THE ROLE OF TEACHERS' POSITIVE ATTITUDE TOWARD EMOTIONS

IN IMPLEMENTATION OF A SOCIAL-EMOTIONAL INTERVENTION

A Dissertation

by

MICHELLE THERESE BUSS

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2007

Major Subject: School Psychology

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Approved by:

Chair of Committee,	Jan Hughes
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ABSTRACT

The Role of Teachers' Positive Attitude toward Emotions in Implementation of a

Social-Emotional Intervention. (August 2007)

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Chair of Advisory Committee: Dr. Jan Hughes

This study investigates the role of elementary teachers' attitude toward teaching emotions in their implementation of the Promoting Alternative THinking Skills (PATHS) curriculum. The measure of teachers' attitudes, the Positive Attitude Toward Teaching Emotions (PATE) scale, was developed for this study and was administered to 159 teachers in kindergarten through fourth grades prior to their implementation of the PATHS curriculum. The PATE evidenced adequate internal consistency (.79). To account for the dependency among the observations (teachers) within clusters (grade/school), correlational analyses were conducted using the Cluster feature in Mplus. Teachers' scores at pre-test on personal and general teaching efficacy predicted PATE scores. PATE scores predicted several indices of teacher implementation of the PATHS

program, including observed adherence to the lessons, consultant ratings of

teacher engagement in PATHS, and teacher evaluation of PATHS. PATE scores

did not predict number of lessons taught or the observed quality of lesson

implementation.

Findings provide evidence of the construct validity of the PATE and

suggest that congruence between teachers' attitudes and beliefs and the

curriculum they are responsible for executing are pivotal components in the

eventual success or failure of program implementation.

To my mother and father

ACKNOWLEDGEMENTS

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CHAPTER I

INTRODUCTION AND PROBLEM

Social and emotional competencies are important to children's life

success. Some examples of social and emotional competencies include the

ability to recognize and regulate emotions, engage in healthy interactions with

others, and make responsible decisions (Elias et al., 1997). For the past several

decades increased attention has been paid to social and emotional competencies,

both in research circles and in the lay community. This is evidenced in books

like Daniel Goleman's *Emotional Intelligence: Why It Can Matter More Than IQ*

(1995) and books that guide parents in how to promote social and emotional

competencies in their children, such as John Gottman's *Raising an Emotionally*

Intelligent Child (with Declaire, J. & Goleman, D., 1997). This increased focus is

also evident in federal panels such as the National Education Goals Panel

(NEGP, 1995) that have specifically addressed social and emotional

competencies as important to children's school readiness.

The spotlight on social and emotional competencies is in recognition of

the fact that many children face multiple risks to successful development, such

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This dissertation follows the style of *The Journal of School Psychology.*

as one parent families, inconsistent or nonexistent parenting, violent

neighborhoods, and poverty. Given the frequency of such risks, and the

evidence that social and emotional competencies buffer children from these risks

(Zins, Bloodworth, Weissberg & Walberg, 2004), researchers and educators have

suggested that school-wide prevention programs that teach these competencies

are much needed in schools today.

Association between Social and Emotional Competencies and School Achievement

Several studies indicate a link between social and emotional competencies

and academic-related outcomes (Cairns, Cairns & Neckerman, 1989; Felner,

Brand, Adan, Mulhall, Flowers, Sartain, & Dubois, 1993; Wilson, Gottfredson, &

Najaka, 2001). Additionally, low levels of social and emotional functioning have

been linked to mental health problems (Bye & Jussim, 1993), whereas achieving

adequate social and emotional competencies results in improved mental health

outcomes (Elias, Gara, Schuyler, Branden-Muller, & Sayette, 1991; Farrington,

1994; Fergusson & Horwood, 1995; Greenberg & Kusche, 1998; Hawkins,

Catalano, Kosterman, Abbott, & Hill, 1999; Moffitt 1990, Pulkkinen & Tremblay,

1992; Solomon, Battistich, Watson, Schaps, & Lewis, 2000 Wilson, Gottfredson, &

Najaka, 2001). Together, studies suggest the attainment of social and emotional

competencies adds uniquely to children's positive developmental outcomes.

Effectiveness of Teacher-delivered Programs to Enhance Social and Emotional Competencies

Knowing that social and emotional competencies add uniquely to children's lives, researchers have examined whether teacher-delivered social and emotional programs are effective in increasing these competencies. The evidence for an effect of social and emotional competencies on achievement is mixed. Some studies report that teacher-delivered social-emotional competence (SEC) programs result in achievement gains (Hawkins, Catalano, Kosterman, Abbot, & Hill, 1999; Hawkins, Guo, Hill, Battin-Pearson, & Abbott, 2001; Johnson& Johnson, 1989). Other studies have indicated no gains in achievement resulting from SEC programs, compared to control groups (Battistich, Solomon, Watson, Solomon, & Schaps, 1989; Solomon, Watson, Dehucchi, Schaps, & Battistich, 1988). Given the concerns about the time that social and emotional instruction takes away from academic instruction, it is important to note that studies reporting negative effects of social and emotional instruction on achievement are virtually nonexistent.

Research also demonstrates the relationship between the level of implementation of SEC programs and a variety of positive student outcomes, including increases in achievement, on-task behaviors, and school completion

rates (Conduct Problems Prevention Research Group, 1992; Greenberg & Kusche, 1993; Wilson, Gottfredson, & Najaka, 2001). Non-academic gains include increases in pro-social behaviors and problem solving skills (Battistich, Solomon, Watson, Solomon, & Schaps, 1989; Solomon, Watson, Delucchi, Schaps, & Battisitch, 1988; Battistich, Watson, Solomon, Schaps, & Solomon, 1991; Greenberg & Kusche, 1993). Moreover, SEC programs show evidence of sustained outcomes over time (Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999). PATHS (Promoting Alternative THinking Strategies, Greenberg & Kusche, 1993), a program implemented by classroom teachers that attempts to increase social and emotional competencies through problem solving and emotional management, found significant decreases in externalizing and internalizing problems that were sustained two years after the end of the intervention (Kam, Greenberg, & Kusche, 2004). Similarly, Elias, Gara, Schuyler, and Branden-Muller (1991) found those children who received two years of a curriculum that teaches social decision making and problem solving in elementary school expressed higher levels of positive pro-social behaviors and lower levels of antisocial, self destructive and social disorders than controls, measured four to six years after the initial intervention.

Implementation Predicts Outcomes

Fidelity of implementation "refers to the degree to which teachers and other program providers implement programs *as intended by the program developers* (italics are authors*)*"(Dusenbury, Brannigan, Falco, & Hansen, 2003, p. 240). Dane and Schneider (1998) identify five ways in which fidelity of implementation has been measured: "(1) adherence to the program, (2) dose (the amount of the program delivered), (3) quality of program delivery, (4) participant responsiveness, and (5) program differentiation (whether or not critical features that distinguish the program are present)."

Considerable evidence on innovative programming in school settings confirms that the attainment of positive outcomes depends on the fidelity of implementation (Fashola & Slavin, 1998; Botvin et al., 1990, Battistich et al., 1996; Haynes, 1998). For example, the Child Development Project, a program focusing on school ecology to create a caring school community, gathered implementation fidelity data through teacher observation and teacher self-report for four years (Watson, Battistich, & Solomon 1997; Battistich, Schaps, Watson, & Solomon, 1996). They found that schools varied in their level of implementation and that high implementation schools increased in students' sense of school as a community and intrinsic pro-social motivation, while non-program schools

declined on these variables. They also found that students at high implementation schools were less likely to drink alcohol and use marijuana than those in lower implementing schools. Similarly, a study of three school districts implementing the Comer School Development program, another whole school intervention program, found higher implementing schools tended to have better student outcomes, such as less absenteeism and higher retention rates (Haynes, Emmons, & Woodruff, 1998). Furthermore, they found that lower implementing schools tended to have lower student achievements.

Despite the importance of implementation fidelity to outcomes, researchers often pay too little attention to assessing it. Dane and Schneider (1998) reviewed 162 peer-reviewed prevention studies from 1980 to 1994 and found that only 24% evaluated implementation fidelity, and only a third of those considered the impact of fidelity on outcomes. A meta-analysis conducted by Domitrovich and Greenberg (2000) which investigated 34 effective programs addressing social and emotional competencies in schools, found that approximately 68% of the programs used no gauge of implementation fidelity. Domitrovich and Greenberg (2000) suggest a lack of measurement of dosage and fidelity of implementation may lead to incorrect conclusions regarding program efficacy.

