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Bridget K. Hamre [a], Robert C. Pianta [a], Andrew J. Mashburn [b] & Jason T. Downer [a]

[a] Curry School of Education, University of Virginia, Charlottesville, Virginia

[b] Department of Psychology, Portland State University, Portland, Oregon

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Bridget K. Hamre and Robert C. Pianta

Curry School of Education, University of Virginia, Charlottesville, Virginia

Andrew J. Mashburn

Department of Psychology, Portland State University, Portland, Oregon

Jason T. Downer

Curry School of Education, University of Virginia, Charlottesville, Virginia

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Research Findings: Children's ($n = 980$) social competence during prekindergarten was assessed as a function of their teachers' ($n = 233$) exposure to the Preschool Promoting Alternative Thinking Strategies (PATHS) curriculum and 2 levels of support through MyTeachingPartner, a Web-based approach to professional development. Children in classrooms that implemented PATHS had increased levels of teacher-reported social competence over the course of the year. There were no associations between the use of PATHS and reductions in teacher-reported social problems. The results also suggested that teachers who used the MyTeachingPartner website more often reported greater gains in children's social competence. *Practice or Policy:* These findings have implications for the development and dissemination of social-emotional learning curricula and the provision of effective implementation supports for teachers. Continued work on the best ways to integrate technology into the professional development of teachers, both in service and preservice, is likely to enhance the accessibility and quality of supports for teachers.

The past decade has seen intense effort to improve the likelihood of children's early school success by examining aspects of performance at the start of school that are associated with subsequent achievement and school success (National Education Goals Panel, 1998). This effort to document and improve children's readiness for school is reflected in investments in major research efforts such as the Early Childhood Longitudinal Study–Kindergarten Cohort (National Center for Education Statistics, 2000), the National Institute of Child Health and Human Development's (NICHD) Study of Early Child Care (NICHD Early Child Care Research Network [NICHD ECCRN], 2002) and Reading Research Program (Lyon, 2002), and large-scale studies of Head Start programs and participants (e.g., Ramey, 1999). Across these efforts, children's

Correspondence regarding this article should be addressed to Bridget K. Hamre, Center for Advanced Study of Teaching and Learning, 350 Old Ivy Way, Suite 100, Charlottesville, VA 22903. E-mail: bkh3d@virginia.edu

competencies in social and behavioral domains have arisen as important contributors to later social and academic success. Although the relative importance of performance in the social and behavioral domains is a focus of debate in terms of effect sizes for the prediction of later achievement (Duncan et al., 2007), the nation's kindergarten teachers report that a majority of the children in their current classes lack competencies in working independently, following directions, and relating to peers, which they believe is impeding their learning (Rimm-Kaufman, Pianta, & Cox, 2000).

Thus, effective interventions to assist teachers in improving young children's social and behavioral competencies could be valuable in promoting educational outcomes. In the present study we report on children's social and behavioral development during prekindergarten as a function of their exposure to the Preschool Promoting Alternative Thinking Strategies (PATHS) curriculum (Domitrovich, Greenberg, Kusche, & Cortes, 2004) and teachers' exposure to MyTeachingPartner (MTP; Pianta, Mashburn, Downer, Hamre, & Justice, 2008). MTP is a Web-based approach to professional development that uses video-based exemplars of other teachers' supportive and effective interactions with children and consultation focused on analysis and observation of the teachers' own behavior. First, we assess the extent to which exposure to the PATHS curriculum predicted gains in teacher-reported development of social competence across the prekindergarten school year compared to children who did not have access to the curriculum. Second, we examine children's growth in teacher-reported social competence during prekindergarten as a function of their teachers' utilization of the curricular materials and professional development supports. Specifically, we examine the extent to which teachers' use of three intervention components—Preschool PATHS activities, a consultant, and Web-based resources—was associated with teachers' reports of changes in children's social functioning across the prekindergarten year.

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THE IMPORTANCE OF SOCIAL DEVELOPMENT IN EARLY CHILDHOOD

It is well recognized that social and behavioral competencies in the early grades, as well as problems in these domains, are important indicators of early school success and harbingers of subsequent outcomes (Entwisle & Alexander, 1999; Ladd & Burgess, 1999; Rimm-Kaufman et al., 2000). In the United States, teachers most often define school readiness in relation to behavior, attention, and getting along with others (Heaviside & Farris, 1993; Rimm-Kaufman et al., 2000), and large-scale national surveys of children's skills (National Center for Education Statistics, 2000) clearly depict the wide variation in social and behavioral competencies that children demonstrate in the early grades. Socially competent children communicate effectively; follow directions and cooperate; are attentive, enthusiastic, and actively involved in classroom activities; form positive relationships with adults and peers; and ask for and receive help appropriately. These children demonstrate a cluster of social competencies that teachers value independent of academic skills (Ladd & Burgess, 1999; Rimm-Kaufman et al., 2000).

Socially competent children are more successful in school and in life, and increasing research has documented the ways in which social skills foster academic achievement throughout school (Denham & Brown, 2010). There are a variety of different aspects of social competency and assorted terms for these skills; however, among young children these different components of social competence are highly correlated (McClelland & Morrison, 2003). For example, children who display positive self-regulation (both behavioral and emotional) also tend to form better

relationships with teachers and peers (Mintz, Hamre, & Hatfield, in press), assert themselves appropriately in the classroom (McClelland & Morrison, 2003), and are more engaged in classroom activities (Rimm-Kaufman, Curby, Grimm, Nathanson, & Brock, 2009).

In contrast, problematic social functioning is widely regarded as an indicator of risk and concern. Longitudinal studies of young children have revealed that social and behavioral problems in early childhood, including inattention, low frustration tolerance, difficulties following directions and conforming to classroom rules and routines, disruptive behavior, conflictual relationships with teachers, and aggression toward peers, predict continuing problems in adjustment in middle childhood (e.g., Campbell, 1994; Ladd, Birch, & Buhs, 1999; Schwartz, McFadyen-Ketchum, Dodge, Pettit, & Bates, 1998). As with social competence, the various aspects of social problems—such as behavior problems, impulsivity, low frustration tolerance, and conflict with teachers and peers—are highly correlated with one another among young children (Mintz et al., in press). Children with a constellation of these problems before they enter kindergarten typically show academic and social problems when followed longitudinally (NICHD ECCRN, 2004).

