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# IMPLEMENTATION OF A MENTAL HEALTH CONSULTATION MODEL AND ITS IMPACT ON EARLY CHILDHOOD TEACHERS' EFFICACY AND COMPETENCE

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**ABSTRACT:** Early childhood mental health (MH) consultants work closely with childcare teachers onsite to serve as a resource for childcare providers as they foster and enhance children's early development. The increase in the quality of care that can be supported through an early childhood MH consultation program makes this type of consultation an optimal tool for enhancing the childcare environment and overall child development. This article details the initial launch of the MH consultation program to childcare centers in the state of Louisiana. Analyses support the assertions that (a) a model of MH consultation can be implemented successfully at a statewide level, (b) MH consultation is associated with an increase in teacher self-efficacy, and (c) teachers' report that the MH consultation increased their competence in specific areas related to children's socioemotional development. Analyses indicate that there is a differential impact on teachers based on their age and level of experience. The clinical implications of these findings are discussed.

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Mental health (MH) consultation to childcare centers has been gaining acceptance as an effective approach to supporting the healthy development of young children, diminishing disruptive and challenging child behaviors, decreasing expulsion rates, and improving the quality of care in childcare settings (Alkon, Ramler, & MacLennan, 2003; Green, Everhart, Gordon, & Garcia-Gettman, 2006). Early childhood MH consultation attempts to "build the capacity of staff, families, programs, and systems to prevent, identify, treat, and reduce the impact of mental health problems among children from birth to age six and their families" (Cohen & Kaufmann, 2000, p. 4).

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An MH consultant (MHC) can be a vital resource to support childcare teachers in developing and sustaining classroom environments that promote healthy social and emotional development. Furthermore, research has demonstrated that children's relationships with their childcare providers play an important role in developing a positive sense of self, including competence in the areas of social and emotional development, all of which impact children's readiness for school (Bowman, Donovan, Bums, & the Committee on Early Childhood Pedagogy of the National Research Council, 2000). This is critical because preschool children who develop appropriate social skills and emotion regulation are better prepared for elementary school and more likely to succeed throughout the school years (Bowman et al., 2000; Shonkoff & Philips, 2000). Moreover, social and emotional competence have been associated with more positive peer and teacher relationships (LaFreniere & Sroufe, 1985) and less aggressive behavior (Denham et al., 2002; Lemerise & Arsenio, 2000). In addition to supporting teachers' capacity to build and sustain positive relationships and classroom environments, having access to an early childhood MHC also allows for the early identification of problem behaviors. Early identification gives the childcare teacher and consultant the ability to address children's challenging behavior before serious problems and/or expulsion occur.

In one study, centers that received consultation services demonstrated a significant improvement in overall childcare quality after receiving MH consultation (Brennan, Bradley, Allen, & Perry, 2008). In another study, teachers who received MH consultation were rated as more sensitive and less harsh in their interactions with children (Bleecker, Sherwood, & Chan-Sew, 2005; Langkamp, 2003). Childcare centers with an MH also have been found to experience a decrease in teacher turnover rates, a decrease in reports of teacher stress and feelings of burnout, and an increase in teacher job satisfaction (Alkon et al., 2003). Unfortunately, even the highest quality childcare centers often lack the resources and expertise required to address the full range of children's MH needs. As a result, not only do the calls for early childhood MH consultation continue to increase but also does the need for more research into the implementation process of MH consultation as well as its impact on teachers, directors, and children.

### **LOUISIANA'S PROGRAM FOR MH CONSULTATION TO CHILDCARE CENTERS**

In response to the needs cited earlier, the state of Louisiana implemented an MH consultation program for childcare centers in July 2007. Louisiana's MH consultation model is designed to assist all children in center-based care, not only those who are exhibiting behavior problems, with the goal of achieving healthy behavioral, social, and emotional development. This consultation program has three main objectives: (a) to promote the social and emotional health of young children, (b) to support teachers' promotion of healthy child development within the classroom setting, and (c) to refer for treatment or design interventions young children exhibiting behavioral problems.

The model merges two types of consultation: child and program (Johnston & Brinamen, 2006). Case consultation focuses on the needs of a specific child, how to intervene to better support that child's development (e.g., classroom behavior-management strategies, referral to an external specialist such as speech or mental health), and how to diminish the negative impact of that child's behavior within the classroom. Programmatic consultation focuses on the childcare program as a whole and how factors specific to a childcare program impact the socioemotional development of the children enrolled there. The MHCs are onsite at a center for 1 day every other week for 6 months, for a total of 12 visits.

## MODEL COMPONENTS

The overall consultative approach and many of the components of this model were adapted from the model described in Johnston and Brinamen's (2006) book, *Mental Health Consultation in Child Care*. One of the strengths of the model is that the consultant has the flexibility to choose when, where, how, and which of the strategic tools to use at any given center on any given day. The tools include classroom observations, in-class modeling, individual meetings with teachers, didactic group meetings, meetings with families, designing specific interventions for challenging behaviors (with parents' consent), parent education, and referrals to outside agencies (e.g., speech and language evaluation, individual or family therapy, behavioral intervention in the home). Increasing teachers' understanding of children and how best to foster healthy development improves not only basic care but also teachers' feelings of competence in the caregiving role (Alkon et al., 2003). Thus, the model presented here focuses on enhancing skills, increasing knowledge, and addressing the needs of the teacher as well as providing support in managing specific children who are exhibiting challenging behaviors.

### *Teacher–Consultant Relationship*

One of the major catalysts of change in this model is the relationship between the MHC and the teachers at a childcare center. It is through this relationship that the teachers feel valued and understood and, in turn, can provide similar empathy to the children. If successful, MHCs are able to help teachers recognize the fundamental impact they have in the lives of the children and families with whom they work. In the beginning of the consultation, the MHC spends time getting to know the teachers and understanding the culture of the center. Given the uniqueness of each relationship, center, teacher, and consultant, it is difficult to create a specific list of how to build rapport; however, there are some global features of this process.

Foremost, it is important that the MHC establishes a positive, empathic, nonjudgmental, and supportive relationship with the teachers and director. Typically, this is done by taking the stance of a partner in the center's efforts toward quality care. The MHC strives to maintain a tone of respect and empathy while motivating the teacher to improve the level or type of socioemotional support he or she provides to the children. This stance enables the MHC to join with teachers and support them in improving the quality of care that their center provides. It is hoped that through forming a nonjudgmental partnership/relationship, teachers will feel comfortable enough to work with and accept the MHC so that they can safely acknowledge areas of weakness and become responsible for building and maintaining a quality program.