In a randomized clinical trial of the PATHS (Promoting Alternative THinking Skills) program, implementation fidelity was assessed through the number of lessons delivered (dosage) and through observations of observed implementation quality, including quality of teaching PATHS concepts, modeling PATHS concepts, quality of classroom management, and openness to consultation (Conduct Problem Prevention Research group,1999b). Although no effects for the number of lessons taught were found, teacher skill in program implementation and classroom management predicted classroom differences in positive outcomes. Similarly, Abbott, O'Donnell, Hawkins, Hill, Kosterman, and Catalano (1998) found higher levels of teacher implementation of a program designed to increase teachers' interactive style predicted greater opportunities for student involvement, actual student involvement, higher student bonding to school, and higher achievement, when controlling for baseline levels.

Finally, Elias, Gara, Schuyler, and Branden-Muller (1991) examined program implementation components of a social decision making and problem solving program. They examined cohorts with differing levels of fidelity in relation to the outcomes they obtained. Girls (but not boys) in high implementation groups measured in high school (several years after receiving the intervention) improved more on behavioral competence, self efficacy, and

on-the-job performance. Similarly, in a program examining a school-based social and emotional skills curriculum, Mokrue, Elias, and Bry (2005) found students in the high dosage group received higher ratings on social skills and were rated as having fewer problem behaviors, compared to their peers in the lower dosage groups, after controlling for pre-assessment scores.

Factors Affecting Implementation

Due to the importance of implementation fidelity to outcomes of school-based prevention programs, it is important to develop an understanding of the components that influence implementation fidelity. (Elias, Zins, Graczyk, & Weissberg, 2003). Although preliminary research from social and emotional programs has addressed this area of concern, research from health and drug prevention programs also provides clues to what factors may influence implementation. Factors at the school, classroom, and teacher level have been linked to implementation fidelity

School level factors. Principal leadership and support are essential to successful changes within a school (Fullan, 1991, 1997; Levine & Lezotte, 1990; Sarason, 1982, Stoll, 1999). A supportive principal helps to initiate change, ensure accountability for change, and create effective collaborations with professionals outside their area of expertise (Sarason, 1982). For all types of

program adoption in schools, work relationships, including those between the teacher and the principal, are important factors in implementation outcomes (Fullan, 1998; McLaughlin, 1991, 1998, Stoll, 1999). For example, a substance abuse and prevention program analysis of 1905 teachers (Ringwalt et al., 2003) found higher levels of perceived principal support predicted fidelity of implementation.

School climate is often shaped by administration leadership and influences teacher implementation of innovations in schools. In a study by Kallestad and Olweus (2003), school level factors that predicted implementation were a positive teacher-school relationship and administrative support of teachers, which both help shape a sense of climate. Research suggests that people in school leadership positions (administrators) are key players in developing and shaping a sense of school climate (Sarason, 1982).

Finally, teacher attrition may interfere with sustaining programs and may also influence climate. High attrition impedes the ability to consult and discuss innovative programs with other teachers and training efforts. Therefore it may affect climate through creating a sense of low morality and burnout (Cherniss & Adler, 2000). In some urban school districts teacher attrition approaches 50% among teachers in their first three years (Hatch, 2000).

Classroom and teacher factors. "Psychoeducational innovations are predominantly dependent on human operators, rather than technologies, for their implementation " (Elias, Zins, Graczyk, & Weissberg, 2003, p. 304). According to this perspective, teacher-related factors are relevant to program implementation efforts. Teaching practices are very much influenced by teachers' background and experiences (Baca & Cervantes, 1989; Cuban, 1984). Among teacher factors that influence implementation are motivation, efficacy, and personal attitudes and beliefs (Ghaith & Yaghi, 1997; Hoy & Woolfolk, 1993; McLaughlin, 1990). For example, a teacher who was bullied as a child may be more sensitive to bullying in the classroom and more likely to respond to it. In contrast, a teacher who was a bully and not a victim may not be as sensitive to bullying and may believe that children should handle these situations on their own. Therefore the teachers' attitudes and beliefs that are influenced by experience shape their actions and behaviors in their classrooms.

Allowing teachers to make decisions about the programs they implement is referred to as teacher "buy in" (Turnball, 2002). It is commonly believed that teachers who take part in the process of program adoption will be more invested and therefore more likely to implement an innovative program (New American Schools, 1998). In support of this view, Viig and Wold (2005) report that

programs that are most successful involve teachers who have a role in the

process of development and have ample support in program implementation.

Finally, in a national study examining 40 schools involved in program reform,

Bodilly (1998) found that those schools that were "forced" (not allowed choice in

program adoption) into a program showed lower levels of implementation.

Teacher control over classroom decisions has also been associated with

more faithful implementation (Hargreaves, 1992; Kirby, Stringfield, Teddlie, &

Wimpelberg, 1992; Lagerweij & Voogt, 1990; Nias, 1990; Ringwalt et al., 2003),

suggesting higher degrees of teacher discretion may result in increased

implementation success. Turnball (2002) found that training and support from

developers and staff, administrator buy-in, and teacher perceptions of their

control over implementation in their classrooms were stronger predictors of

implementation than teacher buy-in in the initial decision to adopt the program.

Furthermore, Stringfield, Millsap, and Herman (1997) studied program adoption

in low socioeconomic districts and found that when principals and staff together

considered program options and jointly agreed on a program, implementation

success was more likely.

Teacher "ownership" of a program can have both positive and negative

effects, because there is an inherent tension between high teacher ownership of a

program and fidelity to the program *as intended by the program developers*. High

levels of implementation adaptation, such as locally teacher-modified programs,

may result in a divergence from the authors' originally prescribed content;

consequently, the program may no longer be the same intervention (Paulson,

Post, Herinckx & Risser, 2002). Thus teacher adaptation of programs makes it

difficult to reach clear conclusions as to what program components may be

essential to program effectiveness.

Teacher motivation is likely to influence implementation and is

associated with training, experience and expectancy of success. Abrami,

Poulsen, and Chambers (2004) report teachers' expectancy of success is

associated with the motivation to implement educational innovation. Similarly,

Rimm-Kaufman and Sawyer (2004) report a relationship between teacher self-

efficacy and implementation regarding a program that teaches classroom

practices that promote academic and social learning, including problem solving

in the classroom. These findings suggest an association between teacher self-

efficacy and implementation of the Responsive Classroom approach; however

directionality was not determined in this study. It is possible that a third

unmeasured variable, such as teacher classroom management skills, accounted

for the association.

Adequate training of teachers has also been linked to implementation of innovative programs in schools (Wang, Vaughan, & Dytman, 1985; Harnett & Dadds, 2004). Often training consists of a single workshop with no on-going support. Therefore, it is probable that teachers who lack appropriate training will not have the knowledge and skills or the personal self-efficacy to implement a program with high fidelity.

Programs have little chance of success unless the teachers' beliefs match the inherent assumptions of the innovation (Hargreaves, 2000). Furthermore, teachers who rate innovations congruent with their current practices find new innovations less difficult to implement, highly important, and requiring less work (Doyle & Ponder, 1977; Guskey, 1988; Mohlman, Coladarci, & Gage, 1982; Sparks, 1983). Related mental health research involving the adoption of Evidence Based Therapies (EBT's) suggests adoption of innovations is influenced by congruence of the program with current practice, attitudes, and beliefs (Garland et al., 2003).

It is reasonable to believe that teachers will respond more positively emotionally to programs they perceive as congruent with their values and beliefs. In turn, teachers' emotional reactions to a program are likely to affect

their level of enthusiasm for and commitment to the innovation. Hargreaves (2000) suggests,

>   As emotional practitioners, teachers can make classrooms exciting or dull and leaders can turn colleagues into risk-takers or cynics. Teaching, learning and leading may not be solely emotional practices, but they are always irretrievably emotional in character, in a good way or bad way, by design or default. p. 812

Although experience is thought to mitigate problems with implementation, Guskey (1988) has found that experience was not associated with implementation of mastery teaching techniques, whereas teacher general self efficacy for the program was associated with implementation. Teacher efficacy involves attitudes and beliefs a teacher holds concerning their capacity to bring about change in their classroom (Smylie, 1990). Moreover, teacher efficacy beliefs have been linked to student outcomes and have been studied for more than two decades (Brophy, 1979; Brookover & Lezotte, 1979; Cooper & Baron, 1977). These studies often focus on locus of control which has been linked to outcomes (Murray & Staebler, 1974, Rose, Powell, & Penick, 1978; Phares, 1976; Rose & Medway, 1981). In other words, when teachers feel control over their environment, they are more likely to be successful. Importantly, Phares

(1976) has recommended that locus of control should be measured for specific situations and populations. One might surmise it would be more appropriate to identify teachers' thoughts and beliefs related specifically to the program that they are implementing, rather than to their general teaching self efficacy.