INTERVENTIONS DESIGNED TO ENHANCE SOCIAL COMPETENCE IN EARLY CHILDHOOD

Despite a long history of programs intended to improve young children's social competence and reduce behavior problems among children of elementary school age (Zins, Bloodworth, Weissberg, & Walberg, 2004), only recently have these programs been developed and rigorously tested for preschool-age children (Bierman, Nix, Greenberg, Blair, & Domitrovich, 2008; Domitrovich, Cortes, & Greenberg, 2007; Lynch, Geller, & Schmidt, 2004; Raver et al., 2009).

Universal preventive interventions for school-age and preschool children often rely on a curricular approach. These curricular approaches are often accompanied by coaching or other forms of teacher training. One such program is a downward extension of the school-age PATHS curriculum (Kusche & Greenberg, 1994) referred to as Preschool PATHS (Domitrovich et al., 2004). Preschool PATHS is a comprehensive curriculum based on the ABCD (Affective-Behavioral-Cognitive-Dynamic) model of development (Greenberg & Kusche, 1993) that provides lessons targeting children's emotional awareness and communication, self-control, self-concept, and social problem solving as well as the classroom social environment (Domitrovich et al., 2008). This theory suggests that emotional development is an important precursor to other cognitive and language skills and that the successful development of emotion knowledge and regulation is foundational to the development of the broad spectrum of social competencies described previously as central to school success (Greenberg, 2006). Greenberg (2006) described the ways in which PATHS is guided by neurocognitive models of development to target both *vertical control,* or the ''process of higher-order cognitive processes exerting control over lower-level limbic impulses vis-à-vis the development of frontal cognitive control'' (p. 144), and *horizontal control,* or the verbal processing of actions. Vertical control is taught in the preschool curriculum primarily through practice identifying and solving social problems. Children are taught to recognize when a problem is occurring and are given explicit steps to help themselves calm down and work toward a solution. Horizontal control is addressed through lessons that help children verbally identify and label feelings. Storybooks and puppets are used to introduce these ideas to children, and posters and other materials with ''feeling faces'' are

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used to help children identify their own feelings and those of their peers—particularly during conflicts.

Research provides evidence in support of this conceptual model, with initial evidence that Preschool PATHS impacts both core emotional outcomes as well as more distally related social competencies. Among a group of 246 children in 20 Head Start classrooms, those exposed to the Preschool PATHS curriculum displayed improved emotion vocabulary, higher levels of affective perspective taking, lower levels of anger bias, and greater teacher-reported social competence than did children in the control classrooms (Domitrovich et al., 2008). Similar results were obtained as a part of the Head Start REDI (Research-based, Developmentally Informed) project, which provided Preschool PATHS along with literacy and language lessons and extensive classroom coaching (Bierman, Domitrovich, et al., 2008). These results suggest that Preschool PATHS is a promising program for increasing social competencies; however, the studies to date have all included the developers of the materials, and thus independent replication of the results is necessary.

Other approaches to supporting social competence in young children focus more exclusively on the teacher through various forms of professional development. There is a long history of research on teachers' professional development, with growing consensus around a set of guidelines for effective professional development experiences. These include a focus on specific instructional practices (Desimone, Porter, Garet, Yoon, & Birman, 2002); the provision of active learning experiences; and the offering of ongoing, classroom-embedded supports rather than 1-day workshops (Garet, Porter, Desimone, Birman, & Yoon, 2001). Several early childhood interventions have used these principles to design and test the efficacy of professional development experiences for teachers of young children. For example, Raver and colleagues (2009) reported on the efficacy of an intervention providing intensive teacher training on behavior management strategies and a mental health consultant who provided coaching to support teachers' use of these strategies, as well as stress reduction workshops. Similar work using the Responsive Classroom© approach, an intervention targeting improvements in teachers' capacities to manage their classrooms effectively, has also shown promise (Brock, Nishida, Chiong, Grimm, & Rimm-Kaufman, 2008). Consistent with developmental theory, which suggests that interactions between children and adults serve as a primary mechanism for children's development (Bronfenbrenner & Morris, 1998). many of these successful professional development programs focus intensively on teachers' daily interactions with students (Pianta, 2006).

MTP

The MTP project was designed to combine these potentially effective modes of intervention by providing teachers with the Preschool PATHS curriculum as well as intensive professional development support specifically targeting improvements in teacher–child interactions. Teachers in the MTP project also received access to a literacy and language curriculum. The intention was to provide teachers with curricula addressing multiple domains of children's development, but to provide an integrated set of supports that described effective practice across these curricular areas. Thus, MTP teacher support resources were developed to specifically target aspects of teacher–child interactions shown to be predictive of improvements in social and academic outcomes during the prekindergarten year (Curby et al., 2009; Howes et al., 2008). MTP used the Classroom Assessment Scoring System (CLASS; Pianta, La Paro, & Hamre, 2008), a

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well-validated observation measure, to help define effective teaching practices for teachers. The CLASS assesses three broad domains of effective teacher–child interactions: Emotional Support, Classroom Organization, and Instructional Support. Within each broad domain are several more specific dimensions of effective practice. For example, within the Emotional Support domain the CLASS assesses both positive and negative aspects of the classroom climate and relational interactions (Positive and Negative Climate), teachers' sensitivity to children's social and academic needs (Teacher Sensitivity), and the extent to which classroom interactions foster student autonomy and leadership (Regard for Student Perspectives). Each dimension is described by multiple, specific indicators and behavioral markers. In this way the CLASS provides an organized and very detailed description of effective teaching practices that can facilitate focusing teacher professional development on areas of teaching practice that are most aligned with positive student outcomes across curricular areas. Reports on literacy and language outcomes are reported elsewhere (Mashburn, Downer, Hamre, Justice, & Pianta, 2010).

In the current field trial, state prekindergarten teachers were provided with the Preschool PATHS curriculum and exposed to two possible forms of support: Web-based video exemplars of teacher–child interactions independently rated as being of high quality according to the CLASS and an individualized consultation in which teachers and consultants reviewed videotapes of the teachers' own interactions with students and teachers, using the CLASS as a lens. The teachers received detailed feedback and engaged in problem solving about alternatives. There were three treatment conditions in the study. Teachers in the PATHS-High condition received Preschool PATHS, access to the Web-based videos, and access to a consultant who focused on helping improve implementation of the curricula through a focus on interactions aligned with the CLASS. Teachers in the PATHS-Low condition received PATHS and access to the Web-based videos. Teachers in the control condition did not receive Preschool PATHS or any form of teacher supports. Teachers across all conditions received the literacy and language curriculum (see Hamre et al., 2010).

