INVESTIGATING PARENTING STRESS AS A MEDIATOR BETWEEN EARLY CHILDHOOD MENTAL HEALTH CONSULTATION AND CHILDREN'S BEHAVIORAL OUTCOMES

By

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ABSTRACT

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In this study, parenting stress and its influence on children's behavioral outcomes (behavior problems and protective factors) were investigated following the implementation of the Child Care Expulsion Prevention (CCEP) program, an Early Childhood Mental Health Consultation (ECMHC) program. Participants included children and parents that participated in the CCEP program (n = 247) and a comparison group (n = 72) in the state of Michigan. Results of mediation analyses, moderated mediation analyses, and multiple regression indicated that parent-child dysfunctional interactions mediated the relation between ECMHC and children's behavior problems (CI = .001, .038) and protective factors (CI = -.061, -.001). Child gender and family SES did not impact the strength of the mediation (parenting stress). Parental distress (ΔR^2 = .07, F(1, 75) = 6.82, p < .01) and family SES ($\Delta R^2 = .06$, F(1, 75) = 5.86, p < .05, $\Delta R^2 = .05$, F (1, 75) = 4.54, p < .05) predicted parent-rated behavior problems. Predictors of parent-rated protective factors included parental distress ($\Delta R^2 = .06$, F(1, 75) = 5.40, p < .01), main type of referral problem ($\Delta R^2 = .04$, F (1, 75) = 3.84, p < .05), and parent-child dysfunctional interaction $(\Delta R^2 = .14, F(1, 75) = 13.82, p < .001)$. None of the variables examined predicted provider-rated child behavior. It is important to explore indirect influences that may contribute to the success of intervention programs in order better understand how the intervention achieved its effects.

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Chapter 1

INTRODUCTION

Early childhood mental health consultation (ECMHC) is an indirect approach to prevention and intervention with young children (ages birth to 6 years), their families, and other adult care providers (Cohen & Kaufman, 2000). Behavior problems exhibited by young children are problematic for healthy development and often lead to future difficulties and dysfunction in adolescence and adulthood (Hofstra, Van der Ende, & Verhulst, 2001). To avoid the negative long-term consequences of behavior problems and to increase the likelihood of altering a child's negative developmental trajectory, the implementation of prevention and early intervention services, such as ECMHC have been on the rise (Cohen & Kaufman, 2000).

ECMHC is a problem-solving approach implemented collaboratively by a consultant, individuals with other areas of expertise, such as a childcare provider or preschool teacher, and the caregivers of the target child (Cohen & Kaufmann, 2000). ECMHC incorporates and targets adults as a way to change children's behavior. It has been suggested that ECMHC has a direct effect on adults' behavior, which leads to indirect effects on children's behavior. The most common type of consultation, child- or family-centered consultation, focuses on developing a plan that addresses childcare factors and family factors that may be contributing to the child's challenging behavior and functioning. ECMHC consultants work directly with families, staff, and programs to enhance their skills and abilities to better prevent, identify, and treat mental health problems for young children. An advantage of this approach is that it takes into consideration the multiple ecologies that affect a young child by incorporating important adults (e.g., parents, childcare providers) in the collaborative effort of identifying the problem, selecting

an intervention or strategies that have a likelihood of reducing the problem, and implementing the intervention and strategies agreed upon.

Research has investigated the effectiveness of ECMHC in early childhood settings and provides evidence that this intervention indirectly impacts young children's behavioral outcomes. ECMHC has been linked to less challenging behavior (e.g., disruptive behavior; Raver et al., 2009), more positive behaviors (e.g., social skills; Perry, Dunne, McFadden, & Campbell, 2008), and lower rates of expulsion in at-risk preschool populations (e.g., Upshur, Wenz-Gross, & Reed, 2009). Additionally, childcare providers, teachers, and programs have also shown to be directly affected by the ECMHC process. Positive outcomes for childcare providers, who work with children in a daycare setting, and teachers, who work within a preschool setting, include enhanced teacher knowledge, competency to handle children's behavior, and self-efficacy (e.g., Johns, 2003). Program outcomes have included perceptions of improved teamwork, improved communication among staff members, and a more positive classroom environment (e.g., Alkon, Ramler, & MacLennan, 2003). Furthermore, recent research investigating parent outcomes indicates that parents' stress is reduced and parents' feelings of empowerment are improved following ECMHC (e.g., Van Egeren et al., 2011).

While research has suggested that ECMHC has positive, indirect effects on children's behavioral outcomes, less research has been devoted to examining the direct impact that ECMHC has on parent factors and how it may influence children's behavioral outcomes. Often, studies have examined the indirect effects on children's behavior but fail to establish the rationale for these changes through a link to the direct effects of consultation. More importantly, almost no research has investigated whether parent factors or changes in parenting behaviors through consultation may influence ECMHC effects on children's behavioral outcomes. Some

parental factors may serve as risk factors for their child's development, given that parenting behavior influences child behavior through parent-child interactions (Patterson & Reid, 1970). Poor parent-child interactions have the potential for negative behavioral outcomes for the child and parent. According to Patterson's coercive parenting cycle (1982), a parent and child may engage in aversive behaviors, which become increasingly irritating, in attempts to control the other. Once the child's behavior becomes intolerable, the parent gives in, which reinforces this negative behavior. Engaging in the coercive parenting cycle also models poor emotional regulation, poor behavior, and inappropriate ways to resolve conflict. Young children may begin to imitate this type of behavior in settings outside the home, such as daycare or preschool.

One type of parenting factor that may influence or result from the coercive parenting cycle is parenting stress. Parenting stress is the aversive psychological reaction to the demands of being a parent (Abidin, 1992). Parents with more parenting stress may be more likely to engage in aversive parenting behaviors more quickly given the elevated levels of existing stress. Frequent negative interactions within this cycle could result in parenting stress becoming more elevated over time. Additionally, parents who are highly stressed may be more likely to give in to their child to avoid fighting and not put in the effort to manage the child's behavior more appropriately. Elevated levels of parenting stress have been linked to elevated parenting stress (e.g., Barry, Dunlap, Cotton, Lochman, & Wells, 2005). Externalizing behavior problems exhibited by children predict initial status of parenting stress as well as changes in parenting stress over time, with stable or more stress existing when children exhibit behavior problems (Williford, Calkins, & Keane, 2007).

Studies have found that when children participate in intervention targeting behavior, parenting stress is often lowered and when parenting stress has been targeted in treatment, children were more likely to exhibit fewer behavior problems. (e.g., Feinfield & Baker, 2004; Kazdin & Whitley, 2003). Furthermore, when a parent education component is included in a child behavior intervention or treatment, stress is likely to be reduced. It has been reported that less knowledge about child development and child rearing, lower perceptions of parenting competence, fewer emotional resources, and fewer instrumental resources contribute to parenting stress (Deater-Deckard, 1998) and improving this for parents may enhance their perception of available resources. Following consultation, parents may feel less stressed due to changed attitudes and improved skills as a result of the education, modeling, and coaching received from the consultant. This support and additional resources may help parents feel less stressed and improve interactions with their child.

Given these links, it may be the case that those parents who continue to experience more stress even after participating in services intended to reduce children's behavior problems, may experience or may perceive their children as exhibiting more behavior problems, compared to parents feeling less stressed. Parents who continue to experience elevated stress throughout ECMHC may be less likely to carry out the strategies or skills learned or continue to engage in negative interactions with their child, which influences their child's behavior. Therefore, it is important to examine parenting stress as a potential mediating factor that may influence children's behavioral outcomes following ECMHC.

It is also important to examine factors that may influence the relation between parenting stress and children's outcomes, such as child gender or family SES. For example, literature has suggested that boys are more likely to exhibit behavior problems (e.g., Mistry Vandewater,

Huston, & McLoyd, 2002) and low SES has been found to impact parents' stress level, given that they have fewer resources than middle- and high-SES families (Anthony et al., 2005). It may be the case that parenting stress is contingent on these variables and that parenting stress plays a different role for various subgroups of participants (MacKinnon, Fairchild, & Fritz, 2007).

Additionally, evaluating predictors facilitates understanding for who benefits most from particular types of treatment. In addition to boys and children from low SES families having a higher likelihood of exhibiting more behavior problems (e.g., Deater-Deckard, Dodge, Bates, & Pettit, 1998; Mistry et al., 2002), other factors such as a child's age and type of behavior problems exhibited may predict behavioral outcomes, following ECMHC. Research has suggested that child age may play a role since younger children may continue to exhibit behavioral difficulties given their developmental level (Perry, Allen, Brennan, & Bradley, 2007). Therefore young children may continue to be rated as exhibiting more behavior problems (than older children) after ECMHC. Additionally, certain types of behavior problems children experience may be more responsive to change by the services provided compared to others. Examining these predictors may provide a better understanding of what population the intervention is effective for.

Current Study

The current study investigated parenting stress and its influence on children's behavioral outcomes (behavior problems and protective factors) following the implementation of an ECMHC program. Child factors were also examined to investigate whether they influenced the relation between parenting stress and children's outcomes, as well as whether they served as predictors of children's outcomes. Examining child outcomes following ECMHC and exploring indirect influences that contribute to the success or failure of intervention could provide evidence

for how the intervention achieved its effects (MacKinnon et al., 2007). The primary research questions investigated (a) whether parenting stress mediated relations between an ECMHC program and children's behavior problems (Figure 1), (b) whether parenting stress mediated relations between an ECMHC program and children's protective factors (Figure 1), (c) whether the strength of the relation between parenting stress (mediator) and children's behavior problems and protective factors were contingent on child gender or family SES (figure 2), (d) characteristics (child gender, child age, family socioeconomic status, type of referral problem, parenting stress) that predicted children's behavior problems (parent- and provider-rated) after participating in an ECMHC program (Figure 3), and (e) characteristics (child gender, child age, family socioeconomic status, type of referral problem, parenting stress) that predicted children's protective factors (parent- and provider-rated) after participating in an ECMHC program (Figure 3).



Figure 1. Mediation Model for Parenting Stress and Parent-Rated Child Behavior Outcomes.



Figure 2. Moderated Mediation Model for Parenting Stress and Parent-Rated Child Behavior Outcomes.



Figure 3. Predictors of Parent- and Provider-Rated Behavior Outcomes.

Chapter 2

LITERATURE REVIEW

This literature review begins by briefly discussing the importance of treating behavior problems and promoting protective factors in young children. A description of ECMHC and its values, goals, and features will follow. Outcomes associated with ECMHC, including child, childcare provider, teacher, program, and parent outcomes will be discussed to provide evidence of ECMHC effectiveness. There has been limited attention given to parents within the ECMHC literature although much research suggests that parent factors closely link to child outcomes. It is important to explore parent factors that may potentially influence children's behavior after receiving ECMHC services, to better understand why and how outcomes may be resulting from this type of service delivery approach. One parental factor that has been found to be related and influential in children's behavior but has not been frequently studied in relation to ECMHC is parenting stress. Elevated parenting stress has been linked to more behavior problems and less stress has been linked to fewer behavior problems. Given this, literature pertaining to parenting stress and its association to young children's behavior problems and protective factors will be reviewed. Special attention to demonstrating the link between the two and illustration of how parenting stress may mediate children's behavior is provided. Additionally, given the need to examine factors that may influence the relation between parenting stress and children's outcomes, child and family characteristics will be discussed throughout the review, particularly within the parenting stress literature. The purpose of the current study will be described and the research questions will be presented.

Behavior Problems and Protective Factors

Early experiences during childhood can significantly influence later outcomes for children (Cohen & Kaufman, 2000) given that these experiences set the course for subsequent development (Sroufe, Carlson, Levy, & Egeland, 1999). Young children who exhibit behavior problems, such as aggression, inattention, impulsivity, and opposition (Morgan, Robinson, & Aldridge, 2002; Nixon, 2002) early in life are more likely to demonstrate less favorable outcomes compared to children that do not have behavioral difficulties. Children with behavior problems at a young age have a 50% chance of continuing to exhibit problematic behavior in adolescence (Cohen & Kaufman, 2000). In addition, poor developmental outcomes including lower academic achievement, problems with peer and adult relationships, and social-emotional difficulties have been reported (Campbell, 1994; Hofstra et al., 2001). It is important to not only alleviate severe behavior problems exhibited by young children to avoid negative proximal outcomes, such as expulsion from a childcare program, but also to avoid negative distal outcomes, such as later life difficulties. Therefore, prevention and early intervention is necessary when children are young and developmental trajectories are more malleable and responsive to treatment (Keenan & Shaw, 1994).

In addition to managing behavior problems, enhancing protective factors and the wellbeing for all children in the child care setting is important (Cohen & Kaufman, 2000). Protective factors include behaviors such as self-control, initiative, attachment, and the ability to communicate effectively (LeBuffe & Naglieri, 1999). Children exhibiting these behaviors are more likely to have stronger relationships with parents, childcare providers, and teachers. Children exercising self-control and initiating behaviors towards peers are also more likely to be accepted by their peers (Raver, Blackburn, Bancroft, & Torp, 1999). These positive responses

from various peers and adults lead to more positive outcomes for children, including higher academic achievement, higher rates of classroom participation, and stronger relationships with peers and teachers in the future (Ladd & Burgess, 1999; Ladd, Birch, & Buhs, 1999). Protective factors promote resiliency and moderate or buffer the negative effects of stress (Rutter, 1987). The presence of protective factors often results in more positive behavioral outcomes for children than would have been possible in their absence (Masten & Garmezy, 1985).

As a way to reduce behavioral problems exhibited by young children, as well as the negative consequences that occur as a result of behavioral problems, the implementation of prevention and early intervention programs have been on the rise (Cohen & Kaufman, 2000). These programs are being increasingly implemented, however, there continues to be a shortage of published research in peer-reviewed journals with the literature mainly comprising of evaluation studies. Programs have taken various approaches to treating children's behavior problems, which include targeting the child directly and/or targeting adults that work with children (e.g., parents, teachers). Targeting adults to facilitate change in their behavior and/or environment, in turn, promotes change in the child's behavior. One type of intervention that directly targets the child is social skills training. It focuses on remediating or improving skill deficiencies in the child. Training typically includes modeling the social skill, role playing how to demonstrate the skill, coaching of the skill, allowing the child opportunities to practice the skill, feedback about utilization of the skill, and positive reinforcement when the skills are appropriately used. These evidence-based practices are incorporated into most social skill programs, such as the Social Skills Improvement System (SSIS; Elliott & Gresham, 2008). The Incredible Years (IY) Dinosaur school also targets children directly by teaching and reinforcing appropriate social skills (Webster-Stratton, Reid, & Hammond, 2004). Another program that has

shown to be effective and targets the child directly is Problem-Solving Skills Training (PSST; Kazdin & Whitley, 2003). This program incorporates explicit teaching of skills for identifying problems, generating solutions, and evaluating solution selection in addition to social skills training.

To address problematic behavior in the classroom, programs have been developed to alter teacher behavior. The IY Teacher Classroom Management Training Program is one intended to assist teachers in increasing their use of positive discipline strategies and behavioral management techniques, and decrease harsh and ineffective strategies (Webster-Stratton et al., 2004). Several other evidence-based practices have been utilized by teachers in the classroom to reduce inappropriate, disruptive behavior. These include delivering positive reinforcement and praise for appropriate behavior while ignoring inappropriate behavior, establishing clear rules and directions, providing positive and corrective feedback, and token reinforcement systems (McMahon, Wells, & Kotler, 2006).

Interventions that target parents are intended to enhance parent-child interactions and alter parenting behavior. Two parent training programs that have been widely studied and implemented for parents of children exhibiting behavior problems include the IY Parent Training program (Webster-Stratton et al., 2004) and Parent-Child Interaction Therapy (Eyberg, Boggs, & Algina, 1995). These programs have been implemented to teach parents effective parenting techniques, promote positive interactions with children, and reduce coercive and inconsistent parenting practices. Another parent program, the Triple P-Positive Parenting Program (Sanders, Markie-Dadds, Tully, & Bor, 2000), is a five level parenting program that increases in service delivery strength and intensity as the levels increase. This program takes into consideration the context of family problems that may be taking place in addition to the child's behavioral

difficulties. Therefore, as the levels increase, more services are provided for larger family issues (e.g., marital conflict, depression).

