

# Understanding and Improving Classroom Emotional Climate and Behavior Management in the “Real World”: The Role of Head Start Teachers’ Psychosocial Stressors

Christine Li Grining  
*Department of Psychology*  
*Loyola University Chicago*

C. Cybele Raver  
*Department of Applied Psychology*  
*New York University*

Kina Champion and Latriese Sardin  
*Harris School of Public Policy*  
*University of Chicago*

Molly Metzger  
*School of Education and Social Policy*  
*Northwestern University*

Stephanie M. Jones  
*Graduate School of Education*  
*Harvard University*

*Research Findings:* This article reports on two studies. Study 1 considered ways in which Head Start teachers' ( $n = 90$ ) psychosocial stressors are related to teachers' ability to maintain a positive classroom emotional climate and effective behavior management in preschool classrooms. Study 2 tested the hypothesis that among teachers randomly assigned to a treatment condition ( $n = 48$ ), psychosocial stressors serve as important predictors of their use of an intervention designed to improve classroom emotional climate and behavior management. *Practice or Policy:* Findings from Study 1 were mixed; notably, teachers' personal stressors were moderately predictive of lower use of effective strategies of behavior management in the classroom. Findings from Study 2 suggest that psychosocial stressors are not a barrier to teachers' use of intervention services. Contrary to our expectations, teachers reporting more stressors attended more training sessions than did teachers reporting fewer stressors. Teachers reporting higher levels of stress availed themselves of less support from mental health consultants during classroom consultation visits offered to treatment group classrooms as part of the intervention.

Scholars have recently focused on preschool teachers' management of classroom behavior as an important potential mechanism for improving children's school readiness (Bagnato, 2006; Bodrova & Leong, 2006; Hemmeter, Ostrosky, & Fox, 2006; see Raver, Garner, & Smith-Donald, 2007, for a review). The extant research on teacher effectiveness suggests that when teachers sustain emotionally positive classroom climates and effectively manage children's behavior, children demonstrate high engagement in learning (Gettinger & Stoiber, 1998). Indeed, teacher-child relationships characterized by more warmth and responsiveness, and by less anger and harshness, are linked to children's greater academic achievement and social competence, especially for children at risk (Burchinal, Peisner-Feinberg, Pianta, & Howes, 2002; Decker, Dona, & Christenson, 2007; Hamre & Pianta, 2005).

Following this line of research, a number of intervention programs target improvement in positive emotional climate and teachers' management of children's behavior in order to foster their school readiness. Our intervention program, the Chicago School Readiness Project (CSRP), is one example that draws from education and early intervention research (Hamre & Pianta, 2005; Hemmeter et al., 2006; Silver, Measelle, Armstrong, & Essex, 2005; Zaslow et al., 2006). Although children's well-being was a primary target of the CSRP intervention, we recognize that teachers are also important targets of intervention in their own right. Specifically, teachers may have difficulty maintaining emotionally positive classroom climates and successful behavior management when they themselves experience a high level of psychosocial stress in their personal lives and in their roles as caregivers. Moreover, those psychosocial stressors may limit teachers' ability or willingness to participate in interventions designed to support them in sustaining positive emotional climates and effective behavior management in their classrooms. Simply put, one "stumbling block" to the success of these interventions, and one threat to classroom emotional climate and behavior management, may be teachers' exposure to stressors.

## TEACHERS' PSYCHOSOCIAL STRESSORS

In order to better understand factors contributing to classroom emotional climate and behavior management, we consider teachers' behavior as embedded within their own psychological development. Teachers' developmental contexts are broad, spanning both the personal and professional spheres of their lives. Thus, our current investigation is framed by two developmental models. First, we are guided by family stress models, which suggest that adults' expressions of negative emotion are associated with higher levels of exposure to poverty-related stressors (Conger, Ge, Elder, Lorenz, & Simons, 1994; McLoyd, 1990). Second, the current study focuses on emotion socialization processes, which reflect the social interactions between caregivers and children that shape children's emotional and behavioral development. These social interactions include adults' emotional expression in the context of caregiving, reactions to children's emotions and behavior, and discussions of children's emotions and behavior (Zahn-Waxler, Klimes-Dougan, & Kendziora, 1998). It is important to note that family stress models and emotion socialization models have been less clearly applied to educational contexts in which teachers shape children's emotional and behavioral development. Poverty-related stressors might take a toll on optimal caregiving provided by both parents and teachers, each of whom struggle to make ends meet with fewer economic resources (Curbow, 1990; Raver, 2004). It is to the literature on stressors experienced by teachers that we now turn.

### Personal Stressors

One source of teachers' personal stress may be low levels of education and experience. Recent studies of early childhood professionals have shown that most pre-kindergarten teachers hold at least a bachelor's degree and have 10 years of experience teaching 4-year-olds (Early et al., 2006; Fuller & Strath, 2001). Given that 70% of Head Start teachers have completed at least some college, teachers with less than an associate's degree and only a few years of experience may be disadvantaged relative to their colleagues (Early et al., 2006; Li-Grining & Coley, 2006). Surprisingly, the evidence of teachers' lower education and experience posing a risk to classroom quality is mixed, with some studies finding little evidence of a positive relation between early childhood teachers' education and experience and the quality of their interactions with children (e.g., Burchinal et al., 2002; Early et al., 2007; NICHD, 2002, 2005; Pianta et al., 2005; see Tout, Zaslow, & Berry, 2006, for reviews).

One reason for these mixed findings is that education and work experience may be confounded by teachers' exposure to other personal stressors. Personal stressors may include teachers' status as single parents or as primary income earners, their role in leading a large family, and their experience of elevated levels of de-

pressive symptoms. The literature on low-income families has long considered single parenthood and large family size as risk factors (Ackerman, Schoff, Levinson, Youngstrom, & Izard, 1999; Campbell, Shaw, & Gilliom, 2000). This literature is particularly relevant to understanding the socioeconomic and developmental context of Head Start teachers, many of whom are low-income parents themselves. Head Start teachers must make “ends meet” with salaries that are low, averaging just over \$20,000 a year in 2000 (Edin & Lein, 1997; U.S. General Accounting Office, 2003). Furthermore, teachers’ salaries alone are not likely to raise their household income far above the federal poverty line (Mocan & Tekin, 2000; Phillips, Mekos, Scarr, McCartney, & Abbott-Shim, 2000). Thus, it is not surprising that teachers have identified low salaries as a job stressor (Blase & Pajak, 1986; Litt & Turk, 1985). Lastly, recent research on caregivers’ depressive symptoms and children’s socioemotional outcomes has expanded to include teachers’ depression, with children showing more emotional difficulty when both their mothers and teachers faced high levels of depressive symptoms (Belle, 1990; Forehand, Jones, Brody, & Armistead, 2002; Hamre & Pianta, 2004).