Few studies have examined teacher attitudes as a predictor of implementation fidelity of SEC programs, and these few studies have been restricted to general self efficacy rather than to attitudes specific to the program content or philosophy. For example, Ransford, Greenberg, Small, and Domitrovich (2006) reported that teacher self-efficacy predicted teachers' reports of how well they were able to generalize PATHS concepts to classroom events.

We know from previous research that under certain conditions, attitudes predict behaviors (Caildini, Petty, & Cacioppo, 1981; Cooper & Croyle, 1984 Kraus, 1995; Schuman & Johnson, 1976). In particular, health behavior research suggests measurements of specific attitudes that are compatible with the behavior in question result in stronger associations than measurement of general attitudes (Ajzen & Fishbein, 1975; Ajzen & Fishbein, 1977; Ajzen & Sexton, 1999). Additionally, if the individual has control over the behavior, if the attitude measure corresponds to the behavior, and if the behavior and attitude are measured relative to the same time sequence, attitude-behavior consistency is

more likely (Ajzen 1991; Eagly & Chaiken, 1997). Also, attitudes formed from high amounts of knowledge predict attitude-relevant behaviors more than attitudes formed with a low amount of knowledge (Kallgren and Wood, 1986). Therefore, more knowledge may lead to more stable attitudes that are resistant to change (Eagly & Chaiken, 1993) and "increased knowledge might be related to enhanced attitude-behavior consistency because of greater likelihood of attitude activation at the time of the behavior" (Fabrigar, Petty, Smith, & Crites, 2006). In essence, more knowledge results in easier access to the attitude which, in turn, may result in a higher likelihood to perform the behavior associated with it.

A study by Kallestad and Olweus (2003) illustrates the relationship between program-specific attitudes and teachers' implementation of an innovative program. This study looked at 42 primary and lower secondary high schools with approximately 2500 students over a 2 year period which implemented the Olweus Bullying Prevention Program. Positive outcomes included reductions in reports of bullying and victimization (by 50% or more), reductions in general antisocial behavior, and improvements in both school climate and attitudes toward school-work when compared to control groups. Implementation fidelity was measured by teacher self-report survey of the

amount of contact with students and parents of students involved. This score was combined with 7 components of implementation to form a total intervention implementation composite score. The second measure utilized in this study examined dosage through the number of individual contacts with parents and students. Five factors explained 53.4 % of the within-school variance in degree of implementation of the composite measure and the 33.6% of the individual contact measure. Specifically, findings indicated that both perceived staff importance of bullying in their school and reading program information predicted higher levels of implementation. Furthermore, those teachers who perceived the bullying as a problem in their classrooms predicted higher levels of implementation. Finally, those teachers who had been victimized as children and those teachers who responded to bullying more emotionally scored higher on measures of implementation. These findings suggest that teacher attitudes and beliefs, closely associated with the program to be implemented, were important predictors of program implementation.

Attitudes and Beliefs about Emotions

Current research regarding implementation has not included a measure of teachers' attitudes toward children's emotions and the teachers' roles in emotional problem solving. Furthermore, current research includes several

efficacy studies conducted under controlled conditions; however, few

effectiveness studies in which implementation may be more impacted by the

day to day realities faced by districts (time, budget, competing programs,

academic state-mandated achievement testing) have been conducted. Therefore,

the purpose of this study is to report on the role of elementary teachers' attitudes

toward teaching emotions in regard to the implementation of the PATHS

curriculum under the conditions more similar to those under which SEL

programs are implemented. The measure, titled Positive Attitude Toward

Teaching Emotions (PATE) was adapted from an informal parent "self quiz" of

their beliefs about emotions developed by John Gottman and colleagues (1997).

The influence of parent emotional style toward children's social and emotional

competencies is well-documented (Gottman, Katz & Hooven, 1997). It is

reasonable to assume that teachers hold beliefs about emotions that influence

their roles as teachers, including their implementation of programs designed to

teach social and emotional competencies. Based on this assumption, the PATE

was developed as a guide that would tap into teachers' beliefs about their role in

helping children improve emotional competencies. Jan Hughes, the advisor for

this dissertation study, with professor Stephanie Knight, modified this measure

for use in a study of the impact of PATHS on teachers.

Specific Aims

This investigation has two specific aims. First, the psychometric properties of the PATE are examined, including evidence of its factor structure internal consistency, and relationship with other variables. Due to the fact that the PATE is a new measure, it was deemed important to determine its relationship to other variables that have been found in previous research to relate to teachers' job performance (e.g., general and personal teaching efficacy, job satisfaction, and stress). These analyses are considered exploratory, and directional hypotheses are not offered. Additionally, the association between teachers' PATE scores and their awareness of students' internalizing problems, relative to their awareness of externalizing problems is investigated. We reasoned that teachers who are more motivated to pay attention to children's emotions might be more aware of children's internalizing behaviors, relative to children's more easily observed externalizing behaviors.

Second, we investigate the relation between the PATE and teachers' implementation of the PATHS intervention. We expect teachers who score higher on the PATE administered prior to PATHS implementation will a)

implement PATHS at a higher dosage level; b) implement PATHS at a higher

level of adherence and observed lesson quality; c) be more actively engaged in

the PATHS program; d) report greater satisfaction with the PATHS consultation;

and e) be rated by the consultant as more engaged with PATHS.

CHAPTER II

METHODOLOGY

Overview

This study is a part of a larger study investigating the Promoting Positive THinking Skills (PATHS) curriculum in a public school in a suburb in Houston, Texas. PATHS is an elementary grade curriculum developed to promote social and emotional competencies while reducing aggression and behavior problems in schools (Greenberg, Kusche, & Mihalic, 1998). It has been shown to improve social and academic functioning while reducing behavioral risk (Conduct Problems Prevention Research Group, 1999a, 1999b).

For the larger study, the district's curriculum instructor approached 4 elementary schools that agreed to implement the PATHS program. Because resources were only available for three treatment schools, one of the four elementary schools was assigned to the comparison group, along with two additional schools which were intended to demographically match the experimental schools. After the school year began, the researchers found that two of the comparison schools were not similar to the experimental schools in terms of racial composition or the percentage of children who were eligible for free or reduced price lunch. Therefore, in year 2 these two schools were replaced

with two schools which were more equivalent in terms of socioeconomic status and ethnic composition. The overall ethnic distribution in these schools was approximately 35% African American, 33% Hispanic, 25% Caucasian, and 5% Other. The percentage of economically disadvantaged children was about 54%. Table 1 (see Appendix A page 68) presents the ethnic distribution of the sample displayed by individual schools. For the purposes of this study, Study 1 utilized all data from teachers who completed questionnaires, regardless of their experimental or comparison group status. Study 2 utilized data from teachers who implemented PATHS only.

Before attending a training workshop the summer before the teachers implemented PATHS, teachers were given a set of questionnaires to complete. Comparison teachers were also given these questionnaires at the same time. These questionnaires included a measure of demographic information, a measure of self-efficacy, and Positive Attitude toward Teaching Emotions (PATE) questionnaire. At the end of the first year of PATHS implementation, the questionnaires were again administered to both groups. PATHS teachers were given additional questionnaires specific to their experience with PATHS.

Design Overview

Introduction of PATHS to teacher participants occurred over four years, beginning with kindergarten teachers and progressing to a new grade (and cohort of teachers) each year through 3rd grade. Thus, in year 1 only Kindergarten teachers implemented PATHS. In year two 1st grade teachers implemented PATHS for the first time, and so on until year 4, when 3rd grade teachers implemented PATHS for the first time. Teachers filled out questionnaires in May prior to PATHS implementation the following fall. For ease of presentation, methods and results are described separately for the study phase examining the psychometric properties of the PATE (Study 1) and for the study phase examining the relations between scores on the PATE and implementation fidelity (Study 2).

Study 1: Psychometric Properties of the PATE

Participants. Of 180 teachers who were asked to participate, 159 had complete data on questionnaires and demographic information. The 159 teachers with complete data and the 21 without complete data did not differ on grade level. Furthermore, participation rates were equivalent across paths and comparison schools. Of these 159 teachers, 129 also had data collected during May of the year preceding PATHS implementation on teacher-rated

externalizing and internalizing student behaviors; 30 teachers were missing

these data because they entered the study after May (i.e., they were new the next

Fall to the participating school and grade). Thus they were unable to rate

students who were in their classrooms at the same school and grade the year

prior to implementation of PATHS. Table 2 (see Appendix A page 69) presents

descriptive information on the sample of 159 teachers.