Another type of treatment program that has shown to be beneficial in addressing young children's behavioral problems and building protective factors is ECMHC. ECMHC is a problem-solving and skill building intervention that is implemented within a collaborative relationship between a consultant (with mental health expertise) and one or more individuals with expertise (child care center staff) (Alkon, Ramler, & MacLennan, 2003). This program is viewed as early intervention since it aims to decrease behavioral problems exhibited by young children, as well as helps to prevent problems from arising. It is a unique form of service delivery in that it enhances protective factors for all children in the child care setting and builds upon children's strengths (Cohen & Kaufman, 2000).

While ECMHC has some similarities to parent and teacher-focused interventions, it has several features that distinguish it from other evidence-based programs. First, ECMHC is considered an indirect and skill building intervention. The consultant may provide some direct services (e.g., conducting assessments), however the improvement occurs as a result of enhancing the attitudes and skills of the provider and/or parent (Hepburn et al., 2007) and changes in the home or classroom environment (Perry et al., 2010). Second, ECMHC is a problem-solving intervention and serves the specific needs of the teacher, parent, or child that was referred. This occurs by identifying the child's problematic behavior, constructing a plan and strategies to address the behavior, implementing the plan, and evaluating whether the plan was effective (Duran et al., n.d). If not effective, the problem-solving approach allows the consultant, provider, and parents to return to a previous stage and adjust as necessary. Third, ECMHC emphasizes collaborative relationships among the consultant and provider and/or

parent. The consultant is not viewed as the expert, or one who implements the treatment, rather the consultant serves as a liaison who works collaboratively to assist others in identifying, selecting, implementing, and evaluating a plan for a child (Cohen & Kaufman, 2000). Fourth, ECMHC differs from other evidence-based interventions in that it is not a manualized treatment. ECMHC has a set of values, goals, and features that distinguish it from other approaches, however there are not a set of activities that are implemented in a prescribed sequence (Duran et al., n.d.). This allows for flexibility and individualized services for each family that the consultant serves.

Underlying Values of ECMHC

The mental health perspective that underlies ECMHC emphasizes the importance of a child's ecology and believes that incorporating childcare providers and parents is essential (Feinberg & Fenichel, 1996). It is believed that strengthening the relationship between children and important adults in their life is necessary to facilitate mental health needs of children. The family is viewed as vital participants in the assessment, implementation, and evaluation of services for their child. The mental health perspective is careful to build upon and promote the child, childcare provider, and family's strengths rather than just focusing on their problems or deficits. ECMHC is aware of, respectful of, and responsive to the individual, cultural, and racial differences among families to best serve them.

Goals of ECMHC

For children that are struggling the most, the goal of mental health consultation in early childhood settings is to decrease behavioral problems or mental health problems for a child and their family. The most common type of consultation, child-centered consultation, or family consultation, focuses on developing a plan that addresses child care factors and family factors

that may be contributing to the child's challenging behavior and functioning. Consultants support providers and families by providing information about a topic or area that is specifically requested, providing appropriate strategy recommendations for the provider and family to implement, and improving the effectiveness of provider and family interactions with the child. ECMHC aims to increase the skills and ability of families, staff, and programs to prevent, identify, and treat mental health problems for young children (ages birth to 6 years). With a better understanding of children's behavior and skills necessary to address the behavior, it is suggested that the adults working with the child may feel more competent and equipped to manage challenging behavior, which may in turn reduce feelings of stress and negative perceptions of the child.

Improving adults' effectiveness in their interactions with young children is important given the bidirectional nature of adult-child behavior (Cohen & Kaufman, 2000). It is believed that increasing adults' competencies and skills (e.g., more accurate understanding of child development, use of effective behavior management techniques) will lead to more positive and effective interactions with children. In addition to improved skills, the additional resources a parent receives as part of the consultation process, such as increased social and emotional support from the consultant may in turn improve their overall well-being and ability to carry out the skills and problem-solving model more effectively. This will in turn, facilitate children's behavior change via adults' behavior change. Creation and selection of strategies (e.g., effective commands, positive reinforcement, limit setting) by multiple adults in a child's life and implementation of these strategies will more likely generalize across settings and increase the likelihood of success for the child (Upshur et al., 2009).

Key Features of ECMHC

There are several key features of ECMHC. While ECMHC may vary in the frequency and intensity of activities and services provided to providers and families, as well as the types of problems that are targeted, the following essential components must be implemented to be considered ECMHC (Cohen and Kaufman (2000): (1) a collaborative relationship; (2) problemsolving and skill-building goals; (3) identification of specific issues to be targeted and addressing issues within a reasonable time frame; and (4) consultants who possess a set of professional skills and interpersonal skills.

Collaborative relationship. One of the most important features of ECMHC is collaborative, respectful relationships between the consultant and childcare provider and consultant and family. This is important to establish in order for each person to trust one another and be open to sharing opinions. In a review conducted by Green, Everhart, Gordon, and Gettman (2006), it was found that the most important characteristic of effective mental health consultation services is the consultants' ability to form positive, collaborative relationships with staff members.

Bertacchi (1996) discusses five principles that create a safe context for the development of a collaborative relationship between a consultant and childcare provider engaged in ECMHC. These include a.) respect for the person, culture, and differences in opinion; b.) sensitivity to context and awareness that context may influence beliefs, behavior, and interactions; c.) commitment of consultants and childcare providers to learning, growing, and changing; d.) shared goals and vision for the child, program, or family; and e.) open communication between parties that take place consistently, frequently, and openly. These principles likely provide the necessary context for the development of the consultant and family relationship as well.

Problem-solving and skill-building goals. The goal of ECMHC is to assist childcare providers and families with a child's problem or challenging behavior. This is accomplished through a problem-solving process, which includes collecting extensive data through assessment, selecting an intervention that links to the assessment data and targets the problems, and developing an intervention plan. Throughout this process, the consultant is working to enhance the childcare provider and family's understanding of the behavior, as well as strategies that could be utilized to decrease the problem. By changing negative attitudes of the behavior, providing a better understanding of behavior, and learning additional strategies to manage the behavior, the childcare provider and family will be better equipped to handle similar problems in the future.

Identification of specific issues to be targeted and addressing issues within a reasonable time frame. It is important that the consultation process is efficient and effective, given that consultants work with childcare providers and families for a limited amount of time. The amount of time a consultant spends with teachers and parents may vary based on the type of problem identified and intensity of the problem. Consultation services typically last between two and six months, as reported in a review conducted by Perry and colleagues (2010). This process includes entry, contracting, termination, and evaluation process. Entry refers to entering the program, evaluating the needs of the childcare provider and program, and discussing the expectations during consultation. Contracting, the stage following entry, is a document of agreement that the consultant and provider agree upon. Some topics that may be discussed and included in the contract are goals of the consultation, expectations of the consultant and childcare provider, duration of consultation, and what the process might look like. Another part of the process includes evaluation. Typically this includes the effectiveness of the plan/intervention. Additional parts of the process can also be evaluated such as the consultant-provider relationship.

It is important to determine whether the intervention and strategies being implemented are effective for the child. If the evaluation suggests that it is not effective, altering the strategies or choosing a different intervention may be necessary to lead to more positive outcomes.

Consultants with professional and interpersonal skills. It is recommended that consultants providing ECMHC services not only be licensed mental health professionals, but also have the professional knowledge and skills appropriate to provide these services. Consultants must be knowledgeable in child development, family systems, early intervention, and treatment. Consultants must also demonstrate the ability to integrate mental health research and program philosophies into practice, conduct various assessments, work with parents and staff members effectively, and understand and exhibit sensitivity to differences in culture and community.

As mentioned earlier, relationship building is one of the most important components of ECMHC. Therefore, it is important for consultants to also demonstrate interpersonal skills that exhibit understanding and allow them to effectively build trust with those with whom they work. Warmth, empathy, and respect are just a few of the characteristics essential to this relationship building process (Cohen & Kaufman, 2000).

Services Provided by ECMHC

Consultants working within an ECMHC delivery model engage in several types of services to enhance the attitudes and skills of providers and parents, as well as improve the classroom and home environment. Consultants may provide direct services, such as observing a child and conducting screenings or assessments, however the majority of services provided are indirect (Perry et al., 2010). After the child's problem is identified, a plan is constructed that aims to reduce the problem. Consultants often provide leadership to construction of the plan and

ensure that the plan is carried out. Indirect services may include educating providers and parents about a particular topic (e.g., child development and behavior), coaching and modeling of positive adult behavior and discipline strategies, conducting in-service or trainings, and consultation regarding adjustments to the classroom or home environment (e.g., routines, structure, environment layout). Consultants can make referrals for the child and/or family to other professionals or agencies if their needs exceed the resources or expertise of the consultant and ECMHC program. Resources are also provided to families and childcare centers, such as books and toys.

According to a review of ECMHC and its impact on children's behavioral outcomes, Perry and colleagues (2010) found three different approaches to ECMHC service delivery within the literature. One type was "manualized" consultation. This approach was driven by a manual or set of program guidelines. The second type of consultation was delivered through an established curriculum. For this type of consultation, researchers implemented an evidence-based intervention, such as Carolyn Webster-Stratton's Incredible Years or the Skillstreaming social skills curriculum. Consultation support was provided throughout the implementation of the intervention. The third type was individualized consultation services. Individualized consultation services were tailored to the needs of the child, family, provider, or program that the consultants were servicing. The consultation was not manualized, nor was there a manualized treatment implemented. While a structured, manualized evidence-based treatment is not always included as part of the consultation delivery, several evidence-based practices are promoted within the model. This includes the use of valid and reliable assessment tools, as well as the use of effective teaching and scaffolding strategies, such as coaching, modeling, and immediate feedback.

Implementation of all three approaches to ECMHC service delivery has been suggested to be a promising way to reduce young children's behavior problems.

Outcomes of ECMHC

Child outcomes. In a study conducted by Perry and colleagues (2008), a 4-year project was implemented to reduce behavior problems, and ultimately rates of expulsion, in a large, suburban county in Maryland. Mental health consultation services delivered by two Master'slevel behavioral specialists were provided to childcare staff in licensed programs throughout Anne Arundel County, Maryland. This project delivered individualized consultation services to children between the ages of 10 months and 7 years who referred for exhibiting "problem behaviors." Children were most often referred by childcare providers and occasionally by parents. About 60% of children demonstrated aggressive behaviors. Hyperactivity was a primary concern for about 29% of children. Disruptive behavior and attention problems were also listed as concerns in about half of the children referred. Internalizing problems, such as anxiety and depression were less of a concern, with approximately 11% of children referred for these problems. In regards to demographics, 77% of children were Caucasian, 15% were African American, 2% were Hispanic, and the remainder were another race or ethnicity. Fifty-seven percent of the children referred were living with two biological parents and 26% were living with their mother only. Parents were well educated and had an average of 14 years of education for both mothers and fathers. Socioeconomic status was not reported.

Prior to the implementation of consultation services, childcare providers completed the Brief Infant Toddler Social Emotional Assessment (BITSEA; for children between the ages 1 through 3 years) or the Preschool and Kindergarten Behavior Scale (PKBS; for children between the ages of 3 and 6 years) to determine children's baseline levels of behavior problems and social

skills. No parent ratings were collected. Following baseline, consultation services were provided directly to providers at childcare programs for approximately three months. In addition to the baseline assessment, consultants also conducted approximately five to ten structured observations of each child, during which a frequency count of the targeted behavior problem was noted. After the observations were conducted, a formal report was written for the childcare provider and program and included strategy suggestions by the consultant. Consultants discussed the report with childcare providers and offered support to implement the plan in the center. While the study mentioned that the report and plan were also shared with the child's parents, it did not state that support was offered to help implement the plan in the home. The consultant continued to follow the child for a month to evaluate the effectiveness of the program and assist with any necessary adjustments. After the month-long follow up, the BITSEA or PKBS were completed again by childcare providers to determine whether any changes were observed in problem behavior or prosocial skills. Consultants however, did not conduct formal observations following ECMHC services. Three months later, childcare providers and programs were contacted to determine how the child was doing and whether any further assistance was needed. After six months, if the child was reported to be functioning well, programs contacted consultants only if changes occurred or if they needed further assistance.

Discharge data were available for 150 children, however only 64 children were included in the behavior problem and prosocial skills analysis. The 86 that were not included in the analysis either did not have baseline data or did not have post data, therefore could be not be included. Of the 64 children included in this analysis, 91% were boys. Results of *t*-test analyses indicated that children had significant decreases in externalizing and internalizing problem behaviors and significant increases in social skills, as measured by the PKBS. Similarly,

behavior problems measured by the BITSEA for infants and toddlers also decreased between baseline and post. Of the total 150 children, 79% of children remained in their childcare program (n = 119). Of the children that were removed, only 13 were dismissed (9%). The remaining 18 children (12%) changed programs voluntarily or upon the recommendation of the mental health consultant (Table 1).

The results of this study suggested that following mental health consultation services, children exhibited less behavior problems and more prosocial behaviors, as rated by providers. While positive outcomes were found, the authors did not examine mediators that may have influenced children's positive outcomes. For example, no provider or parent variables were examined such as competence, efficacy, or stress, which may have the potential to directly influence children's behavioral change. Additionally, no parent ratings of children's behavior were incorporated into the study. It was not determined whether the children's behavior improved and generalized to the home setting, in addition to the classroom setting. Also, given that parents were occasionally the adults referring the child for services, it would have been important to see whether they observed behavioral change. Given that providers completed baseline and post ratings, as well as participated in the services, there is potential for biased ratings. Additionally, this study did not include randomized group assignment or a control group.

Upshur and colleagues (2009) examined the effectiveness of a manualized ECMHC program, Together For Kids (TFK), over a 3-year period for children between the ages of 3 to 5 years. Two full-time and one part-time Child Development Advisor (CDA) provided mental health consultation services in four urban preschools and one rural Head Start program. The purpose of the evaluation was to measure child outcomes, teacher outcomes (discussed in following sections), and parent outcomes (discussed in following sections). Rather than having

childcare providers or parents refer children exhibiting behavior problems for services like the previous study, children in this study were identified using a standardized behavioral screening instrument, the Early Screening Project (ESP), which was completed by teachers. The ESP measured aggressive, maladaptive, and adaptive behaviors. Children who received scores in the at-risk range were invited to participate in the child-focused component of the program. The majority of the children invited demonstrated externalizing behavior problems (66%). Within the TFK group, a little more than half of the children were boys (64%). In regards to race/ethnicity, 39% were Caucasian, 26% Hispanic, 17% African American, and 17% were another race or ethnicity. Seventy-two percent of children were residing with single parents. About 63% of mothers had a high school diploma or less and 37% had some college or a college degree. Sixty-seven percent of families reported income less than \$25,000, with the remainder reporting income between \$25,000 and \$49,999.

The TFK program included both program-focused and child-focused components. Program-focused components included classroom observations, modeling of how to address children's behavior in the classroom, training sessions for teachers about child behavior and development, and assisting preschools in developing parent education activities. The programfocused component was universal and available to all teachers, regardless of whether teachers had students identified as at-risk or not. The child-focused component was the intervention that families with children identified as at-risk were invited to participate in. These activities were more targeted and included child and family assessment, classroom observations of the child, individual work with the child in the classroom or individual child therapy, parent consultation and family therapy, teacher consultation about a specific child, and parent-teacher team meetings.
Children's behavioral outcomes were analyzed using 37 children from the intervention group and 49 children in the control group, who had pre and post data. Repeated Measures Analysis of Variance (ANOVA) procedures revealed that the children in the intervention group significantly decreased aggressive behavior, decreased maladaptive behavior, and increased adaptive behavior, as rated by teachers on the ESP. Given that families in the intervention group reported higher income than families in the control group, income was included in another analysis as a covariate, but interestingly it did not affect children's outcomes. No parent ratings of children's behavior were included.

