderate Increasing Peer Climate	
Social Competence	2.695	3.071	2.435	2.851	3 < 1 < 4 < 2
Aggression	2.087	1.694	2.366	1.914	4 < 3 < 2 < 1
Attention	4.045	4.494	3.638	4.249	3 < 1 < 4 < 2
N	3,004	1,099	720	2,123	
Safety	Profile 1	Profile 2	Profile 3	Profile 4	Significant Differences between Profiles
	High Safety	Moderate Safety	Low Safety	Very Low Safety	
Social Competence	3.069	2.421	2.815	2.69	2 < 4 < 3 < 1
Aggression	1.7	2.377	1.931	2.116	1 < 3 < 4 < 2
Attention	4.499	3.617	4.181	4.059	2 < 4 < 3 < 1

<i>n</i>	1,099	720	2,642	2,485	
Support	Profile 1	Profile 2	Profile 3		Significant Differences between Profiles
	High Increasing Support	Moderate Declining Support	Low Support		
Social Competence	2.714	2.974	2.473	—	1 < 3 < 2
Aggression	2.041	1.817	2.339	—	2 < 1 < 3
Attention	4.06	4.399	3.723	—	3 < 1 < 2
<i>N</i>	3,419	2,494	1,033	—	—
Challenge	Profile 1	Profile 2	Profile 3		Significant Differences between Profiles
	Medium Static Challenge	Medium Stable Challenge	High Stable Challenge		
Social Competence	2.448	2.711	2.986	—	1 < 2 < 3
Aggression	2.363	2.041	1.817	—	3 < 2 < 1
Attention	3.669	4.06	4.414	—	1 < 2 < 3
<i>N</i>	886	3,756	2,304	—	—

PATHS Implementation and Teacher Morale

To examine if overall PATHS implementation was related to teacher morale (including overall engagement in their profession and job satisfaction), a series of correlations were estimated between PATHS implementation and teacher’s self-reported morale in Year 1 and Year 2. The teacher morale scale was created by averaging ten items that asked teachers about various aspects of the teaching environment, support from administrators, and satisfaction with teaching at their school (see item below). The scale scores ranged from 1.10 to 5.0 with a mean of 3.61 (*SD* = 0.79). Teachers’ responses to the morale scale were included in the average score if they answered five of the ten items.

Please rate the following items on PATHS training, support, implementation, and climate (from "not at all" to "very much").

- *The school administration’s behavior toward the staff is supportive and encouraging.*
- *I receive a great deal of support from parents for the work I do.*
- *Necessary materials such as textbooks, supplies, and copy machines are available as needed by the staff.*
- *My principal enforces school rules for student conduct and backs me up when I need it.*
- *The principal knows what kind of school he or she wants and has communicated it to the staff.*
- *There is a great deal of cooperative effort among the staff members.*
- *I am given the support I need to teach students with special needs.*
- *I am generally satisfied with being a teacher at this school.*
- *I think about transferring to another school.*
- *The teachers at this school like being here; I would describe us as a satisfied group.*

Overall, as teacher morale increased, implementation of the PATHS program also increased, including teacher ratings of training, coaching, and overall implementation (see Table 27). However, there was no relationship between teacher morale and the number of PATHS units completed during the school year. With this correlational analysis, one cannot understand the *direction* of the relationship. For example, teachers with higher morale may then be better implementers of the PATHS program, or vice versa, where teachers who implement the PATHS program and/or feel efficacious in doing so may then have higher morale.

Table 28. Correlations between Teacher Morale and PATHS Implementation

	Year 1 (2010–11)	Year 2 (2011–12)
	(<i>r</i>)	(<i>r</i>)
Teacher Ratings of Training	0.28**	0.36**
Teacher Experience of Coaching	0.13*	—
Dosage (Percent of PATHS units completed)	0.08	0.07
Overall Implementation	0.32**	0.42**

Note. ** $p < .01$, two-tailed; * $p < .05$, two-tailed. Year 1 sample sizes range from 408 to 485. Year 2 sample sizes range from 539 to 750.

Teacher Morale and Student Outcomes

To determine if teachers’ overall morale was directly related to student outcomes, we conducted a series of HLMs where the teacher reported summary scale of morale was entered at level 2 as a predictor of students’ social emotional outcomes at level 1. The HLMs controlled for the student covariates of gender, grade, and age in months. An example of the equations specified using aggression as the outcome and teacher moral as a predictor at level 2 is included below.

Level-1 Model (student)

$$Aggression_{ij} = \beta_{0j} + \beta_{1j}*(Gender_{ij}) + \beta_{2j}*(Grade_{ij}) + \beta_{3j}*(Age\ in\ Months_{ij}) + r_{ij}$$

Level-2 Model (teacher)

$$\beta_{0j} = \gamma_{00} + \gamma_{01}*(Teacher\ Morale_j) + u_{0j}$$

$$\beta_{1j} = \gamma_{10}$$

$$\beta_{2j} = \gamma_{20}$$

$$\beta_{3j} = \gamma_{30}$$

In both Years 1 and 2 of implementation, overall satisfaction with teaching was related to teacher-reported student outcomes for each domain (see Table 29). Suggesting, that teachers’ attitude toward their profession are more positive, so are their students’ outcomes in social emotional development.