Measures. The PATE questionnaire was developed and first

administered in May 2001 in conjunction with the larger longitudinal study

implementing PATHS. The PATE was adapted from the parent styles self-

questionnaire (*Self Test: What Parent Style are You?)* by John Gottman and

colleagues (1997). The Self Test asked parents to indicate their level of agreement

with statements about their parenting attitudes and beliefs in regard to

emotions. The parents received a score on 4 subscales indicating their parenting

styles. These subscales included a dismissing style, disapproving style, laissez-

faire style, and emotional-coaching style. Gottman's Self Test is an informal self-

assessment questionnaire and, to the best of our knowledge, data on the

psychometric properties of the Self Test have not been published. For purposes

of the current study, items for the PATE were adapted to indicate a teacher's

attitude toward teaching emotions in the classroom. Specifically, teachers

indicated their level of agreement or disagreement with statements concerning

their own reactions to children's emotions on a 5-point Likert-scale ranging from

"strongly disagree" to "strongly agree." All study measures are included in

Appendix B.

Although the parent styles self test consisted of 80 items, the pilot study

of the PATE in the first year of this study consisted of 20 items (10 taken from

the coaching and dismissive scales, respectively). An example from the coaching

scale is "The important thing is to find out why a child is feeling angry." An

example from the dismissive scale is "If you ignore a child's sadness, it tends to

go away and take care of itself". Results of exploratory factor analyses

conducted in May 2001 with 40 kindergarten teachers and in May 2002 with 58

first grade teachers did not support separate factors for coaching and dismissive

styles. Of the original 20 items, 14 loaded on a single factor that accounted for

29% of the variance. No clear second factor emerged. These 14 items had an

internal consistency of 0.74. Future administrations of the PATE included only

these 14 items. The internal consistency for the total (K-3rd grade) sample for the

PATE was 0.79.

The *Teacher Efficacy Scale* (Gibson & Dembo, 1984) measures the extent to

which teachers believe that they can affect students' learning. The construct

validity of the scale and its relationship to teacher behaviors and student outcomes is well established (Tschannen-Moran, Woolfolk-Hoy, and Hoy, 1998). A brief scale was used which included subscales for both personal and general teaching efficacy. Personal teaching efficacy refers to a teacher's belief that "I can", whereas general teaching efficacy captures a teacher's belief in the efficacy of teachers in general (i.e., "teachers can or cannot"; Guskey & Passarro, 1994). The internal consistency of the total Teacher Efficacy Scale for this study is 0.74, while general and personal teaching efficacy scales had internal consistencies of 0.69 (5-items) and 0.71 (9 items), respectively.

The *Teacher Satisfaction Questionnaire* (Ma & MacMillan, 1999) is a questionnaire that asks teachers four questions on a five-point scale indicating to what extent they a) find their professional role satisfying, b) look forward to each day at school, c) are committed to making their school one of the best in the state, and d) would start over, as a teacher again. Acceptable internal consistency and criterion validity have been demonstrated on a sample of inner city teachers (Ma & MacMillan, 1999). The internal consistency for the study sample was .79.

A 5- item Teacher Stress Inventory was derived from the 9-item Emotional Exhaustion scale of the Maslach Burnout Inventory (Maslach &

Jackson 1981). An abbreviated scale was sought due to a desire to keep the time required of teachers to a minimum, thus gaining greater participation. Thus we selected five of the six items with the highest factor loadings reported in the manual. The remaining item, "I feel burned out from my work", was omitted due to the expectation teachers would find the item objectionable. The Maslach Burnout Inventory is commonly used to assess stress and burnout in teachers (Gold, 1984). The internal consistency for this sample for the 5 items was .90.

In order to measure student internalizing and externalizing behaviors, teachers rated each child in their classroom with the Aggressiveness, Moodiness, and Learning Problems questionnaire (AML; Cowen et al., 1973). The AML is a screener which assesses the level of internalizing, externalizing, and learning problems in a classroom. The 5-item internalizing scale has an internal consistency in our sample of .82. The 4-item externalizing scale had an internal consistency of .90 in our sample. The mean item score for each student was aggregated at the teacher level, yielding mean teacher-rated classroom mean internalizing and externalizing scores.

Study 2: Relation of PATE to PATHS Implementation (PATHS Teachers Only)

Participants. The PATHS sample included 73 Kindergarten to third grade teachers who implemented the PATHS curriculum during the first year of

implementation at that teacher's grade level and for whom most

implementation data were available.   These teachers taught PATHS to

approximately 1250 students in their first implementation year.

Of these 73 teachers, 100% had teacher-report data on the number of lessons

taught during the first year of PATHS implementation. Because consultant

observation of implementation quality was not obtained in year 4 (in response to

teachers' request that the PATHS consultant co-lead groups rather than

observed), only 69 teachers had observational data. A total of 62 teacher

evaluations of the consultant were returned fully completed. Because consultant

ratings of teacher engagement with PATHS were collected only in cohorts

(years) 3 and 4, only 32 teachers had data on this variable. Table 3 (see Appendix

A page 70) presents descriptive information on the 73 PATHS teachers.

These 73 teachers were clustered in 10 groups, with a group defined as a

grade level and school. The 10 groups ranged in size from 4 to 11 with a mean of

7.6 (SD = 2.22).

Paths program. The PATHS curriculum is intended to be taught

approximately two to three times per week for 20-30 minutes per lesson in the

early elementary grades (Greenberg, Kusche, and Mihalic, 1998). These lessons

are incorporated into the school day and classroom. It is hoped that the teachers

will develop a skill level with the PATHS curriculum sufficient for them to apply skills taught in PATHS to "teachable" moments outside the context of the curriculum. Teachers provide lessons about emotional literacy, self control, social competence, positive peer relations, and interpersonal problem solving skills. Each lesson consists of instruction of the key concept or skill, modeling of the skills, and opportunity for guided practice and feedback. Role play, vignettes, and stories are used to teach concepts and skills. Teachers are expected to apply the skills taught in lessons to events occurring during the day at school.

Training and consultation procedures. During the teachers' first year of implementation, they received a combination of individual and group consultation and training. Training consisted of approximately one and a half days of training in the summer and fall. There was always a full day of training in the summer prior to implementation and between ½ and a full day of training in October or November of the fall semester. In the first 3 years of implementation, the doctoral student consultant completed between six and ten formal classroom observations and provided feedback in person or through email. Teachers also were expected to participate in group consultation with the consultant at least once each month. For group consultation, the consultant met

with all grade level teachers at a given school. In the fourth year of

implementation, grade level teachers were expected to participate in group

consultation with the consultant two times per month. The consultant observed

each teacher or co-led a PATHS lesson once or twice each month, followed by

verbal and written feedback. Each year, additional individual consultation or

observation was provided based on teacher request.

Measures of implementation. At the end of the first year of PATHS

implementation for a given cohort (or grade), teachers rated their satisfaction

using a 16 question, 7-point Likert questionnaire. Questions addressed areas of

consultant accessibility and effectiveness. Example items include, "The

consultant was a good listener; "The consultant offered useful information;" and

"The consultant encouraged me to see situations in a new light." A mean item

score was calculated as a general satisfaction with consultation. The internal

consistency of this measure was 0.93.

Consultants for Cohorts 3 and 4 rated teachers at the end of the

implementation year using a 15 question, 7-point Likert questionnaire

developed specifically to assess teacher level of engagement in PATHS.

Questions addressed how much the teacher embraced PATHS, applied the

skills, sought out consultation, was prepared for lessons, and implemented the

program skillfully. A mean item score was obtained (internal consistency = .83).

Teachers recorded the number of lessons that he or she completed weekly

and reported that information to the consultant at least every other week.

Because the number of intended lessons varied for every year, the number of

lessons were converted to a percent based on the total number of lessons in the

curriculum for that year (Kindergarten = 29 lessons, First Grade = 36 lessons,

Second Grade = 38 lessons, 3rd grade = 44 lessons).

For cohorts 1-3, the PATHS consultant observed teachers once monthly

during PATHS lessons. Lesson adherence was rated based on the percentage of

key lesson concepts covered. Key lesson concepts for each lesson were

determined prior to the observation based on the PATHS manual. The

consultant rated a teacher based on whether each key concept was "Done" or

"Not Done".   The number of marks in the "done" column was divided by the

sum of the marks in the Done and the "Not Done" columns (any marks in the

N/A column were not calculated). This percentage was then converted to a 4-

point scale from low skill (1) to highly skilled (4) based on the following scoring

system: highly skilled (adheres to lesson plan greater than 90%), fairly skilled

(adheres 80-90%), somewhat skilled (adheres 60-79%), and low skilled (adheres less than 60%).