The researchers conducted an additional matched control-group analysis to control for regression and selection effects. Nineteen children in the intervention group were matched to 19 children in the control group based on gender, childcare site, and aggressive behavior ratings. The Repeated Measures ANOVA results for this sub-analysis were similar to the initial analysis. Children in the intervention group had significant decreases in aggressive behavior, maladaptive behavior, and increases in adaptive behavior, compared to the matched control children. Again, income was used as a covariate and results indicated that income did not differentially affect change in children's behavior scores.

Factors that were associated with improvement following intervention were also examined, including gender, initial behavior scores, and initial developmental skill scores (n =30). Correlation analyses revealed that boys, children with lower initial behavioral scores, and children with lower initial developmental skill level, were found to be associated with more improvement following intervention. Also, hierarchical regression analyses were conducted to determine which factors played a role in children's outcomes. In one model, baseline behavior scores, gender, and family income were analyzed. Surprisingly, only baseline behavior scores

were predictive of scores following intervention. Gender and income did not predict behavior scores (Table 1).

While additional raters and measures were incorporated in this study, only teacher ratings were used to measure children's behavior before and after consultation services, and no mediators or indirect influences were examined, which are limitations similar to Perry and colleagues' (2008) study described above. No parent ratings of children's behavior or CDA observations were conducted following the intervention. This study however did extend Perry and colleagues' (2008) study by including a non-equivalent control group, a matched-control group, and examined childcare provider and parent outcomes (which will be discussed in the sections to follow), in addition to child outcomes. This is a positive step toward strengthening the evidence for the support of ECMHC. It is interesting that gender and family income were not significant factors or predictors within these analyses, however it is important to note that the number of participants in the intervention group sample and subsamples were small (ranging from n = 19 to n = 37).

Another program that utilized both program-focused and child-focused elements in an ECMHC program was the Early Childhood Consultation Partnership, a statewide mental health program that provided individualized consultation services in Connecticut. Gilliam (2007) evaluated the effectiveness of the program for two cohorts of children and classrooms that received ECMHC services by ten consultants. The first cohort was randomly assigned, and consisted of 23 classrooms in the treatment group and 22 classrooms in the waitlist control group. For the second cohort, the waitlist control group from the first cohort was invited to participate in the treatment group. Twenty classrooms participated in the treatment group and 19 classrooms were in the control group for cohort 2.

Classrooms participated for approximately 8-weeks and received classroom-based consultation for 4 to 6 hours per week. All treatment classrooms received classroom-specific consultation, where consultants focused on providing strategies to improve teacher-child interactions, classroom management, and overall classroom quality. The more targeted, child-focused consultation services were provided to teachers for two specific children in their classroom that exhibited the most challenging or severe behavior. Services consisted of improving behavioral and social-emotional strategies and strengthening parent collaboration. Overall, 144 children from cohorts 1 and 2 were targeted for these child-focused services. No demographic information was provided for these children, except for gender. In cohort 1, 72% were boys and in cohort 2, 64% were boys.

In addition to examining child outcomes, this evaluation also examined teacher and classroom outcomes (which will be discussed in the section below). In regards to child outcomes, teachers completed rating scales for the two targeted children in their classroom. No parent ratings or independent observations were conducted to evaluate children's behavior. Externalizing and internalizing behaviors were measured on the Connors Teacher Rating Scale (CTRS) and on the Social Skills Rating System (SSRS). Additionally, positive socials skills were measured on the SSRS. ANOVA and ANCOVA procedures were conducted to determine whether treatment groups fared better than control groups, following consultation services. Results of the evaluation indicated that for both cohorts of children, externalizing behavior problems were significantly reduced compared to the control groups. However, no significant differences were found for internalizing behavior problems or social skills (Table 1). No analyses were conducted to examine gender differences or to investigate reasons for children's externalizing behavior change.

One study that has extended the literature was conducted by Raver and colleagues (2009). The researchers examined the moderating role of child variables as well as classroom environment and teacher perceptions in relation to child outcomes, following the implementation of the Chicago School Readiness Project (CSRP). The CSRP was a consultation program delivered through an established curriculum. It was implemented for two cohorts of low-income, urban, Head Start centers over the course of two years. This program, consisting of four components, was intended to reduce externalizing and internalizing behavior problems exhibited by preschool children (ages 3 to 4 years). ECMHC services were implemented in conjunction with evidence-based interventions to promote feasibility and to provide teacher support. In the fall of each school year, families were recruited to participate in the program, which lasted the entire school year (fall to spring). A combined total of 35 preschools participated in the study. Matched pairs of preschools were randomly assigned to the treatment group and 17 to the control group. The treatment group consisted of 218 children.

The components of the CSRP included an evidence-based intervention focusing on intensive teacher training for classroom management strategies (adapted version of the IY Teacher Classroom Management Training Program), stress reduction workshops for teachers, weekly classroom support from a mental health consultant, and child-focused mental health consultation for children exhibiting the most severe behavior problems. The weekly mental health consultation support allowed consultants to serve as coaches to teachers, by providing feedback to teachers when they implemented strategies they learned in the Incredible Years training, and further suggestions for classroom strategies and stress management. The childfocused mental health consultation provided additional support (e.g., coaching of strategies,

direct services to children) to teachers for the most behaviorally challenging children. Children were selected based on consultants' clinical judgment, consultation with teachers, and teacher behavior ratings.

Prior to the start of CSRP (fall), rating scales and observations were conducted. Teachers completed the Behavior Problems Index (BPI) for each child, which measured externalizing and internalizing behavior problems. Extending beyond the many studies of ECMHC that only incorporated teacher ratings, this study utilized independent observations. Observations were conducted on a random subset of children, measuring externalizing/disruptive and internalizing/disconnected behaviors using an observer-rating version of the Penn Interactive Peer Play Scale (PIPPS). Furthermore, observations were conducted to examine the quality of each classroom using the Classroom Assessment Scoring System (CLASS) and the Early Childhood Environment Rating Scale-Revised (ECERS-R). Following the CSRP (spring) the BPI, PIPS, CLASS, and ECERS-R were again completed, in addition to the Caregiver-Teacher Report Form (C-TRF), completed by teachers. The C-TRF measured children's externalizing and internalizing behaviors. No parent ratings or measures of children's protective factors (e.g., prosocial skills, social competence) were collected.

To examine children's outcomes following CSRP, the researchers conducted hierarchical linear modeling (HLM) procedures. A strength of using this technique is that it considers children's classrooms and preschool sites as covariates and reduces the variability that is likely to already exist between classes and sites. They found that teacher-rated externalizing and internalizing behavior problems were significantly lower compared to the control group. Interactions were found between intervention, gender, and socioeconomic risk. Teachers' ratings of externalizing behavior decreased for boys in the treatment group. Additionally, children in the

treatment group with more risk factors (i.e., low maternal education, employment, and income) had significantly less externalizing behavior problems compared to children in the control group. The observation subset analysis indicated a significant decrease in externalizing problems, but not internalizing problems (Table 1). This may be due to the fact that internalizing problems may be more difficult to observe and may be less likely to be rated as problematic. For example, a rater observing a child exhibiting hyperactive or aggressive behaviors is very likely to record these behaviors, whereas a rater observing a child exhibiting withdrawn behaviors may be less likely to record this behavior as problematic.

Additional classroom and teacher variables were also included in the model to determine whether the classroom environment or teacher-related stressors were predictors in children's outcomes. Results indicated that negative classroom environment, poor classroom management techniques, and teachers' perceptions of having little control and high demands was related to children's externalizing and internalizing behavior problems. This study is interesting in that it investigated teacher perceptions in relation to children's outcomes. It extends the previous studies discussed given its attempt to examine reasons for child behavior change. One could interpret the results found in the study to suggest that perceptions and the environment may play a role in effectively decreasing or exacerbating children's behavior problems. For example, negative job perceptions experienced by teachers may contribute to increased stress levels or viewing the child more negatively. These perceptions may also lead teachers to interact with children differently and may negatively influence a child's behavior. While the study did not determine whether this was the case, these mediators of change need to be explored in the future. Additionally, further exploration of how each component within the CSRP intervention contributed to children's outcomes would need to be examined in order to better determine how

much and to what extent behavioral improvements were made as a result of weekly consultation support and child-focused consultation.

In a recent statewide evaluation, Van Egeren and colleagues (2011) examined Michigan's Child Care Expulsion Prevention (CCEP) program, an ECMHC program that delivered individualized consultation services to children, parents, and childcare providers. The evaluation was conducted over a period of three years, from 2007 to 2010. During the evaluation, CCEP provided services to children ages birth to five years who were exhibiting social-emotional and behavioral difficulties. ECMHC services were provided by mental health professionals who had a master's degree in social work, psychology, or related field, and were also endorsed by the Michigan Association for Infant Mental Health. Services were provided in 31 of Michigan's 83 counties, including urban, suburban, and rural communities. Over half of the children referred presented with aggression problems, regulatory problems, and/or developmental issues. Ten percent of children referred had been previously expelled from childcare.

The services delivered were individualized to each child and family, therefore there were no set number of visits or contacts. On average, consultants provided services one to three hours each week for approximately three to six months. Consultants engaged in a range of activities, including conducting assessments (e.g., rating scales, observations, interviews), creating a Positive Child Guidance Plan, and assisting with the implementation of the plan. Additionally, a comparison group was recruited and consisted of parents of children exhibiting behavioral challenges who resided in counties that did not offer CCEP services participated. Childcare providers of these children in the comparison group also participated if parents gave permission to the researchers to contact them.

Parents and childcare providers completed measures rating children's behavior, before and immediately after participation in the CCEP program. Six months after the conclusion of services, parents were asked to complete rating scales again, to evaluate whether improvements were maintained. Parents and providers in the comparison group also completed the same rating scales when they were recruited and then six to eight months later. Parents and providers rated children's behavior problems and protective factors on the Devereux Early Childhood Assessment (DECA) and on subscales of the Behavior Assessment System for Children-Second Edition (BASC-2).

In the CCEP group, data was available from 256 parents and 190 providers about children's behavior following CCEP services. Results of the *t*-test analyses indicated that children had significant improvements in behavior (Table 1). Parents and providers reported less externalizing problems and more protective factors on the DECA and BASC subscales, after CCEP services. In regards to the six-month follow up ratings, parents reported small improvements on most subscales. From the beginning of services to the six-month follow up, children demonstrated large improvements on all protective factors subscales, behavior concerns rated on the DECA, and hyperactivity rated on the BASC. Yet the question remains as to what specifically led to these changes.

To compare the CCEP and comparison groups, participants in the comparison group (parent rating n = 72; provider rating n = 20) were matched to participants in the CCEP group (parent rating n = 60; provider rating n = 48) for parent and provider data. While children's behavior in both groups improved, parents in the CCEP group reported larger improvements in regards to hyperactivity, attention problems, and social skills. Providers in the CCEP group also reported larger improvements in hyperactivity.

Table 1

Early Childhood Mental Health Consultation: Child Outcomes

First Author	Measures	Rater	Outcomes	Evidence- Based Intervention	Research Design
Perry (2008) ^a	Brief Infant Toddler Social Emotional Assessment (BRIEF) Preschool and Kindergarten	Childcare Provider Childcare	Children exhibited significantly less externalizing and internalizing behaviors and significantly more social skills. 13 of 150 children were removed from childcare	No	Pre-Post
	Behavior Scale (PKBS)	Provider	156 emater were removed nom emiddate.		
Upshur (2009) ^b	Early Screening Project (ESP)	Teacher	Intervention group had significantly less aggressive and maladaptive behavior and exhibited more adaptive behavior. Matched comparison analysis revealed similar results. Improvements in behavior were also associated with total hours of individual services and with improvements in child development skills	No	Comparison Group, Matched Comparison Group
Raver (2009)	Behavior Problems Index (BPI) Caregiver-Teacher Report Form (C-TRF) Penn Interactive Peer Play Scale (PIPPS; Observer- rating version)	Teacher Teacher Independent Observer	Treatment group had significantly less externalizing and internalizing problems compared to control, as rated by teachers. Boys in treatment and children in treatment with more risk factors had significantly less externalizing	Yes	Randomiz- ed Control

Table 1 (cont'd)

	Classroom Assessment	Independent	behavior compared to control group.		
	Scoring System (CLASS)	Observer	Observations indicated significantly fewer		
	Early Childhood Environment	Independent	externalizing but not internalizing problems		
	Rating Scale-Revised	Observer	for treatment group. Negative classroom		
	(ECERS-R)		environment, poor classroom management,		
			high teacher demands, and perceptions of		
			little control were related to externalizing		
			and internalizing behavior problems.		
Gilliam	Connors Teacher Rating Scale	Teacher	Treatment group had significantly less	No	Randomized
$(2007)^{c}$	(CTRS)		externalizing problems compared to control		Control
()	Social Skills Rating System	Teacher	for cohort 1 and cohort 2, as rated by		
	(SSRS)		teachers. Treatment group did not		
			demonstrated significantly less internalizing		
			problems or more social skills.		
Van	Devereux Early Childhood	Parent,	CCEP group had significantly less	No	Pre-Post,
Egeren	Assessment (DECA)	Provider	externalizing problems and more protective		Longitudinal
$(2011)^{d}$	Behavior Assessment System	Parent,	factors, as rated by parents and teachers.		Matched
()	for Children-2 (BASC-2)	Provider	Parents in CCEP group rated more		Comparison
			improvements for child hyperactivity,		Group
			attention problems, and social skills than		
			parents in the comparison group. Providers		
			in CCEP group rated more improvement in		
			hyperactivity than providers in comparison		
			group.		

Provider/teacher and program outcomes. ECMHC has not only evidenced positive effects for indirectly improving children's behavior, but has also demonstrated positive effects for child care providers involved in the process. It is important to examine these outcomes given that within the ECMHC service delivery model, it is believed positive changes in adults and improved adult-child interactions will likely lead to behavioral changes for children. Teachers who are faced with increasingly challenging behaviors may become more verbally harsh, engage in inconsistent reinforcement and punishment, and may be less supportive to children exhibiting problems compared to children not exhibiting these problems (Slough, McMahon, and the Conduct Problems Prevention Research Group [CPPRG], 2008). In turn, children may react poorly to these interactions and maintain challenging behavior.

A literature review conducted by Brennan, Bradley, Allen, and Perry (2008) examined mental health consultation effectiveness in regards to staff- and program-level outcomes. An analysis of 26 studies was conducted, and results indicated that overall, participation in consultation was linked to increased staff self-efficacy, confidence, and competence when working with children exhibiting behavior problems. In several studies, staff also reported increased levels of sensitivity and lower levels of job-related stress. Consultation was related to lower staff turnover rates and improved quality of early childcare. The results of this review are important in that it supports mental health consultation as a way to improve not only children's behavior, but also as a way to enhance the well-being of childcare providers. However, as noted by the authors, insufficient information was provided in the majority of studies reviewed to understand the essential aspects of consultation services that may have led to these positive changes. Again, this is essential given that it is hypothesized that improved adult-child interactions are influential and imperative to altering children's behavior.

Alkon and colleagues (2003) examined the effectiveness of the Early Childhood Mental Health Initiative (ECMHI), an ECMHC program consisting of four agencies, delivering services to 25 urban childcare centers for children between the ages of 2 to 5 years. Of the 25 centers participating in the ECMHI program, nine centers previously received mental health services and 14 had not. The ECMHI program focused on improving children's social-emotional functioning and strengthening staff and directors abilities to address challenging behavior. The purpose of the one-year evaluation was to examine childcare provider and director outcomes following ECMHI services.