### Work-Related Stressors

A broad literature on occupational stressors suggests that teachers hold jobs that may confer additional risk to their well-being (see Curbow, 1990; Raver, 2004, for reviews). Teachers’ work stressors have been described along the dimensions of job demands, job resources, and job control (Curbow, Spratt, Ungaretti, McDonnell, & Breckler, 2000). Experiencing high demands (e.g., keeping a large number of preschoolers safe, organized, and attentive), low psychological resources (e.g., lack of appreciation from parents), and a lack of self-efficacy (i.e., little confidence in their ability to manage classroom behavior) has been linked to teachers feeling burnt out and exhausted (Brouwers & Tomic, 2000; Byrne, 1994; Hakanen, Bakker, & Schaufeli, 2006). Yet we know little about the prevalence of work stressors, especially among preschool teachers in low-income communities.

## CLASSROOM EMOTIONAL CLIMATE AND BEHAVIOR MANAGEMENT

Given that Head Start teachers have been hypothesized to experience high levels of personal and work-related stress, another question is whether teachers’ stressors threaten the emotion socialization processes occurring in their classrooms, such as teachers’ showing of positive emotions toward children and their managing of children’s behavior (Kontos & Stremmel, 1988). Poverty-related risk has been associated with mothers’ higher expression of negative emotions in a number of correlational studies (e.g., McLoyd & Smith, 2002). Furthermore, women with

lower wage jobs and lower job prestige experience increases in psychological distress and in their use of emotionally negative parenting practices (Raver, 2003). In addition, teachers experiencing depressive symptoms and burnout may be more prone to engaging in harsh interactions with their students (Byrne, 1994; Curbow et al., 2000; Hamre & Pianta, 2004).

Moreover, teachers who experience high levels of work stress, low levels of confidence in behavior management, and little control in the classroom may be less likely to engage in responsive caregiving practices. Teachers with higher levels of efficacy engage in more nurturing caregiving practices (NICHD ECCRN, 2005; cf. Mantzicopoulos, 2005) and in more cooperative styles of managing conflict (Morris-Rothschild & Brassard, 2006). Furthermore, teachers who report experiencing greater control in the classroom have been found to use fewer authoritarian disciplinary strategies (Hammarberg & Hagekull, 2002). Experiencing lower demands and accessing more resources may also support the provision of responsive caregiving. Taken together, existing studies suggest that attention to teachers' experience of a broader range of stressors at home and in the workplace might deepen researchers' understanding of teachers' ability to maintain emotionally positive classroom climates and to run classrooms well.

## TEACHERS' USE OF INTERVENTION SERVICES

Testing relations between teachers' stressors and emotion socialization processes in the classroom not only informs basic developmental models, it also advances understanding of the nuts and bolts of the ways those classrooms processes can be improved through intervention. Professional development opportunities and mental health consultation offered as a package to teachers may be a promising avenue of intervention. However, teachers might vary in how they use the components of such intervention packages. This idea that intervention may not be equally used by all teachers is called *dosage* (Charlebois, Brendgen, Vitaro, Normandeau, & Boudreau, 2004; Kazdin & Wassell, 1999).

Though past research on dosage has focused on concerns with participant satisfaction and cultural relevance (Coard, Wallace, Stevenson, & Miller Brotman, 2004; Korfmacher, Kitzman, & Olds, 1998), we consider whether teachers facing more stressors may be less likely to use intervention services than teachers dealing with fewer stressors. One challenge in working with teachers is that the stressors that may compromise classroom quality may also act as barriers to interventions designed to improve classroom quality. Though teachers' stressors may undermine intervention efforts, they are less well studied as predictors of participants' use of intervention services (Domitrovich & Greenberg, 2000).

Yet there are no guarantees that teachers will use intervention services just because these services are made available (Graczyk, Domitrovich, Small, & Zins,

2006; Walker, 2004). In some classroom-based interventions, for example, 63% of teachers were reported to attend at least one session of multisession training programs, with adults attending 5 to 6 sessions, on average, out of the 10 to 12 sessions offered (Barrera et al., 2002; Lochman & Wells, 2003). Recent analyses of dosage have drawn attention to the challenges that teachers and intervention staff face delivering new services to school-based settings (Jones, Brown, Aber, & Thomas, 2006). These challenges are concerning, given that supporting teachers is recognized as key to intervention implementation and outcomes (Aber, Brown, & Jones, 2003; Atkins, Graczyk, Frazier, & Abdul-Adil, 2003; Kratochwill & Shernoff, 2004; Witt, VanDerHeyden, & Gilbertson, 2004). In keeping with past research, the following analyses allow us to assess the obstacles that limit community members' participation in intervention services (Atkins et al., 2003; Brody, Murry, Chen, Kogan, & Brown, 2006).

## RESEARCH GOALS

Here we tested the hypothesis that teachers dealing with more stressors may be less inclined to use intervention services. Focusing on teachers' characteristics is an important complement to the attention paid to program characteristics as predictors of teachers' use of intervention services. For example, teachers with greater personal stressors may have fewer personal resources (e.g., time, energy, motivation) with which to engage in workforce development opportunities. Past research suggests that teachers' use of intervention services will also depend on aspects of the intervention that place excess demands on teachers versus provide them with additional services (see Elliott, Witt, Kratochwill, & Callan Stoiber, 2002, for a review). Thus, if using intervention services appears taxing, teachers with more stressors may use fewer services (Fantuzzo, McWayne, & Childs, 2006; Haggerty et al., 2002). Furthermore, barriers to families' use of intervention services include single parenthood, low income, and mental health problems (Dumka, Garza, Roosa, & Stoerzinger, 1997; Toomey et al., 1996). In addition, studies on home-visiting programs have noted that families facing greater risks, such as those with fewer social networks and low levels of education, tend to receive fewer visits (Korfmacher et al., 1998; Raikes et al., 2006).

Alternatively, we consider the counter-hypothesis that teachers who are experiencing the greatest stress on the job might be the most highly motivated to use an intervention designed to help them manage children's disruptive behavior. In this scenario, teachers' stressors would be *positively* related to their use of intervention services. Teachers experiencing greater emotional exhaustion have spent more time implementing a school-based socioemotional learning program (Jones et al., 2006). Burnt out from dealing with students' behavioral problems, teachers may be especially drawn to such programs. Mixed findings have also been noted in

studies on family intervention programs (Brody et al., 2006; Gorman-Smith et al., 2002; Haggerty et al., 2002), such that participation is positively related to some child risk factors (e.g., hyperactivity) but negatively linked to others (e.g., depression).

We (a) considered whether stressors acted as a barrier to teachers' use of intervention services designed to improve classroom quality and (b) explored whether those same stressors impeded classroom quality. Overall, we strove to situate the CSRP, a multicomponent, cluster-randomized intervention, in the developmental context of teachers' stressors. Study 1 focused on all of the teachers participating in the CSRP, regardless of whether they were randomly assigned to the control or treatment group. In Study 1, we sought (a) to depict an empirical "snapshot" of the stressors faced by teachers, (b) to understand the extent to which teachers sustained positive emotional climates and successfully managed children's behavior, and (c) to illuminate whether teachers' experience with more stressors jeopardized their ability to maintain emotionally positive classroom climates and effective behavior management at the outset of the school year.