Observed lesson quality was computed as the mean consultant rating on three items. Each item was evaluated on a 4-point scale from low to high skill. The three items address the degree to which the teacher 1) was familiar with the lesson and used the materials with ease, 2) was enthusiastic and encouraged the enthusiasm and active engagement of the children; and 3) maintained control of the class during the lesson. The alpha for the 3 items was .83. Unfortunately, no measure of inter-rater reliability is available because each year only one individual rated implementation adherence and quality. Over the course of the four years of Paths implementation, three different consultants observed in classrooms. Observers were blind to teachers' scores on the PATE.

CHAPTER III

ANALYSIS

Study 1

    Preliminary analysis. Study variables were examined for outliers and non-normal distributions These analyses included minimum, maximum, mean, standard error of the mean, standard deviation, skewness and kurtosis. Results are reported in Table 4 (see Appendix A page 71). All variables had skewness values below 3. Kurtosis values for Job Satisfaction (9.5) and Personal Teaching Efficacy (5.1) were high but within acceptable ranges for study analyses (Stevens, 2002).

    Factor analysis and internal consistency of the PATE. The 14-item PATE measure was subjected to an exploratory factor analysis based on the total sample (N=159). A scree plot was used to determine which factors to retain by plotting the eigenvalues on a graph and visually determining the point where the line levels off (Cattell, 1966). The Principal Components method with a variance maximizing (varimax) rotation of the correlation matrices was employed. Initially, four factors had eigenvalues greater than one. An analysis of the scree plot and eigenvalues indicated that a one or two factor solution best fit the data. By constricting the factor analysis to two factors a clearer factor

pattern emerged. This pattern indicated two factors that could be meaningfully interpreted and which explained 41% of the variance. Factor 1 explained 25.6 % of the variance, while factor 2 explained 15.6 % of the variance.

Of the 14 items, 9 loaded on factor 1, and 5 loaded on factor 2. The internal consistencies of factor 1 and 2 were 0.80 and 0.63, respectively. Table 5 (see Appendix A page 72) presents items and factor loadings. Factor one items addressed emotions and problem solving about emotions and was named Problem Solving. Factor 2 indicated a disregard for the importance of emotions and was named Dismissive. Scores for Problem Solving and Dismissive scales were computed as the average item score for items on each factor. Unit weighting rather than factor loadings were used to calculate the mean item score for each scale because factor loadings are less stable across samples. The internal consistency for the dismissive and problem solving skills were .79 and .63, respectively. The alpha for the total 14-item scale was .79.

Association of the PATE factors with relevant variables. Because some of the consultation was provided to teachers in grade level groups within a given school, it is reasonable to expect that teachers within a given grade/school group might respond more similarly to the intervention than teachers from different grade/school groups. Thus, to account for the dependency among the

observations (teachers) within clusters (grade/school), regression analyses were conducted using the "complex analysis" feature in Mplus (v.3.12, Muthén & Muthén, 2004). This method of analysis adjusts for the standard errors of the estimated coefficients due to the dependencies in the data based on their nested structure. The need to adjust the standard errors due to the study design was confirmed by computation of the intra-class correlation coefficient for each dependent variable. The ICC is the commonly used statistic to provide a measure of the degree of group monogeneity in hierarchical data (Hox, 2002). For example, for PATE, the intra-class correlation coefficient was .192, indicating that 19.2% of the variance in the outcome variable is attributable to the level 2 (cluster) variable. As suggested by Hox (2002), ICCs from .05 to .09 indicate a low effect, coefficients from .10 to .14 a moderate effect, coefficients from .15 indicate a large effect. All variables showed ICCs of a moderate or large effect. A second perspective on ICCS is offered by Muthen and Satorra (1995), who interpret ICCS in the context of the average cluster size to obtain a design effect. The design effect for the PATE [computed as 1 + (average cluster size -1_ * intra-class correlation coefficient] (Muthen & Satorra, 1995) was 4.835. Values above 2.0 indicate that using single level analysis is likely to lead to bias in results (Maas & Hox, 2002).

Regression analyses were used to determine the associations between the PATE and other teacher beliefs. The 158 teachers included in this analysis were clustered into 24 groups with a group defined as a grade level and school. The groups ranged in size from 1 to 15 with a mean of 6.6 (SD = 3.17). The results, displayed in Table 6 (see Appendix A page 73), indicated that both Personal Teaching Efficacy scores (unstandardized beta = .043; standard error = .015; t (157) = 2.412) and General Teaching Efficacy scores (unstandardized beta = .052; standard error = .021; t (157) = 2.761) predicted the PATE scores at p < .01.

Association of PATE with teacher ratings of internalizing symptoms. Teachers who placed a higher value on teaching emotions were expected to rate internalizing problems higher, after controlling for teachers' ratings of externalizing behaviors. Neither internalizing problems nor externalizing problems predicted the PATE scores.

Study 2

Preliminary analyses. In order to determine the nature of the data including outliers and deviations from assumptions, descriptive analyses were conducted using Study 2 relevant variables. These analyses included minimum, maximum, mean, standard error of the mean, standard deviation, skewness and

kurtosis. The results displayed in Table 7 (see Appendix A page 74) indicated all values for skewness and kurtosis fell within an acceptable range (Stevens, 2002).

Relationship of PATE to measures of implementation quality. Simple linear regression analyses were conducted in MPlus using the Cluster feature which accounts for the dependency among the observations (teachers) within clusters (grade/school) (v.3.12, Muthén & Muthén, 2004) by adjusting the standard errors of the estimated coefficients. The need to adjust the standard errors due to the study design was confirmed by computation of the intra-class correlation coefficient for each dependent variable. For example, for the number of lessons, the intra-class correlation coefficient was .285, indicating that 28.5% of the variance in the outcome variable is attributable to the level 2 (cluster) variable. The design effect for the number of lessons [computed as 1 + (average cluster size -1_ * intra-class correlation coefficient] (Muthen & Satorra, 1995) was 2.796. Values above 2.0 indicate that using single level analysis is likely to lead to bias in results (Maas & Hox, 2002).

Results are displayed in Table 8 (see Appendix A page 75). Due to missing data, the N's differ for different variables. No significant associations were found between PATE scores and the number of lessons completed or observed implementation quality. PATE scores predicted observed lesson

adherence (unstandardized beta = .050; standard error = .024; t (63) = 2.089, p = .041).

Next we investigated the association between PATE scores and teachers' evaluation of the consultant. This analysis included 58 teachers. PATE scores predicted Teacher Evaluation of the Consultant (unstandardized beta = 0.139; standard error = .053; t (58) = 2.629, p < .001).

Because the measure of engagement for PATHS was administered only in years 3 and 4, this analysis included only 23 teachers. These teachers were clustered in 4 groups ranging in size from 1 to 11 (M = 6.4, SD = 4.0). Results indicated that PATE scores predicted Consultant Evaluation of Teacher Engagement scores (unstandardized beta = .289; standard error = .062; t (23) = 4.696; p = .011).

CHAPTER IV

SUMMARY AND CONCLUSIONS

This study was part of a larger investigation of PATHS. The purpose of this study was to determine the psychometric properties of a new measure of teachers' attitude toward teaching emotions and to determine whether teachers' scores on this measure predicted several indices of implementation fidelity in teachers' first year of implementing the PATHS curriculum. It was expected that a measure which was more closely associated with attitudes teachers hold regarding emotions might be associated with specific implementation factors such as the number of lessons taught, observed implementation quality and adherence to the lessons in the manual, active engagement in PATHS, and satisfaction with PATHS. First we summarize and discuss results of study 1, which investigated the psychometric properties of the PATE.

The Study 1 sample consisted of a total of 159 teachers who completed data on both attitude toward teaching emotions and teacher characteristics Although exploratory factor analysis results appeared to support two factors, Dismissive Style and Problem Solving Style, the dismissive scale had a relatively low internal consistency (.63). For this reason, analyses were conducted with the total score, based on all 14 items (alpha = .79)

We examined whether PATE scores would be correlated with several teacher characteristics.   Both Personal Teaching Efficacy and General Teaching Efficacy scores were positively related to PATE scores. Teachers who reported more confidence in their ability to affect student learning both on a general and personal level also reported a more positive attitude toward teaching emotions. This finding is consistent with previous research reporting a relationship between teacher self efficacy- and utilization of specific social and emotional concepts within the context of the classroom (Ransford, Greenberg, Small and Domitrovich 2006). Furthermore, teacher self efficacy has been associated with fidelity of implementation of innovative programs (Guskey, 1988; Rimm-Kaufman & Sawyer, 2004).