It is through this relationship with teachers that the MHC is then able to help teachers recognize the importance of their own relationships with children in providing a quality childcare experience. By creating a safe relationship/partnership with teachers (and director), the MHC is able to help teachers understand that a high-quality childcare experience rests on the shoulders of each teacher, and that the relationships the teacher forms with the children in his or her care contribute greatly to young children's development—socially, emotionally, and cognitively.

### *Observation, Modeling, and Individual Meetings*

The MHC typically spends the morning observing in the classroom, checking in with the director and teachers, and providing in-class modeling. In addition, MHCs may meet with

specific teachers about classroom observations or issues with individual children and assist in the design of specific behavioral interventions or strategies for working with particularly challenging behaviors (with parents' consent).

### *Didactic Groups*

An important component of MH consultation involves educating and training the childcare teachers in the knowledge and application of developmentally appropriate practices in classroom settings. In the model described here, MHCs conduct five interactive didactic meetings which are a combination of didactic materials and group process (see Table 1 for a list of didactic topics and key points). These didactics are designed to meet state childcare licensing requirements for continuing education credits. The MHC provides handouts, examples, and other materials to facilitate different learning styles. Most of these materials are adapted from modules developed by the Center on the Social and Emotional Foundations of Early Learning (CSEFEL; [www.vanderbilt.edu/csefel/](http://www.vanderbilt.edu/csefel/)). MHCs encourage the teachers to discuss how the topics and materials relate to their respective classrooms, to give examples, and to ask questions. Didactics sessions are scheduled with the director, and how this is done varies from center to center. Most centers opt to have each session occur over lunch while the children are napping and floaters are available to staff rooms; however, there are times that this is not possible. The

**TABLE 1.** *Didactic Topics and Key Points for the MHC Trainings With the Teachers*

Topic	Key Points
Establishing Positive Relationships*	<ul style="list-style-type: none"> <li>● Importance of socioemotional skills to successful kindergarten transition</li> <li>● Contributions to children's challenging behaviors (e.g., lack of socioemotional skills; cultural differences; unclear expectations, etc.)</li> <li>● Prevention of challenging behaviors through using CSEFEL Teaching Pyramid</li> <li>● How to connect with children, families, and fellow staff</li> <li>● Addressing challenges to building relationships</li> </ul>
Creating Supportive Environments*	<ul style="list-style-type: none"> <li>● Importance of schedule and routine for young children</li> <li>● How to make and effectively use a daily schedule</li> <li>● Successful transitions</li> <li>● Giving directions</li> <li>● Designing and using classroom rules</li> <li>● Importance of positive feedback and encouragement</li> <li>● Physical environment</li> </ul>
Using Socioemotional Teaching Strategies*	<ul style="list-style-type: none"> <li>● Why, when, and how to teach socioemotional skills to young children.</li> </ul>
Working with Families	<ul style="list-style-type: none"> <li>● Benefits of parental involvement</li> <li>● Methods of encouraging parental involvement</li> <li>● Discussion of building positive communications</li> </ul>
Addressing Challenging Behaviors*	<ul style="list-style-type: none"> <li>● Discovering the meaning of challenging behaviors</li> <li>● Intervention strategies: prevention, teaching replacement skills</li> <li>● Asking for assistance and making referrals</li> </ul>

\*Adapted from Hemeter, Ostrosky, Santos, & Joseph, (2006). CSEFEL = Center on the Social and Emotional Foundations for Early Learning.

MHCs must then try to be as flexible as possible to coordinate these trainings with the director to meet the needs of the center. For example, MHCs may meet with one or two teachers at a time in the classroom while the children are napping or staff members may be required to attend the didactic sessions on a Saturday or across a couple of evenings.

### ***Families, Behavior Plans, and Referrals***

Family involvement is an important component of a childcare center, and MHCs focus on assisting center personnel in working effectively with parents. The parent–teacher relationship is especially important when a child is demonstrating challenging behaviors. If a teacher or director requests specific feedback about a particular child’s behaviors, the child’s parents are asked to provide consent and are included as an integral part of the consultation process. Parents may be referred to outside agencies if the child would be served best through individual or family MH treatment (In the current model, individual and/or family treatment is not provided.)

### ***Supporting the MHC***

Finally, to support the MHCs in their work, reflective supervision (RS; Scott Heller & Gilkerson, 2009) is provided to the MHCs; this occurs twice a month in an individual format and monthly in a group format (4–5 MHCs to 1 reflective supervisor). The primary goal of RS is to help the MHCs focus on their relationships with teachers, directors, and parents and to think about how those relationships support positive change. MHCs discuss challenges, work to understand those challenges from a variety of perspectives, and contemplate ways to implement or support change. Group RS provides the MHCs with an opportunity to support each other and allows the MHCs to recognize that others are experiencing similar challenges. The focus of these sessions is to process the consultation experience, and administrative issues are kept to a minimum.

## **PRIOR RESEARCH**

One of the primary modes of change in the caregiving system is through the teachers. As Brennan et al. (2008) stated, “Identifying effective strategies that enhance staff capacity is critical to increasing overall quality of care and promoting a stable caregiving environment that optimizes child development” (p. 984). However, they also noted that there “remain many unanswered questions about the key components of effective consultation” (p. 1016). In this article, we focus on the implementation process of a statewide MH consultation model and how our model impacts teachers’ capacity to support children’s socioemotional development. The teacher capacity areas of focus include the MHC–teacher relationship, teacher self-efficacy, and teacher competence.

### ***MHC–Teacher Relationship***

One of the major catalysts of change in our consultation model is the relationship between the MHC and the teachers at a childcare center. As Johnston and Brinamen (2006) stated,

Through the relationship with the consultant, the caregiver comes to feel that her subjective experience is valued and understood, and she in turn becomes better able to value and empathize with the experiences

of the children. Ultimately, consultation's primary goal is to increase awareness and understanding of each child's experience. (p. 26)

Green et al. (2006), the only published study to examine the consultant–teacher relationship, reported that “the single most important characteristic of mental health consultants is their ability to build positive collaborative relationships with program staff members” (p. 142).