Next we shifted our focus to teachers randomly assigned to the treatment group. In Study 2 we aimed (a) to illustrate a descriptive portrait of the degree to which teachers availed themselves of the various intervention services offered by the CSRP and (b) to understand whether teachers facing more stressors were less or more inclined to use our intervention services, which were designed to enhance teachers' ability to sustain emotionally positive classroom climates and successfully manage children's behavior. We expected that teachers experiencing more stressors would attend fewer training sessions and that fewer classroom consultation visits would be spent on strengthening teachers' behavior management strategies among teachers dealing with more stressors. Also, we anticipated that in contrast to classrooms with teachers reporting fewer stressors, classrooms with teachers facing more stressors would receive more services from mental health consultants (MHCs) because of those teachers' greater demand for services.

## METHOD

### Participants

The present investigation focused on 18 Head Start sites throughout the South and West Sides of Chicago. Sites participated as members of one of two cohorts, with half of the sites belonging to Cohort 1 and participating during the 2004–2005 school year, and half of the sites belonging to Cohort 2 and participating in the 2005–2006 school year. Study 1 focused on the 90 teachers and 35 classrooms that participated in the CSRP as a whole, whereas Study 2 focused on the 48 teachers

and 18 classrooms that were randomized to the treatment group (which received access to teacher training and the assistance of a master's-level MHC).

Prior to the start of the intervention, a total of 87 teachers participated in the CSRP. By the end of the intervention, the number of teachers had increased to 90. This net increase was due to the addition of seven more teachers and the departure of four teachers who either moved or quit. The CSRP cadre of teachers included both lead and assistant teachers. All teachers were offered training. Teachers in classrooms randomized to treatment were offered training during the intervention year, and teachers in classrooms randomized to the control group were offered training during the following year. Treatment-assigned teachers were provided support from CSRP MHCs, who brought "an extra pair of hands" to treatment classrooms once a week. To equalize the adult-child ratios across treatment and control classrooms, associate's-level teacher's aides provided control group teachers with support for the same number of hours once a week as were provided to treatment teachers from MHCs. Teachers were 40 years old on average ( $SD = 11$ ), and the vast majority were female (97%). Most teachers belonged to a racial/ethnic minority group, with 71% identifying themselves as African American, 20% as Latina, and 9% as Euro-American. Missing values were imputed for 13% of the sample on age, personal stressors, and work-related stressors, with mean imputation used for continuous variables and mode imputation used for categorical variables.

## Procedure

The CSRP staff recruited Head Start sites for participation from April to September 2004 for Cohort 1 and from April to September 2005 for Cohort 2.<sup>1</sup> The CSRP team collected baseline data from teachers and classrooms in September 2004 for

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<sup>1</sup>Out of Chicago's 70 neighborhoods, we selected 7 neighborhoods that service a total of 9,877 children. Neighborhood-based site selection methods were used and were based on several criteria (including a population of 400 or more Head Start-eligible children under the age of 6, a rate of mobility less than or equal to 15%, and a balanced representation of African American and Latino/Hispanic residents; Chapin Hall Center for Children, 2006; U.S. Census Bureau, 2002). Research staff completed block-by-block surveys of each neighborhood, identifying a total of 121 child-serving organizations. All programs ( $n = 121$ ) were screened by phone for eligibility, which included receipt of Head Start funding, provision of full-day Head Start programs, and services in two or more classrooms. Sites that were found to meet the inclusion criteria ( $n = 43$ ) were invited to participate by phone, fax, or mail. Sites that were found not to meet the inclusion criteria ( $n = 78$ ) were dropped from site recruitment lists. Of the 43 sites invited to participate, 25 either refused (citing barriers such as recent turnover in organizational leadership, competing administrative demands, etc.;  $n = 17$ ) or failed to respond to repeated invitations to self-nominate for participation ( $n = 8$ ). The remaining 18 sites were randomized after completing site enrollment procedures (including site visits by CSRP staff, drafting and signing of memos of understanding, and collection of data on site-level characteristics). Of the 18 randomized sites, 9 were allocated to intervention, with all 9 sites receiving the allocated intervention.

Cohort 1 and in September 2005 for Cohort 2. Teachers reported on their demographic characteristics and psychosocial stressors, using either English or Spanish versions of the measures. Members of the CSRP team who were blind to random assignment collected observational data on the quality of classrooms.

Beginning in October, two main components of the CSRP intervention were implemented. First, the teacher training component, composed of five monthly trainings, was held from October to March. Each training session lasted 6 hr and addressed proactive classroom management strategies (see details below) adapted from Webster-Stratton, Reid, and Hammond (2004; see also Madison-Boyd et al., 2006). In an effort to maximize teachers' use of intervention services, a CSRP program coordinator visited teachers in treatment classrooms. The program coordinator provided logistical support, including signing teachers up and confirming their plans to attend training sessions, scheduling onsite child care for teachers' children, and coordinating timely reimbursement for teachers' payments. At the end of each training session, both teachers and MHCs evaluated the session.

Second, the MHC/coaching component of the CSRP intervention was initiated during the same time period. A master's-level social worker was assigned to each site to provide in-classroom mental health consultation through weekly visits that lasted 5 hr each, on average, from October to June. The CSRP MHCs "coached" teachers as teachers implemented behavior management strategies in the classroom. At the conclusion of each visit, MHCs reported on teachers' attempts at classroom management techniques; teachers' concerns; the activities that the MHCs had pursued as part of mentoring and coaching; and the types of social services that MHCs had provided to teachers, children, and parents.

In order to judge the acceptability of the CSRP intervention, both teachers and MHCs were asked to rate each other's use of and satisfaction with different components of the intervention throughout the school year. MHCs reported that most (but not all) training goals were met during training sessions and that more than half of the teachers were engaged in the sessions. MHCs rated teachers' use of classroom management techniques as somewhat successful. From the teachers' perspectives, the trainings were extremely helpful, and MHCs were rated by teachers as somewhat to very helpful in terms of implementing classroom management strategies and providing consultation to teachers and children. We now turn to the measures used to examine the links among teachers' psychosocial stressors, classroom quality, and use of intervention services.

## Measures

### *Teachers' Psychosocial Stressors*

The current investigation viewed psychosocial stressors as occurring in (a) teachers' personal lives outside of the classroom as well as in (b) teachers' profes-

sional lives inside the classroom. Teachers' stressors were captured in the fall with 10 items across two domains.

*Personal stressors.* The top half of Table 1 presents descriptive data on six self-reported risks that reflected teachers' socioeconomic resources, family structure, and psychological well-being. Teachers' demographic information was collected using a questionnaire derived from the Cornell Early Social Development Study (Raver, 2003). The measure contains questions about age, gender, and race/ethnicity. The survey also included questions about work history, household income, marital/partner status, and household structure. Socioeconomic risk was assessed using three measures: whether teachers held less than an associate's degree, whether teachers had taught in preschool classrooms for 3 years or less, and whether teachers were the primary income earner of their households. Family structure risk factors included being single (i.e., not married) and living with four or more minors (Ackerman et al., 1999).