Table 29. Teacher Morale and Student Outcomes

	Year 1 (2010–11)			Year 2 (2011–12)		
	β	<i>se</i>	<i>p</i> value	β	<i>se</i>	<i>p</i> value
Social Competence	0.16	0.03	<0.001	0.17	0.02	<0.001
Aggression	-0.14	0.03	<0.001	-0.14	0.02	<0.001
Attention	0.17	0.04	<0.001	0.23	0.03	<0.001

Sample Sizes. Year 1: Social Competence: Teachers = 500, Students = 2,908; Aggression Teachers = 500, Students = 2,933; Attention Teachers = 500, Students = 2,936

Year 2: Social Competence: Teachers = 746, Students = 4,348; Aggression Teachers = 746, Students = 4,347; Attention Teachers = 746, Students = 4,349

Finally, to determine if teachers’ morale was related with change in student outcomes over time, we conducted a series of growth models (see the previous section titled “Change Over Time in Student Outcomes in Year 2 of PATHS Implementation). Like the analyses that examined how PATHS implementation was related to change in students’ outcome sin year 2 of the evaluation, we entered teacher morale as a predictor of the estimate of change over the school year in students’ attention, social competence, and aggression. Again, all models controlled for the student covariates of gender, age, and grade. All variables at level two and level three were centered around the grand mean. An example of the equations specified using aggression as the outcome and teacher moral as a predictor of the estimate of change over time in student outcomes (β_{10k}) is included below.

Level-1 Model (Time)

$$\text{Aggression}_{ijk} = \pi_{0jk} + \pi_{1jk} * (\text{Time (Fall to Spring)})_{ijk} + e_{ijk}$$

Level-2 Model (Student)

$$\pi_{0jk} = \beta_{00k} + \beta_{01k} * (\text{Gender}_{jk}) + \beta_{02k} * (\text{Grade}_{jk}) + \beta_{03k} * (\text{Age in Months}_{jk}) + r_{0jk}$$

$$\pi_{1jk} = \beta_{10k}$$

Level-3 Model (Teacher)

$$\beta_{00k} = \gamma_{000}$$

$$\beta_{01k} = \gamma_{010}$$

$$\beta_{02k} = \gamma_{020}$$

$$\beta_{03k} = \gamma_{030}$$

$$\beta_{10k} = \gamma_{100} + \gamma_{101} (\text{Teacher Morale}_k) + u_{10k}$$

Again, there were promising patterns (see Table 30), where higher teacher morale predicted higher rates of growth in social competence and attention for students nested within classrooms that implemented PATHS. Also, in classrooms with higher teacher morale, growth in aggression from fall to spring was attenuated such that higher teacher morale reduced the size of the increase in aggression from fall to spring from 0.24 to 0.14.

Table 30. The Relationship between Teacher Morale and Change in Student Outcomes from Fall to Spring in PATHS Classrooms During the 2011–12 School Year

	Social Competence		Aggression		Attention	
	Change over Time (π_{1jk})	Prediction of change over time (γ_{101})	Change over Time (π_{1jk})	Prediction of change over time (γ_{102})	Change over Time (π_{1jk})	Prediction of change over time (γ_{103})
Intercept of the Slope	0.08***		0.24***		0.16***	
Teacher Morale		0.06*		-0.10***		0.10**

Note. ** $p < .01$, two-tailed; * $p < .05$, two-tailed.

Sample sizes: Social Competence: Teachers = 536, Students = 4,124; Aggression Teachers = 536, Students = 4,125; Attention Teachers = 536, Students = 4,126

In summary, as teachers’ morale increased, implementation of the PATHS program also increased, including teacher ratings of training, coaching, and overall implementation. Note, however, that these are correlations, and the direction of association is not established. For example, teachers who were more engaged may have been better implementers of the PATHS program, or, alternatively, teachers who implemented the PATHS program better may have had higher morale.

Discussion

Overall, the findings of the implementation evaluation are promising, in that classrooms were able to implement PATHS (albeit imperfectly) within the context of districtwide implementation in a large urban district. Teachers rated the PATHS training they received positively and expressed confidence in the PATHS program overall as a way to improve student’s behavior in the classroom. Teachers noted the value of directly teaching social and emotional skills to students, and generally liked the PATHS materials and strategies. However, teachers also reported dissatisfaction with PATHS coaching as provided by coaches hired by the district, an important component of ideal PATHS implementation. Teachers found it challenging to find time to deliver PATHS lessons, and found that PATHS did not appear to be a good fit for all their students. Among teachers who offered written comments on surveys, responses were more likely to identify strengths in the fall of Year 2 and more likely to identify challenges in the spring of Year 2.

There were multiple logistical challenges in the process of training, coaching, and delivering the PATHS program in CMSD. Although the training was very well-received, the professional development department was not always successful at getting all of the right people into the room. Mix-ups involving teachers from the wrong grade levels, teachers sent more than once to the same training event, and wrong locations created a fair amount of frustration for both teachers and trainers. Some of the confusion was understandable; with so many school closings, teachers were being assigned to different grade levels and different schools. Principals did not always know which of their teachers had been trained.

Although 13 coaches were supposed to be hired in September 2009, seven were hired in March 2010 and, once they had been trained, they did not have much time to support PATHS implementation that year. The smaller number of coaches was a budgetary necessity, but the workload for them was large. Some coaches were asked to work with as many as 140 teachers across more than a dozen schools; one coach had 22 schools. The time simply driving from school to school impaired coaches' ability to be effective. In addition, the PATHS materials were treated as secure and were locked up in schools; coaches spent an excessive amount of time simply getting all the right materials into teachers' hands. Not all teachers welcomed the coaches' visits: some felt like they were "being judged" rather than supported in their delivery of PATHS. The fact that improvements in students' social competence and attention were of similar magnitude in the year that the coach positions were cut altogether due to budgetary constraints suggests this component may not have been driving student gains.

The findings are promising in that better PATHS implementation was related to better student social emotional outcomes. Specifically, as teacher-reported PATHS implementation increased so too did students' attention, social competence, while aggression decreased. Models that examined change in student behavior over the school year also found that classroom with higher PATHS implementation had improved attention and social competence over the course of the school year and lower increases in aggression. Two key contextual factors—school climate and teacher morale—were also related to both PATHS implementation and student outcomes, such that as the facilitating factors of improved school climate and more positive teacher morale increased, so too did PATHS implementation and students' social emotional outcomes.