A recent controlled evaluation of the MTP consultation demonstrated that prekindergarten teachers exposed to the regular, ongoing consultation focused on the analysis and observation of their interactions with children produced significant gains in the quality of emotional, organizational, and instructional supports they provided to children over the course of the intervention year (Pianta, Mashburn, et al., 2008) compared to teachers who only had access to Web resources. Although teachers who only had access to the website did not show the same level of positive change in practice as did those with access to a consultant, there was evidence that teachers in the Web-only condition who accessed the Web resources more often showed greater gains in their instructional practices than did teachers in the Web-only condition who did not use these resources often. In short, both the MTP-Consultancy and the MTP-Web groups showed some evidence of benefiting from a focus on effective teacher–child interactions, with the consultation group showing greater gains in the quality of interactions. It is critical to note that this initial evaluation did not address the effects of these forms of professional development on gains in children's social competence, problem behavior, or relationships with teachers, all central features of school readiness.

THE PRESENT STUDY

First, we asked whether children in classrooms in which teachers received the PATHS curriculum had more positive growth in teacher-reported social competencies and reductions in

teacher-reported social problems compared to children in control classrooms. Second, given evidence of substantial variability in participation in the intervention components, as reported elsewhere (Downer, Locasale-Crouch, Hamre, & Pianta, 2009; Kinzie et al., 2006), we asked whether variability in teachers' use of the intervention resources (provision of a consultant, frequency of use of and adherence to the Preschool PATHS curriculum, and observed use of MTP Web resources) was associated with improvements in teachers' ratings of social outcomes from fall to spring of the prekindergarten year. Ideally this study would have followed previous work on Preschool PATHS and assessed both more proximal outcomes (e.g., emotion skill and knowledge) and more distal social competence and problem behavior outcomes. However, the breadth of the study, which also included a focus on teacher behaviors and children's literacy and language development, required a broader assessment of impact. Thus, because it was most important to document the extent to which exposure to Preschool PATHS impacted children's school readiness skills, the study focused on assessing the broader constructs of social competence and problem behavior.

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METHODS

Participants

This study included 233 prekindergarten teachers who participated in the MTP program. All participating teachers and classrooms were part of a state-funded prekindergarten program within a single state that served at-risk children. Characteristics of the teachers and classrooms that participated in the study are presented in Table 1 by condition ($n = 83$, PATHS-High; $n = 88$, PATHS-Low; and $n = 58$, control). The percentage of cases with missing data for each variable is also presented. Overall, the teachers were well educated and experienced. The majority of teachers were Caucasian.

During the fall, four to five children whose parents provided consent to allow their child to participate were randomly selected from each classroom. When possible the selection criteria included selecting at least two boys and two girls. Among participating classrooms, the parents of 1,725 children agreed to allow them to participate. Of these children, 980 were randomly selected for participation in the study. Demographic characteristics for the children who participated in the study are presented in Table 2. The percentage of cases with missing data for each variable is also presented. The sample of children was ethnically diverse. Maternal education levels averaged just above 12 years.

Procedures

Districts with classrooms participating in the state-funded prekindergarten program were selected for recruitment based on having more than one prekindergarten classroom. Forty-one district coordinators agreed to facilitate the recruitment of teachers; included were three of the four largest districts in the state and more than one third of all of the districts in which the state-funded program was operating. The 41 participating districts were randomly assigned to one of the three study conditions, such that all teachers within a district participated in the same study condition.

TABLE 1
Teacher and Classroom Characteristics and Use of Intervention Components

Characteristic	Condition				
	PATHS-High (n = 83) %	*PATHS-Low (n = 88) %*	*Control (n = 58) %*	*Difference Test χ^2*	*Percent missing*
Teacher characteristics					
Advanced degree	35	35	41	0.83	2
Female	96	94	93	0.80	2
Race/ethnicity				13.17***	3
Black	14	36	10		
Caucasian	78	59	82		
Hispanic/Latino	0	0	3		
Multiracial	7	5	5		

	M	*SD*	*M*	*SD*	*M*	*SD*	*F*	*Percent missing*
Years of teaching experience	14.56	9.12	16.15	9.73	13.09	8.70	1.92	3
Ideas about children	2.20	0.53	2.53	0.59	2.13	0.56	10.67***	2
Self-efficacy	4.35	0.47	4.39	0.49	4.47	0.49	1.01	3
Classroom characteristics								
No. of students	14.00	2.69	14.97	1.97	15.31	1.06	7.79**	3
Proportion boys	0.46	0.13	0.50	0.10	0.52	0.11	3.29*	2
Proportion LEP	0.20	0.31	0.02	0.05	0.21	0.31	14.32***	2
Proportion poor	0.69	0.24	0.67	0.21	0.72	0.20	0.96	2
Intervention components								
PATHS average number of weekly lessons (3 = once a week)	3.04	0.75	2.97	0.85			0.25	8
PATHS lesson adherence (1–4)	0.78	0.23	0.81	0.23			1.08	10
Hours on video pages	0.41	0.61	0.06	0.16			25.62***	0

Note. PATHS = Promoting Alternative Thinking Strategies; LEP = limited English proficient.
*$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

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Districts were first stratified by size (large, medium, and small) and then assigned randomly by size to a condition.

Random assignment was conducted at the district level for two reasons. First, there was concern about contamination of intervention effects across conditions if teachers within the same district (often in the same building) were enrolled in different study conditions. For example, teachers participating in the consultation intervention would be exposed to more detailed descriptions of effective practices and receive direct facilitation of their use of the video exemplars on the website, which they could share with teachers who did not participate in the consultation, thereby potentially reducing the key distinction between these conditions. Second, in recruitment meetings, district coordinators expressed their preference that all teachers in their program receive the same professional development opportunities for the sake of perceived equity and equal opportunities for teachers to participate in the intervention. This decision to conduct random assignment at the district level precludes causal inferences at the classroom level.

TABLE 2
Child and Family Characteristics and Child Fall Social Skills

Characteristic	Condition							
	PATHS-High (n = 354) %		*PATHS-Low (n = 384) %*		*Control (n = 242) %*		*Difference Test* χ^2	*Percent missing*
Demographics								
Boy	47		50		49		0.34	3
Other language at home	30		6		25		72.43***	2
Race/ethnicity							140.90***	3
Black	34		66		31			
Caucasian	36		19		35			
Hispanic	17		3		19			
Multiethnic	5		9		8			
Other	8		4		6			
	M	*SD*	*M*	*SD*	*M*	*SD*	*F*	*Percent missing*
Maternal education	12.69	2.26	12.83	1.81	12.64	1.93	0.77	
Age	4.38	0.31	4.40	0.30	4.39	0.32	0.46	
Fall teacher report								
Social competence	3.58^{a}	0.71	3.44^{b}	0.69	3.54^{ab}	0.75	3.09*	14
Social problems	2.03	0.73	2.15	0.74	2.11	0.77	2.14	14
Spring teacher report								
Social competence	3.92^{a}	0.72	3.84^{ab}	0.69	3.76^{b}	0.70	3.30*	16
Social problems	1.99	0.76	2.09	0.73	2.15	0.75	2.75	16

Note. Subscripts indicate means that are significantly different from one another across rows. PATHS = Promoting Alternative Thinking Strategies. $^{*}p \leq .05$. $^{***}p \leq .001$.