Various forms of data were collected at time 1, then one year later at time 2. The managers of the four agencies (n = 4) and childcare directors (n = 25) completed interviews about their expectations and goals of the program. Observations were conducted in the classroom by consultants, using the Early Childhood Environment Rating Scale (ECERS). Consultants also completed a Consultant Activity Survey, which recorded information about the frequency, intensity, and duration of consultation services provided. Teachers (n = 188) completed the Teacher Opinion Survey (TOS), which is a scale that assesses competence and comfort level in handling children's challenging behaviors. Teachers also participated in focus groups to discuss the needs and supports they required, their goals and expectations, and children's behaviors and issues they needed assistance with. The same data was collected for time 2, except that teachers and directors also completed an additional questionnaire, the Goal Achievement Scale (GAS).

Overall, the activities consultants engaged in with staff most frequently included observing children, consulting with the center director, consulting with individual teachers, meeting with families, and consulting with groups or teams of staff. Results of *t*-test analyses indicated that teacher-rated GAS scores significantly improved, suggesting that teachers felt

more competent working with children exhibiting emotional or behavioral problems and working effectively with parents. Additionally, teacher ratings of self-efficacy improved, as measured by TOS scores. Directors of the centers also rated improvement in teachers' competence, although not to the extent as the teachers' self-reports. The results of a regression model suggested that centers with more years of receiving mental health consultation services tended to predict more positive changes in overall child care quality, teachers' level of self-efficacy, and teachers' competence as reported by the Goal Achievement Scale (GAS), Teacher Opinion Survey (TOS), and the Early Childhood Environment Rating Scale (ECERS) (Table 2).

Focus groups consisting of teachers participating in the program were conducted in order to collect data for qualitative analyses. Results of the focus groups were also positive. For example, teachers reported greater empathy and curiosity about children's behavior, greater sense of responsibility and control, and enhanced skills in observation, reflection, and planning. Teachers reported appreciation for consultants serving as a liaison between the center, parents, and various community agencies. Additionally, teachers commented on the improved communication between center staff members and teamwork. The two overarching themes that emerged as a result of the focus groups were the changes teachers' felt that they themselves had made (e.g., improved understanding of children's behavior) and the changes that took place in the center (e.g., improved teamwork).

This study is important in that it examined how involvement in a mental health consultation program, positively impacted teachers of urban childcare centers. This study incorporated the use of multiple raters (i.e., teachers and directors), multiple forms of data collection (i.e., rating scales, observations), and multiple types of data analysis (i.e., quantitative and qualitative) to examine teacher and childcare quality outcomes. One limitation of this study,

which appears to be a common theme among many of the studies examining ECMHC, is the small number of participants at both time 1 and time 2 data collection periods. While 188 teachers were participating in the program and 2-year evaluation, only 36 teachers completed rating scales at time 1 and time 2. These teachers were also the teachers that participated in the focus groups. This raises issues pertaining to participant bias. It may be that study results are limited to a select group of teachers that found mental health consultation to be valuable and may significantly differ from the teachers that did not participate or complete time 2 questionnaires.

The Perry and colleagues' (2008) study described in the previous section also solicited responses from daycare providers (n = 25) to determine their satisfaction with the program. Results of the survey indicated that the majority of providers were happy with the program and described it as "godsend" (80%). They felt that consultants were extremely helpful in providing suggestions and strategies for handling challenging behavior as well as improving positive behavior for children. They also viewed the consultant as someone who was on their side. A small number of childcare providers did not find the services helpful, though the study did not report the exact number. This small group consisted of family and home providers, therefore the researchers suggested that perhaps the services provided were more compatible and a better fit with center settings.

In addition to examining child outcomes, Gilliam's study (2007), also examined teacher and classroom outcomes to explore whether consultation services altered teacher beliefs, practices, or the classroom environment. Teacher beliefs and practices were measured before and after consultation. Teachers completed the Parental Modernity Scale (PMS), Pre-K Survey of Beliefs and Practices (BP), Child Care Worker Job Stress Inventory (JSI), and the Center for Epidemiological Studies Depression Scale (CES-D). The quality of the classroom environment

was measured by independent rater observations using the Early Childhood Environment Rating Scale-Revised (ECERS-R) and the Arnett Caregiver Interaction Scale (CIS). Results from ANOVA and ANCOVA analyses indicated that there were no significant differences following ECCP between the treatment and control groups for any of the teacher beliefs, practices, job stress, or depression measures. Furthermore, no significant differences were found for classroom environment or teacher-child interactions. This was the case for both cohorts (Table 2). These findings were interesting and inconsistent with the hypotheses. Consultation services were provided directly to the teacher, therefore it was theorized that changes in the teachers' behavior would occur. It was predicted then that positive changes in teachers' beliefs and practices would impact their interactions with the child and contribute to improved outcomes for the child. It is unclear why the results were contradictory, however it may be the case that the length of time that teachers participated in the program (8 weeks) was not enough to alter their own beliefs, practices, or reduce their job-related stress. The author also noted that given the nature of the program, it was difficult to monitor treatment fidelity. Therefore it is unclear as to how accurately and to what extent services were implemented as intended.

The results of Upshur and colleagues' (2009) study in regards to teacher outcomes were quite consistent with Gilliam's (2007) findings. Teachers' knowledge and understanding of behavior problems, expertise in handling behavior problems, and satisfaction of services were measured using the Together For Kids questionnaire. Additionally, the Maslach Burnout Inventory was completed and measured job-related stress. Teachers in the intervention group only completed these questionnaires, before and after receiving services. Results of *t*-test analyses indicated that there were no significant changes in teachers' perceptions or behaviors. Similar to Perry and colleagues' (2008) childcare provider satisfaction survey results, the

teachers' satisfaction in this study slightly varied. About 67% of teachers indicated that the consultation they received for individual children was helpful or very helpful. Slightly less than half (48%) rated the consultants' in-class modeling as helpful or very helpful. Lastly, 72% reported that the TFK program was very much or somewhat beneficial to their overall program (Table 2). The mixed ratings of satisfaction surveys may be a contributing factor to why there were no significant changes in teachers' perceptions or behaviors. If teachers did not find the consultation process useful or helpful, they may have been less likely to engage in the strategies suggested by the consultants, less likely to change the way they think about behavior problems, and less likely to change how they manage behavior problems in the classroom.

Johns (2003) conducted an evaluation of the Early Childhood Mental Health Project, an ECMHC program that was a joint effort between the Jewish Family and Children's Services (JFCS) and Parents Place and Day Care Consultants, a program of the Infant-Parent Program. These community organizations provided mental health consultation to childcare centers and organizations throughout the San Francisco Bay area. The evaluation of these services were conducted over a 1-year period with 40 low-income childcare centers in four counties in the Bay area. The purpose of the evaluation was to examine how teachers and classrooms benefited from ECMHC services. No child or family demographics were discussed in the study.

Teachers at the childcare centers typically referred children for services who were exhibiting problematic behaviors. Prior to beginning services, consultants conducted assessments including checklists and observations to determine the quality of the center and what areas should be improved upon. The five possible areas consultants could work on with the childcare teacher included organizational issues and staff relationships, general programmatic issues, issues related to individual children, teacher-parent interactions, and direct interaction with

parents (case consultation). Consultation services also consisted of on-site mental health consultation with teachers and directors, therapeutic groups with children, parent-child interaction therapeutic groups, teacher training, and teacher supervision.

The design of the evaluation was cross-sectional, therefore rating scales and observation data were only collected once. Data from centers who were new to consultation and received less than one year of services were compared to centers that received more than two years of consultation services. Rating scales included the Teacher Opinion Survey (TOS) and Consultant Effectiveness Survey (CEF). Observations were conducted by research assistants on a subset of the sample (n = 20) using the Early Childhood Environment Rating Scale-Revised (ECERS-R) and the Arnett Caregiver Interaction Scale (CIS). Teachers provided self-reports of their progress on consultation goals. Additionally, directors were interviewed and teachers participated in focus groups.

Preliminary results of the evaluation indicated many promising outcomes. First, observations of teacher interactions with children suggested that those participating in the program were rated as more sensitive and less harsh. The majority of teachers also reported desired outcomes consistent with desired outcomes of the Early Childhood Mental Health Project. For example, it was reported that 74% to 97% of teachers agreed or strongly agreed with statements such as "I try to understand the meaning of children's behavior." Teachers also had higher levels of self-efficacy in regards to their work with children and rated consultation as effective (Table 2).

While the preliminary results of this evaluation suggested promising outcomes for teachers who participated in the consultation program, the design of the evaluation was cross-sectional, with rating scales and observation data collected only once. While this method is

appropriate for an exploratory study, it does not measure teacher or classroom change over time or further the understanding of how consultation achieved its effects. The author also reported that the purpose of the evaluation was to examine the quality of childcare and self-efficacy of teachers therefore no child outcome data was collected. It was suggested that if consultants and the consultation process improved provider and classroom outcomes, then providers were likely to positively impact children's behavior. Theoretically this may be the case, however this study did not directly test this.

In addition to child outcomes, Van Egeren and colleagues (2011) examined childcare provider outcomes in the CCEP evaluation. Childcare provider perceptions of competence, perceptions of efficacy, and perceptions of knowledge and skills working with babies, infants, and toddlers were measured by providers and administrators. Perceptions were measured using the Teacher Opinion Survey (TOS), Goal Achievement Scale (GAS), and the Early Warning Signs scale. One hundred eighty-nine providers completed the TOS and GAS before and after participating in the CCEP program and 103 providers completed the Early Warning Signs scale, which was intended to be completed only after participation in the program. One hundred ninetyfour administrators rated providers on the GAS. Additionally, providers in the comparison group also completed the same measures at recruitment and then again six to eight months later.

Results of the *t*-test analyses for the CCEP group indicated significant improvements in provider competence, as rated by providers and administrators (Table 2). Improvements were also found for knowledge and skills working with young children. No significant change was found for providers' perception of efficacy. The researchers hypothesized that because provider ratings of efficacy were high prior to participating in CCEP services, there may have been less room for improvement. Cases from the comparison group (n = 20) were matched to cases from

the CCEP group (n = 67) to evaluate provider change. Results indicated that CCEP group providers reported more improvement in competence. No differences were found for efficacy between the two groups.

Investigating childcare providers' and teachers' positive outcomes are just as important as investigating children's positive outcomes as a result of mental health consultation. Given that the purpose of ECMHC is to alter adults' behavior, which is believed to influence child behavior, it would make sense that providers and teachers experiencing positive outcomes may be more likely to facilitate positive behavioral change for children. Several factors could contribute to positive outcomes experienced by providers and teachers. Through support and trainings provided by consultants, providers and teachers may have changed attitudes and enhanced skills (Brennan et al., 2008). These different attitudes may help teachers better understand the nature of behavior problems, what are reasonable expectations for young children, become more sensitive to children's needs, and understand what is considered typical or normal child behavior and development. Enhanced skills may help providers and teachers better manage behavior problems, intervene before behavior problems escalate, cope with difficult behavior and effectively handle misbehavior. This could improve providers' and teachers' feelings of stress, perceptions of self-efficacy, and more positive interactions with children, which in turn may influence children's behavior. Overall, the literature suggests that ECMHC positively influences childcare providers, teachers, and programs. These results are important and should be further explored given that some studies had conflicting or inconsistent findings. Additionally, it is imperative for future research to examine provider factors that may play a role in influencing children's behavior change (or lack thereof), since the purpose of ECMHC is to improve children's behavior through changing adults' perceptions, behaviors, and competencies.

Table 2

Early Childhood Mental Health Consultation: Provider/Teacher and Program Outcomes

First Author	Measures	Rater	Outcomes	Evidence -Based Interventi on	Research Design
Alkon (2003)	Interviews Early Childhood Environment Rating Scale (ECERS) Teacher Opinion Survey (TOS) Focus Groups Goal Achievement Scale (GAS)	Managers, Directions Consultant Teachers Teachers, Directions	Improved teacher competence rated by teachers and directors. Improved teacher self- efficacy. Centers that received more years of ECMHC predicted more positive change in child care quality, teacher self-efficacy, and teacher competence. Focus groups had two themes emerge: positive teacher and center change	No	Pre-Post
Perry (2008) ^a	Satisfaction Survey	Childcare Providers	Majority of providers (80%) found the program to be "godsend". Providers felt that consultants were helpful and a trusted ally.	No	Pre-Post
Upshur (2009) ^b	Together for Kids Questionnaire (TKF) Maslach Burnout Inventory	Teachers Teachers	No significant changes in teachers' knowledge and understanding of behavior problems, or job-related stress. Satisfaction was variable: 67% thought consultation was helpful for very helpful, 48% rated consultant modeling helpful or very helpful, 72% rated TFK as very much or somewhat heneficial	No	Comparison Group, Matched Comparison Group
Gilliam (2007) ^c	Parental Modernity Scale (PMS) Pre-K Survey of Beliefs & Practices (BP)	Teachers Teachers	No significant differences found for teacher beliefs, practices, job stress, depression, quality of classroom environment, or teacher- child interactions for cohort 1 or cohort 2.	No	Randomized Control

Table 2 (cont'd)

	Child Care Worker Job Stress Inventory (JSI) Center for Epidemiological Studies Depression Scale Early Childhood Environment Rating Scale-Revised (ECERS-R) Arnett Caregiver Interaction Scale (CIS)	Teachers Teachers Independent Observer Independent Observer	No significant differences found for teacher beliefs, practices, job stress, depression, quality of classroom environment, or teacher- child interactions for cohort 1 or cohort 2.	No	Randomized Control
Johns (2003)	Teacher Opinion Survey (TOS) Teacher self-reports on progress Consultant Effectiveness Survey Early Childhood Environment Pating Scale Pavised	Teachers Teachers Teachers Observer	Observations of teachers' interactions with children indicated that they were more sensitive and less harsh. Teachers' reports of desired outcomes for consultation were consistent with the project. Teachers reported more self-efficacy. Teachers rated consultation and their consultant as effective.	No	Cross- Sectional
V	(ECERS-R) Arnett Caregiver Interaction Scale (CIS) Interviews, Focus Groups	Observer Directors Teachers	T (1) (1) (1)	N	
van Egeren (2011) ^d	Goal Achievement Scale (GAS) Teacher Opinion Survey (TOS) Early Warning Signs	Administra- tion Providers Providers	Improvements in provider competence, rated by providers and administrators. Improvements found for knowledge and skills. For efficacy, no improvements found . CCEP group providers reported more competence. No differences were found for efficacy between groups.	NO	Matched Comparison Group

Parent outcomes. Positive outcomes resulting from ECMHC for children, teachers, and classroom environments raises the question of how this type of intervention program may change or alter parents' behavior. Compared to the ECMHC research on children and providers, less has focused on parents. Fewer studies have incorporated parental ratings of children's behavior and ratings of their own knowledge, skills, and stress. Furthermore, parent factors have not been examined as mediators between ECMHC services (intervention) and children's behavioral outcomes. The literature in the ECMHC field have often examined the indirect effects of children's behavior but failed to establish the rationale for these changes through a link to the direct effects of consultation. It is important to investigate parent factors given the strong link between parent behavior and child behavior and because parental factors may serve as risk factors for their child's development. It has been suggested that parents who experience more stress or utilize harsh parenting practices are more likely to engage in negative interactions with their child and contribute to a child's behavior problems (Crnic, Gaze, & Hoffman, 2005). This may lead to the negative perceptions of the child and maintenance of behavior problems. Additionally, it has also been suggested that when children participate in intervention targeting behavior problems, parenting stress declines. Similarly, when parenting stress is targeted in treatment, children are more likely to exhibit fewer behavior problems (e.g., Feinfield & Baker, 2004; Kazdin & Whitley, 2003). Given these links, it is imperative to explore what and how parental factors are influencing children's outcomes after participating in ECMHC.