In summary, despite the noted challenges with implementation, students' attention and social competence improved during the evaluation, and students' aggressive behaviors grew at a slower rate in high PATHS classrooms than in low PATHS classrooms. These findings suggest that within the complicated context of districtwide implementation in a large urban district, PATHS may be one key component of an overall strategy to improve the social well-being of students in Grades prekindergarten–5.

Documenting and Describing PATHS Implementation in Year 1 and Year 2

Overall PATHS was successfully implemented in CMSD in both Years 1 and Year 2, with the exception of PATHS coaching. Teachers rated the PATHS training they received positively in terms of both the degree to which it prepared them and the timing of training. This is a promising finding, given that there were many administrative mix-ups in the process of enrolling in training. However, teachers were less positive about their experiences with PATHS coaches.

At the beginning of Year 1, there was a cadre of seven coaches that supported the 77 elementary schools in the district. In turn, coaches were supported by the national PATHS trainer. Each PATHS coach was responsible for close to 180 teachers. However, there was not a clear accountability system in place to monitor coaches' activities or progress. There were also limitations on the types of interactions between coaches and teachers. For example, although coaches could give verbal feedback to teachers, there could be no written feedback about teaching practices provided in coaching sessions, per union agreements. The large number of teachers for whom coaches were responsible, in combination with the

limitations in their coaching activities, may partially explain the dissatisfaction that teachers reported with their PATHS coaching. At the end of the 2010–11 school year, the seven PATHS coaching positions were eliminated due to budget cuts.

In Year 2, without the coaching positions, data on implementation did not show tremendous changes. In Year 1, 51 percent of PATHS lessons were completed; in Year 2, 55 percent were complete. In Year 1, 28 percent of teachers thought PATHS was “pretty much” or “very much” effective, compared to 29 percent in Year 2. Despite coaching being identified by the developers as a key component of the intervention, and some qualitative data from teachers indicating a desire for greater support in implementation, it seemed that PATHS proceeded reasonably well without the coaching support. With effective coaching, however, realized outcomes may have been even better.

In terms of dosage, teachers reported challenges finishing the PATHS curriculum within the school year. On average, teachers were able to complete roughly half of the intended lessons through the 2010–11 school year, suggesting low fidelity to the PATHS curriculum; with a noted exception in second grade, where on average teachers taught about 75 percent of the PATHS lessons. This finding is consistent with the qualitative data from Spring 2012 indicating that 45 percent of teachers answering the question about strengths or challenges (222 of 492) reported that it was difficult to find time to teach the lessons. Also, teachers were split regarding ratings of the program, with just over half of the teachers indicating that it was a valuable program, while just less than half reported that PATHS was not a valuable program. In combination, these findings suggest that implementation was challenging for teachers and there is room for growth in improving teacher implementation of the PATHS curriculum.

Change in PATHS Classrooms Over Time

The patterns of change among students in PATHS classrooms from fall to spring were promising: in both years of the evaluation, students’ social and emotional competence and attention improved from fall to spring. A plausible explanation for these changes may be that it is a normal developmental phenomenon for scores on social skills and attention to increase over the course of a school year, simply as a function of maturation (Rebok, Smith, Pascualvaca, Mirsky, Anthony, & Kellam, 1997). To explore this alternative, we first examined results from one of the early research reports on PATHS that included fall and spring mean scores for aggression, attention, and social competence (Conduct Problems Prevention Research Group, 1999). CCPRG measures had many items in common with those used in the current study. The CPPRG study included 198 intervention and 180 comparison first grade classrooms from neighborhoods with greater than average crime in four U.S. locations. Results for the untreated group from fall to spring showed increased aggression and slightly more social problems, but somewhat lower concentration problems (changes of 0.38, 0.05, and -0.03 standard deviation units, respectively). Other early studies of PATHS, such as Greenberg and Kusché’s 1998 study with children who were deaf, showed no significant changes among control children from fall to spring in either teacher or parent-rated social skills or behavior problems.

Findings for fall-to-spring changes at other elementary grade levels were reported in the large-scale Social and Character Development study, which studied the effects of seven interventions on students in Grades 3–5 (SACD Research Consortium, 2010). Approximately 6,500 students in 84 schools

participated, and fall and spring measures were collected in the 2004–05 and 2005–06 school years. Results for students in the untreated control groups are shown below (Table 31). None of the fall to spring changes was statistically significant, and most were close to zero. Notably, teacher-rated altruism and positive social behavior were flat (slopes of 0 and 0.01); teacher-rated problem behavior (primarily aggression and disruption) very slightly increased (slope of 0.05) and attention problems were flat (-0.01). From these findings, we learn that in the absence of intervention, there is not a great amount of change from fall to spring on the kinds of behaviors of interest in our study for students of similar ages to those in our study, and therefore maturation is not a likely explanation for the changes we did observe. However, some level of normative increase in aggression may be documented in this suite of studies, similar to our findings where aggression increased from fall to spring in year 2 of the study, but PATHS implementation attenuated this increase.

Table 31. Normative Fall to Spring Changes in Student Outcomes from the SACD Study

Scale	Respondent	Direction of desired effect	Control group slope, fall to spring
Social and Emotional Competence Domain			
Self-Efficacy for Peer Interactions	Student	+	0.13
Normative Beliefs About Aggression	Student	-	0.07
Empathy	Student	+	-0.12
Behavior Domain			
Altruistic Behavior	Student	+	-0.16
Altruistic Behavior	Primary caregiver	+	-0.03
Altruistic Behavior	Teacher	+	0
Positive Social Behavior	Primary caregiver	+	0.03
Positive Social Behavior	Teacher	+	0.01
Problem Behavior	Student	-	0.08
Problem Behavior	Primary caregiver	-	-0.01
Problem Behavior	Teacher	-	0.05
ADHD-Related Behavior	Teacher	-	-0.01

Note: Source: SACD Research Consortium (2010), Table H, p. xlvii

For the current study, our measures of change from fall to spring were different in Year 1 and Year 2. In Year 1, our aim was to produce classroom-level estimates of our outcome variables using 6 randomly selected students; we made no effort to preserve the student level in this process, and selected independent samples of students for the fall and spring ratings. Using this method, the improvements for social competence and attention were both statistically significant (0.11 and 0.08 standard deviation units, respectively), but the increase in aggression (0.06 units) was not significant.