As is evident in Tables 1 and 2, this less-than-ideal process for random assignment led to some systematic differences among conditions. Teachers in each condition had similar backgrounds in terms of education and experience and also reported similar levels of self-efficacy in the fall. Teachers in the PATHS-Low condition reported significantly higher levels of adult-centered views than did teachers in the other two conditions.

Classrooms across conditions had similar proportions of poor children. However, there were significant differences among conditions in the number of students per classroom and in the number of boys in the classroom (highest in the control condition). There was also a very significant difference in the percentage of children with limited English proficiency: Classrooms in the PATHS-Low condition had an average of only 2% children with limited English proficiency compared to 20% and 21% in the PATHS-High and control conditions, respectively. To adjust for these differences, we included all of these teacher- and classroom-level variables as covariates in the models predicting outcomes from condition.

There were also preintervention differences among children in the various conditions (see Table 2). With regard to demographics, children in the PATHS-Low condition classrooms were much less likely to have parents report that the family spoke a language other than English at home and were more likely to be Black. Children in the PATHS-High condition and control group were more likely to be Hispanic and Caucasian. Children in the PATHS-High condition

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classrooms were rated by teachers in the fall as somewhat more socially competent than children in the PATHS-Low condition. To address these potential biases, analyses controlled for child demographics and fall scores on social competence and problems.

In August 2004, prior to the start of the school year, teachers in each district attended a training and introductory workshop held at a convenient location. For large districts one workshop was conducted per district; smaller districts were combined into geographically organized trainings. Workshops were led by research staff and included between 5 and 30 teachers each. Teachers in all conditions were told that the purpose of the study was to learn more about children's literacy and social development and to pilot some new curricular materials. At the workshop teachers were trained in the intervention to which they were assigned (if any) and informed about a set of data collection requirements. The workshops were of varying lengths depending on condition: control was 2 hr, PATHS-Low was 1.5 days, and PATHS-High was 2 days. Teachers in the PATHS-High and PATHS-Low conditions also received a laptop computer to ensure equal access to the Web-based resources.

Teachers across all conditions were asked to report on children's social competence in the fall and spring. In the fall, teachers were asked to complete ratings on children within the first month of school. Spring ratings began in late April.

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Measures

Child and Family Characteristics

Parents who agreed to have their child participate in the study also completed a brief family questionnaire that assessed the following child and family characteristics: gender, language spoken in the home, and years of maternal education. In addition, household income and the number of children and adults living in the household were used to calculate an income-to-needs ratio. We defined families as living ''in poverty'' using 150% of the federal poverty guidelines as the threshold. In the spring, teachers reported on the number of days each child was absent.

Classroom and Teacher Demographics

Classroom demographics. Data from family questionnaires completed by the parents of all consented children (not just selected children) were used to calculate a class-level measure of poverty. This was computed as the proportion of children (ranging from 0 to 1) within each class who met this criterion. Across the classrooms, an average of 75% of all of the parents in the classrooms consented to the study and thus completed the family questionnaire. Teachers reported on the number of children in their class as well as the number of boys and children of limited English proficiency.

Teacher demographics. Characteristics of the teachers participating in the study were collected from a teacher demographic questionnaire completed in the fall. Teachers reported their level of education (bachelor's degree or advanced degree) and their number of years of experience teaching.

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Teacher Beliefs

Several measures of teacher beliefs were included to help covary out nonrandom differences between treatment conditions.

Adult-centered beliefs. Teachers' adult-centered beliefs about children were measured with the Modernity Scale (Schaefer & Edgerton, 1985), a 16-item questionnaire that uses a 5-point Likert-type scale to discriminate between ''traditional'' or relatively adult-centered perspectives on interactions with children and more ''modern or progressive'' child-centered perspectives. Scores are derived by computing the mean of all items, with child-centered beliefs reverse scored. Teachers holding a more adult-centered view agreed with statements such as ''Children must be carefully trained early in life or their natural impulses make them unmanageable.'' Teachers with more child-centered beliefs agreed with statements such as ''Children should be allowed to disagree with their parents if they feel their own ideas are better.'' Cronbach's alpha was .80 in the present sample.

Self-efficacy. An abbreviated 6-item version of the Teacher Self-Efficacy Scale (Bandura, 1997) was included to assess teachers' sense of efficacy regarding management and motivation of children in their classrooms. The response scale ranged from *nothing* (1) to *a great deal* (5), and items included questions such as ''How much can you do to get through to the most difficult students?'' and ''How much can you do to keep students on task on difficult assignments?'' The coefficient alpha for this scale was .84 in the present sample.

Intervention Conditions and Implementation Measures

As noted previously, teachers were assigned to one of three conditions: (a) PATHS-Low, (b) PATHS-High, or (c) control. Teachers across all conditions received the MTP-Literacy and Language (MTP-LL) activities (Justice, Pullen, Hall, & Pianta, 2003); however, teachers in the control condition did not receive the PATHS curriculum or any professional development supports.

Preschool PATHS. Teachers in the PATHS-High and PATHS-Low conditions were provided with a Web version of the Preschool PATHS curriculum in social competence (Domitrovich et al., 2004). The Preschool PATHS curriculum was a prepublication version that closely matched the current published form. Teachers were provided with 36 lessons, organized into eight units, to be delivered during circle time. The lessons focused on four target areas: (a) prosocial friendship skills; (b) emotion understanding and expression skills; (c) self-control; and (d) problem solving, with a focus on interpersonal negotiation and conflict resolution. Lessons each took between 15 and 30 min to complete and included the use of puppet characters, books, and picture cards demonstrating various emotions as well as scripts for teachers to follow. Teachers were provided with all of the required materials. Lesson guides also suggested extension activities to help teachers encourage the use of these prosocial behaviors and problem-solving strategies throughout the day.

Teachers were asked to implement one of the core Preschool PATHS activities each week. Use of the PATHS curriculum was assessed through year-end teacher report on the frequency with which teachers used the main Preschool PATHS activities: (1) not at all, (2) about once

per month, (3) once per week, (4) 2–4 times per week, and (5) daily use. As displayed in Table 1, there were not significant differences between the PATHS-High and PATHS-Low groups in terms of the frequency with which teachers reported using the core Preschool PATHS activities, which averaged approximately once a week.