PATE scores were not predictive of teachers' self-reported job satisfaction, job stress, or ratings of students' internalizing problems. Thus the study provides no evidence to support the view that a positive attitude toward teaching emotions protects teachers from job stress or low job satisfaction or makes them more aware of students' internalizing problems. Additionally, the generally high scores on the measure of job satisfaction and relatively high positive skewness on this variable may account for the lack of an association with PATE scores.

Study 2 examined the associations between teachers' scores on the PATE scale and five implementation variables. The PATE scores predicted Observed Lesson Adherence. Also, the PATE scores predicted satisfaction with consultation and consultant ratings of teacher levels of engagement in PATHS. Teachers who had a more positive attitude toward teaching emotions were more likely to adhere to the lesson criteria, view the consultation as effective, and exhibit engagement in PATHS.

The PATE was not predictive of the observed quality of lesson implementation. It is reasonable to believe that teachers' behaviors in teaching the PATHS lesson were influenced by their knowledge that they were being observed. If this were the case, the reasons for the failure of the PATE to predict implementation quality was due to the observers data not reflecting the teachers' usual implementation quality. Alternatively, the observations may have "flattened out" differences among groups; this would occur if the observations themselves affected teachers' behaviors. Furthermore, a teacher's skill in implementation of PATHS lessons may reflect a lack of procedural knowledge (how to) of classroom management rather than a lack of declarative knowledge (knowing what they are supposed to do) or motivation to implement PATHS. To the extent that this is true, teachers' attitudes toward teaching

emotions may not predict their quality of implementation. This may be particularly true for this relatively novice population of teachers (50% less than 6 years of experience) who are still in the early stages of developing their teaching abilities.

The PATE also failed to predict teachers' number of lessons taught. Number of lessons was based on teacher self-report and may reflect teacher response biases. Again, it may be that the observation itself could create less variance. CPPRG (1999b) found teacher skill in program implementation and classroom management predicted classroom differences in positive outcomes, while number of lessons completed did not. The number of lessons completed may not be as important (all teachers may delivery relatively equal number of lessons) as acceptance and usage of concepts within the context of the school (Elias et al., 1998).

The items in the PATE represent the attitudes and beliefs regarding problem solving and addressing the emotional needs of a child. One would expect that a teacher holding a more positive attitude toward teaching emotions would be more likely to implement a social and emotional curriculum with fidelity. Due to the mixed results of this study, one interpretation may be that because the PATE assesses beliefs about emotions, it is more likely to predict

more emotionally based measures of implementation and less likely to predict implementation measures that are more behaviorally based. In fact, the items contained in the PATE may not intuitively relate to the factors of implementation used in the study. For example, having a positive attitude toward addressing emotions does not necessarily result in good classroom management techniques (a factor included in implementation).

Overall, study results suggest that teacher's attitudes toward teaching emotions are predictive of relevant aspects of implementation fidelity. Because successful implementation of innovative programming in schools is regarded as important to children's outcomes, these results indicate that congruence between teacher attitudes and beliefs and the curriculum they are responsible for executing are pivotal components in the eventual success or non-success of program implementation. Measures of congruence of specific teacher philosophy or "teacher fit" with curriculum to be implemented is virtually absent from current research on social and emotional program implementation.

Furthermore, many school administrations and researchers require teachers to implement programs regardless of their personal philosophies. Before providing teacher training in a specific program, researchers and administrations should assess relevant beliefs specific to the program. If beliefs

are found incongruent with a program, one might seek a different program which is more aligned with the attitudes and beliefs of the teachers. Alternatively, training components could focus on ways to help teachers understand and adopt attitudes that are more congruent with the program. Current research from professional development literature suggests that professional development that is supportive throughout the year and focuses on continual feedback and measurement of positive student progress can lead to continued positive changes in beliefs and attitudes regarding the innovation that is implemented (Guskey, 2002). Therefore, attitudes and beliefs may continue to change in response to sustained efforts and feedback to support the teachers throughout the implementation of the innovation, which may result in teachers' renewed efforts to continue or increase implementation efforts within their classroom. In this way successful implementation may be a more likely outcome.

Limitations

These findings need to be interpreted in the context of several study limitations. First, because the sample size is small, particularly for teacher-rated engagement, results require replication before firm conclusions about the validity of the PATE and its role in implementation fidelity can be reached.

Furthermore, sample demographics indicated that 52% of the PATHS group had 3 or less years of experience, which differs from both Texas and national demographic makeup; thus results may not generalize to more experienced teachers. With these factors in mind, this study should be replicated on a bigger scale utilizing a larger, more diverse sample of teachers, which would allow for generalization to greater population than utilized in this study.

Second, because the dismissive scale of the PATE had insufficient reliability, we were not able to determine if different dimensions of attitudes toward teaching emotions were predictive of different aspects of implementation. Future studies may want to add more items that may assess multiple dimensions of attitudes relevant to teaching emotions.

Third, consultant observation of implementation quality was determined by only one consultant each year resulting in a lack of data on the inter-rater reliability of these ratings. The items comprising implementation quality were more subjective than was the coding system for lessons adherence. A possible lack of measurement reliability may have attenuated the lack of associations between implementation quality and the PATE.

Future Studies

Additional studies that monitor teachers' attitude toward teaching emotions at different points of implementation may lend valuable information on implementation success. Continued and sustained efforts to support teachers and provide feedback concerning student success may result in continued changes in attitudes and beliefs resulting in continued changes in behaviors, which may be reflected as more positive attitudes towards emotions. Implementation quality may increase over time as teachers see the benefit for their students in their classrooms. Furthermore, studies could look to training efforts that increase congruence between teachers' attitudes and beliefs and the innovation to be implemented may lend valuable information to implementation research.

Future studies may also want to explore aspects of teachers' implementation quality that are more intuitively related to attitudes toward teaching emotions and less influenced by teachers' procedural knowledge. Items that tap the teacher's enthusiasm, use of program concepts outside of PATHS lessons, and the active engagement of children in PATHS lessons may result in stronger findings between attitudes and implementation.

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APPENDICES

APPENDIX A

Table 1

Campus Student Composition

	School							
	PATHS			Comparison				
	1[d]	2[d]	3[b]	4 [d]	5[a]	6[a]	7 [c]	8[c]
Ethnicity								
African American	68.9	60.2	37.9	32.5	10.2	22.4	21.7	27.3
Hispanic	17.4	28.5	38.7	56.6	18.6	21.4	41.1	46.8
White	8.3	6.1	9.9	5.4	70.0	49.7	34.0	21.3
Other	5.4	5.2	13.5	5.5	0.2	6.5	3.2	4.6
Economically Disadvantaged	53.7	69.7	55.7	76.8	24.5	43.1	52.1	57.3

Note. Demographic information is based on year 1 of the study adapted from AEIS data

obtained from http://www.tea.state.tx.us/perfreport/aeis/   obtained on April 10, 2006.

[a] participated only in year 1

[b] participated in all 4 years

[c] participated in years 2-4

[d] participated in years 1-3

APPENDIX A

Table 2

Demographic Information for Study 1

	Percentage
School	
Experimental	88
Control	71
Ethnicity	
African American	7.7
Caucasian	78.8
Hispanic	10.9
Asian	1.3
Other	1.3
Cohort	
1	26.5
2	34.3
3	22.7
4	16.6
Number of years of experience	
Less than 1 year	11.5
1-3	32.1
4-6	21.8
7-9	11.5
10-12	2.6
12+	20.6
Number of years of experience at grade level	
Less than 1 year	24.4
2-3	40.4
4-6	16.7
7-9	7.1
10-12	3.8
12+	7.7
Level of education	
B.A. or B.S.	53.5
B.A. or B.S. + graduate work	29.7
Masters Degree	16.1
Other type of degree	0.6

APPENDIX A

Table 3

Demographic Information for Study 2

	Percentage
Ethnicity	
African American	10.7
Caucasian	80.0
Hispanic	5.3
Asian	2.7
Other	1.3
Cohort	
1	27.3
2	33.0
3	30.7
4	9.1
Number of years of experience	
Less than 1 year	20
1-3	32
4-6	22.7
7-9	9.3
10-12	4.0
12+	12.0
Number of years of experience at grade level	
Less than 1 year	29.3
2-3	40.0
4-6	14.7
7-9	8.0
10-12	4.0
12+	4.0
Level of education	
B.A. or B.S.	58.1
B.A. or B.S. + graduate work	25.7
Masters Degree	14.9
Other type of degree	1.4