In Year 2, we used a multi-level model to measure student level change accounting for the clustering of observations within students, and students within classrooms. Again, we found significant improvements for social competence and attention, but this time also saw a significant increase in aggression from fall to spring of year 2. Our findings for teacher-rated aggression were consistent with results from prior studies. This normative increase may indicate that a positive treatment effect could

reasonably involve a less-steep increase in aggression at higher levels of implementation, which is in fact what we saw (this finding is explored in the next section).

Analyses that linked PATHS implementation with change from fall to spring in year 2 were also very promising. We found that higher scores on PATHS overall implementation predicted higher slopes, or increases from fall to spring) on students' attention and social competence. PATHS dosage was also a significant predictor of larger gains in student attention from fall to spring. Finally there was a trend at the $p < .10$ level where PATHS dosage was also related to large increases in students' social competence.

We also found a trend at the $p < .10$ level where completing more units of PATHS (dosage) predicted lower slopes, or lower increases from fall to spring) on students' aggression in year 2. This would suggest that PATHS was a protective factor that attenuated the amount of normative increases in aggression from fall to spring in prekindergarten to Grade 5 classrooms. Alternatively, teacher and school factors that may have been related to delivering more lessons, such as support from other teachers and/or the principal or general teacher competence, may underlie this relationship. Taken together, these findings are very promising in that PATHS appears to be related to not only students' absolute levels of social emotional outcomes, but also the rate with which students increase or decrease on key social emotional outcomes during the school year.

Linking PATHS Implementation with Student Outcomes

In the absence of a comparison group for the current study, our only way to estimate treatment effects is to examine the relationship between PATHS implementation and student outcomes. One limitation of our study is that we relied on teacher report for both our measures of student outcomes and of implementation. Our design would have been stronger if we had been able to obtain independent ratings of implementation, but this was not feasible in the current study.

We found that as teacher-reported implementation of PATHS increased, so do their ratings of students' social-emotional competence and attention. Analyses that linked implementation to student outcomes consistently found a positive and strong relationship between higher levels of implementation (ratings of training, experience of coaching, and overall levels of implementation) and students' social and emotional competence and attention.

Specifically, ratings of training were significantly related to student social competence, attention, and aggression in both years; experience of coaching (Year 1 only) was significantly associated with both social competence and attention. Our overall measure of implementation was significantly associated with social competence and attention in both years, but was only related to aggression in Year 2. In Year 2, as teacher-rated implementation of PATHS increased, ratings of students' aggression decreased.

Dosage was also related to students' social competence in Year 1, and both social competence and attention in Year 2. The relatively weaker relationship between dosage and student outcomes compared to satisfaction and student outcomes was initially unexpected. However, when we reviewed findings from the first classroom-level study of PATHS (CPPRG, 1999), we saw that intervention staff members' ratings of implementation quality was more strongly associated with outcomes than was dosage. The CPPRG researchers speculated that it may be less crucial how *many* lessons are taught than the *quality*

with which they are delivered. Although we do not have independent measures of quality, our measures of ratings of training and coaching may serve as an acceptable proxy of teacher's acceptance of PATHS and willingness to infuse practices and pedagogies that promote social and emotional competence throughout the school day.

Contextual Factors Related to PATHS Implementation and Student Outcomes

School Climate (Conditions for Learning)

Prior research on conditions for learning in urban school systems has demonstrated that safety, challenge, support, and peer climate are associated with student and school characteristics in ways that support the validity of the constructs (Osher & Kendziora, 2010). From longitudinal research on school climate, we have learned that in a context of declining achievement overall, schools where climate improved over time showed less of a decline in reading proficiency rates over the same time period (Windham, Kendziora, Brown, Osher, & Song, 2009).

In the current study, we examined how patterns in school climate over time relate to students' social outcomes, and found that during the years that PATHS was implemented in CMSD (2009 to 2012), peer social and emotional climate as rated by students in Grades 2–5 improved significantly (there were no significant changes for safety, challenge, or support). In addition, we found that (for Year 2, but not Year 1), schools where teachers rated themselves as doing a better job implementing PATHS had more positive student-rated conditions for learning. This positive connection between implementation of a social and emotional program and school climate is consistent with the model described by Jennings and Greenberg (2009).

Finally, from our school-level latent profile analysis we observed that schools with high and/or improving school climate demonstrated the best student outcomes, and schools with low and/or declining school climate demonstrated worse outcomes. This pattern of results suggests that as well as absolute level of school climate (e.g., high or low) change in school climate over time (e.g., increasing or decreasing) also matters for students' social emotional development. This is also consistent with earlier work on climate and achievement (Windham et al., 2009) that documented that improving climate was associated with relatively more positive achievement outcomes.

Teacher Morale

Finally, teacher morale (overall engagement and job satisfaction) was also related to all student outcomes, as was hypothesized by our colleagues in the Cleveland Teachers Union. Teacher morale has long been recognized as an important factor in students' academic outcomes (Ellenberg, 1972; Miller, 1981); however, less is known about how it relates to students' social competence. Teachers' morale may be related to the extent to which teachers are able to connect with their students and help them connect with the subject matter (Chang, 2009; Woolfolk, Hoy, & Davis, 2005). In other words, teachers' morale may influence the classroom environment and ultimately students' learning (Sutton & Wheatley, 2003). We did find that as teachers' morale increased (i.e., more perceived professional support and a positive teaching environment) their students' social-emotional competence also increased.