Teachers' adherence to the PATHS curriculum was assessed through the coding of videotapes they sent in once a month. These videos consisted of them implementing a PATHS activity. Approximately three of these videotapes were coded for each teacher to provide an overall assessment of adherence to the curriculum. A 4-item MTP Implementation Checklist was completed for the portions of the videos in which teachers were implementing PATHS activities. Each item was scored as either present (1) or not present (0). The items were as follows: (a) Teacher language is in general accordance with the script in the activity plan; (b) the teacher has all listed materials available and easily accessible; (c) all listed materials are used in general accordance with the activity plan; and (d) all components of the lesson are completed. Scores for individual items were averaged to create an overall adherence score, which was then averaged across the year, with a possible score range of 0 to 10 points, indicating average adherence. Adherence was relatively high in this sample, with an average score of .79 and no significant difference between the PATHS-High and PATHS-Low groups. In the present sample, Cronbach's alpha was .73.

Coders were trained on the MTP Implementation Checklist and took a reliability test that consisted of watching and coding four videos. Coders had to obtain 80% exact agreement on these master-coded videos to begin coding tapes for this study. To assess the reliability of coding procedures as implemented by these trained coders, we had coders double-code a subset of tapes (approximately 10%); coders assigned the same binary rating for 89% of the items. Coders were blind to treatment assignment.

MTP website. Teachers in both the PATHS-High and PATHS-Low conditions also received on-demand access to video clip exemplars of high-quality interactions, including many examples of teachers effectively implementing the Preschool PATHS curriculum. These teaching exemplars were typically 1- to 2-min video clips highlighting a specific CLASS dimension of interaction accompanied by a text description of that teacher's behavior using language and terms drawn from the CLASS manual and tailored to the clip. All video clips featured real teachers and children from a diverse range of preschool classrooms. These resources were made available through access to the MTP website. Teachers were introduced to the website at the initial training and were reminded to use it through occasional newsletter reminders.

Use of the MTP website was measured using a Web-tracking system that documented the amount of time each teacher spent on each web page between December 2004 and June 2005. The Web-tracking system was not added to the website until December, so data on teachers' use of these resources during the first few months of the intervention were not available. To reduce the likelihood of overestimating Web use by teachers who stayed logged on to the website but were not actively using its resources, we truncated the maximum length of time for each page visit to 15 min. From this information, we assessed the total number of hours teachers spent on the portions of the website containing content designed to improve teachers' interactions with children (e.g., videos, teaching challenges). Although all teachers in the PATHS-High and PATHS-Low conditions had access to these pages, there was wide variability in the extent to which the teachers utilized these resources. The average amount of time teachers

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spent on these video pages between December 2004 and June 2005 was 0.23 hr ($SD = 0.47$), or about 14 min. However, teachers in the PATHS-High condition were much more likely to spend time on the these video pages, averaging 24 min, with a range from 0 to 235 min (almost 4 hr), $F = 25.62$ (between = 1; within = 169), $p < .001$. Teachers in the PATHS-Low condition averaged only 3.9 min on the video pages over the 7 months, ranging from 0 to 53 min (about 1 hr).

PATHS-High. In addition to access to Preschool PATHS and the MTP website, teachers in the PATHS-High group received a year-long intervention (MTP-Consultancy) in which they were provided with one-on-one feedback and support of their implementation of Preschool PATHS and the literacy and language curriculum. Teachers videotaped their implementation of an instructional activity (alternating between PATHS and MTP-LL) and mailed the tape to their consultant, who then edited the tape into a series of three 1- to 2-min segments that focused on a specific aspect of interaction. Those edited segments were paired with specific written feedback that focused explicitly on interactive behaviors of the teacher and the children's cues and responses, using the CLASS as a framework to guide the selection of video and discussion of specific components of teacher–child interactions. The videos, written feedback, and questions were then posted on a private website for the teachers' viewing and response. Teachers and consultants then met online in a video chat to discuss the prompts and feedback and to problem solve. This entire cycle was spread over 2 weeks and was repeated throughout the year. Teachers completed an average of 12 cycles across the year ($SD = 3.66$), ranging from 4 to 19 cycles (Downer, Kraft-Sayre, et al., 2009).

Teacher-Reported Social Competence and Problems

The Teacher-Child Rating Scale (TCRS; Hightower et al., 1986) was used to assess teacher perceptions of social competencies and problem behaviors. In both the fall and spring, teachers rated children on 20 social competence items and 18 behavior problem items. For the purposes of this study, five subscales were used: Frustration Tolerance (sample items: ''accepts things not going his/her way'' and ''copes well with failure''; $\alpha = .91$), Assertiveness (sample items: ''comfortable as a leader'' and ''expresses ideas willingly''; $\alpha = .88$), Task Orientation (sample items: ''completes work'' and ''functions well even with distraction''; $\alpha = .92$), Social Skills (sample items: ''has many friends'' and ''well liked by classmates''; $\alpha = .94$), and Conduct Problems (sample items: ''disruptive in class'' and ''overly aggressive to peers (fights)''; $\alpha = .90$). All scales had five items, with the exception of Conduct Problems, which had six items. Teachers used a 5-point scale (for positive items: 1 = not at all, 3 = moderately well, and 5 = very well; for negative items: 1 = not a problem; 3 = moderate problem; 5 = very serious problem) to indicate how well the statements concurred with their view of the child. The TCRS is a well-validated measure; scores on the TCRS are correlated with other measures of children's social functioning and are predictive of later adjustment (Hamre & Pianta, 2001).

Teachers also reported on the quality of their relationships with students by completing the Student-Teacher Relationship Scale (STRS; Pianta, 2001). This scale provides measures of closeness and conflict, and scores range from 1 to 5 (1 = definitely does not apply; 2 = not really; 3 = neutral, not sure; 4 = applies somewhat; and 5 = definitely applies). Examples of closeness items include ''I share an affectionate, warm relationship with this child'' and ''The child values his/her relationship with me.'' Examples of conflict items include ''The child and I always seem to be struggling with each other'' and ''The child easily becomes angry at

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me.'' The closeness scale is the mean of seven items and had a Cronbach's alpha of .84. The conflict scale is the mean of eight items and had a Cronbach's alpha of .87. The STRS is a widely used measure of teachers' perceptions of their relationships with students and has shown validity with regard to predicting academic and social functioning in prekindergarten through the elementary grades (Hamre & Pianta, 2001; O'Connor & McCartney, 2007; Pianta, Steinberg, & Rollins, 1995).