Psychological well-being was measured using teachers' self-reports of depressive symptoms based on the K6 (Kessler et al., 2002). The K6 is a 6-question truncated version of a scale of psychological distress developed for the National

TABLE 1  
Descriptive Statistics on Teachers' Psychosocial Stressors ( $n = 90$ )

<i>Variable</i>	<i>M (SD) or %</i>	<i>Presence of Risk Factor (%)</i>
<b>Personal stressors</b>		
Education		
High school or some college	29	29
Associate's degree	46	
Bachelor's degree or higher	26	
Experience		
3 years or less	28	28
3–10 years	50	
More than 10 years	22	
Primary earner in household	67	67
Marital status		
Single	47	66
Married	34	
Living with partner	3	
Divorced, separated, or widowed	16	
Number of household members	3.37 (1.34)	40
Depressive symptoms	2.84 (2.55)	33
<b>Work-related stressors</b>		
Job demands	2.74 (0.64)	36
Job resources	3.92 (0.66)	31
Job control	3.32 (0.67)	28
Lack of confidence in behavior management	1.83 (0.76)	29

Health Interview Survey. Typically, a raw score of 13 or higher on the K6 is used to screen for serious mental illness. Because of the truncated range in our sample, we could not use this cutoff, meaning that we could not use the K6 to identify teachers with clinical levels of depression or teachers with atypical K6 scores. However, to get a sense of CSRPs' levels of depressive symptoms relative to one another, we used the K6 to identify teachers with more versus fewer symptoms. Specifically, following recent research on risk (e.g., Gerard & Buehler, 2004; Li-Grining, 2007) we used a 75th percentile cutoff, considering a raw score of 4 or more to identify teachers with greater depression relative to their CSRPs peers ( $\alpha = .65$ ).

*Work-related stressors.* The bottom half of Table 1 presents descriptive statistics on four self-reported stressors experienced in the workplace. Most items were drawn from the Child Care Worker Job Stress Inventory (CCW-JSI), a self-report measure designed to capture job stress experienced by child care providers in family day care homes and child care centers (Curbow et al., 2000). Based on quantitative and qualitative research, the CCW-JSI scale measures job stress along three dimensions (job demands, job control, and job resources) and demonstrates high validity and internal consistency (Curbow et al., 2000). A shortened version of the measure was used here. The job demands scale ( $\alpha = .67$ ) was based on six items (e.g., children simultaneously needing attention), job control ( $\alpha = .56$ ) was based on five items (e.g., programmatic control, and the control teachers have in getting children to do what they want), and job resources ( $\alpha = .62$ ) was based on four items (i.e., psychological resources, such as appreciation from parents). Teachers rated job demands, control, and resources from 1 = *rarely* to 5 = *most of the time*.

In addition, teachers were asked to report on their lack of confidence in managing children's behavior ( $\alpha = .67$ ), using five items on a scale of 1 to 5, with 1 = *disagree* and 5 = *agree*. Three of these items (e.g., "Some children do things that I do not know how to handle") were taken from Hammarberg and Hagekull (2002). The other items were written for this project (e.g., "I sometimes have to send a child to the director's office"; "I am confident about other teachers' skills in managing my classroom" [reverse coded]) based on research regarding teachers' attributions about the causes of children's behavior (Scott-Little & Holloway, 1992).

These work-related stressors were then coded as risk factors, such that teachers with less job control and fewer job resources (i.e., at the 25th percentile or lower) and those with greater job demands (i.e., at the 75th percentile or higher) were categorized as experiencing stressors (Gerard & Buehler, 2004). In addition, because the confidence measure was reverse scored, with higher ratings indicating *less* confidence, teachers with higher ratings on this measure (i.e., at the 75th percentile or higher) were considered at risk. Specifically, the work-related risk factors reflected lacking confidence in behavior management sometimes or often (scores of

2 or more), experiencing job demands sometimes to most of the time (scores of 3 or more), and rarely to sometimes having control in the classroom (scores less than 3). In addition, risk included rarely to sometimes having resources at work (scores less than 4).

### *Classroom Emotional Climate and Behavior Management*

The quality of Head Start classrooms was measured in the fall through structured observational ratings. Given the CSRP's focus on emotion socialization processes, we used components of the Classroom Assessment Scoring System (CLASS; LaParo, Pianta, & Stuhlman, 2004) and Early Childhood Environment Rating Scale–Revised (ECERS-R; Harms, Clifford, & Cryer, 1998) that reflected emotional climate and behavior management. The CLASS measure provides global, 7-point Likert scores on various aspects of teachers' interaction with their classrooms, with scores of 1 and 2 in the low range, scores of 3 through 5 in the moderate range, and scores of 6 and 7 in the high range. The CLASS emotional climate subscore had an interrater reliability alpha of .95 and an internal consistency alpha of .92 for the current investigation. The subscore's three components are Positive Climate (e.g., enjoyment), Negative Climate (e.g., harshness), and Teacher Sensitivity (e.g., responsiveness).

We also used the CLASS rating for behavior management (e.g., effective methods for preventing children's misbehavior) and the ECERS-R Social Interaction subscale (e.g., supervision, discipline, and staff–child interactions). Trained observers completed the ECERS-R, a well-validated and widely used measure. Based on observations conducted over a minimum of 3 hr, ratings of 1 to 7 were assigned at the item level through the dichotomous rating of a series of sub-items. Ratings were anchored on odd numbers as follows: 1 = *inadequate*, 3 = *minimally adequate*, 5 = *good*, and 7 = *excellent*. The total score had an interrater reliability alpha of .87 for this investigation. The Social Interaction subscale for this study had an alpha of .50.

### *Use of Intervention Services*

Seven indicators of teachers' use of our intervention reflected teachers' participation in training and MHCs' provision of services. First, the number of trainings attended was calculated based on payments to teachers for their participation. Second, the number of classroom consultation visits made and the length of each MHC's visit was calculated based on the number of weekly reports submitted by each MHC. Third, the total number of service hours was calculated based on the sum of training hours across teachers within each classroom and MHC visit hours for each classroom. The MHCs' weekly reports included documentation of the six different types of social services that could have been provided during each visit

(i.e., offering social support, coaching, reducing teachers' stress, providing direct service to children, facilitating parent-teacher meetings, and making referrals). The fourth and fifth intervention measures reflected the number of visits during which each type of social service was offered and the range of social services provided across visits.

The MHCs' weekly reports of classroom visits also included documentation of what tasks were completed, whether teachers tried the classroom management techniques taught in the trainings, whether MHCs coached teachers in implementing those techniques, and what concerns teachers had during each visit. These sections of the report were coded<sup>2</sup> to assess the extent to which teachers and MHCs addressed the following classroom management strategies during visits. Promoting positive behavior includes praise and encouragement, whereas managing misbehavior encompasses ignoring attention-seeking behavior and giving warnings (i.e., more serious reminders of consequences for breaking rules). The redirection/limit-setting strategy is distinct in that it is composed of gentle reminders of rules as well as specific and concise methods of keeping the whole class on task (e.g., turning lights on and off). The positive relationship-building strategy refers to MHCs' reports on the extent to which teachers expressed concern for not feeling positively about children, or whether teachers were observed by MHCs to be making perjorative attributions about children. Lastly, problem solving includes encouraging children to use "feeling" language (e.g., "words not hands"). Using these codes, we created the sixth and seventh intervention indicators: the number of visits during which each classroom management technique was used and the range of classroom management techniques used by teachers and MHCs across visits.