This result is consistent with the model of the “prosocial classroom” put forth by Jennings and Greenberg (2009). In this perspective, teachers’ own social competence and well-being contribute to (1) creating a healthy classroom climate, (2) good behavior management, and (3) successful implementation of programs to promote social and emotional learning. These three factors in turn promote positive developmental outcomes among students. Jennings and Greenberg reviewed interventions focused on stress reduction and mindfulness for teachers that improved classroom climate. Our findings provide additional support for this model, in that teacher morale was strongly associated with improvements in student social competence, attention, and aggression.

Limitations

An important methodological limitation of the current study was the reliance on teacher ratings to assess child both PATHS implementation and student outcomes. The principal ratings collected both by CMSD’s own Humanware team and by this research team did largely corroborate the teacher data, and the student-reported peer climate data was positively associated with teacher ratings of social competence. Nevertheless, the non-independence for our major measures is not ideal.

In addition, although analytic models controlled for student and school level characteristics, it is possible that other contextual differences not measured or controlled here (e.g., neighborhood characteristics, school recomposition) were correlated with implementation or student outcomes.

Finally, because random assignment was not used in the initial study design, due to districtwide implementation, these findings cannot be interpreted as causal. That is, we cannot tell if PATHS caused the observed changes in students’ attention, social competence, or aggression. Rather we can only state that there is a relationship between PATHS implementation and student social emotional outcomes that is promising.

Implications

In 2009–11, a large, urban, school district faced with dire budget cuts took the unprecedented step of implementing an evidence-based SEL program districtwide to all students in Grades prekindergarten–5. In the context of teacher layoffs and school closings, teachers were asked to implement a new curriculum to promote students’ positive social development. The developers of the program selected by the district expressed reservations about launching PATHS in all 77 elementary schools, since it would be very difficult for the under-resourced district to adequately support such a large-scale implementation. In addition, Humanware consultants had suggested combining PATHS with other behavior management strategies because of high levels of student need and disorder in the schools, but this approach was rejected on the grounds that it would be too hard to do two new programs well. Our findings from studying this process showed that despite these many challenges, and even with imperfect implementation and uncertain fidelity, student outcomes improved. Furthermore, improvement was positively associated with measures of implementation.

These findings suggest good news for school districts as the national conversation about education increasingly includes attention to social and emotional development:⁶ districts *can* implement programs to promote students' social and emotional learning in ways that help students. A bill currently before Congress would allow federal Title II grants, generally used for class-size reduction and teacher professional development, to be used to support social and emotional learning programs (Shah, 2012). The findings from our study suggest that even when this work cannot be done perfectly, it is still worthwhile.

⁶ For example, the federal Race to the Top—District program (U.S. Department of Education, 2012) included performance metrics for age-appropriate indicators of physical well-being or social-emotional development.

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Appendix A: Teacher Survey (Spring 2011)

Welcome to the PATHS evaluation! Because PATHS is being implemented in grades prekindergarten through 5, district-wide, all elementary teachers are being asked to complete this survey.

We asked you to rate a random selection of students in the fall, and are now asking you to do so again. Any changes in your ratings will tell us about whether PATHS is making a difference.

Background Information

1. What grade(s) do you teach?

<input type="radio"/> Prekindergarten	<input type="radio"/> 2 nd grade	<input type="radio"/> 5 th grade
<input type="radio"/> Kindergarten	<input type="radio"/> 3 rd grade	<input type="radio"/> I teach only ungraded students
<input type="radio"/> 1 st grade	<input type="radio"/> 4 th grade	<input type="radio"/> Other (please specify) _____

2. What type of class do you teach?

<input type="radio"/> Regular education	<input type="radio"/> Mixed	<input type="radio"/> Special education only
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3. How long have you been in this school building? _____ years

4. Including this year, how many years have you been teaching? _____ years

5. How much do you believe social-emotional skills are related to academic performance?

<input type="radio"/> Not at all	<input type="radio"/> A little	<input type="radio"/> Somewhat	<input type="radio"/> Quite a bit	<input type="radio"/> Extremely
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6. Please rate the following items in terms of how accurately they describe the vision for the use of PATHS communicated by the administration in your school.

	1 – Not accurate at all	2	3	4	5 – Completely accurate
a. My principal has communicated a clear vision for how PATHS would affect our school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Teachers know how PATHS is supposed to improve our school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. Please read the following response options and pick the one that best reflects the degree of PATHS support provided by the administrators in your building:
 - 1 – Not at all supportive:** Does not make PATHS a priority. There is limited discussion of PATHS with staff, and the curriculum is not mentioned during observations
 - 2 – Not very supportive:** Occasional support for PATHS in faculty and staff discussions, but administrators do not see success of PATHS and social-emotional learning as central to the school’s mission
 - 3 – Supportive:** Principal is supportive of teacher’s efforts, speaks positively about PATHS with staff, problem-solves obstacle to implementation, uses PATHS material, and observes PATHS lessons
 - 4 – Very supportive:** Is a “cheerleader” for the program, effectively supports staff use of PATHS, and sees it as central to school mission

8. What additional resources or supports would be helpful for you as you continue to implement PATHS in the future?

Ratings for Student A

Please look at the letter sent with this survey packet to see which student in your class was selected as “Student A.” If this student is not in your class please rate the first student from the “replacement student” list.

Please indicate whether you are rating Student A or a replacement student.

- Student A
 Replacement _____

Think about Student A’s behavior over the past 3 weeks and indicate *how well* each of the items below describes that student.