Compared to the child and provider ECMHC research, fewer studies have been published in peer review journals about parents in regards to ECMHC, which is a limitation in the literature. One published study that incorporated parents was the Upshur and colleagues' (2009) study that was discussed in the previous two sections. In this study, parents in the TFK group

(treatment group) completed the Parenting Stress Index-Short Form (PSI-SF) and The Parenting Scale, which measured parenting stress and parenting skills. Results indicated that there were no significant changes in parenting stress or parenting skills following consultation services. Additionally, parents completed a satisfaction survey. Overall, parent satisfaction was rated positively. The majority of parents agreed that services improved their child's functioning at school and 88% of parents indicated that they felt their child's behavior improved at home. Additionally, 88% of parents agreed that their child learned new skills and 92% felt that they learned new skills and strategies to handle their child's behavior (Table 3).

Another published study, conducted by Shelton and colleagues (2000), incorporated parent ratings of children's behavior, parenting stress, behavior management, and parenting practices. Parents in the study also participated in an intervention program, as part of the larger project, Project Mastery. The purpose of this program was to evaluate the effectiveness of individualized interventions implemented over a 10-week period for Head Start children exhibiting behavior problems. A total of 41 children between the ages of 3 to 4 years participated in the study and were recruited from Head Start in North Carolina. All families were experiencing low SES, as would be expected given the qualifications of Head Start programs. Eighty-two percent of participating families were African American, 13% were Caucasian, and 5% consisted of other race or ethnicities. Sixty-seven percent of children were boys and 33% were girls. No other parent or child characteristics were reported. Twenty-eight children were assigned to the treatment group and 13 were assigned to the control group.

Head Start staff explained the Project Mastery program to parents and those interested completed the ADHD Rating Scale. Children who received scores above the 93rd percentile for gender and age in the areas of aggression, hyperactivity, impulsivity, or inattention were asked to

participate in the project. Based on this information, as well as interviews with parents and teachers, an individualized intervention plan was constructed and implemented for children. Therefore, not all children received the same intensity or same type of services. Services included individual and classroom-based behavior management, on-site consultation, teacher training, social skills training, parent behavior management training, family support, coordinated formal and informal community-based services. Community-based services provided were based on a previous study, which examined the Kindergarten Project (Shelton et al., 2000). Parent, teacher, and child interventions were based on Webster-Stratton's Incredible Years series.

Parents completed measures before interventions were implemented. Measures assessed parenting stress, behavior management, parenting practices, and family support. After the interventions were implemented, parents completed the same rating scales. Repeated measures ANOVA analysis was conducted to determine if the treatment group fared better over time. No significant differences were found for parenting stress, parenting practices, or levels of family support (Table 3), despite reported changes in children's behavior problems in the treatment group. It is difficult to determine what components of Project Mastery contributed to or did not contribute to the parent outcomes reported in the study. Given that it was not reported how many parents or teachers received consultation and the intensity of consultation services, it is difficult to claim that consultation was ineffective in improving parent outcomes.

An evaluation that examined parent outcomes following ECMHC was conducted by Langkamp (2007). In addition to examining child outcomes, this study incorporated child-parent dyads and ratings of parental depression, parenting stress, and emotional availability. The purpose was to evaluate parent outcomes and parent-ratings of children's behavior problems over time. The overall goal of the Early Childhood Mental Health Initiative (ECMHI) was to enhance

the quality of early childhood programs in the state of Ohio and promote school readiness skills by targeting behavior problems for children under the age of 6 years. The evaluation was conducted over a two-year period and evaluated outcomes for parents and children. Mental health consultants worked with teachers and parents of children attending Head Start programs, private and public preschools, day care centers, and home centers. A total of 771 children participated in either child-specific services (n = 549) or program-specific services (n = 222). The majority of children were referred for externalizing behavior problems (50.3%), followed by family or parent issues (20.8%), internalizing behavior problems (14.3%), and developmental, medical, sexual, or sleep problems (14.1%).

Not all children receiving child-specific services participated in the parent-child dyad portion of the evaluation, which examined parent outcomes and parent-ratings of children's behavior problems over time. In this subset of the evaluation, 34 parents participated at time 1, 31 participated at time 2 (four to six months later), and 29 participated at time 3 (eight months later). The age of children ranged from 16 to 64 months, with the majority of children identified as Caucasian (76%). Mothers were between the ages of 21 and 62, with 56.5% having received a high school diploma or less and 43.5% obtaining some college or bachelor's degree. Fathers were between the ages of 23 and 56, with 70% having received a high school diploma or less and 30% obtaining some college or bachelor's degree. Over half (55%) of this sample had a household income less than \$20,000, 21% between \$20,000 and \$39,999, 15% between \$40,000 and \$79,999, and 6% greater than \$80,000.

The parent outcomes measured were parental depression, parenting stress, and emotional availability. One-Way Repeated Measures ANOVA procedures revealed that parental depression scores did not change significantly across any of the time periods. Similarly, parenting stress

scores did not change significantly. A borderline change was reported for the Parent-Child Dysfunction Interaction subscale and the Total Stress score between Time 2 and Time 3, however this was due to higher ratings of parenting stress between Time 1 and Time 2. Emotional Availability was also measured by videotaping structured and unstructured play interactions between parent-child dyads. Observers coded the videotaped interactions using a rating scale. Results indicated that Child Responsivity and Child Involvement significantly increased from Time 1 to Time 2, but decreased from Time 2 to Time 3, after services had ended. It was also found that Maternal Structuring decreased, rather than increased, over time (Table 3).

It was interesting that even though parent-reported externalizing behavior problems decreased over time, parent depression, and overall parenting stress did not improve. While the entire evaluation consisted of a large number of participants, the number included in the parentchild dyad analysis was significantly smaller. Additionally the author hypothesized that parental depression may play a role in the lack of positive parent outcomes, however no statistical analyses were conducted. The small sample size, lack of a comparison group, as well as lack of mediation analyses, provide more support for additional investigation of parent outcomes and mediators of child behavior change.

Van Egeren and colleagues' (2011) CCEP evaluation discussed in the previous sections also incorporated parent ratings in their evaluation to measure parent outcomes. Parenting stress, parent empowerment, and work productivity were measured using subscales of the Parenting Stress Index-Short Form (PSI-SF), subscales of the Psychological Empowerment Scale (PES), and measuring work/school days late or missed due to childcare issues in the past month. Parents in the CCEP group completed these measures before participating in the CCEP program, at the

conclusion of the program, and six months after the conclusion of the program. Parents in the comparison group also completed these measures at initial recruitment and then six to eight months later.

For the CCEP group parents (n = 138), paired *t*-test analyses indicated significant improvements for parenting stress and empowerment after participating in CCEP. From the end of services to follow-up, outcomes remained stable. The majority of parents who reported missing or being late to work/school before participating in the CCEP program no longer had these issues after the program. Cases from the comparison group (n = 72) were matched to cases from the CCEP group (n = 61) to compare change. In regards to parent reports of missing or being late to work/school at time 1, both groups experienced these challenges with 28% of parents in the CCEP group and 24% of parents in the comparison group reporting productivity loss. At time 2, the percentage of parents in the CCEP group reporting productivity loss was reduced to 18%, whereas the percentage of parents in the comparison group reporting productivity loss increased to 100%. All parents in the comparison group reported some type of productivity loss. No significant differences were found between the CCEP and comparison group in change in parenting stress over time. The CCEP group demonstrated significantly greater empowerment at time 2, than the comparison group.

These findings are also consistent with an article describing mental health consultation in early childhood classrooms and positive outcomes related to these services (Bernzweig, Ramler, & Alkon, 2009). According to the article, a study conducted by Lehman and colleagues' (2006) found that ECMHC was related to less parenting stress. This study however, was an unpublished manuscript and the details regarding the ECMHC program, study design, measures, or participants was not available. Not all studies reviewed within this section of the literature

review found similar findings. The lack of parent change in skills and stress in Upshur and colleagues' study (2009) and Shelton and colleagues' study (2001) is consistent with the teacher findings in Upshur and colleagues' and Gilliam's (2007) studies. This suggests that the influence of children's behavior change has not yet been identified.

The Upshur and colleagues' (2009) findings are interesting given what is known about the bidirectional nature of parent-child behavior and interactions. One would predict that changes in parent perceptions or behavior would indirectly influence children's behavior. These studies all indicated that children's problematic behavior decreased however no significant changes were apparent for the adults. While Upshur and colleagues' (2009) have begun to evaluate parent outcomes following ECMHC, the small sample size and lack of comparison to a control group (for the parent questionnaires), suggest that future research in this area is necessary. Taken together, the limited evidence and conflicting evidence indicates that future research is warranted.

Overall, there has been limited attention on parents in the ECMHC literature. Few studies have included parents as raters for their child's behavior and few have examined parent outcomes following ECMHC. Another challenge in this literature is that this limited research examining parent outcomes has been conflicting. While some studies have reported no changes in parenting stress, parenting skills, or parenting practices (Langkamp et al., 2007; Shelton et al., 2000; Upshur et al., 2009), others have found decreases in parenting stress following ECMHC (Lehman et al., 2006, Van Egeren et al., 2011).

More importantly, this literature has limited focus on parent factors that serve as influences of children's behavior change, although much research shows that parent factors closely link to child outcomes through parent-child interactions. One factor in particular that

could potentially influence parent-child interactions, which in turn influences children's behavior and developmental outcomes, is parenting stress (Qi & Kaiser, 2003). Parents experiencing more stress are likely to have more negative interactions with their child. While this has been investigated as an outcome of ECMHC in the previous studies discussed, it has not been investigated as a mediator or an indirect influence of children's behavioral change.

According to the theory of ECMHC, educating parents, equipping them with more skills, and helping improve their interactions with their children to facilitate children's behavioral improvement. More education about typical development may help parents better understand their child's behavior, reasonable expectations for their child, as well as how their own behavior influences their children. It may also make parents more aware of their own attitudes and reduce negative perceptions of their child. Enhancing positive parenting skills allow parents to feel more competent in their abilities to manage their child's behavior and effectively handle misbehavior. Improving parent-child interactions may help parents improve positive behavior toward their child, which hopefully allows parents to continue utilizing positive parenting techniques. Evidence supports that improved interactions and positive parenting will likely reduce parents' stress and improve children's behavior problems. Additionally, within ECMHC programs, parents' collaborative relationship with a consultant may serve as a way for the parent to be heard and understood. The consultant is also a person the parent could go to for advice and resources. Taken together, parents may experience less stress as a result of a combination of ECMHC program components, such as improved understanding of child behavior, changed attitudes, enhanced skills, improved parent-child interactions, and consultant support.

It is important for the ECMHC literature to address this and other indirect influences (e.g., parental sensitivity, discipline style, family closeness) to explain why improvements may

be resulting from this type of service delivery approach. Parental factors and behaviors have been linked to young children's behavior, therefore may mediate child outcomes following treatment (Whittaker et al., 2011). Understanding mediators or indirect influences that produce successful outcomes would inform researchers and practitioners the effective components of treatment to focus on (MacKinnon, 2000). The reciprocal nature of parenting stress and child behavior has been demonstrated in numerous studies and will be described in the paragraphs to follow.

Table 3

Early Childhood Mental Health Consultation: Parent Outcomes

First Author	Measures	Rater	Outcomes	Evidence -Based	Research
				Interventi on	Design
Upshur (2009) ^b	Parenting Stress Index- Short Form (PSI-SF) The Parenting Scale (PS) Parent Satisfaction Survey	Parents Parents Parents	No significant changes in stress or parenting skills. Satisfaction was positive: 88% felt their child learned new skills, 88% felt their child's behavior improved, 92% felt they learned how to manage	No	Comparison Group, Matched Comparison Group
			behavior better, 88% felt the amount of services were "about right."		
Shelton (2001)	Parenting Stress Index- Short Form (PSI-SF)	Parents	No significant changes in stress, parenting practices, behavior management, or levels	Yes	Pre-Post, Control Group
	The Parenting Scale (PS) Child Behavior Management Questionnaire	Parents Parents	of family support.		
	(CBMQ) Family Support Scale (FSS)	Parents			
Langkamp (2003)	Parenting Stress Index- Short Form (PSI-SF)	Parents	No significant changes in stress. Borderline change for Parent-Child	No	Pre-Post
(2000)	Center for Epidemiological Studies Depression Scale (CES-D)	Parents	Dysfunction Interaction and Total Stress scores (Time 2 to Time 3). No significant changes in depression. Child Responsivity		
	Biringen Emotional Availability Scales	Parents	and Child Involvement significantly improved (Time 1 to Time 2) but then declined (Time 2 to Time 3). Maternal structuring improved over time.		

Table 3 (cont'd)

Van Egeren	Parenting Stress Index-Short Form (PSI-SF) subscales	Parents	Parents in the CCEP group had significantly less parenting stress and higher ratings of	No	Pre-Post, Longitudinal,
$(2011)^{d}$	Psychological Empowerment	Parents	empowerment. Outcomes remained stable at		Matched
(2011)	Work Productivity	Parents	follow-up. Improvements in work/school		Comparison
			productivity were found for the CCEP group.		Group
			Comparison between the CCEP and		
			comparison group indicated no significant		
			differences between parenting stress. CCEP		
			group had higher ratings of empowerment		
			compared to comparison group. CCEP group		
			improved work/school productivity, whereas		
			the comparison group worsened.		

Parenting Stress

Parenting stress is defined as the aversive psychological reaction to the demands of being a parent and are perceptions made by the parent in the context of the parenting role. A single measure does not capture the complexity of parenting stress. Rather, it is represented by a process linking a) the task demands of parenting, b) the parents psychological well-being, c) parenting behavior, d) qualities of the parent-child relationship, and e) child's psychological adjustment. Parenting stress is often experienced as negative feelings toward the self and toward the child. This can take form in parents' feelings of low efficacy and competence to parent their child as well as negative perceptions of their child. It has been suggested that these feelings and perceptions are associated with an increased likelihood of poor parenting behaviors, which may lead to negative child behavior, thus exacerbating negative perceptions and elevating stress. Given this, convincing evidence has been provided to suggest that parenting stress is a risk factor for the development and/or maintenance of behavior problems (Qi & Kaiser, 2003) and preliminary evidence also suggests that it negatively impacts children's behavioral strengths (Anthony et al., 2005).

Parenting stress is often created when there is a mismatch between the perceived demands of parenting and the resources available to meet those demands (Abidin, 1992, 1995). According to Deater-Deckard (1998), an important component and contributor to parenting is parents' perception of access to resources. Less knowledge about child development and child rearing, lower perceptions of parenting competence, fewer emotional resources, and fewer instrumental resources are linked to more parenting stress. Studies have found that when a parent education component is included in a child behavior intervention or treatment, stress is likely to be reduced. This may serve as a way to educate parents on typical child development, teach

effective, positive parenting techniques, and possibly provide an outlet for social support. There has been evidence to suggest that improving this for parents may enhance their perception of available resources and reduce parenting stress (Deater-Deckard, 1998).

As mentioned previously, parenting stress affects parenting behavior, feelings toward their child, and their own overall psychological well-being. Research has suggested that poor parenting behaviors, such as negative, harsh, and inconsistent parenting are more common among parents who report higher levels of stress (Crnic et al., 2005). Highly stressed parents are less likely to be involved with their child, less likely to provide adequate stimulation in the home, and less likely to engage in meaningful social interactions with their child (Deater-Deckard, 1998). Elevated parenting stress is also linked to negative perceptions of the child as well as higher rates of maternal depression (Renk, Roddenberry, Oliveros, & Sieger, 2007). Conversely, parents experiencing less stress are likely to engage in more positive parenting behaviors.