## RESULTS

### Teachers' Stressors

The first aim of Study 1 was to provide a descriptive portrait of the psychosocial stressors among Head Start teachers participating in the CSRP. Table 1 shows information on teachers' personal and work-related stressors in the fall. Regarding household structure, it can be seen that two thirds of teachers were single, living with a partner, or divorced, separated, or widowed; 40% lived in households characterized by large family size. In addition, two thirds of teachers were the primary

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<sup>2</sup>From January through March 2006, the first author and four other staff members spent a total of 25 hr over the course of 5 days double-coding 5% of these weekly reports (26/513). Interrater reliability with the first author was determined by dividing the number of codes in total agreement by the total number of codes assigned. The interrater reliability score between the first author and each staff member was 76% (93/123), which is in keeping with other recent intervention studies (Gettinger & Stoiber, 2006).

income earner in their households. Nearly 30% of teachers held less than an associate's degree, and nearly 30% of teachers had 3 years of experience or less, which mirrors national data (NIEER, 2003). Although no teachers reported clinical levels of depressive symptoms, one third of teachers had a score of 4 or higher on the K6, meaning that they experienced 1 or more symptoms some, most, or all of the time.

Teachers' experience with stressors in the workplace is shown at the bottom of Table 1. Substantial percentages of teachers encountered high demands as well as few resources and low control at work, with 36% reporting job demands at the high end, and 31% and 28% reporting job resources and job control at the low end, respectively. Nearly 30% of teachers reported feeling low levels of confidence with managing children's behavior in the classroom.

### Classroom Emotional Climate and Behavior Management

The second goal of Study 1 was to focus on classroom quality. Table 2 presents statistics on classroom quality in the fall. To provide context, we show the entire CLASS and ECERS-R measures. However, given the focus of the current study, only the components of the CLASS and ECERS-R that reflect emotion socializa-

TABLE 2  
Descriptive Statistics for Classroom Quality ( $n = 35$ )

<i>Variable</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
<b>CLASS</b>				
<b>Positive Climate</b>	<b>5.25</b>	<b>1.00</b>	<b>3.00</b>	<b>6.60</b>
<b>Negative Climate</b>	<b>2.05</b>	<b>1.00</b>	<b>1.00</b>	<b>5.40</b>
<b>Teacher Sensitivity</b>	<b>4.82</b>	<b>1.06</b>	<b>2.60</b>	<b>6.80</b>
<b>Behavior Management</b>	<b>4.86</b>	<b>1.07</b>	<b>1.60</b>	<b>6.80</b>
Overcontrol	1.98	1.03	1.00	4.20
Productivity	4.46	1.14	1.60	6.00
Concept Development	1.91	0.67	1.00	3.80
Instructional Learning Formats	2.80	1.12	1.20	5.00
Quality of Feedback	2.22	0.94	1.00	5.20
Child Engagement	5.24	1.08	2.00	6.75
<b>ECERS-R</b>				
<b>Social Interaction</b>	<b>5.21</b>	<b>1.31</b>	<b>2.70</b>	<b>6.80</b>
Space & Furnishings	4.81	0.74	3.33	6.06
Personal Care Routines	4.97	1.24	1.00	6.50
Language & Reasoning	4.58	1.03	2.38	6.75
Activities	4.49	0.94	2.10	6.70
Program Structure	4.66	1.51	1.83	7.00
Parents & Staff	5.25	0.94	3.00	6.50

*Note.* Boldface indicates scales that form the focus of this study. Other scales are reported to give the reader contextual information on classroom functioning. CLASS = Classroom Assessment Scoring System; ECERS-R = Early Childhood Environment Rating Scale-Revised.

tion processes were used in analyses (i.e., the Positive Climate, Negative Climate, Teacher Sensitivity, and Behavior Management subscores from the CLASS and the Social Interaction subscale from the ECERS-R; these are bold in Table 2). Ratings of Positive Climate, Teacher Sensitivity, and Behavior Management fell in the moderate range, and ratings of Negative Climate fell in the low range. There was substantial variance, for example with Teacher Sensitivity and Behavior Management ranging from low to high. The quality of social interaction in the classroom was good, on average, with quality spanning a range of inadequate to nearly excellent.

### Teachers' Stressors as Predictors of Classroom Emotional Climate and Behavior Management

Our third goal in Study 1 was to investigate the role of teachers' psychosocial stressors as predictors of classroom emotional climate and behavior management at the beginning of the school year. Using ordinary least squares regression,<sup>3</sup> we predicted indicators of classroom quality from teachers' personal and work stressors, which were aggregated across teachers within each classroom to create classroom-level variables of these measures. Because of sample size constraints, we were unable to test whether each stressor uniquely predicted classroom quality net of other stressors. Thus, we added the dichotomous risk indicators to reflect the total number of stressors teachers experienced, with the personal stressor index ranging from 0 to 6 and the work-related stressor index ranging from 0 to 4. We then used these cumulative indices as predictors of classroom quality. If either cumulative index emerged as a significant predictor, we replaced the index with each of its individual components, running separate models with each of its individual components as predictors. These additional analyses provided preliminary evidence of which factors may especially pose a special risk to classroom quality. To test for the robustness of our findings, we investigated whether teachers' stressors remained significant predictors net of teacher age and race/ethnicity.

For two of the five indicators of classroom quality examined here, teachers' psychosocial stressors emerged as significant predictors. Specifically, the more personal stressors teachers faced, the more likely their classrooms were to be rated lower in terms of behavior management ( $B = -0.45$ ,  $SE = .16$ ,  $p < .05$ ),  $F(2, 17) = 4.01$ ,  $p < .05$ ,  $R^2 = .14$ ; and social interaction ( $B = -0.49$ ,  $SE = .19$ ,  $p < .05$ ),  $F(2, 17)$

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<sup>3</sup>Basic assumptions of OLS regression were checked across all model specifications and were well satisfied. To account for the nonindependence from including data from teachers embedded within classrooms and classrooms embedded within sites, all analyses included a standard error adjustment (formally known as the *Huber-White adjustment*; White, 1980; Wooldridge, 2000). The Huber-White adjustment is designed to adjust for dependence in data that may arise as a result of analyzing units that are nested in groups (Wooldridge, 2000).

= 4.93,  $p < .05$ ,  $R^2 = .09$ , controlling for work stressors. An additional personal stressor was linked to moderately lower classroom quality scores (.42 *SD* lower for behavior management and .37 *SD* lower for social interaction).

In additional analyses, one of the six personal stressors emerged as a significant predictor. On average, classrooms with higher percentages of less experienced teachers were rated lower on quality measures of behavior management ( $B = -1.13$ ,  $SE = .26$ ,  $p < .001$ ),  $F(4, 17) = 12.76$ ,  $p < .001$ ,  $R^2 = .28$ ; and social interaction ( $B = -1.34$ ,  $SE = .45$ ,  $p < .01$ ),  $F(4, 17) = 5.80$ ,  $p < .01$ ,  $R^2 = .24$ , net of teachers' work stressors, age, and race/ethnicity. A standard deviation increase in the proportion of teachers with low levels of experience was linked to moderately lower classroom quality scores (.38 *SD* lower for behavior management and .37 *SD* lower for social interaction). Teachers' work stressors were not predictive of the observed classroom quality measures analyzed here.