	Describes poorly	Describes somewhat	Describes fairly well	Describes very well	Not able to rate/Not sure
1. Gets along well with adults	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Responds with empathy to others who are upset	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Understands the consequences of his or her own decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Expresses feelings that are appropriate to the situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Works easily in a group	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Helps others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Understands his or her own strengths and weaknesses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Respects other people’s viewpoints	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Responds appropriately to negative peer pressure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Accepts being told “no” or when things don’t go his or her way	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Can control his or her behavior when angry, frustrated, disappointed, or excited	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Responds constructively to being corrected by teachers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Tries to solve problems independently	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Takes responsibility for his or her mistakes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Makes good suggestions for solving problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Treats others fairly and respectfully	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Resolves own disputes constructively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Expresses his or her opinion respectfully	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Is able to explain why he or she said or did something	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Joins peer group activities smoothly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Is careful when using something that belongs to someone else	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Still thinking about Student A over the past 3 weeks, indicate how often he/she exhibits each behavior listed below, compared with other students of the same grade level and gender.

	Never or almost never	Rarely	Sometimes	Often	Very often	Almost always
1. Pays attention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Verbally fights (e.g., argues, yells)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Is interested in school work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Is disliked by classmates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Takes others’ property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Completes work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Stays on task	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Calls names or teases classmates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Is a self-starter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Physically fights	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Tries to get others to dislike a peer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Breaks rules	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Concentrates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Ratings for Student B

Please look at the cover sheet included with this survey packet to see which student in your class was selected as “Student B.” If this student is not in your class please rate the next student from the “replacement student” list.

Please indicate whether you are rating Student B or a replacement student.

- Student B
 Replacement _____

Think about Student B’s behavior over the past 3 weeks and indicate *how well* each of the items below describes that student.

	Describes poorly	Describes somewhat	Describes fairly well	Describes very well	Not able to rate/Not sure
1. Gets along well with adults	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Responds with empathy to others who are upset	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Understands the consequences of his or her own decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Expresses feelings that are appropriate to the situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Works easily in a group	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Helps others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Understands his or her own strengths and weaknesses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Respects other people’s viewpoints	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Responds appropriately to negative peer pressure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Accepts being told “no” or when things don’t go his or her way	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Can control his or her behavior when angry, frustrated, disappointed, or excited	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Responds constructively to being corrected by teachers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Tries to solve problems independently	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Takes responsibility for his or her mistakes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Makes good suggestions for solving problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Treats others fairly and respectfully	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Resolves own disputes constructively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Expresses his or her opinion respectfully	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Is able to explain why he or she said or did something	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Joins peer group activities smoothly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Is careful when using something that belongs to someone else	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Still thinking about Student B over the past 3 weeks, indicate how often he/she exhibits each behavior listed below, compared with other students of the same grade level and gender.

	Never or almost never	Rarely	Sometimes	Often	Very often	Almost always
1. Pays attention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Verbally fights (e.g., argues, yells)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Is interested in school work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Is disliked by classmates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Takes other’s property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Completes work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Stays on task	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Calls names or teases classmates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Is a self-starter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Physically fights	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Tries to get others to dislike a peer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Breaks rules	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Concentrates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Ratings for Student C

Please look at the cover sheet included with this survey packet to see which student in your class was selected as “Student C.” If this student is not in your class please rate the next student from the “replacement student” list.

Please indicate whether you are rating Student C or a replacement student.

- Student C
 Replacement _____

Think about Student C’s behavior over the past 3 weeks and indicate *how well* each of the items below describes that student.

	Describes poorly	Describes somewhat	Describes fairly well	Describes very well	Not able to rate/Not sure
1. Gets along well with adults	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Responds with empathy to others who are upset	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Understands the consequences of his or her own decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Expresses feelings that are appropriate to the situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Works easily in a group	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Helps others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Understands his or her own strengths and weaknesses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Respects other people’s viewpoints	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Responds appropriately to negative peer pressure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Accepts being told “no” or when things don’t go his or her way	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Can control his or her behavior when angry, frustrated, disappointed, or excited	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Responds constructively to being corrected by teachers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Tries to solve problems independently	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Takes responsibility for his or her mistakes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Makes good suggestions for solving problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Treats others fairly and respectfully	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Resolves own disputes constructively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Expresses his or her opinion respectfully	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Is able to explain why he or she said or did something	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Joins peer group activities smoothly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Is careful when using something that belongs to someone else	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Still thinking about Student C over the past 3 weeks, indicate how often he/she exhibits each behavior listed below, compared with other students of the same grade level and gender.

	Never or almost never	Rarely	Sometimes	Often	Very often	Almost always
1. Pays attention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Verbally fights (e.g., argues, yells)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Is interested in school work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Is disliked by classmates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Takes other’s property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Completes work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Stays on task	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Calls names or teases classmates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Is a self-starter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Physically fights	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Tries to get others to dislike a peer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Breaks rules	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Concentrates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Ratings for Student D

Please look at the cover sheet included with this survey packet to see which student in your class was selected as “Student D.” If this student is not in your class please rate the next student from the “replacement student” list.

Please indicate whether you are rating Student D or a replacement student.

- Student D
 Replacement _____

Think about Student D’s behavior over the past 3 weeks and indicate *how well* each of the items below describes that student.

	Describes poorly	Describes somewhat	Describes fairly well	Describes very well	Not able to rate/Not sure
1. Gets along well with adults	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Responds with empathy to others who are upset	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Understands the consequences of his or her own decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Expresses feelings that are appropriate to the situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Works easily in a group	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Helps others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Understands his or her own strengths and weaknesses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Respects other people’s viewpoints	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Responds appropriately to negative peer pressure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Accepts being told “no” or when things don’t go his or her way	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Can control his or her behavior when angry, frustrated, disappointed, or excited	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Responds constructively to being corrected by teachers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Tries to solve problems independently	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Takes responsibility for his or her mistakes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Makes good suggestions for solving problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Treats others fairly and respectfully	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Resolves own disputes constructively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Expresses his or her opinion respectfully	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Is able to explain why he or she said or did something	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Joins peer group activities smoothly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Is careful when using something that belongs to someone else	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Still thinking about Student D over the past 3 weeks, indicate how often he/she exhibits each behavior listed below, compared with other students of the same grade level and gender.