### *Teacher Self-Efficacy*

Teacher self-efficacy is a teacher's belief that she or he has the skills needed to bring about the desired outcome. The research literature on teacher self-efficacy has mainly focused on elementary- and high-school teachers. Elementary-school teachers with high levels of self-efficacy exhibit better teaching skills, are more willing to try new teaching methods, and are more enthusiastic about teaching than are those teachers with low self-efficacy (Carleton, Fitch, & Krockover, 2008). In addition, students of teachers with high levels of self-efficacy have higher academic achievement (Ross, 1988), higher levels of self-esteem (Borton, 1991), stronger self-direction (Rose & Medway, 1981), more positive attitudes toward school (Miskel, McDonald, & Bloom, 1983), and are better able to manage school transitions (Midgley, Feldlaufer, & Eccles, 1989). To date teacher self-efficacy is one of the few teacher variables that have had consistent findings in regards to teacher behavior and student outcome (Henson, 2002; Woolfolk & Hoy, 1990).

Extrapolating from the research findings of elementary-school teachers, as outlined earlier, high teacher self-efficacy is expected to have a positive impact on teacher behavior and, in turn, child outcomes, and therefore may be an important target of childcare interventions. The one published article examining self-efficacy in childcare teachers receiving MH consultation (Alkon et al., 2003) found an increase in teacher self-efficacy over the course of 1 year of consultation. This study used the Teacher Opinion Survey (TOS; Geller & Lynch, 1999), the only published measure to date for assessing self-efficacy among preschool teachers. The individual TOS items were summed into an overall score, and a significant increase was reported between the pretest and posttest.

In 2008, Brennan et al. reviewed early childhood MHC programs, including unpublished reports due to the scarcity of published research in this area. Four unpublished reports examined teacher self-efficacy, with mixed findings. Field, Makrain, and Sawilowsky (2004) reported no differences between the pre- and postassessments. Bowman and Kagan (2003) found a significant increase in teacher self-efficacy between these two time periods; however, Bowman and Kagan began research after their consultation began. Thus, in lieu of a pretest, they administered two assessments at the end of the consultation: a retrospective pretest, where participants rated themselves as they were prior to the consultation, and a posttest version of the TOS, where participants rated themselves as they were currently. For both evaluations, the authors summed all the items on the TOS and used a single score.

The other two evaluations used a different survey, also called the Teacher Opinion Survey (Bleecker & Sherwood, 2004; Bleecker et al., 2005), developed by the evaluators. Although this measure appears to encompass teacher efficacy, it does not provide a specific score for teacher efficacy; regardless, there was not a significant change in this measure between the pre- and postassessments. Although it appears that a high level of teacher self-efficacy has a positive impact on child development, it is still unclear if this variable is impacted by MHC.

### *Teacher Competence*

Teacher competence encompasses a wide variety of behaviors, including classroom-management abilities and knowledge, instructional skills and knowledge, and knowledge of and ability to support child development. MC consultation would be expected to affect competence behaviors that involve interacting with children and parents, supporting children's socioemotional development, and managing children's behavior (especially challenging behaviors). Competence can be assessed via observation or self-report. For the purposes of this study, we will focus on self-report assessment.

Eight of the 10 studies of published and unpublished research on MH consultation to childcare reviewed by Brennan et al. (2008) found an increase in teacher competence across the time of the intervention. Only two of these studies were published (Alkon et al., 2003; Raver et al., 2008); Alkon et al. (2003) reported positive changes in teacher competence whereas Raver et al. (2008) observed improved classroom management after consultation.

### **PURPOSE OF THIS STUDY**

This study expands the current literature by examining the implementation of (a) a particular model of MH consultation (b) implemented at a statewide level, (c) involving private nonprofit and for-profit centers participating in the state's voluntary quality rating system, and (d) including urban, suburban, and rural centers. In addition, we will assess the impact of this model on teacher characteristics (e.g., education level, age, ethnicity). While the children, parents, and childcare teachers were the primary stakeholders, we initially focused on the childcare teachers because our model considers them as the medium of change (Brennan et al., 2008).

We assessed Louisiana's MH consultation model in three ways: (a) adherence to the model, including the ability of consultants to form positive relationships with childcare providers; (b) changes in teachers' level of self-efficacy; and (c) teacher report of change in their competence in supporting the development of children's socioemotional health.

First, we determined if a statewide model of MH consultation to childcare could be implemented with the following components: (a) The consultation is completed in 6 months; (b) each center receives at least 10 visits; (c) each center receives five didactic sessions; and (d) the consultant is able to develop positive relationships with the teachers. In addition, we examined the following research questions regarding impact:

**RQ1:** Did MH consultation positively impact teachers' self-efficacy?

**RQ2:** Did teachers report that MH consultation increased their perception of their competencies?

**RQ3:** Is the MH consultation program effective across all types of centers, teachers, and MHCs?

### **METHOD**

#### *Recruitment*

Childcare centers were eligible to receive MH consultation services if they were participating in the new quality-rating system, known as Quality Start, which was being implemented statewide

at the time the consultation program began. Centers enrolled were either those who had called to express their interest in receiving MH consultation services or those that the MHCs recruited. MHCs visited centers that expressed interest in participating to explain the program and what would be required of them. Participation was voluntary, with no cost to the center, and the center was free to terminate services at any time. If the director (or owner) decided to participate, he or she signed a contract that detailed both the MHC's and the center's responsibilities. At this meeting, the director (or owner) also was invited to participate in the research portion of the project. The MHC stressed that participation in the research was voluntary and that the center would still receive consultation services if the center (or any staff members) opted not to participate in the research. All of the centers that received the consultation agreed to participate in the research.

### **Measures**

*Demographic survey.* Teachers completed a brief demographic form that inquired about their ethnicity, education level, and age. They also were asked to report the length of time they had worked in the field of childcare and at the current center.

*Teachers' relationship with the MHC.* A small subset of items from the Early Childhood Mental Health Consultant survey (ECMHC; Green et al., 2006) was used to assess the quality of the relationship between the teachers and the MHC. Items were rated on a Likert scale of 1 (*strongly agree*) to 6 (*strongly disagree*). Prior to analyzing the data, we reviewed the items on the ECMHC survey and selected seven items that seemed the most reflective of the teacher's relationship with the MHC. The alpha coefficient for these seven items was .89; however, one item had low to moderate correlations with the other six items (range = .38–.47), so it was dropped from the relationship scale. The new alpha coefficient was .91, and the correlation between items ranged from .49 to .76.