Much literature has indicated that these factors are linked to behavior problems and poor adjustment in children. One way that parenting behavior influences child behavior is through parent-child interactions. This has the potential to contribute to the development and maintenance of behavior problems (Patterson, 1982). According to the coercive parenting cycle, the parent and child attempt to control the other by engaging in aversive behaviors. As the child displays increasing levels of irritating behavior, the parent continues to increase their aversive behavior and hostility toward the child. Once the child's behaviors are extremely irritating to the parent, the parent gives in, which reinforces the child's behavior. This type of interaction between the parent and child models poor emotional regulation and behavior, as well as inappropriate ways to resolve conflicts. The cycle is also likely to escalate over time, with parent behaviors becoming more hostile and rejecting, and child behaviors becoming more aggressive

(Shaw, Gilliom, Ingoldsby, & Nagin, 2003). Additionally, research has suggested that when children observe these aggressive parental behaviors, they may imitate this type of behavior in various contexts (e.g., home, childcare settings, preschool) and may use aggressive strategies to solve problems.

It is natural for all parents to experience some level of parenting stress. Parenting stress is considered to be a continuum from "normal" to "extreme." It is when parents experience levels of stress above the norm that negative outcomes are likely to occur. Parenting stress is more strongly related to parenting behavior and child adjustment than individual differences in more general life events and circumstances (Deater-Deckard, 1998). It is also considered a distinct domain of stress, separate from more general life stressors, work-related stress, and extant psychopathology. Parents of children exhibiting severe or chronic behavioral problems are more likely to experience a cumulative effect of parenting stress. Research has suggested that for these parents, stress is highly stable over time, unless intervention occurs (Crnic et al., 2005).

The strong links between parenting stress and poor parenting behavior, as well as poor parenting behavior and children's behavior problems, suggest that parents experiencing more stress are at higher risk for using negative parenting strategies. Furthermore, parents experiencing higher levels of stress may be more likely to enter this coercive cycle, which has the potential to contribute to the development or maintenance of behavior problems. This could contribute to the development of more serious forms of behavior problems in children (Crnic et al., 2005) as well as even higher levels of parenting stress (Ang, 2008).

Parenting Stress and Child Behavior

Given what is known about parenting factors and their influence on children's behavior, an increasing number of studies have examined parenting stress in relation to children's

behavioral outcomes, particularly in early childhood populations. Williford and colleagues (2007) examined maternal reports of parenting stress in a sample of preschool children at-risk for externalizing behavior problems. Maternal reports of 430 boys and girls from various child care centers, the County Health Department, and the local Women, Infants, and Children (WIC) programs were collected. Children and their mothers were assessed when children were two, four, and five years of age using the Parenting Stress Index (PSI) and the Externalizing Problems Broad Band Factor as an index of externalizing behavior problems on the Child Behavior Checklist (CBCL). Results indicated that externalizing behavior problems exhibited by children predicted both initial status of parenting stress and changes in levels of parenting stress over time. Although parenting stress tended to decline as children aged, parenting stress was stable or elevated with the existence of behavior problems exhibited by their children. Mothers of boys with more externalizing problems experienced a steeper decline in parenting stress compared to mothers of boys with low levels of externalizing problems. Mothers of girls showed the steepest decline in parenting stress, regardless of level of externalizing problems exhibited. No protective factors were examined in this study.

Shaw, Winslow, Owens, & Hood (1998) collected longitudinal data on 300 low-income, ethnically diverse males to examine the relationship between multiple family stressors when children were 18 and 24 months of age and children's behavior at 24 and 42 months both individually and cumulatively. Data collection began when males were infants and continued until they were three and a half years of age. Families were recruited over the course of two years via the Women, Infants, and Children (WIC) Program. The Parenting Daily Hassles (PDH) questionnaire measured stressful daily events parents encountered with their children. The Child Behavior Checklist (CBCL) measured children's behavior problems. Only the Externalizing and
Internalizing Problems Broad Band Factors were analyzed. Protective factors exhibited by children were not examined. Results indicated that parenting stress was related to their children's current level of externalizing behavior problems. This was a consistent predictor of externalizing behavior problems at both 24 and 42 months.

Crnic and colleagues (2005) examined parenting stress in terms of cumulative parenting hassles and major life events stressors over time to determine whether higher levels of cumulative stressors predicted behavior problems in children. The study consisted of 125 children and their families. Parents completed the Parenting Daily Hassles questionnaire when children were three years of age, and every six months following, until the child turned five years of age. This questionnaire assessed parents' perception of how often and how intense daily events occurred with the child. Examples included being nagged by the child, whether parents have to change their schedule to accommodate an unexpected child need, and belief that the child is hard to manage. Parents completed the Life Experiences Survey when children were three years of age, and every year following, until the child was five years of age. This assessed whether parents experienced significant life events within the past six months, such as loss of a job or birth of a child. At the age of five years, the researchers conducted naturalistic observations in the families' homes to examine children's behavior problems and parent-child interactions. Mothers' reports of parenting hassles over the two year time period indicated that hassles were highly stable, suggesting that those who reported more parenting hassles initially, continued to experience more hassles. Reports of significant life events however, were moderately stable over this time period. This makes sense, in that significant life events may not occur consistently, whereas parenting hassles occur much more frequently. Parenting stress assessed over the two-year period predicted several outcomes for parents and children. First,

more cumulative daily parenting hassles predicted less positive child-parent interactions, such as lower occurrences of parental enjoyment when interacting with the child. Second, parenting hassles and children's behavior problems were significantly correlated at each assessment period, suggesting that the more behavior problems children exhibited, the more parenting daily hassles experienced. Additionally, cumulative parenting hassles were a stronger predictor of behavior problems than cumulative life stressors. Differences based on child gender were not examined in this study.

In a study using an older sample of children, Barry and colleagues (2005) explored factors associated with child disruptive behavior problems to determine whether a relationship between these factors and behavior problems existed. Mothers and teachers rated the disruptive behaviors exhibited by 215 male participants, between the ages of nine and 12 years. Behaviors were rated on the Attention Problems, Aggressive Behavior, and Delinquency subscales of the Child Behavior Checklist (CBCL) and Teacher Report Form (TRF), however the competence scales were not examined in this study. Mothers' self-reported parenting stress using the Parent Daily Hassles (PDH) questionnaire. Results indicated that parenting stress was significantly related to attention problems, aggression, and delinquency, as reported by mothers. Parenting stress was not significantly related to behavior problems as reported by teachers. These inconsistent reports of behavior problems could be due to maternal bias (Barry et al., 2005) or real differences in the child's behaviors across settings. The behaviors children exhibited and perceptions of parenting stress is likely a bidirectional relationship, where the behavior problems exacerbate the stress and the stress exacerbates the behavior problems. As a result, parents may rate their children's behavior problems as occurring at a higher frequency than teachers.

In addition to examining the association between parenting stress and behavior problems, research has also begun to examine the association between parenting stress and children's social competence. Anthony and colleagues (2005) examined the relationship between parenting stress and children's challenging and prosocial behavior at school. Parents completed the Parenting Stress Index-Short Form (PSI-SF) to measure their level of parenting stress. Teachers rated the behavior children exhibited in the classroom using the Social Competence and Behaviour Evaluation (SCBE) to determine whether parenting stress in the home had a direct relationship to children's behavior. Children in the sample were between the ages of two to five years and were attending either Head Start programs or private daycare centers. For both sites, strong correlations were found between teacher ratings and children's externalizing behavior in the classroom. More parenting stress was strongly related to more externalizing behavior problems and lower levels of social competence as exhibited by their children in the classroom. The findings are important given that teachers, not parents, rated children's behavior, which are likely to be less biased than parents rating their children's behavior. The results of this study suggested that elevated parenting stress was not only related to more negative behavior, but also contributed to lower levels of social competence, which is considered to be a protective factor. Among various child demographics examined, child's gender contributed to the significant portion of variance in Social Competence, with girls having higher social competence ratings.

Associations between parenting stress and behavior problems have also been examined in samples of children with developmental and intellectual disabilities. Baker and colleagues (2003) investigated the early development and maintenance of behavior problems in 205 preschool children with and without developmental delays. Families of children with developmental delays were recruited from a community agency and families of children without delays were recruited

from day cares and preschool programs. All families were recruited to participate in a two-year longitudinal study. Mothers and fathers completed initial self-reports of parenting stress using the Family Impact Questionnaire (FIQ). Data on their children's externalizing behavior problems were collected when the child was 36 months, using the new version of the Child Behavior Checklist (CBCL), which is aimed at the preschool years. However, the social competence scales were not assessed in this study. Results indicated that parenting stress at 36 months and changes in parenting stress during the following year was associated with more behavior problems exhibited by children. Although parenting stress was found to be more elevated in the delayed group, it was related to the behavior problems rather than the developmental delay. No information regarding gender differences was provided.

Neece and Baker (2008) also examined the impact of behavior problems on parenting stress levels for parents of typically developing children and children with intellectual disabilities. They extended Baker and colleagues' (2003) study by also examining children's social skills and their relation to parenting stress. One hundred eighty-nine children age six and their families participated in the longitudinal evaluation, with 115 typically developing children and 74 children with intellectual disabilities. Children's behavior was measured using the CBCL, for behavior problems, and the Social Skills Rating System (SSRS), for prosocial behaviors. Parents were asked to complete the Family Impact Questionnaire (FIQ) to measure parenting stress. Children and parents were assessed when children were six years of age, and then two years later, at eight years of age.

Results indicated that for typically developing children, behavior problems and social skills were significant predictors of parenting stress levels. Additionally, low levels of social skills contributed to parenting stress, even when intellectual disability was controlled for. When

examining interaction effects, results indicated that when parents reported low levels of behavior problems and low social skills, there was not much difference in parenting stress levels compared to parents who rated their children as exhibiting low behavior problems and more social skills. Additionally, parents of children rated as having more behavior problems and low social skills reported elevated parenting stress. Significantly more parenting stress was experienced in this group, compared to parents of children with more behavior problems and more social skills. This suggests that social skills are even more essential for children who are exhibiting behavior challenges in order to reduce parents' stress levels. This may pose challenges for parents' whose stress continues to elevate however, and fostering social skills for these children may be difficult. Analyses also indicated that a strong effect was present for early parenting stress to later social skills, suggesting that parenting stress may be a risk factor for less social skill development in children. This speaks to the importance of examining parenting stress and children's behavior early, when there is a greater likelihood that effective changes can be made in a harmful trajectory. Differences between boys and girls were not examined.

In addition to research suggesting that elevated parenting stress and children's behavioral problems are related, evidence has been found to suggest that when children's behavior improves, parents experience less stress. Additionally, when parents experience less stress, children's behavior improves. Kazdin and Whitley (2003) investigated the effectiveness of a Parent Problem-Solving (PSS) intervention intended to reduce parenting stress, in conjunction with Problem-Solving Skills Training (PSST) for children and Parent Management Training (PMT). Children in the sample were between the ages of six to 14 years and were exhibiting oppositional, aggressive, or antisocial behaviors. A total of 127 children and families participated in the study. All children and families in the study participated in PSST and PMT. Half of the

families were randomly assigned to also complete the PSS component. Parents in the PSS + PSST + PMT group did not differ significantly in parenting stress compared to parents in the PSST + PMT group. However, it was noted that when children's behavior improved, parents in both groups reported significantly less stress.

Feinfield and Baker (2004) evaluated Project TEAM, a multimodal, manualized group treatment program aimed at reducing externalizing behaviors exhibited by children. The program consisted of parent and child components and targeted children between the ages of four to eight years. Families were either assigned to the treatment group (n = 24) or the waitlist control group (n = 23). The study found that compared to the waitlist group, the treatment group had experienced greater reductions in stress. In the study's mediation analyses, it was found that parents' change in attitudes and stress levels mediated improvements between treatment and children's behavioral outcomes. Furthermore, children's behavioral changes mediated improvements between treatment and parents' attitudes and stress.

Several themes emerged among these studies examining parenting stress and children's behavior. It has been demonstrated that parenting stress and children's behavior problems are positively related. When parents' stress is rated high, children's behavior is also likely to be rated as more problematic. Also, the presence of more parenting stress or behavior problems often predicts the presence of the other. Although research regarding parenting stress and protective factors is lacking, the few studies examining this association found parenting stress and social competence to be negatively related. The fewer protective factors (i.e., social skills or social competence) children exhibited, the more stress parents experienced. Additionally, fewer behavior problems exhibited by children or less stress experienced by parents following intervention resulted in the other also being lowered. Given that parenting stress and children's

behavior has been suggested to be strongly related, it is important to explore this within future ECMHC studies. Exploring parenting stress as an indirect influence of children's behavioral change may help to better understand how ECMHC is achieving its' effects.

Conclusion

It is important to address young children's challenging behavior early in life given the negative long-term outcomes associated with behavior problems. It is equally important to build upon young children's protective factors to facilitate healthy development and promote resiliency. ECMHC is one form of service delivery that has been increasingly implemented to achieve these outcomes. This collaborative, problem-solving approach incorporates and targets adults to facilitate changes in children's challenging behavior. Consultants work with providers and/or parents to improve their understanding, ability, and skills to successfully work with children exhibiting challenging behavior. This is accomplished through services such as education, coaching, and building skills by modeling positive adult behavior and discipline strategies. Additionally, consultants help adults strengthen their positive interactions with children, which is hypothesized to facilitate changes in children's behavior.

Research investigating ECMHC has demonstrated that it indirectly leads to positive outcomes for children as well as directly influences teachers, daycare providers, and parents. ECMHC has been linked to decreased behavior problems and increased social skills for children (e.g., Perry et al., 2008). Additionally, teachers' have improved competence, self-efficacy, and interactions with children, after participating in ECMHC programs. Less research has focused on parents in the ECMHC literature. Parent ratings of children's behavior have not been frequently incorporated in studies and few studies have measured parent outcomes after participating in ECMHC programs. More importantly, parent factors that may directly influence treatment

outcomes for children have rarely been studied. Investigating these indirect influences of children's behavior may help to better understand what facilitates or enhances behavior improvements following treatment.

The literature provides evidence for a strong relationship between parenting stress, negative parenting strategies, and behavior problems exhibited by young children. Parenting stress often contributes to negative parenting strategies and entering into the coercive cycle, which has the potential to maintain or exacerbate children's behavior problems. Some evidence suggests parenting stress may mediate children's behavioral outcomes following intervention programs, with less parenting stress predicting less behavior problems (Feinfeld & Baker, 2004). Examining parent factors (e.g., parenting stress) following ECMHC is important given that adults are viewed as the change agents in this type of intervention and may play a role in mediating children's behavior.

Research has suggested that interventions including education and skill building components that specifically target parent knowledge and behavior help to lower the perception of stress that a parent experiences (e.g., Deater-Deckard, 1998). The purpose of ECMHC programs are to educate parents, equip parents with more skills, and help improve their interactions with their children to facilitate children's behavioral improvement within the context of a trusting relationship with a consultant. ECMHC may influence parenting stress through a combination of program components, such as improved understanding of child behavior, changed attitudes, enhanced skills, improved parent-child interactions, and consultant support. Given this, in addition to what we know about the link between parenting stress and child behavior, it would make sense to hypothesize that following ECMHC, a link would be demonstrated between parents with less stress and children with fewer behavior problems.

However, parents who continue to experience elevated stress throughout ECMHC may be less likely to carry out the strategies or skills learned, or may continue to engage in negative interactions with their child. Therefore, it is important to examine parenting stress as a potential mediating factor that may influence children's behavioral outcomes following ECMHC.

It is also important to examine factors that may influence the relation parenting stress and children's outcomes. Based on the literature, characteristics such as child gender or family SES may strengthen or weaken relations between parenting stress and children's outcomes. These variables may impact the strength parenting stress has on parent ratings of children's behavioral outcomes. In other words, it may be the case that parenting stress is contingent upon these variables and that parenting stress plays a different role for various subgroups of parents (MacKinnon et al., 2007). Additionally, evaluating child and family characteristics furthers research by facilitating understanding for whom the treatment works for.