APPENDIX A

Table 4

Descriptive Statistics of Measures for Study 1

	N	Min.	Max.	Mean	Std. Dev.	Variance	Skewness		Kurtosis	
							Statistic	Std. Error	Statistic	Std. Error
Positive Attitude Toward Teaching Emotions (PATE Total)	159	3.46	5.00	4.32	.410	.168	-.118	.192	-.834	.383
Job Satisfaction	159	1.00	6.00	5.28	.889	.790	-2.734	.192	9.526	.383
Maslach Burnout Inventory	159	.00	5.40	2.72	1.321	1.745	.019	.192	-.933	.383
Student Rating Form - Internalizing	129	1.19	3.56	2.21	.480	.231	.472	.213	.099	.423
Student Rating Form- Externalizing	129	1.15	4.16	2.25	.514	.264	.598	.213	1.342	.423
General Teacher Efficacy	159	1.57	6.00	3.86	.860	.740	.027	.192	-.309	.383
Personal Teaching Efficacy	159	1.44	5.89	4.73	.588	.345	-1.100	.192	5.059	.383

APPENDIX A

Table 5

Positive Attitude Toward Emotions (PATE) Items and Factors

	Factor 1	Factor 2
When a child in my classroom is sad, it's time to problem-solve.	**.526**	.049
The important thing is to find out why a child is feeling angry.	**.641**	.150
I think it is good for kids to feel angry sometimes.	**.461**	.036
When a child in my classroom is sad, we sit down to talk over the sadness.	**.744**	.092
Children have a right to feel angry.	**.470**	.128
When a child in my classroom is angry, it's time to solve a problem.	**.634**	.000
When a child in my classroom is sad, I try to help the child explore what is making him or her sad.	**.723**	.104
Anger is an emotion worth exploring.	**.627**	.167
The important thing is to find out why a child is feeling sad.	**.731**	.194
Children really have very little to be sad about.	.077	**.679**
I really have no time for sadness in my own life.	.145	**.441**
When a child in my classroom is angry, I usually don't take it all that seriously.	.063	**.617**
If you ignore a child's sadness, it tends to go away and take care of itself.	.137	**.715**
When a child in my classroom gets angry with me, I think, "I don't want to hear this."	.054	**.709**

APPENDIX A

Table 6

Association of PATE and Study 1 Variables

Dependent Variable	N	Estimate	S.E.	t	Correlation
Internalizing[a]	128	.125	.115	1.093	.15
Years experience total	156	.060	.068	.872	.09
Years experience grade	156	.057	.064	.887	.097
Job satisfaction	156	.039	.024	1.666	.109
Stress	156	-.011	.036	-.294	-.020
General Teaching Efficacy	159	.052	.021	2.412**	.147
Personal Teaching Efficacy	159	.043	.015	2.761**	.178

[a] Coefficient is with externalizing symptoms included in model

* * p <.01

APPENDIX A

Table 7

	N	Min.	Max.	Mean	Std. Dev.	Variance	Skewness		Kurtosis	
							Statistic	Std. Error	Statistic	Std. Error
Positive Attitude Toward Teaching Emotions (PATE)	76	3.46	5.00	4.32	.425	.181	-.060	.276	-.836	.545
Number of Lessons	73	.00	1.77	.89	.299	.089	-.355	.281	.861	.555
Consultant-rated teacher engagement	32	2.13	6.07	4.74	1.047	1.096	-.981	.414	.257	.809
Teacher Evaluation of Consultation	62	2.21	7.00	5.97	1.007	1.013	-1.502	.304	2.501	.599
Observed Implementation	69	-2.76	1.08	.00	.859	.738	-1.046	.289	.815	.570
Observed Lesson Adherence	69	1.25	4.00	2.97	.615	.378	-.373	.289	-.186	.570

Descriptive Statistics of Measures for Study 2

APPENDIX A

Table 8

Association of PATE Total score and Indices of Implementation Quality

Dependent Variable	N	Estimate	S.E.	t	Correlation
Number lessons	65	-.005	.017	-.269	-.039
Observed implementation	65	.014	.034	.413	.037
Observed lesson adherence	63	.050	.024	2.089*	.187
Consultant-rated teacher engagement	23	.289	.062	4.696***	.530
Teacher evaluation of consultation	58	.139	.053	2.629**	.324

* p < .05; ** p < .01; ***p < .001

rAPPENDIX B

Teacher I.D. #___

TEACHER DEMOGRAPHIC INFORMATION

Please check the appropriate category (ies):

Grade Level Now Teaching: Degree:

_____	1.	Kindergarten	_____	1.	B.A. or B.S.
_____	2.	Grade 1	_____	2.	B.A. or B.S. + graduate
_____	3.	Grade 2	work		
_____	4.	Grade 3	_____	3.	Masters Degree
_____	5.	Grade 4	_____	4.	Doctoral Degree

_____	6.	Grade 5	_____	5.	Other _
_____	7.	Other _			

Years Teaching Experience: **Ethnic Culture:**

_____	1.	Less than 1 year	_____	1.	American Indian
_____	2.	1-3 years	_____	2.	Black
_____	3.	4-6 years	_____	3.	Caucasian
_____	4.	7-9 years	_____	4.	Hispanic
_____	5.	10-12 years	_____	5.	Oriental/Asian
_____	6.	More than 12 years	_____	6.	Other _

Years Teaching at Current Grade Level: **Certification/Endorsements:**

_____	1.	Less than 1 year	_____	1.	Alternative
_____	2.	1-3 years	_____	2.	Early Childhood
_____	3.	4-6 years	_____	3.	Elementary
_____	4.	7-9 years	_____	4.	Bilingual/ESL
_____	5.	10-12 years	_____	5.	Special Education
_____	6.	More than 12 years	_____	6.	Gifted/Talented
			_____	7.	Other _

Gender

_____	1.	Male
_____	2.	Female

APPENDIX B

ATTITUDE TOWARD TEACHING EMOTIONS

Please indicate the degree to which you agree or disagree with each statement below by circling the appropriate numeral beneath each item.

1. When a child in my classroom is sad, it's time to problem-solve.

1	2	3	4	5
strongly disagree		neutral		strongly agree

2. The important thing is to find out why a child is feeling angry.

1	2	3	4	5
strongly disagree		neutral		strongly agree

3. I think it is good for kids to feel angry sometimes.

1	2	3	4	5
strongly disagree		neutral		strongly agree

4. When a child in my classroom is sad, we sit down to talk over the sadness.

1	2	3	4	5
strongly disagree		neutral		strongly agree

5. Children have a right to feel angry.

1	2	3	4	5
strongly disagree		neutral		strongly agree

6. When a child in my classroom is angry, it's time to solve a problem.

1	2	3	4	5
strongly disagree		neutral		strongly agree

7. When a child in my classroom is sad, I try to help the child explore what is making him or her sad.

1	2	3	4	5
strongly disagree		neutral		strongly agree

APPENDIX B

8.   Anger is an emotion worth exploring.

1   2   3   4   5
strongly disagree   neutral   strongly agree

9.   The important thing is to find out why a child is feeling sad.

1   2   3   4   5
strongly disagree   neutral   strongly agree

10. Children really have very little to be sad about.

1   2   3   4   5
strongly disagree   neutral   strongly agree

11. I really have no time for sadness in my own life.

1   2   3   4   5
strongly disagree   neutral   strongly agree

12. When a child in my classroom is angry, I usually don't take it all that seriously.

1   2   3   4   5
strongly disagree   neutral   strongly agree

13. If you ignore a child's sadness, it tends to go away and take care of itself.

1   2   3   4   5
strongly disagree   neutral   strongly agree

14. When a child in my classroom gets angry with me, I think, "I don't want to hear this."

1   2   3   4   5
strongly disagree   neutral   strongly agree

APPENDIX B

TEACHER EFFICACY SCALE

Please indicate the degree to which you agree or disagree with each statement below by circling the appropriate numeral to the right of each statement.