*Teacher Opinion Survey–Revised (TOSr).* Geller and Lynch (2000) developed the TOSr, a 12-item survey which assesses teachers' feelings of confidence and competence in handling children's challenging behavior as well as teachers' sense that they have the ability to make a positive difference in the lives of children. This measure best reflects the skill set that MH consultation aims to enhance. Items are answered on a Likert scale of 1 (*strongly agree*) to 5 (*strongly disagree*). Four items were reverse scored (Items 3, 5, 7, and 10). There are two forms: the infant form for teachers who work with children 6 weeks to 29 months of age and the preschool form for teachers who work with children 30 to 60 months of age.

*TOSr factor analysis.* We conducted a principle components factor analysis using 11 of the 12 items from the adapted TOSr. Item 6 was not included because it differs on the infant and preschool forms (infant form: "I know things I can do to help children develop skills to make successful choices later in life" vs. preschool form: "I know things I can do to help children develop skills to resist alcohol and drug use in later life.") Of the responses (preassessment collected at Time 1 and retro preassessment and postassessment both collected at Time 2), the retrospective preassessment showed the most variability; therefore, it was used for the factor analysis. The scree plot suggested that we should retain two factors. We used an oblique rotation. Items 4 ("If some children in my group are not doing as well as others, I believe that I should



change my way of working with them.”) and 10 (“I frequently feel overwhelmed by my job.”) did not load onto either factor. These two items were removed, and the analysis was repeated. The results did not change. When Items 4 and 10 remained in the analysis, their loadings were low; Item 4 had a loading of .38 on Factor 1, and Item 10 had a loading on Factor 2 of .38. Thus, these two items were excluded from further analyses. The principal components factor analysis revealed a two-dimensional model of efficacy that accounted for 41% of the variance. This two-dimensional model was consistent for both TOSr forms (infant and preschool) separately and combined; the combined form results are reported here.

The items in the first factor had loadings that ranged from .57 to .75, and the alpha coefficient for this factor was .81. Factor 1 consisted of six items that reflected Gibson and Dembo’s (1984) *personal teaching efficacy*. In other words, the respondent felt he or she had the ability to make a positive difference in children’s lives (e.g., If I keep trying, I can find some way to reach even the most challenging children). The second factor had loadings that ranged from .48 to .61, and the alpha coefficient for this factor was .62. It consisted of three items that reflected a teacher’s sense of powerlessness or hopelessness about his or her ability to influence children’s development. We labeled this factor *teacher influence* (see Table 2 for a list of the items and factor loadings). The items on this scale were reverse-scored in the following analyses so that a low score reflects a low level of belief in one’s ability to influence children’s lives. The two factors were not highly correlated ( $r = .23$ ). Given these findings, all further analyses examined TOSr factor scores (teaching efficacy and teacher influence).

*Now/Then TOSr (NT TOSr)*. Research has demonstrated that the timing of a report of self-efficacy may affect the results. Bowman and Kagan (2003) discussed what they called a “response shift bias:” “A respondent overestimates her assessment of the attitudes, behavior or skill that

**TABLE 2.** Factor Analysis for the Teacher Opinion Survey (TOS) Retrospective Preassessment Items

TOS Items	Factor Loadings	
	Teacher Efficacy	Teacher Influence
If I keep trying, I can find some way to reach even the most challenging child.	.64	-.04
I can help infants and young children learn skills that they need to cope with adversity in their lives.	.57	.01
I can imagine myself caring for infants and young children for several more years.	.60	-.16
I know how to respond effectively when a child becomes disruptive in my group.	.75	-.07
I have enough training to deal with almost any group situation.	.62	.13
On a typical day, I feel a sense of accomplishment as a caregiver of infants and young children.	.71	-.11
There are some children in my group that I simply cannot have any influence on.	-.20	.56
As a caregiver, I can’t really do much, because the way a child develops depends mostly on what goes on at home.	-.05	.48
I feel a sense of hopelessness about the future of the children I work with.	-.20	.61

the intervention hopes to affect because of a low understanding of the competency prior to the intervention” (p. 10). This bias may result in a lack of difference between pre- and postscores. Several researchers (Howard, Millham, Slaten, & O’Donnel, 1981; Pratt, McGuigan, & Katzev, 2000; Razack et al., 2007; Sprangers & Hoogstraten, 1989) have argued that a retrospective preassessment is more methodologically sound when investigating the impact of an intervention than is a preassessment. This may have been the reason for Bleecker and Sherwood’s (2004) finding that teachers rated themselves as high in self-efficacy before participating as they did after participating in MH consultation. Perhaps teachers “artificially” inflated their pretest scores due to a lack of understanding about the principles being assessed prior to the evaluation. We administered a pretest at Time 1 and both a retrospective pretest and a posttest at Time 2.

*Goal Attainment Scale (GAS)*. Alkon et al. (2003) developed this 14-item scale to “measure teacher competencies on general mental health activities or program goals” (p. 94). Sample items include “I have a more positive attitude about working together with parents,” “I am doing a better job of managing children’s difficult behavior,” and “There has been an observable positive difference in the classroom climate.” Staff members were instructed to “Please mark the column that best indicates how you feel about each statement compared to 6 months ago (before you had a MHC).” There are two versions of this measure, a director version and a teacher/staff version.

We revised the original GAS in two ways: (a) We changed the scoring from a scale of 0 (*not at all*) to 2 (*very much*) to a Likert scale of 1 (*strongly agree*) to 5 (*disagree*), and (b) we added a new item that inquired about change in the climate of the center (in addition to the existing item that inquired about change in the climate of the classroom). This item was added since part of the consultation’s focus was to support positive change within the center as a whole.

### ***Design***

Data presented here were collected at two separate time periods for two cohorts to overcome some of the weaknesses of the single-group pretest/posttest design; Cohort 1 data included centers that started the 6-month consultation between August 1, 2007 and January 31, 2008. Cohort 2 centers started the 6-month consultation between February 1, 2008 and June 30, 2008. The single-group pretest/posttest design is weak with respect to internal validity. Changes due to maturation, external events, and testing may be mistakenly identified as a treatment effect or may mask a treatment effect. Maturation is not likely in this study since the participants are adults with experience. Including two cohorts gives us confidence that an external event is not causing change if results are consistent across cohorts (Campbell & Stanley, 1966; Cook & Campbell, 1979). A remaining threat to validity is testing. The use of the retrospective pretest gives us some confidence that the treatment rather than testing is causing change.