	Never or almost never	Rarely	Sometimes	Often	Very often	Almost always
1. Pays attention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Verbally fights (e.g., argues, yells)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Is interested in school work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Is disliked by classmates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Takes other’s property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Completes work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Stays on task	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Calls names or teases classmates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Is a self-starter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Physically fights	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Tries to get others to dislike a peer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Breaks rules	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Concentrates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Ratings for Student E

Please look at the cover sheet included with this survey packet to see which student in your class was selected as “Student E.” If this student is not in your class please rate the next student from the “replacement student” list.

Please indicate whether you are rating Student E or a replacement student.

- Student E
 Replacement _____

Think about Student E’s behavior over the past 3 weeks and indicate *how well* each of the items below describes that student.

	Describes poorly	Describes somewhat	Describes fairly well	Describes very well	Not able to rate/Not sure
1. Gets along well with adults	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Responds with empathy to others who are upset	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Understands the consequences of his or her own decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Expresses feelings that are appropriate to the situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Works easily in a group	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Helps others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Understands his or her own strengths and weaknesses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Respects other people’s viewpoints	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Responds appropriately to negative peer pressure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Accepts being told “no” or when things don’t go his or her way	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Can control his or her behavior when angry, frustrated, disappointed, or excited	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Responds constructively to being corrected by teachers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Tries to solve problems independently	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Takes responsibility for his or her mistakes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Makes good suggestions for solving problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Treats others fairly and respectfully	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Resolves own disputes constructively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Expresses his or her opinion respectfully	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Is able to explain why he or she said or did something	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Joins peer group activities smoothly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Is careful when using something that belongs to someone else	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Still thinking about Student E over the past 3 weeks, indicate how often he/she exhibits each behavior listed below, compared with other students of the same grade level and gender.

	Never or almost never	Rarely	Sometimes	Often	Very often	Almost always
1. Pays attention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Verbally fights (e.g., argues, yells)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Is interested in school work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Is disliked by classmates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Takes other’s property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Completes work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Stays on task	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Calls names or teases classmates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Is a self-starter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Physically fights	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Tries to get others to dislike a peer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Breaks rules	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Concentrates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Teacher Self-Report of PATHS Implementation & Staff Climate

Please look at the cover sheet included with this survey packet to see which student in your class was selected as “Student F.” If this student is not in your class please rate the next student from the “replacement student” list.

Please indicate whether you are rating Student F or a replacement student.

- Student F
 Replacement _____

Think about Student F’s behavior over the past 3 weeks and indicate *how well* each of the items below describes that student.

	Describes poorly	Describes somewhat	Describes fairly well	Describes very well	Not able to rate/Not sure
1. Gets along well with adults	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Responds with empathy to others who are upset	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Understands the consequences of his or her own decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Expresses feelings that are appropriate to the situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Works easily in a group	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Helps others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Understands his or her own strengths and weaknesses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Respects other people’s viewpoints	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Responds appropriately to negative peer pressure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Accepts being told “no” or when things don’t go his or her way	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Can control his or her behavior when angry, frustrated, disappointed, or excited	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Responds constructively to being corrected by teachers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Tries to solve problems independently	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Takes responsibility for his or her mistakes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Makes good suggestions for solving problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Treats others fairly and respectfully	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Resolves own disputes constructively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Expresses his or her opinion respectfully	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Is able to explain why he or she said or did something	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Joins peer group activities smoothly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Is careful when using something that belongs to someone else	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Still thinking about Student F over the past 3 weeks, indicate how often he/she exhibits each behavior listed below, compared with other students of the same grade level and gender.

	Never or almost never	Rarely	Sometimes	Often	Very often	Almost always
1. Pays attention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Verbally fights (e.g., argues, yells)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Is interested in school work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Is disliked by classmates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Takes other’s property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Completes work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Stays on task	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Calls names or teases classmates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Is a self-starter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Physically fights	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Tries to get others to dislike a peer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Breaks rules	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Concentrates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Teacher Self-Report of PATHS Implementation & Staff Climate

1. How many PATHS lessons have you taught in the past full month? _____
2. What is the highest lesson you reached this year?

3. When did you receive your first PATHS Training (MM/YYYY)? _____ / _____

4. Including classroom visits, teaching, co-teaching, formal meetings (grade level, faculty meetings), and informal conversations, how much time have you spent with your PATHS coach this past month?

- I have not met with my coach at all
- Less than 10 minutes
- Between 11 and 20 minutes
- Between 21 and 30 minutes
- Between 31 and 45 minutes
- More than 45 minutes

5. Please rate the following items on PATHS training, support, implementation, and climate.

	Not at all	A little bit	Somewhat	Pretty much	Very much
a. The PATHS training prepared me well to use the curriculum.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. The amount of time between my PATHS training sessions felt right to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I benefit from my meetings with my PATHS coach. I receive good feedback and support.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I feel like my PATHS teaching is being judged.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Meetings with my coach feel like collaborative working sessions. I am actively engaged in the meeting, providing examples of situations and asking questions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. It is easy to fit PATHS lessons into my weekly schedule given my other teaching requirements.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. PATHS has been effective in improving the behavior of students in my classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. I am committed to a high level of implementation of PATHS in my classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. I project positive feeling, energy, and enthusiasm during lessons.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. It is clear when you enter my classroom and look around that it is a PATHS classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. I cue students to stop and calm down (for example, "do turtle") when they experience strong emotions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. I encourage my students to communicate how they feel, particularly when they are upset.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. I actively model PATHS strategies by using my own feeling faces, the CSP, Does Turtle, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. I am communicating with parents about the PATHS curriculum.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. Compared to other strategies or programs I've tried before, I think that PATHS is a valuable program for students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
p. The school administration's behavior toward the staff is supportive and encouraging.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
q. I receive a great deal of support from parents for the work I do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
r. Necessary materials such as textbooks, supplies, and copy machines are available as needed by the staff.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
s. My principal enforces school rules for student conduct and backs me up when I need it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
t. The principal knows what kind of school he or she wants and has communicated it to the staff.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
u. There is a great deal of cooperative effort among the staff members.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
v. I am given the support I need to teach students with special needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
w. I am generally satisfied with being a teacher at this school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
x. I think about transferring to another school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
y. The teachers at this school like being here; I would describe us as a satisfied group.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix B: Principal Survey (Fall 2011)