Consistent with research suggesting that the subcomponents of social development are highly correlated with one another and the study's goal to examine effects on children's social development more broadly, a factor analysis was completed to reduce the outcome measures. Factor analysis using the five subscales of the TCRS and the two subscales of the STRS revealed two distinct factors: Social Competence and Social Problems. Social Competence consisted of ratings on assertiveness, task orientation, and social skills from the TCRS and teacher-rated closeness from the STRS. The Social Competence composite had strong reliability in both fall and spring (αs = .82 and .81, respectively). Social Problems consisted of ratings on frustration tolerance (reversed) and conduct problems from the TCRS and teacher-rated conflict from the STRS. The Social Problems composite had strong reliability in both fall and spring (αs = .86 and .85, respectively).

Analyses

The data structure included children nested within each of the 233 prekindergarten classrooms, and we conducted two-level hierarchical linear modeling (Raudenbush & Bryk, 2002) to account for the nested nature of the data. All analyses were conducted using the MIXED procedure in SAS (Singer, 1998), and missing data were imputed using SAS. Twenty imputed data sets were created, and the results were merged across these data sets. The results were also analyzed using nonimputed data, and the results were very similar.

To address the first research question, we examined the extent to which children's exposure to PATHS (PATHS-High or PATHS-Low) was associated with increases in teacher-reported social competence or decreases in teacher-reported social problems during the prekindergarten year compared to children in the control group who were not exposed to PATHS. These analyses controlled for child (Level 1) and teacher and classroom (Level 2) characteristics.

To answer the second research question we used data from only teachers and children in the PATHS-High and PATHS-Low conditions first to examine whether there were differences in outcomes for the children in these two conditions and then to examine the extent to which the frequency and fidelity of teachers' use of the Preschool PATHS curriculum and MTP website was associated with gains in teacher-reported social skills during prekindergarten. A similar analytic strategy to the one described previously was followed for these analyses.

RESULTS

Descriptive Data

Table 2 presents descriptive data on children's social competence and social problems in the fall and spring of the prekindergarten year. In general children were rated as fairly socially competent, with relatively low levels of social problems. It should not be surprising that these

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two elements of children's social behavior were moderately associated: Children who were rated by teachers as more socially competent were also rated as having fewer social problems in both the fall and spring ($r = -0.52$, $p < .001$; and $r = -0.53$, $p < .001$, respectively). Teacher ratings of social competence and problems were also highly stable: Correlations between fall and spring social competence were high ($r = .70$, $p < .001$), as were correlations between fall and spring social problems ($r = 0.73$, $p < .001$).

Prekindergarten Social Outcomes as a Function of Exposure to Preschool PATHS

The first research question examined the extent to which children who were exposed to PATHS had greater teacher-reported social development across the prekindergarten year than did children in the control condition. Results of the two-level hierarchical linear model are presented in Table 3, which includes unstandardized coefficients and standard errors that identify the magnitudes and directions of the associations between each Level 1 and Level 2 predictor and the seven measures of social development.

TABLE 3
Associations Between Teachers' Participation in MyTeachingPartner (PATHS-Low and PATHS-High vs. Control) and Children's Social Development During Prekindergarten

	Social competence		*Social problems*	
Variable	*B*	*SE*	*B*	*SE*
Intercept	3.85	.02	2.06	.02
Fall outcome	0.63***	.02	0.72***	.02
PATHS	0.16**	.05	–0.07	.05
Covariates				
Child characteristics				
Maternal education	0.01	.01	–0.00	.01
Age	0.19**	.06	–0.10	.06
Boy	–0.10**	.03	0.07	.04
Non-English	–0.08	.13	–0.03	.14
Black	–0.05	.04	0.06	.04
Hispanic	0.13*	.07	–0.07	.07
Other	0.13*	.06	–0.12	.07
Days absent	–0.01***	.00	0.00	.00
Teacher characteristics				
Advanced degree	0.13**	.04	–0.02	.05
Years teaching	0.00	.00	0.00	.00
Authoritarian beliefs	–0.04	.04	0.00	.04
Self-efficacy beliefs	0.12**	.04	–0.09	.04
Classroom characteristics				
No. of students	0.00	.01	–0.01	.01
Proportion boys	0.03	.16	0.03	.18
Proportion LEP	–0.05	.14	0.22	.16
Proportion poor	–0.10	.11	0.14	.11

Note. PATHS = Promoting Alternative Thinking Strategies; LEP = limited English proficient.
*$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

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After controlling for child, teacher, and classroom covariates, we found that children in PATHS classrooms were reported by teachers to have greater growth in social competence than children in the control classrooms ($d = .22$). There were no differences in teachers' ratings of children's social problem behaviors.

Prekindergarten Social Outcomes as a Function of the Use of Curricular and Professional Development Resources

The second analysis examined the extent to which there were differences in teacher-reported social competence or problems for children in classrooms in which teachers received

TABLE 4
Associations Between Teachers' Use of PATHS and the MTP Website and Children's Social Development During Prekindergarten

	Social competence		*Social problems*	
Variable	*B*	*SE*	*B*	*SE*
Intercept	3.88	.02	2.04	.02
Fall outcome	0.62***	.03	0.72***	.03
Intervention components				
PATHS-High support	–0.04	.06	–0.00	.05
Frequency of PATHS lessons	0.09***	.03	–0.04	.03
PATHS implementation quality	–0.10	.10	–0.06	.11
Hours on MTP website	0.12*	.05	–0.07	.06
Covariates				
Child characteristics				
Maternal education	0.02*	.01	–0.01	.01
Age	0.20**	.07	–0.06	.07
Boy	–0.11*	.04	0.09*	.04
Non-English	–0.08	.15	–0.07	.17
Black	–0.05	.04	0.06	.05
Hispanic	0.08	.07	–0.07	.09
Other	0.06	.07	–0.13	.08
Days absent	–0.01***	.00	0.00	.00
Teacher characteristics				
Advanced degree	0.12*	.05	–0.01	.06
Years teaching	0.00	.00	0.00	.00
Authoritarian beliefs	–0.05	.04	–0.01	.04
Self-efficacy beliefs	0.17**	.05	–0.13*	.05
Classroom characteristics				
No. of students	0.00	.01	–0.00	.01
Proportion boys	–0.11	.19	0.09	.21
Proportion LEP	0.03	.17	0.18	.19
Proportion poor	–0.15	.11	0.20	.13

Note. PATHS = Promoting Alternative Thinking Strategies; MTP = MyTeachingPartner; LEP = limited English proficient.
*$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