### ***Participants***

*MHCs*. All 12 MHCs had an MH degree at the master’s level or above, were licensed or license-eligible (and working toward licensure under appropriate supervision) in the state, and had at least 2 years of experience in a clinical setting working with children and adults. Four of the 12 MHCs had completed specialized training in infant MH (IMH). The other MHCs were required to attend a weekly, 3-hr IMH training seminar (for a total of 60 hr) conducted for 6 months by

**TABLE 3.** *Infant Mental Health (IMH) Training Topics and Time Allotted to Each Topic*

Topics	Hr
Overview of IMH	3.5
Overview of Development in the First 5 Years	3.5
Child–Parent Relationship Assessment: Working Model of the Child Interview, Crowell Procedure, and Still-Face Procedure	3.5
Attachment & Circle of Security	3.5
Maternal Depression; Postpartum Depression; Perinatal Loss	2.0
Substance Abuse & Infant Mental Health	1.5
Psychopathology I: Parent–Child Relationships Disturbances	3.5
Caregiver–Infant Interaction Assessment: Nursing Child Assessment Satellite Training Approach	3.5
Adolescent Parenting	1
Parent–Professional Relationships in IMH (Role Definition, Countertransference, Self-Care)	2.5
Family & Community Violence	2
Psychopathology II: Parent–Child Relationships Disturbances	3.5
Psychopathology III: Autistic Spectrum	1.5
Working with Difficult to Engage Families	4
Treatment: Interaction Guidance and Watch, Wait, and Wonder	1.5
Play Therapy	2
Basic Behavioral Plans	1
Treatment: Intervention for Sleep & Feeding Problems	2.5
Treatment: Parent–Child Interaction Therapy	3.5
Treatment: Infant–Parent and Child–Parent Psychotherapy	3.5
Treatment: Cognitive Behavioral Treatment of Traumatized Children	3.5

the Tulane University Institute of Infant and Early Childhood Mental Health (see Table 3 for a list of the topics presented in this training). The MHCs were able to attend this training via a state video/intranet system. Each of the 8 full-time MHCs carried a caseload of seven centers while the 4 half-time MHCs carried a caseload of four centers. Two additional full-time MHCs were hired for Cohort 2. Both had received specialized training in IMH prior to being hired (see Table 4 for a full description of the MHC characteristics).

**TABLE 4.** *Characteristics of the Mental Health Consultants (MHCs)*

	Cohort 1 <i>n</i> = 12	Cohort 2 <i>n</i> = 14
No. of male MHCs	2	2
No. of Caucasian MHCs	12	14
No. of MHCs with prior experience in childcare	4	4
No. of MHCs with prior infant MH training	3	5
Years MHC licensed in MH field	<i>M</i> = 6 range = 0–22	<i>M</i> = 5 range = 0–22

**TABLE 5.** *Characteristics of the Childcare Centers Served*

	Cohort 1 <i>n</i> = 74	Cohort 2 <i>n</i> = 81
No. of classrooms		
<i>M</i>	6	6
range	2–18	2–16
No. of children enrolled		
<i>M</i>	89	102
range	20–232	27–334
Population density (people per square mile in the zip code of the center)		
<i>M</i>	1,233.33 (1208.00)	1,416.99 (1388.58)
range	13–4,568	35–5,650
Proportion of CCAP children		
<i>M</i>	.47 (.33)	.28 (.26)
range	0–1	0–1

CCAP = Child Care Assistance Program.

*Childcare centers.* In Cohort 1, lead and assistant teachers at 74 centers were invited to participate in this study. Centers ranged in size from 2 to 18 classrooms, with an average of 6 classrooms, and served an average of 89 children. In Cohort 2, lead and assistant teachers at 89 centers were invited to participate in this study. Six centers dropped out because their MHC left the program; five of those were included in the next cohort when a new MHC was hired for that region. An additional two centers withdrew from the consultation program after only a few visits, which left 81 centers in the second cohort. Centers ranged in size from 2 to 16 classrooms, with an average of 6 classrooms, and served an average of 102 children (see Table 5 for all of the center characteristics).

As a way to measure urbanism, we computed the population density of the zip code within which the center was located. This gave us a continuous measure of urbanism, with a higher population density reflecting a more urban setting and a lower density reflecting a more rural setting. Both cohorts included a wide range of urbanism; the average density for each cohort was ~1,300 people per square mile. We used the proportion of children in the Child Care Assistance Program (CCAP) as a means to reflect poverty level of the population served by the center. CCAP is a state subsidy for childcare; families are eligible for this program based on family income and parent employment status. Cohorts 1 and 2 included centers with no children in CCAP to centers where all of the children enrolled participated in CCAP; however, the average participation rate for Cohort 1 (48%) was slightly higher than the rate for Cohort 2 (28%).

*Teachers.* In Cohort 1, 511 teachers participated in this study; of these, 455 completed demographic forms. The majority of the missing forms (47 of 56) were missing due to researcher error (i.e., demographic forms were unintentionally missing from some of the assessment packets distributed to the teachers). A total of 649 teachers participated in Cohort 2; 535 respondents completed demographic forms. The majority of the missing forms (91 of 114) were due to researcher error (i.e., forms were not included in the data packet) or to teachers on leave. The descriptive characteristics of the two cohorts were very similar. In both cohorts, the vast majority

**TABLE 6.** *Characteristics of the Teachers*

	Cohort 1 <i>n</i> = 511	Cohort <i>n</i> = 649
Gender (No. of males)	1	2
Ethnicity		
African American	55%	46%
Caucasian	40%	48%
Age		
<i>M</i>	38	38
range	18–72 years	18–80 years
Education Level		
Graduate high school/GED	41%	37%
CDA	6%	7%
Some college	26%	25%
Associate's, Bachelor's, or graduate degree	21%	20%
Length of employment at center		
<i>M</i> no. of years	3.6	3.6
range	<1–37	<1–39
Length of time in childcare		
<i>M</i> no. of years	8.14 years	6.9 years
range	<1–38 years	<1–39 years

of the respondents were female and had an average age of 38 years. In both cohorts, about half of the sample was African American, and almost half were Caucasian. The highest education level was high school/GED for about 40% of the teachers; a Child Development Associate (CDA) credential for 6%; some college for about 25%, and an associate's/bachelor's degree or higher for 25%. The average length of employment at the current center was 3.60 years whereas the average years of experience in childcare was 8.14 years for Cohorts 1 and 7 years for Cohort 2 (see Table 6 for all teacher demographics).