The current study examined parenting stress as a mediating factor between an ECMHC program and children's behavioral outcomes, including both behavior problems and protective factors. Examining mediating factors and using mediation analysis allowed for a better understanding of indirect influences that lead to successful outcomes for children following ECMHC. This was investigated using parent ratings of children's behavior across time. Additionally, child and parent characteristics were examined to explore predictors of parent and provider-rated behavior problems and protective factors.

Research Questions

The research questions proposed for the current study extend the findings of the Michigan's Childcare Expulsion Prevention (CCEP) Initiative evaluation (Van Egeren et al., 2011). The researchers evaluated child, provider, and parent outcomes following participation in

the CCEP program, as reported in the literature review. While this large-scale, mixed method evaluation furthered the research on ECMHC and examined many variables, rationale for why improvements were found have not been looked at and potential mediators between CCEP and child outcomes were not investigated. These limitations are consistent with the majority of the research on this service delivery approach. To examine whether parenting stress influences children's behavioral outcomes and to explore predictors of children's behavioral improvement following ECMHC, the following research questions were addressed in the current study:

1. Does parenting stress mediate relations between ECMHC and children's behavior problems, as rated by parents?

Research has suggested that higher levels of parenting stress are related to more behavior problems exhibited by children, and that behavior problems and parenting stress often predicts the presence and level of the other (e.g., Barry et al., 2005). Additionally, it has been found that parenting stress plays a mediating role in children's behavioral outcomes following intervention (Feinfield & Baker, 2004). Therefore, it was hypothesized that parenting stress, including both the Parent-Child Dysfunctional Interaction subscale and Parental Distress subscale, would mediate the relation between ECMHC and behavior problems in the current study and influence parent ratings of child behavior problems. More specifically, if parenting stress is high, more behavior problems will be exhibited, and if parenting stress is rated as low, less behavior problems will be exhibited. It was also hypothesized that Parent-Child Dysfunctional Interaction would be a stronger predictor of children's behavior problems compared to the Parental Distress subscale, given the link in the literature that suggests poor parent-child interactions contribute to behavior problems (Patterson, 1982). While behaviors associated with the Parental Distress subscale, which includes parents' perceptions of child-rearing competence, social support, and

stresses related to other life roles, have been found to contribute to children's behavior, parentchild interactions have consistently demonstrated a stronger link within the literature. Multiple regression analyses were to be used to determine whether the ECMHC condition (treatment vs. comparison group) and parenting stress significantly contributed to behavior problems. Mediation analyses were performed to determine whether parenting stress mediated the relation between the ECMHC condition and parent-rated behavior problems.

2. Does parenting stress mediate relations between ECMHC and children's protective factors, as rated by parents?

Research suggests that higher levels of parenting stress have been found to be related to lower levels of children's social competence (e.g., Anthony et al., 2005), however less research has been dedicated to examining whether less parenting stress is related to more protective factors. It was hypothesized that parenting stress would mediate the relation between the ECMHC condition and children's protective factors. Less parenting stress will be associated with more protective factors and more parenting stress will be associated with less protective factors. Again, it was also hypothesized that Parent-Child Dysfunctional Interaction will be a stronger predictor of children's protective factors. This is due to research suggesting that warm, positive parent-child interactions contribute to more favorable child outcomes. Warm interactions may lead to a stronger bond between the parent and child and allow the parent to model and teach appropriate behavior. This increases the likelihood of not only preventing or reducing behavior problems, but also fostering protective factors. Additionally, positive parent-child interactions may be a more direct influence on children's behavior, compared to parents' perceptions of child-rearing competence, social support, and stresses related to other life roles. Multiple regression analyses were used to determine whether the ECMHC condition and parenting stress

significantly contributes to protective factors. Mediation analyses were performed to determine whether parenting stress mediates the relation between the ECMHC condition and parent-rated protective factors.

3. Is the strength of the relation between parenting stress, ECMHC, and children's behavioral outcomes (behavior problems and protective factors) contingent on child gender or family SES?

To further examine parenting stress as an indirect effect on children's behavioral outcomes, child gender and family SES was be investigated as moderators in an exploratory moderated mediation model. Research suggests that parenting stress may be influenced by numerous factors, therefore impacting the strength of the association between parenting stress and children's behavioral outcomes. Factors that may influence this association that have not been extensively studied in previous research are child gender and family SES. Literature has suggested that boys are more likely to exhibit behavior problems (Mistry et al., 2002); however, parents' level of stress may be greater if they are parents of girls experiencing behavior problems. Given the notion that "boys will be boys", parents of boys may have more tolerance of some behaviors that parents of girls have more difficulty accepting. This may cause more stress for parents of girls. Low SES has also shown to impact parents' stress level given their lack of resources (e.g., financial, social), compared to middle- and high-SES families (Anthony et al., 2005, Deater-Deckard, Dodge, Bates, & Pettit, 1998). Additionally, other life stressors may have a "spillover" effect, which intensifies parenting stress and may negatively influence ratings of their child's behavior (Qi & Kaiser, 2000).

These variables may impact the strength of the indirect effect parenting stress has on parent ratings of children's behavioral outcomes. In other words, it may be the case that

parenting stress is contingent on the moderators, and the meditational effect differs for subgroups of participants (MacKinnon et al., 2007). To examine the two assumptions within this model (parenting stress influences parent ratings of child behavior [mediation] and the strength of the parenting stress – child behavior association depends on the child's gender and family SES [moderation]), the moderated mediation model proposed by Preacher, Rucker, and Hayes (model 3, 2007) will be conducted to determine whether these factors influence the indirect effect of parenting stress on children's behavioral outcomes.

4. Are parenting stress, family SES, child gender, child age, and main type of referral problem predictors of children's behavioral problems, as rated by parents and providers?

To further evaluate predictors of child behavior, a multi-informant approach was used to reduce the limitations of only examining parent ratings, as well as to enhance the validity of the outcome measured. Provider ratings of child behavior, in addition to parent ratings, were included in this research question, as well as the following research question, to examine parenting stress, family SES, child gender, child age, and main type of referral problem (e.g., aggression problems, developmental problems, regulatory problems) as predictors of child behavior. Predictors facilitate understanding for whom the treatment works for (Baron & Kenny, 1986). Examining these predictors of behavior problems and protective factors following ECMHC is important to better understand what population ECMHC is effective for. If it is found that some children and families benefit less from these types of services, future research could examine why this is the case and how ECMHC could target these children and families differently to enhance the likelihood of successful outcomes.

Research has shown that variables such as gender and SES are associated with behavior problems. Boys and children from low SES families have a higher likelihood of exhibiting more

behavior problems (e.g., Deater-Deckard et al., 1998; Mistry et al., 2002). Child's age may also predict behavioral outcomes. For example, younger children may continue to exhibit behavioral difficulties given their developmental level (Perry et al., 2008), compared to older children and therefore may continue to be rated as exhibiting more behavior problems. The type of problem the child is exhibiting may also influence ratings of behavior problems. Types of behaviors exhibited and the reason the child was referred, such as aggression problems (e.g., biting, hitting) compared to regulatory difficulties (e.g., feeding difficulties, can't adjust to change in routine) may be rated very differently and captured differently on the measures. Children exhibiting different types of behavior problems may also be affected by ECMHC differently. Certain types of behaviors may be more responsive to change by the services provided by ECMHC.

A strong link has also been established between parenting stress and children's behavioral outcomes, with more parenting stress associated with more behavior problems. Some research has found that parenting stress may mediate children's behavior following intervention as rated by parents. One study has suggested that parenting stress is a predictor of more behavior problems, as rated by teachers. Therefore, it was hypothesized that parenting stress, in addition to family SES, child gender, child age, and main type of referral problem would predict parent and teacher-rated behavior problems. Standard regression analyses were used to test this hypothesis to determine whether these factors impact children's behavior problems. Furthermore, hierarchical multiple regression analyses were conducted to investigate how much variance each variable predicted for children's behavioral outcomes.

5. Are parenting stress, family SES, child gender, child age, and main type of referral problem, predictors of children's protective factors, as rated by parents and providers?

Research has also shown that gender and SES are associated with protective factors exhibited by children. Girls and children from middle to high SES families have a higher likelihood of having more protective factors. Older children may develop and exhibit more protective factor behaviors over the course of ECMHC services. They may have more exposure to adults and peers, and have the opportunity to engage in more protective factor behaviors. Just as type of behaviors the child was referred for may influence or predict behavioral problems following ECMHC, it may also influence or predict the child's protective factor behaviors, however not much research has explored this. Additionally, few studies have examined whether less parenting stress is associated with more protective factors, as rated by parents and teachers. Given the relationship between high parenting stress and more behavior problems, it was hypothesized that parenting stress, in addition to family SES, child gender, child age, and main type of referral problem would predict parent and teacher-rated protective factors. Standard regression analyses were used to test this hypothesis to determine whether these factors impact children's protective factors. Hierarchical multiple regression analyses were also be conducted to investigate how much variance each variable predicted in children's behavioral outcomes.

Chapter 3

METHOD

Participants

The sample consisted of parents, providers, and children, between the ages of 6 months to 72 months. Two groups of participants were included in the study: the Child Care Expulsion Prevention (CCEP) group and the comparison group. The CCEP group included parents, providers, and children that participated in the CCEP program in the state of Michigan between the years of 2007 to 2010. The comparison group included parents, providers and children that did not participate in the CCEP program and resided in counties in Michigan that did not have access to CCEP services. Both groups involved children who were identified as demonstrating behavioral challenges that were impacting their functioning in the childcare center and/or at home. Demographic information for the sample was collected.

CCEP group. Consultants served children and families from 31 counties throughout the state of Michigan. The age of children in the CCEP group ranged from 12 months to 72 months, with the mean age being 44 months. The sample consisted of 187 boys (76%) and 60 girls (24%). One hundred ninety-seven children were Caucasian (81%). Two hundred twenty-one children in the sample had a primary language of English (98%). Children were most frequently referred to CCEP for problems related to aggression, developmental delays, and self-regulation. The majority of children exhibited several behavior problems. Of all the children included in the sample, 28% reported difficulties related to developmental delays. Examples of developmental delays included not listening to adults, trouble accepting 'no', and exhibiting high activity levels. Twenty-two percent of children presented with some type of aggression problem. Examples of aggression problems included hitting, biting, kicking, and verbal aggression. Twenty-one percent

reported regulatory problems. Examples of self-regulation problems were tantrums, an inability to self-regulate, and demanding behavior. One hundred seventy-four children in the sample did not have any previous expulsions from daycare or early childcare centers (89%).

Two hundred sixteen parents in the CCEP group were female (96%). Age of parents ranged from 20 years to 59 years, with the mean age being 33 years. One hundred seventy-eight parents were Caucasian (84%). For the highest level of educational attainment, 28 parents received their high school diploma/GED or less (24%) and 89 received some college or higher (76%). Income level for the past 12 months was reported to be less than \$15,000 for 18 families in the sample (16%), between \$15,000 to \$54,999 for 56 families in the sample (49%), between \$55,000 to \$99,000 for 30 families in the sample (25%), and more than \$100,000 for 11 families in the sample (10%). One hundred thirty and 132 participants had missing data for these two variables respectively. This may have been due to a revision in the intake form to collect this information. Originally, this data was not collected at the start of the evaluation, however once the intake form was revised, this data was collected from families.

Many parents reported that their family received additional services. Seventy-eight received services from low-income assistance programs such as child care subsidy and food assistance (32%). Two hundred twenty-five received non-income based services such as Early On and community mental health services (91%). Two hundred thirteen children attended childcare centers (86%). The age range of providers that participated in the CCEP program were 19 to 74 years, with the mean age being 37 years of age. One hundred eight-one providers are Caucasian (86%). The percents reported were based on the data available given that data were missing for some variables.

Comparison group. The age of children ranged from 6 to 64 months, with the mean age being 37 months. Of the children in the comparison group, 46 were boys (64%) and 26 were girls (36%). Sixty-one children were Caucasian (86%). Also, 62 children in the sample had a primary language of English (86%). Similar to the CCEP group, parents most frequently reported behavior problems related to developmental delays (40%), aggression (33%) and self-regulation (21%). Sixty-three children did not have any previous expulsions from childcare (94%).

Sixty-three parents in the comparison group were female (94%). The age of parents ranged from 19 to 46 years, with the mean age being 31 years. Income level for the past 12 months was reported to be less than \$15,000 for 11 families (21%), between \$15,000 to \$54,999 for 22 families (42%), between \$55,000 to \$99,000 for 14 families (27%), and more than \$100,000 for five families (10%), which was similar to the CCEP group. Eighty-nine percent of parents reported receiving services and a little over half of parents (51%) reported receiving services from low-income assistance programs. Thirty-six of the providers in this group worked at childcare centers (50%). The age range of providers was 25 to 57 years, with the mean age being 43 years of age. Thirty-seven providers were Caucasian, however almost half of the providers did not report their race or ethnicity. Additionally, similar to the CCEP group, 20 participants had missing data for income level for the past 12 months. This was due to a revision in the intake form to collect this information. Once the intake form was revised for the CCEP group, the comparison group intake form was also revised. Percents reported for the comparison group were also based on data available. Data were missing for some variables.

Exclusion criteria. Exclusion criteria differed for the five research questions presented. For the multiple regression analyses (research questions 1, 2, and 3), mediation analyses (research questions 1 and 2), and the moderated mediation analysis (research question 3), CCEP

and comparison group cases were excluded if parent DECA assessments were not completed at time 1 or time 2. Cases were also excluded if parents did not complete the PSI-SF (adapted version) at time 1 or time 2.

The original data set including the CCEP and comparison groups consisted of 518 children. Of the CCEP group (n = 432), 176 cases were excluded because parents did not complete the Devereux Early Childhood Assessment (DECA) rating scale before and after CCEP services. Six cases were also excluded due to parents not completing the Parenting Stress Index-Short Form (PSI-SF) subscales before or after CCEP services. After excluding cases based on these criteria a total of 247 children were included in the CCEP group. Of the comparison group (n = 86), 14 cases were excluded because parents did not complete the DECA at time 1 or time 2. A total of 72 comparison cases were included in the data set. Overall, a total of 319 cases were included in the data set for multiple regression and mediation analysis (research questions 1, 2, and 3).

The subsample for the second set of multiple regression analysis (research questions 4 and 5) excluded cases that did not have provider reported DECA assessments for children at time 1 or time 2. Eighty-nine cases were excluded based on these criteria. Additionally, given the large number of participants that did not have data for the income level for the past 12 months variable (n = 77), this also served as exclusion criteria for the regression analysis given that SES was used as a predictor. A total of 81 CCEP cases were included in this analysis. A power analysis for Multiple Regression designs was conducted to determine the observed statistical power for a sample size of 81. According to Cohen (1988), the minimum proposed value for detecting power is .80. The observed statistical power for this sample was found to be .91, which was considered to be an acceptable level to detect an effect, if an effect exists, and above the

proposed minimum value. The comparison group was not included in this analysis given that 52 cases were excluded due to lack of provider DECA ratings at time 1 or time 2. This small number of comparison group cases that met criteria (n = 20), did not allow for mediation analysis to be conducted. Only multiple regression analyses were conducted for a subset of the CCEP group.

Research suggests conducting imputation methods in order to adequately handle missing data (Schlomer, Bauman, & Card, 2010). Literature has reported that deleting cases when data is missing is generally not recommended (e.g., listwise deletion). However, this is the case when only items are missing from a questionnaire. In another words, deleting a case because of a missing item or two on a questionnaire is not advised (e.g., Schlomer et al., 2010). The current study deleted cases when entire questionnaires from time 1 or time 2 were incomplete. Imputing the data from an entire questionnaire for a case with a missing questionnaire would reduce variance. This procedure of excluding cases due to missing time 1 or time 2 data is also consistent with previous studies that have also excluded cases because of missing pre and post assessment data (e.g., Perry et al., 2008; Upshur et al., 2009).