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consultation supports as compared to only Web supports for implementation of the PATHS curriculum. These analyses were conducted only within the two groups that had access to the Preschool PATHS curriculum (the PATHS-High and PATHS-Low conditions). Results of this two-level hierarchical linear model are presented in Table 4, which includes unstandardized coefficients and standard errors that identify the magnitudes and directions of the associations between each Level 1 and Level 2 predictor and spring teacher ratings of children's social competence and social problems. Teachers in the PATHS-High and PATHS-Low conditions reported similar levels of children's social competence and problems at the end of the prekindergarten year (see Table 4). This model also examined the extent to which teachers' use of intervention resources, namely their self-reported frequency of use of the Preschool PATHS curriculum, observed adherence to PATHS lessons, and observed usage of the MTP website usage, was associated with differences in teacher-reported social development across the prekindergarten year. Teachers who reported using the PATHS lessons more often also reported greater increases in children's social competence from fall to spring of the prekindergarten year. In addition, teachers who spent more time on the MTP website reported greater increases in teacher-reported social competence among children in their classrooms than did teachers who spent less time on the website. There were no associations between implementation quality and children's social competence. None of the implementation measures were associated with decreases in children's social problems.

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DISCUSSION

Curricular Supports for Social Development in Prekindergarten

This study, combined with other recent research conducted by the Preschool PATHS developers (Bierman, Domitrovich, et al., 2008; Domitrovich et al., 2007), provides support for the efficacy of the Preschool PATHS curriculum. It is important to note that this is the first independent examination of the Preschool PATHS curriculum. Children in classrooms that implemented Preschool PATHS were reported by teachers to have increased levels of social competence (assertiveness, task orientation, peer social skills, and closeness with teachers) over the course of the prekindergarten year compared to children in classrooms that did not implement Preschool PATHS. However, teachers who implemented PATHS did not report more significant reductions in social problems than teachers who did not implement PATHS. Additional evidence regarding the potential impact of Preschool PATHS comes from analyses that examined the association between implementation fidelity and child outcomes. Among those who used Preschool PATHS, teachers who reported using the Preschool PATHS curriculum more often reported greater gains in some areas of children's social competence. Effect sizes for dosage were small to moderate and consistent with previous research on Preschool PATHS. It is important to note that effect sizes were based on teacher-reported social competencies in spring, with fall scores controlled. Given the high level of stability of these types of ratings ($rs = .70$ in this sample) prediction to changes in scores is noteworthy. Nevertheless, there is a clear need to examine the extent to which the small to moderate effects on some aspects of prekindergarten children's social competence observed here and in many other studies of universal prevention curricula may lead to longer term positive outcomes.

In contrast to a recent trial that showed effects primarily on children's social cognition skills (Bierman et al., 2008), such as emotion recognition and responsible decision making, the current trial showed effects on the more distal target of children's social competence—assessed here through teachers' reports of assertiveness, peer social skills, task orientation, and teacher–child relational closeness. It is these social competencies that kindergarten teachers consistently rate as most critical to a child's successful transition to school (Rimm-Kaufman et al., 2000) and that predict children's long-term social and academic success in school (Birch & Ladd, 1998; Hamre et al., 2001; McClelland, Acock, & Morrison, 2006).

As with previous trials of Preschool PATHS specifically (Bierman, Nix, et al., 2008; Domitrovich et al., 2007), and many universal prevention curricula in general, children's exposure to the curricula was associated with gains in social competence but not reductions in social problems. Bierman and Welsh (1997) suggested that this is a consequence of the low base rates of behavior problems in classrooms and the fact that these universal programs are not as intensive as programs that more consistently demonstrate efficacy for reducing behavior problems. Low base rates of behavior problems were certainly an issue in the current study, with teachers reporting that the average child had conduct problems that were rated 1.5 on a 5-point scale (between 1 = not a problem and 2 = a mild problem). The use of a more targeted child sampling strategy that assessed children with the most severe problem behaviors in the beginning of the year might allow for the detection of these potential effects. For example, research on the elementary version of PATHS has suggested that exposure to the intervention among a targeted group of special education children produced sustained reductions in children's externalizing behaviors (Kam, Greenberg, & Kusche, 2004).

Preschool PATHS is intended to be a universal prevention program that focuses on enhancing the self-control and problem-solving capacities of all children, but it does not directly target children with severe disruptive behavior. In contrast, programs such as the Chicago School Readiness Project (Raver et al., 2009), that provide both universal and targeted classroom-based supports to teachers and children, have been shown to reduce problem behaviors. The Chicago School Readiness Project provided training, coaching, and stress reduction workshops for teachers, as well as direct services for children with the most significant problem behaviors. It may be that this provision of direct services for children is a necessary component of programs that will be successful in reducing problem behaviors.

There was also not evidence to support that contention that teachers who adhered more closely to PATHS lessons would report more positive social competence development among their children. As discussed by O'Donnell (2008) in her review of fidelity of implementation in K–12 curricular research, very few studies assess adherence, and when they do many fail to find associations between adherence and outcomes (e.g., Spoth, Guyll, Trudeau, & Goldberg-Lillehoj, 2002). In the present study, the lack of association may be due in part to the lack of sensitivity of the adherence measure, which only captured relatively gross measures of adherence, such as whether teachers followed the lesson script and completed all aspects of the lesson.

Implementation Supports for Teachers: The MTP Model

This study also examined the extent to which two different forms of support for teachers' implementation of PATHS were associated with children's social outcomes. The resources

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provided in both support conditions—exposure to Web-based curricular supports in the form of video examples of high-quality teaching practices (Pianta, Mashburn, et al., 2008)—were associated with gains in children's teacher-reported social competence.

These associations are notable, particularly given the relatively low-intensity (and low-cost) nature of this form of teacher support. We know of no other studies that have connected teachers' use of Web-based implementation supports to child outcomes. Although the overall amount of time that teachers spent on this website was quite small, the Web resources were designed to provide real-time support to teachers in a very efficient manner. Teachers were able to go to the MTP website and pull up the page that provided the activity script for a particular lesson. On that page was a link to a list of short videos, 1 to 3 min each, that demonstrated teachers effectively implementing that particular lesson along with text highlighting the particular components of effective implementation. This study provides preliminary evidence that these types of brief, real-time supports for teachers may have positive consequences for the children in their classrooms.

It is important to note, however, that design limitations prevent any strong conclusions about the causal nature of these findings. It is quite possible that teachers who used these resources differed in significant ways from other teachers and that these unmeasured characteristics may explain the differences in child outcomes. Based on previous work (Downer, Locasale-Crouch, et al., 2009). we know that teachers with less experience and those with higher self-efficacy beliefs used the MTP video resources more often. These variables were thus included as controls in the current models. Nevertheless, unmeasured variables may explain this association.