### ***Procedure***

Preassessment visits were conducted up to 4 weeks prior to the first MH consultation visit, and postassessment data were collected within 4 weeks after the last MH consultation visit. For Cohort 1, preassessment data were collected by the MHCs; however, MHCs did not collect data from the centers to which they would be providing services. For both cohorts, all postassessment data were collected by trained research assistants. For inclusion in the postassessment analyses, teachers had to have been employed at the center for at least 3 months (thus experiencing at least half of the consultation); therefore, not all postassessment participants had preassessment data, and vice versa. Participants received a children's book for their classroom as compensation for participating in the research.

### ***Statistical Analysis***

We used two sample *t* tests, chi-square tests of independence, and Fisher's exact test to determine if the cohorts were similar with respect to consultant, center, and teacher characteristics. We

used random effects models to assess the impact of the intervention. These models treat *teacher* as the cluster variable and the two measures for each teacher as the individual-level variables. This analysis is essentially a repeated measures analysis of variance, but it accommodates for attrition; models included time (retro and post), cohort, and a Time  $\times$  Cohort interaction. If the interaction was not significant, we dropped it from the model and concluded that the impact of the intervention was the same for both cohorts. In models with time and cohort main effects, we tested the hypothesis that the cohort differences averaged over time and that there were time differences averaged over cohort.

## RESULTS

The first question involved the fidelity of the MHCs to the model; could a MH consultation program be implemented statewide with the common components as prescribed by the model? We assessed this by measuring the following variables: length of time of consultation; number of visits a center received; the number of didactic sessions completed; and teacher rating of his or her relationship with the consultant.

As shown in Table 7, centers in both cohorts averaged 26 weeks of consultation and 11.9 of 12 visits. The average number of didactic sessions was 4.55 and 4.19, respectively, of 5 total. On average, teachers rated their relationship with the MHC as 5.5 on a scale of 1 to 6.; in other words, teachers strongly agreed that their competencies on general MH activities and program goals were attained. We therefore conclude that the MHCs were able to adhere to the tenets of the model.

### *Teacher Self-Efficacy*

We hypothesized that there would be an increase between retro pre- and posttest scores and that the difference would be consistent across cohorts. We built models including time (retro pre/post), cohort, and a Time  $\times$  Cohort interaction. If the interaction was not significant, we

**TABLE 7.** *Adherence to the MHC Model*

	Cohort 1 (74 centers)	Cohort 2 (81 centers)
<i>M</i> no. of weeks of consultation	26.39	26.49
range	21–26	19–39
<i>M</i> no. of visits	11.92	11.96
range	9–12	12–21 <sup>1</sup>
<i>M</i> no. of didactic sessions	4.66	4.19
range	1–5	1–5
ECMHC <i>M</i> Relationship score	5.52 (.62)	5.51 (.60)
range	1–6	1–6

<sup>1</sup>Permission was given on this round for MHCs to add up to 6 visits if a center had more than 10 classrooms. This occurred for 1 center in cohort 2.

**TABLE 8.** Means, SDs, and T Tests for the NT TOSr and GAS for Cohorts 1 and 2 Combined

	Retro <i>M</i> ( <i>SD</i> )	Post <i>M</i> ( <i>SD</i> )	Retro to Post <i>t</i> test (effect size)
Teacher self-efficacy	3.65 (.71)	4.21 (.70)	25.79 (.94)*
Teacher influence	3.80 (.92)	4.0 (.97)	8.5 (.31)*
GAS	n/a	4.21(.58)	n/a

NT TOSr = Now/Then Teacher Opinion Survey-Revised; GAS = Goal Attainment Scale; n/a = not available.

\* $p < .000$ .

dropped it from the model and tested the time and cohort main effects. Since we had both retro pre/post responses for some teachers and only one response for other teachers, we used a random effects model with teacher as the cluster. This allowed us to use all the data and also account for clustering effects.

The retro pre- and posttest means are shown in Table 8. The Time  $\times$  Cohort term was not significant for either factor,  $t = -1.26$ ,  $p = .21$  and  $t = .63$ ,  $p = .53$ . Averaged across cohorts, there was an increase in score between retro pre/post for both scores,  $t = 25.79$ ,  $p < .001$  and  $t = 8.50$ ,  $p < .001$ . For Factor 1 (teacher self-efficacy), the cohort difference approached significance,  $t = 1.94$ ,  $p = .053$ , but there was no difference between the cohorts for Factor 2, teacher influence;  $t = 0.36$ ,  $p = .72$  (see Figure 1).

We also examined the association between participant characteristics (e.g., teacher education and experience; center size and level of urbanism) and the two NT TOSr factors (teacher self-efficacy and teacher influence). We conducted random effects models separately for each outcome. We tested each teacher, center, and consultant characteristic in a separate model. We included the characteristic, time, Characteristic  $\times$  Time interaction, and cohort in the model. We tested the Characteristic  $\times$  Time interaction to determine if the model is effective for a broad range of centers, teachers, and MHCs.

There was a significant association between treatment impact and teacher experience,  $t = -3.67$ ,  $p < .001$ , time at center,  $t = -3.23$ ,  $p < .001$ , and age,  $t = -4.77$ ,  $p < .001$ , for Factor 1 (teacher self-efficacy). For Factor 2 (teacher influence), there was an association between treatment impact and age,  $t = -2.77$ ,  $p < .006$ . The program had more impact for younger, less experienced teachers, and then for teachers who were older and had more experience (overall experience as well as experience at their particular center). There were no associations between treatment impact and center characteristics or consultant characteristics.