### Use of Intervention Services

After examining the relation between teachers' stressors and classroom quality at the start of the school year in Study 1, we then shifted attention in Study 2 to the CSRP's efforts to improve classroom quality over the academic year. That is, whereas Study 1 considered the entire sample of 90 teachers, Study 2 focused more closely on the 48 teachers randomized to the treatment group.

Table 3 provides descriptive data on teachers' use of intervention services aggregated over the school year. On average, teachers attended three of the five trainings, and MHCs visited classrooms 29 times during the academic year. This resulted in classrooms receiving an average of 128 hr of mental health consultation by the end of the academic year. The most common social services offered were social support and coaching, with teachers receiving social support and coaching during a mean number of 23 and 15 visits, respectively. It is important to note that the average classroom received nearly all six social services offered by the CSRP.

As can be seen in Table 3, teachers and MHCs spent the most time on promoting positive behavior and on redirection/limit setting. These strategies were addressed during a mean number of 11 classroom consultation visits during the year. Notably, teachers and MHCs spent time on all five behavior management strategies in every classroom.

### Teachers' Stressors as Predictors of Their Use of Intervention Services

Another goal of Study 2 was to examine teachers' stressors as predictors of their use of CSRP intervention services, which were designed to improve classroom quality across the academic year. Specifically, we used OLS regression to analyze teachers' personal and work stressors as predictors of their use of intervention ser-

TABLE 3  
Descriptive Statistics for Teachers' Use of Intervention Services

<i>Variable</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Teacher level ( <i>n</i> = 48)				
Number of training sessions	3.08	1.93	0.00	5.00
Classroom level ( <i>n</i> = 18)				
Number of mental health consultation visits	28.50	5.0	21.00	40.00
Hours of mental health consultation	128.31	17.90	100.00	152.42
Number of visits during which each social service was received				
Receipt of social support	23.00	7.07	11.00	37.00
Coaching	15.44	7.49	5.00	33.00
Reducing stress	4.39	3.11	1.00	11.00
Direct service	8.00	3.09	3.00	14.00
Parents and/or teachers	2.61	1.75	0.00	7.00
Referrals	0.72	0.67	0.00	2.00
Range of social services received	5.56	0.62	4.00	6.00
Number of visits during which each classroom management strategy was used				
Promoting positive behavior	11.33	5.10	4.00	23.00
Managing misbehavior	7.50	2.79	4.00	14.00
Redirection, consistent limit setting, and giving clear commands	10.78	3.41	3.00	17.00
Positive relationship building and promoting empathy	3.94	2.01	1.00	7.00
Problem solving	5.44	3.63	2.00	16.00
Range of management strategies	5.00	0.00	5.00	5.00

vices. One set of intervention analyses was conducted at the teacher level, predicting teachers' training attendance from cumulative indices of their personal and work stressors. We then conducted the remaining analyses at the classroom level, predicting other indicators of teachers' experience with the intervention (e.g., number of visits during which each classroom received each social service, number of visits during which teachers and MHCs spent time on each classroom management technique). For these analyses, the predictors involved personal and work cumulative risk indices aggregated across teachers within each classroom. Again, we conducted additional analyses that replaced the cumulative index with each of its individual components if either of the cumulative indices emerged as significant. Findings from these additional analyses suggest which factors may especially pose a risk to the degree to which teachers avail themselves of intervention services.

Surprisingly, teachers who reported a greater number of stressors in the workplace in the fall went on to attend more behavior management trainings net of

teachers' personal stressors ( $B = 0.52$ ,  $SE = .24$ ,  $p < .05$ ),  $F(2, 17) = 2.88$ ,  $p < .08$ ,  $R^2 = .08$ , though the overall model was significant at a trend level. Teachers' experience with an additional work stressor was associated with attending a moderately higher number of trainings (.27  $SD$  higher). Additional analyses revealed a link between one of the four work stressors and training attendance. Teachers who reported a lack of confidence in managing classroom behavior at the 75th percentile or higher attended more behavior management trainings on average, controlling for teachers' personal stressors, age, and race/ethnicity ( $B = 0.84$ ,  $SE = .39$ ,  $p < .05$ ),  $F(4, 17) = 6.27$ ,  $p < .01$ ,  $R^2 = .21$ . There was a moderate gap (.44  $SD$ ) in the number of trainings attended by teachers who lacked substantial confidence in classroom management versus those who did not. However, teachers' stressors were not linked with the number of classroom visits, the number of mental health consultation hours classrooms received, or the number of visits during which each of the six different social services was provided.

We then examined teachers' stressors as predictors of the number of visits during which each of the classroom management strategies was used. In classrooms with greater teacher stress, MHCs reported that fewer visits were spent on building positive relationships and promoting empathy,  $F(2, 8) = 34.88$ ,  $p < .001$ ,  $R^2 = 0.38$ . Fewer visits were spent on this strategy when teachers experienced higher personal stressors ( $B = -1.08$ ,  $SE = .46$ ,  $p < .05$ ) and more work stressors ( $B = -1.04$ ,  $SE = .33$ ,  $p < .05$ ). Specifically, an additional stressor was related to substantially fewer visits devoted to building positive relationships (.54  $SD$  lower for personal stressors and .52  $SD$  lower for work stressors). In additional analyses, two of the six personal stressors emerged as especially salient. The MHCs observed fewer instances of this strategy among teachers facing more depressive symptoms ( $B = -0.35$ ,  $SE = .15$ ,  $p = .05$ ),  $F(2, 8) = 9.63$ ,  $p < .01$ ,  $R^2 = 0.25$ ; and among those with less experience teaching in preschool classrooms ( $B = -2.52$ ,  $SE = .92$ ,  $p < .05$ ),  $F(2, 8) = 11.82$ ,  $p < .01$ ,  $R^2 = .40$ , net of work-related stressors. A  $SD$  increase in the average depression score across teachers and a  $SD$  increase in the proportion of teachers with low experience were associated with moderately fewer visits spent on this strategy (.31  $SD$  fewer in terms of depression and .45  $SD$  fewer in terms of low experience).

Three of the four work-related stressors were significantly related to the number of visits during which the relationship-building strategy was addressed, controlling for personal stressors. This technique occurred less often in classrooms with teachers who lacked confidence in managing classroom behavior ( $B = -0.92$ ,  $SE = .40$ ,  $p = .05$ ),  $F(2, 8) = 16.06$ ,  $p < .01$ ,  $R^2 = .30$ . Yet teachers and MHCs spent more time on this strategy when teachers had more control at work ( $B = 1.96$ ,  $SE = .73$ ,  $p < .05$ ),  $F(2, 8) = 23.65$ ,  $p < .001$ ,  $R^2 = .35$ ; and marginally greater resources at work ( $B = 1.22$ ,  $SE = .59$ ,  $p = .07$ ),  $F(2, 8) = 12.91$ ,  $p < .10$ ,  $R^2 = .28$ . A  $SD$  increase in each of these stressors was related to moderately fewer visits devoted to relationship building (.28  $SD$ , .50  $SD$ , and .29  $SD$  fewer in terms

of lacking confidence, having lower control, and having fewer resources, respectively). We did not detect associations between stressors and the number of visits during which teachers and MHCs spent time on the other strategies taught in the trainings.