There was no evidence that the more intensive form of support—teacher consultation—provided additional benefits to students above and beyond teachers' access to the website. This is in contrast to other data from this study that demonstrate greater gains in children's literacy and language development for classrooms in which teachers were provided with the consultation support compared to classrooms in which teachers received only the Web supports (Downer et al., in press; Mashburn et al., 2010). The potential effects of the MTP consultation supports on children's social competence may have been limited in part by the dual focus of this project on social and academic development. Although this dual focus is an important strength of the MTP program, reflecting the wealth of data on the interdependent nature of children's social and academic development (Arnold, 1997; Ayllon & Roberts, 1974; Miles & Stipek, 2006), it also may have diffused the potential impact of the teacher supports. For example, MTP consultation cycles (repeated every 2 weeks) typically alternated between focusing on implementation of Preschool PATHS and implementation of the MTP-LL activities. The increasing national focus on improving young children's literacy and language skills and the fact that the MTP-LL activities were to be completed every day rather than once a week like PATHS may have biased teachers and consultants toward a focus on these activities.

Limitations

In addition to some of the limitations noted previously, one major limitation of the current work is that all outcome measures were based on teacher report—there were no direct assessments or observations of children's behavior in this study. These changes likely reflect both real changes in children's social functioning as well as teachers' views of children (Konold & Pianta,

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2007; Mashburn, Hamre, Downer, & Pianta, 2007). Although we are of course interested in ''real'' changes in children's functioning, there is strong evidence to support the validity of teachers' reports of children social competence. Teacher ratings of these skills predict unique variance in children's long-term success in school and in life (Entwisle & Hayduk, 1988; Hamre & Pianta, 2005), and are one important indicator of functioning. Teachers' subjective views on children are important determinants of the ways in which teachers interact with them in the classroom (Dobbs & Arnold, 2009). Another reason to be concerned about teacher reports is the potential that teachers who received the intervention were more inclined to report positive outcomes for children, simply because they were receiving the intervention. However, if this were true we would expect to see evidence for this bias across all outcome measures. Thus, our lack of findings for decreases in problem behavior suggests that the improvements in social functioning reflect more than a self-fulfilling response pattern for participating teachers. Furthermore, a parallel study that combined Preschool PATHS with literacy and language curricular supports and used random assignment did not find differences in teacher-reported social competencies (Bierman, Domitrovich, et al., 2008), suggesting that teacher response bias is not inherent in this type of work. Nevertheless, future work should include direct assessments and observations of children's social competence as well as reports from other adults (e.g., parents or kindergarten teachers).

Furthermore, although this study used a randomized control methodology, the intervention and control groups differed in multiple ways, limiting our ability to clearly demarcate the exact causal mechanisms that may explain the significant differences in children's social functioning observed across groups. Consistent with other recent research (e.g., Hill, Brooks-Gunn, & Waldfogel, 2003; Raver et al., 2009) we used a regression adjustment approach to account for the heterogeneity in a variety of classroom- and child-level characteristics. However, other unmeasured characteristics may have influenced the current findings. It is notable that the biggest differences in classroom composition and child characteristics were between the PATHS-Low classrooms and the other two conditions; classrooms, teachers, and children in the PATHS-High and control groups appeared very similar on most measured characteristics. Thus, unmeasured differences between these groups likely had less of an influence on outcomes than they would have if the control group had differed significantly from both intervention groups.

A final limitation worth noting is that teachers self-reported their utilization rates of the Preschool PATHS activities retroactively, and these reports could have been influenced by social desirability and inaccurate recollections. Other work has suggested that teacher-reported and observed implementation are not well aligned (Hamre et al., 2010). Ideally, time spent implementing these activities would be measured more objectively, through independent observation or through daily or weekly logs. This project did attempt to use biweekly logs, but teacher compliance with this aspect of the data collection was relatively low. However, among teachers who did complete these logs relatively often, there was a moderate correlation with their year-end reports of frequency of use of PATHS, providing some evidence of the validity of this teacher-reported measure.

Implications

This study provides further evidence that universal curricula focused on enhancing children's social and emotional competencies may be effective at increasing the types of classroom

behaviors teachers feel are most important to long-term school success—assertiveness, frustration tolerance, and task orientation. Yet Elias, Bruene-Butler, Blum, and Schuyler (2000) suggest that principals, teachers, and other school personnel have questions and concerns about why these social and emotional learning (SEL) curricula are necessary and whether teaching SEL material will take time away from academic instruction. This is typically less of a concern in early childhood contexts, but as early childhood classrooms become a part of elementary schools and the K–12 system, these issues are likely to arise. It is important for the field to continue to document the ways in which investments in SEL curricula have real and meaningful effects on children's social and academic performance.

Teacher-educators and policymakers recognize that ongoing training and support for high-quality implementation of curricula can be a vital component of systems that ensure the value of education experiences, particularly for students at risk for early school failure (Meisels, 2007; Pew Charitable Trusts, 2007; Pianta et al., 2005). Although many have discussed the potential for the Web to offer inexpensive and effective professional development support for teachers (Ching, 2006; Huert, Goldenberg, & Keisch, 2005; MaKinster, Barab, Harwood, & Andersen, 2006), few empirical studies support this contention. The finding here that teachers who spent more time watching effective examples of teaching practice on the MTP website reported gains in children's social competence suggests that further investments in this type of professional development support are warranted. Although teachers overwhelmingly reported that the MTP Web-based resources were useful to them (Downer et al., 2009), in general teachers did not spend much time on the website.

It will be important to learn more about why some teachers used these resources more frequently than did others. Researchers have noted the challenges of engaging teachers in video resources (Kim & Hannafin, 2008). Although the MTP website was developed based on principles of effective Web design (Kinzie et al., 2006), there are clearly ways in which these resources could be more engaging for teachers.

Conclusion

SEL curricula and professional development resources designed to enhance the effective implementation of these curricula are one important factor in helping young children in early childhood programs develop social competencies. These analyses suggest that the Preschool PATHS curriculum is among one of the few early childhood SEL curricula with consistent evidence of positive effects. However, there is a need to find the most effective and efficient ways to support teachers' high-quality implementation of Preschool PATHS and other curricula. The MTP professional development supports offer one innovative approach with initial evidence for effectiveness in changing teacher behavior (Pianta et al., 2008) and enhancing children's social development. Continued work on the best ways to integrate technology into the professional development of teachers, both in service and preservice, is likely to enhance the accessibility and quality of supports for teachers.

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