Please rate the following items on PATHS training, support, and implementation:

Response options: Not at all, A little bit, Pretty much, Very much

- a. The PATHS training prepared my teachers well to use the curriculum.
- b. My teachers feel like their PATHS teaching is being assessed.
- c. It is easy to fit PATHS lessons into the weekly schedule given other demands at my
- d. school.
- e. PATHS has been effective in improving the behavior of students.
- f. I am doing everything I can to ensure a high level of implementation of PATHS in
- g. my school.
- h. It is clear when you enter my school and look around that it is a PATHS school.
- i. PATHS has improved the way teachers interact with students in my building.
- j. I actively model PATHS strategies with students in my building.
- k. I actively model positive social and emotional strategies with my staff.
- l. I communicate with parents about the PATHS curriculum.
- m. PATHS has been effective in improving the way students handle their emotions.
- n. Compared to other behavioral, character education, or social emotional strategies or
- o. programs I have tried before, I think that PATHS is a valuable program for students.

2. How are teachers in your school being supported to implement PATHS this school year? (open-ended)

3. How helpful is the support from the Humanware team for you as a principal in implementing PATHS?

Response options: Not at all useful, Somewhat useful, Moderately useful, Very useful

Appendix C: Survey Administration Procedures

The PATHS team conducted four rounds of teacher surveys and one principal survey. In the fall, teachers were asked to provide ratings of the social and emotional competence (21 items), attention (7 items), and aggression (6 items) for randomly selected students in their classrooms. In the spring, teachers were asked complete these ratings and also complete survey questions about PATHS implementation and their overall morale. In the fall of 2011, principals were asked to complete an online survey about implementation and perceived outcomes of PATHS in their schools. The following sections describe how the surveys were implemented.

Teacher Survey Administration

In the fall of 2010, the original data collection plan was to send invitations to complete surveys to elementary teachers through school principals. The Cleveland Teachers Union (CTU) requested that instead of distributing the surveys and \$20 incentives (Amazon.com gift codes) through the principals, CTU inform each school's union chapter chief about the project and ask those chapter chiefs to circulate selected student lists and instructions for completing the online student ratings to all the Grades prekindergarten–5 teachers in their buildings. Approximately two weeks after the initial notification, CTU began the process of survey follow up, which included email reminders to all chapter chairs, as well as targeted telephone calls to schools. The study team found that using this method, response rates varied widely across schools and the overall response rate was very low (24 percent). To achieve more consistency across schools and increase the overall response rate, the team decided to send surveys directly to the teachers during the spring administration. Because the AIR team was not given access to teachers' email addresses, we used paper-based surveys, which were mailed directly to teachers in their school buildings. Using this method, the response rates across schools were more consistent and the overall response rate was higher (42 percent).

In the 2011–12 school year, AIR worked with Humanware leaders and CMSD's research office to obtain teacher email addresses and make direct email contact with teachers possible. The AIR team contacted teachers by email, and each email contained a link to the online rating form. Teachers who completed online ratings were thanked for their time with a \$40 Amazon.com gift code. The increase from \$20 to \$40 was an effort to both fairly compensate for the time needed to rate seven students instead of six, as well as to incentivize higher participation rates. With this procedure, responses rates were much higher: 75 percent in both the fall and spring.

Random Sampling of Students

In 2010–11, teachers were invited to provide ratings of social competence, attention, and aggression for 6 randomly selected students in their classrooms. In the fall of 2010, CMSD provided AIR with a student roster of all students in Grades prekindergarten–5. Using these rosters, we conducted a simple probability randomization procedure and, for each teacher, identified six selected students and four replacement students (in case the selected students were no longer in that teacher's classroom). CMSD shared updated student rosters for the spring 2011 surveys. We then repeated the random sampling to select a *different* random sample of student for the spring 2011 administration. These independent

random samples were intended to provide an estimate of overall classroom levels of social and emotional competence, attention, and aggression in the fall and spring.

In the 2011–12 school year, driven by a desire to more closely link fall and spring data, the AIR team changed the student sampling procedures slightly: we aimed to have teachers, as much as possible, rate the *same* students in the fall and spring. Given high district mobility rates, we increased the number of students we asked teachers to rate so that we would have a better chance of finding students still in the classroom by spring. Each teacher rated seven students (still with a list of four replacement students) in the fall and rated those *same* seven students (or four replacement students) in the spring. Our analyses indicated that our models would be stable with as few as four students in common from fall to spring. Therefore, asking for ratings of seven students allowed for a 43 percent student mobility rate, which was a conservative estimate. In Year 2, the average number of students assessed per classroom was 6.42 for Fall 2011 and 6.65 for Spring 2012. The average of students who were rated in both the fall and the spring was 4.54, suggesting that our assumptions about mobility were correct.

Principal Survey Administration

Principal surveys were administered in November 2011. This data collection, like the teacher surveys, was conducted entirely online through SurveyMonkey. The data collection process was combined with a broader data collection effort that was being conducted another NoVo-funded AIR evaluation project, the evaluation of the Collaborating Districts Initiative (CDI). Principals responding to the CDI evaluation survey who indicated they had Grades prekindergarten–5 in their schools were presented with a brief set of questions about PATHS implementation during the prior school year.