## DISCUSSION

The success of the CSRP depended in large part on the dedication, commitment, and professionalism of a large group of Head Start teachers. Specifically, our analyses reveal that most teachers in the treatment group actively invested their time and effort in improving the quality of their classroom practices. Across treatment and control conditions, teachers generously provided us with valuable information regarding their own economic, educational, psychological, and work conditions.

Our first aim in Study 1 was to provide an empirical snapshot of the stressors that Head Start teachers experienced at the outset of the CSRP. In line with others' findings, results from Study 1 show that many teachers report being able to handle multiple classroom demands, as indexed by low levels of work-related stressors among most teachers. It is important to note that a smaller proportion of teachers reported relatively elevated levels of job stress (Curbow, 1990; Curbow et al., 2000). This is in keeping with findings from research conducted in other early childhood settings: In Pennsylvania, for example, 27% of teachers reported that dealing with the stress of children's behavioral difficulty was something that they liked least about their jobs (Kontos & Stremmel, 1988).

The findings from Study 1 also provide clear and compelling evidence that preschool classrooms in the "real world" range widely in quality, which is similar to the range of scores found in other studies using the CLASS (LaParo et al., 2004). Most other studies have chalked up differences in quality to differences in public versus private financing and to differences in the socioeconomic status of the communities that are served (NICHD, 2002; Pianta, LaParo, Payne, Cox, & Bradley, 2002; Roth, Brooks-Gunn, Linver, & Hofferth, 2003). Our findings present a contrasting portrait of programs that range substantially in quality even though all sites are publicly funded and serve families reporting incomes at or below the federal poverty line. The high-quality care found in some of our sites is an important reminder that some community-based institutions and providers are resourceful at providing low-income children with emotionally supportive care. That said, our findings on teachers' stressors, classroom emotional climate, and behavior management also provide recognition of the multiple challenges that preschool teachers routinely encounter in settings that face serious budgetary constraints (Fantuzzo et al., 2006; Raver, 2004; Webster-Stratton et al., 2004).

## Do Teachers' Stressors Predict Classroom Emotional Climate and Behavior Management?

In Study 1, we also found that the classrooms of teachers who faced a higher number of personal stressors—and less experience in particular—were rated lower on behavior management and social interaction net of teachers' work stressors, age, and race/ethnicity. However, teachers' personal stressors were not predictive of other emotion socialization processes, and teachers' work stressors surprisingly did not emerge as significant predictors of emotion socialization processes. These findings mirror existing research that notes mixed evidence of the linkage between teacher characteristics, job characteristics, and teacher–child interaction. Some studies have found evidence for ways in which teacher experience, depressive symptoms, and daily hassles are associated with specific dimensions of classroom emotional climate (Allhusen et al., 2004; Bryant, Clifford, & Peisner, 1991; Pianta et al., 2002, 2005). Other studies have also considered job characteristics as predictors (using both structural and teacher-reported measures). For example, teachers' reports of fewer job rewards and higher job concerns are linked to their more frequent expressions of anger in the classroom (Mill & Romano-White, 1999). One interpretation for our mixed findings may be that more experienced teachers may have a more seasoned “toolkit” for handling children's behavioral difficulty. In contrast, teacher experience may play a less significant role in the emotional relationship built between teachers and more challenging students. Future research on Head Start programs using a larger sample should examine how teachers' stressors might interact with teachers' strengths and use of intervention services to predict multiple dimensions of classroom quality.

## Do Stressors Predict Efforts to Improve Classroom Emotional Climate and Behavior Management?

One critique of classroom-based interventions might be that more skilled, confident teachers might be most likely to take advantage of intervention services, whereas less skilled, less confident teachers might be least able or willing to participate in such services (Domitrovich & Greenberg, 2000). To address this critique, Study 2 asked whether teachers who faced greater stressors were any more or less likely to use services once such services became available. This question is all the more pressing in light of our descriptive findings reported previously. The results from Study 2 suggest that the CSRP was relatively successful in securing a high level of participation among teachers randomized to receive multicomponent, classroom-based intervention services. Teachers and their classrooms received nearly 130 hr of mental health consultation across the school year. This includes teachers' participation in behavior management training as well as MHC classroom consultation visits. Teachers attended 60% (3/5) of the training sessions,

which falls at the upper range of participation rates (30%–75%) in family-based interventions (Brody et al., 2006). The MHCs visited classrooms nearly 30 times over the academic year, spending most visits on providing social support to teachers and more than half of the visits on coaching teachers in how to use strategies taught in the training sessions.

Were teachers' psychosocial stressors a barrier to their use of intervention services? In general, Study 2 reveals that the amount of intervention that teachers and classrooms received was distributed in a relatively even fashion across teachers facing greater versus lesser numbers of stressors. Our findings of few associations between teachers' stressors (such as their depressive symptoms) and intervention dosage are consistent with prior research (Brody et al., 2006; Gorman-Smith et al., 2002). This speaks to the sustained efforts of both the CSRП intervention team and teachers. On the one hand, the CSRП program coordinator invested a large portion of her time in traveling regularly to treatment sites to encourage teachers to participate in as many teacher trainings as possible. Teachers were offered material as well as emotional supports in order to encourage their participation; these supports included child care for their own children, catered luncheons, and reimbursement for their time at market rates. Whether teachers would be willing to participate without these supports is a question that must be saved for future research.

On the other hand, teachers invested time in relationships with MHCs across the school year. These relationships may play a unique role in improving classroom quality. Findings from nonexperimental studies suggest that the receipt of mental health consultation by teachers and children in child care centers is linked to higher classroom quality (Alkon, Ramler, & MacLennan, 2003). Similarly, a wide range of recent preschool intervention models have relied on significant investments in the coaching of teachers to support gains in classroom quality (Assel, Landry, Swank, & Gunnewig, *in press*; Bierman et al., 2008; Klein, Starkey, Clements, Sarama, & Iyer, 2008; Raver et al., 2008). With variations on this coaching and training model, multiple teams have recently demonstrated significant improvements in teachers' classroom practices. Building positive, supportive coaching relationships may be particularly important given that interventions may be asking teachers to be reflective, self-critical, and willing to take the risk of trying new approaches to running their classrooms. Future studies that "scale up" such intervention models are needed to understand the extent to which teachers may be offered high-quality mental health consultation when resources are spread across a greater number and variety of early childhood programs.