### Teacher Competencies

Cohort 1 teachers reported that they experienced an improvement in all of the skills listed on the GAS; the mean score of the 15 items ranged from 1.60 ( $SD = .74$ ) to 2.3 ( $SD = 1.1$ ). The mean overall score of the GAS was 1.80 ( $SD = .56$ ) or “agree.” Similarly, Cohort 2 teachers’ mean scores ranged from 1.48 ( $SD = .66$ ) to 2.23 ( $SD = 1.10$ ), and the mean overall score of the GAS was 1.79 ( $SD = .60$ ). Because we only have posttest scores for the GAS, we compared

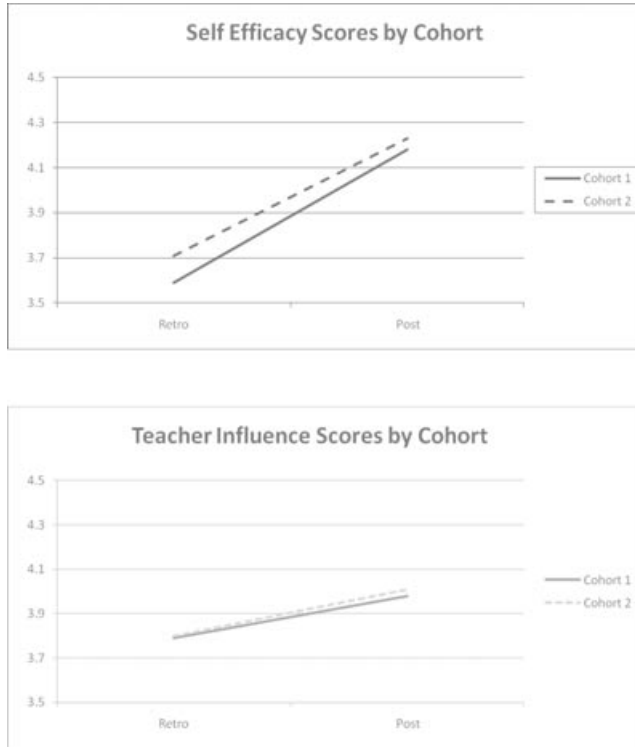


FIGURE 1. Change over time in self-efficacy and teacher influence for Cohorts 1 and 2.

the cohorts using a two-sample  $t$  test,  $t = .04$ ,  $p > .05$ . We found that they were not significantly different, so we combined the data for both cohorts for the following analyses.

We also examined the association between participant characteristics (teacher, consultant, and center) and teacher competence. We conducted random effects models for each teacher, center, and consultant characteristic in a separate model. No significant difference for any of the participant characteristics were found for the GAS.

## DISCUSSION

The findings of the present study demonstrate the robustness of the MH consultation model used. It was a model that could be implemented successfully across a wide range of centers and had a positive impact as indicated by teacher report. In other words, regardless of teacher, consultant, or center characteristics, teachers reported that they were better able to support children's socioemotional development because of the MH consultation they received.

In our first set of analyses, we demonstrated that 14 MHCs could implement a single, standardized MH consultation model statewide (i.e., 10 to 12 visits, five didactics, 6 months of consultation). MHCs met the expectations for all four of the benchmarks: length of consultation, number of visits, didactic sessions, and developing positive relationships. To some extent, MHCs were not able to conduct five didactic sessions at each center (although for both cohorts, the



average was  $>4$ ), even with the added incentive for teachers to receive continuing education credits needed to meet yearly licensing requirements. The most common obstacles reported by the MHCs were that (a) the center did not have a regular staff meeting; (b) the center did not have the resources to have substitutes to relieve teachers; (c) the center was unable to afford to pay staff to stay late or come in on a Saturday; and (d) high teacher turnover at the center, leading to MHCs repeating didactic sessions, as opposed to moving forward.

Additional analyses demonstrated that the MHCs were able to develop and maintain positive relationships with teachers and to impact teachers' attitudes and beliefs in a positive direction. The majority of teachers reported that they had a positive relationship with the MHC (e.g., "the MHC was a good listener," "the MHC worked as a partner with me to meet children's MH needs," and "the MHC viewed her role as a team member rather than an outsider"). As with teacher competence, this finding was true regardless of center, teacher, or MHC characteristics. Building and maintaining positive relationships with teachers was a primary focus of this consultation model, as positive teacher–consultant relationships have been argued to be one of the major catalysts of change (Johnston & Brinamen, 2006). The MHCs worked to build upon their relationships with teachers to alter teachers' beliefs about young children and their development (e.g., positive teacher–child interactions, the importance of socioemotional development, building relationships with families, etc.). It has been demonstrated that for early childhood teachers, changes in belief predict changes in how the teachers intend to behave in the classroom (Wilcox-Herzog & Ward, 2004). Moreover, previous research has suggested that an MHC's ability to collaborate with teachers is the key component to successful consultation (e.g., reducing externalizing and internalizing behaviors in children, increasing children's positive behaviors, and increasing staff wellness; Green et al., 2006). It is expected that through the MHC–teacher relationship, teachers' changes in beliefs will be followed by changes in behavior.

For the MHCs to be prepared to forge these important relationships, it is essential that they are able to address the multiplicity of needs within a center while also maintaining self-awareness. Johnston and Brinamen (2006) put forth seven knowledge areas that are key to providing effective consultation: self-awareness, knowledge of infant mental health principles, experience working with parents, child development knowledge, ability to facilitate groups, the appreciation of group care, and respect for differences. All Louisiana MHCs participated in IMH training, had an advanced degree in an MH field, received pre- and inservice training on MHC, and received consistent reflective supervision, both one-on-one and in groups, to support MHCs in meeting and maintaining competence in these areas. With this preparation and ongoing support, it appears that the Louisiana MHCs have the training and support needed to build positive bonds with a wide variety of teachers and centers.

In a national study of effective early childhood MH consultation programs, highly qualified MHCs were one of the three core program components identified. Of the six programs studied, all but one employed MHCs with at least a master's degree, with the majority of the advanced degrees in MH fields (Duran et al., 2009). Because of the limited variability in the relationship factor scores, we were unable to examine the association of the teacher's rating of his or her relationship with the MHC with teacher competence, self-efficacy, or teacher influence.

There was a self-reported increase in teachers' level of self-efficacy and influence when retrospective preassessment data were compared to postassessment data. In addition, there was a very similar growth pattern for both cohorts, supporting our argument that the change was due to the consultation and not maturation of the teacher or teacher–child relationship (see Figure 1). Thus, we conclude that the MH consultation had a positive impact on teachers' sense of their

ability to handle children's challenging behaviors in a manner that supported children's healthy socioemotional development. Given that prior research with older children has demonstrated that teachers with higher levels of self-efficacy exhibit more effective classroom management skills and have students who perform better in school (Borton, 1991; Midgley, et al., 1989; Miskel, et al., 1983; Rose & Medway, 1981; Ross, 1988), we believe that future observations of teachers in this study might demonstrate a change in teachers' classroom behavior as well.