1=strongly disagree   4=agree slightly more than disagree
2=moderately disagree   5=moderately agree
3=disagree slightly more than agree   6=strongly agree

1. When a student does better than usual, many times it is because I exerted a little effort.   1   2   3   4   5   6

2. The hours in my class have little influence on students compared to the influence of their home environment.   1   2   3   4   5   6

3. The amount that a student can learn is primarily related to family background .   1   2   3   4   5   6

4. If students aren't disciplined at home, they aren't likely to accept any discipline.   1   2   3   4   5   6

5. When a student is having difficulty with an assignment, I am usually able to adjust it to his/her level.   1   2   3   4   5   6

6. When a student gets a better grade than he/she usually gets, it is usually because I found better ways of teaching that student.   1   2   3   4   5   6

7. When I really try, I can get through to most difficult students.   1   2   3   4   5   6

8. A teacher is very limited in what he/she can achieve because a student's home environment is a large influence on his/her achievement.   1   2   3   4   5   6

9. When the grades of my students improve it is usually because I found more effective teaching approaches.   1   2   3   4   5   6

10. If a student masters a new concept quickly, this might be because I knew the necessary steps in teaching that concept.   1   2   3   4   5   6

11. If parents would do more with their children, I could do more.   1   2   3   4   5   6

APPENDIX B

1=strongly disagree	4=agree slightly more than disagree
2=moderately disagree	5=moderately agree
3=disagree slightly more than agree	6=strongly agree

12. If a student did not remember information I gave
in a previous lesson, I would know how to
increase his/her retention in the next lesson. 1   2   3   4   5   6

13. If a student in my class becomes disruptive and
noisy, I feel assured that I know some techniques
to redirect him/her quickly.   1   2   3   4   5   6

14. The influence of a student's home experience
can be overcome by good teaching.   1   2   3   4   5   6

15. If one of my students couldn't do a class
assignment, I would be able to accurately assess
whether the assignment was at the correct
level of difficulty.   1   2   3   4   5   6

16. Even a teacher with good teaching abilities
may not reach many students.   1   2   3   4   5   6

APPENDIX B

TEACHER PERCEPTIONS QUESTIONNAIRE

Part A
Please indicate the degree to which you agree or disagree with each statement below by circling the appropriate numeral to the right of each statement.

1=strongly disagree	4=agree slightly more than disagree
2=moderately disagree	5=moderately agree
3=disagree slightly more than agree	6=strongly agree

1.	I find my professional role satisfying.	1	2	3	4	5	6
2.	I look forward to each day at school.	1	2	3	4	5	6
3.	I am committed to making our school one of the best.	1	2	3	4	5	6
4.	If I could start over, I would become a teacher again.	1	2	3	4	5	6

Part B
Please indicate how often you experience each of the following job-related feelings.

0=never	4=once a week
1= a few times a year or less	5=a few times a week
2=once a month or less	6=every day
3=a few times a month	

1.	I feel emotionally drained from my work.	0	1	2	3	4	5	6
2.	I feel used up at the end of the workday.	0	1	2	3	4	5	6
3.	I feel fatigued when I get up in the morning and have to face another day on the job.	0	1	2	3	4	5	6
4.	Working with students all day is really a strain for me.	0	1	2	3	4	5	6
5.	I feel frustrated by my job.	0	1	2	3	4	5	6

APPENDIX B

Your Name _____   Consultant Name: _____

PATHS Consultant Evaluation Form – T

Thank you for meeting with the PATHS Consultant this year. In order to improve the services consultants offer, we would like you to complete this form. Please answer candidly; your responses will be treated confidentially and will not be shared with the consultant. We appreciate your assistance.

For each of the following statements, circle the number that most accurately reflects your perceptions of the consultant. Use the scale below as a guide.

1	2	3	4	5	6	7
Strongly Agree			Neutral			Strongly Disagree

1.	The consultant offered useful information.	1	2	3	4	5	6	7
2.	The consultant was a good listener.	1	2	3	4	5	6	7
3.	The consultant helped me identify useful resources.	1	2	3	4	5	6	7
4.	The consultant encouraged me to see situations in a new light.	1	2	3	4	5	6	7
5.	The consultant viewed her role as a collaborator rather than as an expert.	1	2	3	4	5	6	7
6.	The consultant helped me find ways to apply the content of our discussions to my class.	1	2	3	4	5	6	7
7.	The consultant was able to offer assistance without completely "taking over."	1	2	3	4	5	6	7
8.	I would choose to work with this consultant again, assuming that other consultants were available.	1	2	3	4	5	6	7
9.	The group consultation meetings were helpful.	1	2	3	4	5	6	7
10.	The individual consultation meetings were helpful.	1	2	3	4	5	6	7
11.	The consultant and I worked well together.	1	2	3	4	5	6	7
12.	The consultant's feedback after observing was helpful.	1	2	3	4	5	6	7
13.	It was easy to get in touch with the consultant.	1	2	3	4	5	6	7
14.	The consultant had clear understanding of my situation.	1	2	3	4	5	6	7
15.	The consultant had good follow through.	1	2	3	4	5	6	7

16. Approximately, how many times did you meet with the consultant?   Individually _____   Group _____

APPENDIX B

STUDENT RATING FORM

Please indicate how often each statement is true of this child, compared to others (boys/girls) at this grade level.

1=almost never	4=often
2=rarely	5=very often
3=sometimes	6=almost always

1.	Stops and calms down when excited	1	2	3	4	5	6
2.	Recognizes and labels feelings	1	2	3	4	5	6
3.	Handles disagreements in a positive way	1	2	3	4	5	6
4.	Obeys classroom rules and directions	1	2	3	4	5	6
5.	Shows empathy and compassion	1	2	3	4	5	6
6.	Provides help, cooperates with others	1	2	3	4	5	6
7.	Takes turns, plays fair, follows rules	1	2	3	4	5	6
8.	Listens carefully to others	1	2	3	4	5	6
9.	Initiates interactions in positive manner	1	2	3	4	5	6
10.	Gets into fights or quarrels with other students	1	2	3	4	5	6
11.	Has to be coaxed or forced to work or play with other students	1	2	3	4	5	6
12.	Is restless	1	2	3	4	5	6
13.	Is unhappy or depressed	1	2	3	4	5	6
14.	Disrupts class discipline	1	2	3	4	5	6
15.	Becomes sick when faced with a difficult school problem or situation	1	2	3	4	5	6
16.	Is obstinate or defiant	1	2	3	4	5	6
17.	Feels hurt when criticized	1	2	3	4	5	6
18.	Is impulsive	1	2	3	4	5	6

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19.	Is moody	1	2	3	4	5	6
20.	Has difficulty reading at grade level and answering questions	1	2	3	4	5	6
21.	Has difficulty solving grade level math problems	1	2	3	4	5	6

APPENDIX B
Consultant Evaluation of Teacher Engagement in PATHS

Consultant's Name:
Date:
Teacher's Name
Teacher's School and Grade

1. Embraced the goals of PATHS.

	1	2	3	4	5	6	7
Strongly agree / Strongly disagree

2. Expressed confidence in ability to teach PATHS.

	1	2	3	4	5	6	7
Strongly agree / Strongly disagree

3. Sought the consultant's suggestions about how to improve PATHS implementation.

	1	2	3	4	5	6	7
Strongly agree / Strongly disagree

4. Founds ways to teach or apply PATHS concepts throughout the day.

	1	2	3	4	5	6	7
Strongly agree / Strongly disagree

5. Was creative in implementing PATHS.

	1	2	3	4	5	6	7
Strongly agree / Strongly disagree

6. Exhibited visible signs of PATHS implementation in the classroom (e.g., posters, feeling words on wall, turtle reminders, KOD chair or poster).

	1	2	3	4	5	6	7
Strongly agree / Strongly disagree

7. Made useful contributions to team meetings (suggestions, questions, things to share).

	1	2	3	4	5	6	7
Strongly agree / Strongly disagree

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8. Used the PATHS group meetings to support each other's implementation.

	1	2	3	4	5	6	7
Strongly agree							Strongly disagree

9. Treated consultant with respect.

	1	2	3	4	5	6	7
Strongly agree							Strongly disagree

10. Kept appointments with the consultant

	1	2	3	4	5	6	7
Strongly agree							Strongly disagree

11. Prepared for PATHS lessons.

	1	2	3	4	5	6	7
Strongly agree							Strongly disagree

12. Expressed negative attitudes toward effectiveness of PATHS.

	1	2	3	4	5	6	7
Strongly agree							Strongly disagree

13. Expressed view that PATHS was an imposition.

	1	2	3	4	5	6	7
Strongly agree							Strongly disagree

14. Was attentive and engaged during training.

	1	2	3	4	5	6	7
Strongly agree							Strongly disagree

15. Shared examples of PATHS's effectiveness with consultant or others.

	1	2	3	4	5	6	7
Strongly agree							Strongly disagree

VITA

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