Still, the current study helps fill gaps in the research on classroom-based interventions, in which relatively few studies report on rates at which teachers use the intervention services provided. The relatively high levels of service use across teachers in our study may be attributed to several factors highlighted by Elliott et al. (2002). First, knowing the many tasks that teachers are expected to juggle

(Walker, 2004), we were mindful of the competitive demands on teachers' time and minimized additional paperwork as much as possible. Second, the CSRP aimed to form collaborative relationships with teachers (Bagnato, 2006) in ways that were culturally sensitive and that built on teachers' existing strengths, which is in line with a "philosophy of empowerment" (Elliot et al., 2002). Third, teachers had an opportunity to use high-quality intervention services that included training sessions, practice time in the classroom, coaching, and performance feedback from MHCs (Graczyk et al., 2006; Hemmeter et al., 2006; Madison-Boyd et al., 2006; Noell et al., 2005).

An important exception was that teachers who encountered a higher number of work-related stressors were *more* likely to attend training sessions. Specifically, teachers who reported lower levels of confidence in the fall participated in a higher number of training sessions across the academic year. These findings held, even after controlling for teachers' personal stressors, age, and race/ethnicity. This finding stands in contrast to results from studies on family-based interventions (Brody et al., 2006; Raikes et al., 2006) that have noted that families facing a greater number of risks tend to have lower participation rates. This more nuanced view suggests that our classroom-based intervention met an existing demand for services and that teachers who may be struggling with handling children's challenging behaviors do actively take steps to strengthen their skills when given a structured and supportive opportunity to do so.

In addition, we considered the extent to which teachers and MHCs spent their consultation visits on the behavior management strategies taught in the trainings. During a substantial percentage of classroom visits, teachers and MHCs addressed most of the behavior management strategies (3 out of 5) taught in the trainings. These training sessions focused on motivating children through praise, strengthening teachers' techniques to prevent behavior problems, and building positive relationships (Webster-Stratton et al., 2004). It is important to note that although relationship building is an aspect of the Webster-Stratton model, teachers' use of concrete behavioral tactics is central to the model. In line with this design, teachers and consultants spent more than 30% of classroom consultation visits promoting children's positive behavior, for example by praising children's compliance with rules. During about 30% of classroom consultation visits, teachers and MHCs redirected or set limits on children's behavior (e.g., using eye contact to remind children of rules). In more than 25% of classroom consultation visits, teachers and consultants managed children's misbehavior using tactics such as ignoring attention-seeking behavior and warning children about the consequences for breaking rules. These descriptive findings are congruent with results from teachers' reports that suggest that teachers prefer concrete, practical approaches focused on behavior (Embry, 2004; Ialongo et al., 1999).

Were teachers' stressors predictive of the number of classroom consultation visits spent on behavior management strategies? Our analysis of MHCs' weekly

progress reports suggests that, overall, teachers' stressors were not linked to the number of classroom consultation visits focused on specific behavior management techniques. Future research would help us know whether these null findings may be due to the small sample size. Alternatively, they may be a result of consultants' efforts to coach teachers to try the range of strategies rather than only relying on those that teachers felt more comfortable using.

A striking exception is that our results show that teachers who faced more work and personal stressors reported spending less time building empathic relationships with more disruptive children during classroom consultation visits. These findings expand past research on teachers' experience and classroom management by showing that less experienced teachers may have difficulty forming close teacher–student relationships (Brouwers & Tomic, 2000; Rimm-Kaufman, Storm, Sawyer, Pianta, & LaParo, 2006; Ritchie & Howes, 2003).

### Limitations

Although this investigation sheds light on ways in which teachers' stressors, classroom practices, and participation in intervention are related, our conclusions are constrained by several limitations. First, it is important to highlight that linkages between teachers' stressors, provision of responsive caregiving, and use of intervention services may be due to some set of omitted variables that were not included in our analyses. For example, the association among teacher stressors, classroom quality, and efforts to improve classroom quality may have been confounded by neighborhood stressors, tighter budget constraints, or whether teachers found the intervention culturally relevant. Second, this study is limited in the generalizability of its findings given that our sample was recruited from Head Start–funded programs in seven neighborhoods within a single large midwestern city. Given these limitations, our findings offer a good empirical starting point for consideration of teachers' own personal and professional development in models of improvement in classroom quality. More definitive conclusions should be reserved for larger experimental trials of classroom interventions and from nonexperimental research with larger, more representative samples drawn from multiple cities.

Third, this study sheds little light on preschool teachers' resilience and their use of innovative classroom practices, focusing more squarely on the smaller proportion of teachers who have more difficulty in their classrooms. That said, our data suggest that most teachers, even when reporting high levels of stress, make substantial investments of time and effort to obtain training in new classroom management skills. In our view, analyses of resilience, effectiveness, and innovative teaching in preschool classrooms represent an important direction for future research (Pressley, Rankin, & Yokoi, 1996).

## Conclusion

One implication of this research is that interventions targeting behavioral change on the part of teachers may be well served to consider teachers' own psychological development (Hamre & Pianta, 2004). By expanding our focus to include a wide range of psychological stressors, we aimed to take steps toward better understanding factors underlying emotion socialization processes occurring in early childhood classrooms. We were also concerned that teachers' personal and work-related stressors might hinder their participation in classroom-based intervention. We were gratified to find that these concerns were largely unwarranted. That is, teachers' participation in CSRP intervention services was high on the whole, with teachers who were initially less confident about managing children's challenging behaviors going on to attend *more* trainings over the school year. Training and consultation may be an important form of workforce development, offering a way to increase the quality of classroom emotional climate and behavior management in early educational settings (Hyson & Biggar, 2006). If the field of early childhood continues to pursue this form of quality improvement, it is helpful to know that teachers who may benefit most from trainings are most likely to use the services provided.

In keeping with past research, Study 1 focused more squarely on *predictors* of teachers' baseline levels of emotional warmth and behavior management in the fall. Study 2 then focused on the predictors of teachers' use of intervention services designed to support those same dimensions of classroom quality, over the school year. In so doing, these studies provide an important complement to randomized trial evaluations that have targeted teachers' use of harsh management strategies, children's disruptive behavior, and greater social competence in early educational contexts (Conduct Problems Prevention Research Group, 2002; Webster-Stratton et al., 2004). Our analyses allowed us to explore in detail *variations* in teachers' psychological well-being and in their provision of responsive caregiving within the treatment and control groups. Educators and researchers have increasingly recognized the need to understand how teacher characteristics interact with certain types of teacher preparation programs to foster high classroom quality (Early et al., 2007). Our analyses represent an important step toward addressing this gap in the literature.

Studies 1 and 2 also help to answer calls in the intervention literature to situate research in broader socioeconomic contexts (Fantuzzo et al., 2006). Many Head Start teachers support their own families on wages that place them near the federal poverty line. Investments in workforce development that support teachers' provision of a positive emotional climate and successful behavior management may have longer term payoffs for teachers and the educational communities of which they are a part, as well as for their students. Rigorously assessing whether such investments will yield benefits is clearly a priority (Raver et al., 2008). Yet it is also

of high importance to investigate how readily such workforce development programs are used by the full spectrum of Head Start teachers, including those who have access to numerous resources and those who face many stressors. By shedding light on the role of teachers' stressors, we may strengthen our ability to create effective intervention programs that support low-income teachers and children in their everyday lives.

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