Unlike the other two teacher-outcome variables, teacher self-efficacy and teacher influence were associated with teacher characteristics. With regard to teacher characteristics, we found that older teachers and teachers with more experience in childcare had higher self-efficacy scores in the retrospective preassessments, although not in the postassessments. In other words, the MH consultation program seems to have more impact on teachers with less experience. One explanation for this finding could be that less experienced teachers have a less developed sense of teacher self-identity and may have been more open to incorporating new ideas into their still-forming sense of who they are as a teacher. Alternatively, less experienced teachers may have been more willing to accept a newcomer into their classrooms earlier in the consultation process, giving them more time to work proactively with their MHC. At the end of the consultation period, teachers with all levels of experience indicated that they had developed a positive relationship with their MHC, so experience level does not appear to prohibit relationship development; however, the developmental trajectory of this relationship cannot be tracked through a one-time measurement.

Teachers reported that their competencies in supporting children's socioemotional development (e.g., responding appropriately to a child in distress, having a positive attitude about working with parents, and managing children's difficult behavior) increased as a result of the consultation. This study supports and expands prior research findings (which included only Head Start or urban centers) to a wide variety of centers (e.g., private, nonprofit and for-profit, suburban or rural). This reported increase in competence was present regardless of center, teacher, or MHC characteristics.

Overall, the MHCs were able to provide a model of consultation across the state that was standardized enough that similar results were found across different regions of the state, across private, nonprofit, and for-profit centers, and across urban, suburban, and rural settings. MHCs demonstrated that they were able to simultaneously tailor their use of several tools to strive to meet the individual needs of each center and teacher who participated while also maintaining the integrity of the overall model.

### ***Limitations***

This is the first study to examine such a large number of teachers in a wide variety of childcare settings and with a single MH consultation model. Future research should utilize data obtained through observations to assess teachers' competence and their relationship with the MHC. When examining change, self-report data are not the gold standard; ideally, observations are made by trained data collectors. However, our belief is that for changes in teacher behavior to occur, changes in beliefs, attitudes, and knowledge must occur first. Thus, it is important to understand the process of change and the variables that influence that change, which involves understanding teacher's perceptions. This article begins to look at some of those processes.

As this research effort was conducted in conjunction with the implementation of a state-funded quality initiative to support to childcare centers, it was not possible to recruit a control

group; however, using data collected from cohorts at different times is considered a viable alternative to having a control group (Campbell & Stanley, 1966; Cook & Campbell, 1979). Thus, the associations found in this study are likely to be replicated if repeated with a control group. Note that all centers that participated in MH consultation also agreed to participate in Louisiana's quality rating and improvement system, Quality Start. While some centers embraced Quality Start and already were committed to quality before consultation began, others were recruited by MH consultants to participate in Quality Start, with the promise of free consultation services. Therefore, a considerable cross-section of centers was included in the samples studied: centers very motivated to make changes according to a prescribed standard and centers more reluctant to embrace a statewide standard of quality. Even so, all centers that received services may have been more motivated to improve the quality of care they provide to young children than may centers that had chosen not to participate in Quality Start.

### **Future Research**

Although still in its early stages, research examining the impact of MH consultation on childcare teachers and the childcare environment has been demonstrating positive results; nevertheless, much more research is needed. Future research should include data collected from trained observers assessing changes in teachers' behavior within the classroom setting, including teacher-child interactions. Another important question is how long the observed changes are maintained. This intervention lasted 6 months, and the data were collected within 6 weeks of the final consultation visit; however, the length of time the assessed changes are maintained is unknown. Future longitudinal research should examine how long these important changes are maintained without continued support. In addition, longitudinal data which examine the impact of MH consultation on child outcomes, especially school readiness, are needed.

Finally, there remains a critical question about the length of the intervention. Could the results observed here be attained in less than 6 months? Could greater impact be achieved if the intervention was continued beyond 6 months? Length of intervention is an important question, as onsite consultation can be a costly endeavor in terms of time, personnel, and often travel. Thus, not only producing positive change but doing so efficiently and timely has important implications for resource expenditure as well as for child outcomes.

## **CLINICAL IMPLICATIONS**

This article demonstrates that an MH consultation program can be implemented statewide, adhere to the model, and produce positive outcomes. In addition, it is striking that positive changes in beliefs were found at extremely diverse centers (i.e., from 2–18 classrooms, from church-run to corporate, from all Caucasian to mixed ethnicity to all African American). All centers reported positive relationships with their MHCs as well as increases in their levels of competence and efficacy. Although there was little variability in the relationship scores, the teachers rated the MHCs in an overwhelmingly positive light. Further support of this was highlighted in the responses that teachers provided in two of the open-ended questions at the end of the survey. What did your MHC do that was most helpful for you?

- “Gave me good ideas to pull their focus or attention back to me when I started to lose them. Helpful songs and hand movements.”

- “was consistently available to me and the other teachers. She provided me with resources and information to support my understanding of the children. She also provided me with advice and alternative strategies for dealing with difficult behavior.”
- “He did a series of trainings that gave me a lot of information and helped me to better deal with the children and what the children think and perceive things.”

What would you do to change the quality of the MHC program?

- “Nothing. Could she come back again?”
- “The quality of the consultation program and the consultant need no improvement in my opinion. The program was great and very helpful.”
- “None at all. The MHC help me a lot, and dealing with stress and [*sic*] overwhelmment.”

The task of entering into a program and developing rapport and trust with the teachers and director is not an easy one. The MHCs in this project were able to do so, overwhelmingly, and to implement change from the perspective of the teachers.

The finding that MHC characteristics did not impact the teacher outcome variables can be misleading. From a clinical standpoint, this is a positive finding in that MHCs, with varying levels of experience and from different MH backgrounds, can be trained to successfully implement the program. However, note that this was a group of professionals selected in part because of their MH training, background, and prior experience with children. In other words, all of the consultants had at least a master’s degree in an MH discipline, were licensed or in the process of being licensed, and participated in a 60-hr didactic IMH training program. Thus, if this study had included paraprofessionals or individuals without IMH training using this model, then the findings may not have been the same.

In conclusion, this ECMHC model was able to be implemented successfully and was seen as a support by the teachers who participated in it. Teachers not only found the consultation helpful but many also sought to retain the MHC in their center for longer periods of time and reported an increase of their own level of skill due to the consultation. Many centers continue to contact their consultant and request “booster” or follow-up sessions, the reasons for these requests most often have been to help the center deal with a challenging child or with a classroom that is having global behavioral difficulties (e.g., high activity level or biting). Clearly, the childcare providers continue to see this model and the consultants as valuable resources.

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