Measures

Demographic information Questionnaire. The Child Care Expulsion Prevention (CCEP) Intake Form is a demographic questionnaire that was regularly used by consultants and collected information from parents about their child and family (Appendix A). Child information collected on the form included age, gender, race, behavior problems exhibited, and number of previous expulsions (if any). Family information reported includes living arrangements, number of people in household, caregivers' highest level of educational attainment, household income,

primary language spoken in home, and services received (e.g., food assistance, medical assistance). No data on psychometrics was available.

Parenting Stress Index-Short Form (adapted). The Parenting Stress Index-Short Form (PSI-SF 3rd Ed.; Abidin, 1995) is an early identification assessment of parenting and family characteristics that fail to promote normal development and functioning in children, children with behavioral and emotional problems, and parents who are considered at-risk for dysfunctional parenting. It was developed on the theory that the total stress a parent experiences is a function of certain salient child characteristics, parent characteristics, and situations that are directly related to the role of being a parent. The assessment is intended for parents of children ages one month to 12 years, however its primary focus is preschool age children. The PSI-SF is a derivative of the full-length test, the Parenting Stress Index (PSI 3rd Ed.; Abidin, 1995).

Although comprehensive, the PSI consisted of 120 items that comprised of 54 parent-focused and 47 child-focused questions and was regarded by researchers and clinicians as too time consuming. Therefore, a more brief screening measure of parenting stress was requested and consequently the PSI-SF evolved. This was derived from exploratory factor analyses of the full PSI. The PSI-SF consists of 36-items. The Total Stress score is comprised of three subscales, Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child.

For the current study, the Parent-Child Dysfunctional Interaction and Parental Distress subscales were used. These subscales were selected given the study's focus on parenting stress and because child behavior was captured on a different rating scale. Additionally, these two subscales used in the current study are often used in large-scale studies of young children and families, rather than the entire questionnaire (Whiteside-Mansell et al., 2007). Abidin (1995) reported reliability alpha coefficients of 0.80 for Parent-Child Dysfunctional Interaction and 0.87

for Parental Distress. The Parent-Child Dysfunctional Interaction subscale evaluates the parent and child's interactions and measures parents' perceptions that the child does not meet expectations and interactions with the child are not reinforcing. The Parental Distress subscale measures parents' perceptions of child-rearing competence, social support, and stresses associated with the restrictions placed on other life roles. The PSI Parental Distress Domain correlates .92 with the PSI-SF Parental Distress subscale. The PSI-SF Parent-Child dysfunctional Interaction subscale was derived from the PSI Child and Parent domains. The PSI-SF Parent-Child Dysfunctional Interaction subscale correlates .73 with the PSI Child domain and .50 with the Parent domain. The PSI Total Stress scores correlates with the PSI-SF total. The PSI-SF has also been found to be highly internally consistent (Abidin, 1995). The psychometric properties of PSI-SF have also been examined within low-income populations, and results have provided support for its use within this population (Reitman, Currier, & Stickle, 2002). The PSI-SF has been empirically validated to predict observed parenting behavior as well as children's current and future behavioral and emotional adjustment (Abidin, 1995). A raw score of 90 or above (above 90th percentile) on the PSI-SF indicates that the parent is experiencing clinically significant levels of parenting stress.

Consultant Evaluation Form. The Consultant Evaluation Form (CEF; Erchul, 1987) was used to assess parents' satisfaction and perceptions of the consultant and consultation services. The CEF consists of 12 items that measure the degree parents found consultants helpful and the consultation process effective. Items are rated on a 7-point scale, from *strongly disagree* to *strongly agree*. The possible overall score ranges from 12 to 84. According to the author, the internal reliability alpha coefficient for the scale was found to be .95. Other studies that have utilized this measure to evaluate parents' satisfaction for various types of consultation

services also found satisfactory alpha coefficients of .83 (Sheridan, Eagle, Cowan, & Mickelson, 2001) and .89 (Garbacz et al., 2008).

Devereux Early Childhood Assessment. Behavior problems have been typically detected utilizing assessment tools focused on identifying deficits within the child. The DECA however, is a nationally, norm-referenced, strength-based assessment that evaluates protective and risk factors in preschool children (LeBuffe & Naglieri, 1999) and focuses on the identification of protective factors that promote resiliency. Parent and provider ratings of the DECA were utilized in the study.

Three versions of the DECA are available and are completed based on the age of the child. The DECA-Infant is completed for children 1 to 18 months, DECA-Toddler is completed for children 18 to 36 months, and DECA-Preschool is completed for children 2 to 5 years. The DECA-Infant consists of 33 items that assess for Initiative and Attachment and the DECA-Toddler consists of 36 items that assess for Initiative, Attachment, and Self-Regulation. The subscales are combined to create a Total Protective Factor (TPF) score. The DECA-Preschool consists of 37 items; 10 items assess for Behavior Concerns (BC) and 27 items assess Total Protective Factors (TPF). The 27 TPF score is compromised of 3 subscales including Initiative, Self-Control, and Attachment. On all DECA forms, children can receive ratings of 'strength' ($t \ge$ 60), 'typical' ($40 \le t \le 60$), or 'concern' (t < 40) on the TPF scale and TPF subscales. On the BC scale, which is only included on the Preschool version, children can also receive ratings of 'strength' (t < 40), 'typical' ($40 \le t \le 60$), or 'concern' ($t \ge 60$). The authors of the DECA report that the instrument has adequate psychometric properties. Internal reliability alpha coefficients for the scales based on parent-ratings are: .84 (Initiative), .86 (Self-control), .76 (Attachment), .91 (Total Protective Factors), and .71 (Behavior Concerns) (Lebuffe & Naglieri, 1999). The

standardization sample for the DECA-Infant and DECA-Toddler consisted of 2,183 children. The standardization sample for the DECA-Preschool consisted of 2,000 preschool children and accurately reflected the diversity of preschool children in the United States.

Relatively few studies have utilized the DECA within an early childhood population exhibiting behavior problems, yet supportive evidence for using the DECA exists (Brinkman et al., 2007). The study examined the prevalence of behavioral risk and protective factors in two cohorts of children attending Head Start as measured by parental report. Children in this sample were found to exhibit more behavioral concerns and less total protective factors in both cohorts compared to the national DECA norms reported in the DECA manual. These findings are consistent with past literature, which suggests children living in poverty tend to exhibit more behavior problems and children attending Head Start are at-risk for problems such as a deficit in social skills. Therefore, this suggests that the DECA is a reliable measure of accurately identifying risk and protective factors within an early childhood population exhibiting behavior problems.

Procedure

Data collection for the CCEP group. Children attending childcare programs in the counties that offered CCEP services were referred to the CCEP program by their childcare provider or caregiver because of behavioral difficulties the child was exhibiting in the childcare or home setting. Children were referred for several reasons, which included problems related to aggression, developmental delays, behavioral regulation, physical difficulties, sensory integration, or other types of externalizing behavior (Appendix B). After consultants made initial contact with the provider and family, consultants obtained consent for CCEP services as well as consent for the data to be sent to the evaluators at the university. When university consent was

given, the consultants, parents, providers, and administrators were asked to complete several questionnaires related to the child's behavior, parent stress and empowerment, provider feelings of competence and self-efficacy, and perceptions of provider/parent/consultant prior to the beginning of services. Following the conclusion of services, consultants, parents, providers, and administrators completed the same questionnaires, along with a survey assessing their satisfaction with the consultation process and effectiveness. After the pre and post questionnaires were completed, CCEP consultants sent the data to the researchers evaluating the CCEP program. Approximately six months after the conclusion of services, follow-up phone calls conducted by research assistants were made to families that concluded CCEP services. Parents completed the same questionnaires over the phone.

Data collection for the comparison group. The evaluators at the university recruited families by sending advertisements to licensed family daycare centers and childcare centers in counties that did not offer CCEP services. Recruitment flyers were also posted in the community (e.g., grocery stores, doctor's offices), in early childhood newsletters, and websites. Interested parents that inquired about participation called research assistants and were asked a series of questions over the phone. These questions assessed their child's behavior to determine whether the level of behavior problems exhibited by the child was comparable to the behavior problems exhibited by children referred for CCEP services (Appendix C). Families were not eligible if ratings of child behavior did not meet the cutoff point, if their child attended a publically funded preschool, or if their child attended Head Start. Eligible parents were provided information about the study and interested parents provided verbal consent over the phone. Parents were asked to provide a time within that week that was convenient for them to participate in the first phone interview. Parent phone interviews lasted approximately 30 to 45 minutes. Questionnaires

assessed the child's behavior and parent characteristics such as parenting stress and empowerment. In rare cases, parents were sent a copy of the questionnaires in the mail to complete and mail back to the evaluators. Approximately six to eight months later, parents were contacted again to complete the second phone interview. The questionnaires administered were the same as the initial interview.

Teachers and daycare providers of families that agreed to participate were contacted with permission of the parents. Providers were mailed a consent form and questionnaires, which consisted of child behavior ratings scales and questions that assessed provider feelings of competence and self-efficacy. Teachers that were interested in participating signed the consent form, completed the questionnaires, and mailed back the packet to the evaluators. Teachers that completed the initial questionnaires were sent the same questionnaires six to eight months later.

Childcare Expulsion Prevention (CCEP) Program

Description of the CCEP program. CCEP was an ECMHC program where consultants worked collaboratively with child care providers, parents, and administrators to promote healthy social-emotional development for young children and prevent expulsion. The CCEP program served children age birth to five years in 31 of Michigan's 83 counties. The purpose of the CCEP program was to promote social-emotional development and identify and treat mental health problems early for young children. The fundamental approach to serving young children is relationship-based practice, where consultants facilitate, and nurture adult-child interactions. This is accomplished through the trusting relationships consultants built with parents and providers. Consultants also equipped these adults with knowledge and skills that improved their interactions with the child, as well as with one another.

Cornerstones of the CCEP program. Six cornerstones are essential to the CCEP program's model of service. These cornerstones make the CCEP program unique and separate from other programs, while still maintaining the underlying values and goals of ECMHC. One cornerstone of CCEP included providing program-centered and child-centered consultation services. Ideally, consultants work at a universal, programmatic level to improve the quality of the childcare environment, relationships among staff and families, and promote social-emotional functioning for children. Specific children that continued to struggle with behavioral challenges were likely targeted for child-centered consultation. The consultant, childcare provider, and parent met and worked together to collect information about the child and create an individualized plan that consisted of strategies to be carried out by the childcare provider or family.

A second cornerstone of CCEP required that mental health consultants posses certain qualifications that would allow them to work with a variety of issues. Additionally, they continued to engage in professional development activities. Qualifications of consultants included (but were not limited to): Master's degree in social work, psychology or related field, experience with assessment and consultation with young children (birth through five) and their families, knowledge and experience with young children and early childcare settings, and cultural competence. Qualifications extended beyond degree obtained or experience to include personality characteristics such as empathy, warmth, and understanding. Ongoing professional development activities that consultants were required to participate in included the technical assistance activities that were conducted by the Michigan Department of Community Health, activities that were conducted by consultants' employers, and any additional activities that the consultant decided to pursue individually.

The third cornerstone of the program required CCEP consultants to engage in consistent reflective supervision. This positive relationship that was built between the consultant and supervisor provided a forum that allowed for open dialogue and support for the challenges that they faced in their work environment.

The fourth cornerstone was the participation in state-level technical assistance (TA). This assistance was intended to maintain high quality practice and accountability. These services included the development and dissemination of resource materials, on-site support and consultation, engagement in the CCEP email group, and quarterly TA meetings and special trainings.

The fifth cornerstone of CCEP emphasized evidence-based practice. CCEP was committed to utilizing evidence-based tools to assess and evaluate children and programs. The sixth cornerstone of CCEP was continued collaboration with Community Coordinated Child Care (4C) agencies and other early childhood providers. These agencies served all 83 counties throughout the state of Michigan, therefore was an excellent vehicle for informing childcare providers and families about the services CCEP provided.

Beyond the overarching six cornerstones of CCEP, six steps during the consultation process had to be carried out to remain consistent with the CCEP program (Carlson et al., in press). The first step included receiving an initial referral for a child, an intake assessment of the child and family, and signed consent from the parent or caregiver, childcare provider, and administrator to participate in CCEP services. The second step required the consultant to conduct observations of the child in the child care/preschool and home. Also included in this step was an assessment of the child and the child's environment. Following the collection of the assessment data, the consultant, childcare provider, parents, and administrator met to develop a Positive

Child Guidance Plan (step 3). The fourth step was to provide support to the parent and childcare provider in implementing the Plan. During the fifth step, the consultants made referrals to outside resources and services for families if necessary. The last and sixth step consisted of concluding services.

Services provided by the CCEP program. CCEP services were provided by qualified consultants. Essential qualifications of CCEP consultants included a) possessing a master's degree in social work, psychology, or related field; b) license or license-eligible preferred; and c) possessing a Level II – Michigan Association for Infant Mental Health Endorsement for culturally-sensitive, relationship-based practice promoting infant mental health, or graduate certificate in infant mental health studies. Consultants had immediate supervisors at their agency and were required to participate in ongoing reflective supervision. Technical Assistance (TA) staff also provided support to consultants in various ways such as specialized training, individualized supervision, quarterly meetings, documents and resources, and an email support group.

The CCEP program provided family/child-centered consultation and programmatic consultation. Its main focus was child/family-centered consultation. For this type of consultation, consultants worked within the daycare setting and conducted home visits with families to conduct intake interviews, observations, and administer assessments to evaluate the type and severity of problem the child was exhibiting. From the assessment, the provider, parents, and consultant developed a Positive Child Guidance Plan. Consultants assisted in generating strategies to include and implement in the Positive Child Guidance Plan. The consultant also provided implementation support to the provider and parents. This type of consultation service delivery was considered individualized, based on the description provided by the ECMHC

synthesis conducted by Perry and colleagues (2010). While evidence-based interventions were not typically implemented, several evidence-based strategies and best practices were implemented. For example, evidence-based assessment tools were used and strategies such as coaching and modeling were often utilized. Consultants also referred the child or family for other services as necessary, and provided outreach to daycare providers and aids. Consultants spent one to three hours a week with an individual child/family and provider. The duration of services typically lasted three to six months. There were no fixed number of visits, and the duration, intensity, and frequency of services were not uniform given that they were tailored to each particular child, parent, and provider. See Appendix D for the specific types of services consultants may have engaged in.

Integrity and fidelity of CCEP implementation. Several variables were evaluated to determine whether CCEP services were implemented as intended for the participants in the current study. The variables were selected based on the CCEP Evaluation Report (Van Egeren et al., 2011). According to the CCEP Evaluation Report, completed intake forms and evidence of a Positive Guidance Plan were indicators of high implementation fidelity. These permanent products are also supported in the literature as evidence of implementation fidelity (Sheridan, Swanger-Gagne, Welch, Kwon, & Garbacz, 2009). Additionally, the CCEP Evaluation Report included the average number of hours consultants spent conducting observations and average number of hours spent with families, as a way to gauge how often these activities that are essential to the CCEP program were engaged in. This data for the overall evaluation, and data for the current study, is reported to compare the two.

The percentage of participants that completed the intake form in the current study's sample was 100%. This was slightly higher than the overall CCEP evaluation sample

completion rate of 91%. Additionally, a Positive Guidance Plan was constructed for 93% of the children in the current study's sample, whereas a Positive Guidance Plan was constructed for 72% of children in the overall CCEP evaluation sample. These high completion rates of permanent products provide evidence of implementation fidelity.

As reported in the CCEP Evaluation report, consultants provided a wide range of services that varied in duration and intensity. Similarly, it appeared that the current study's sample varied in the duration and intensity of services received. The average number of hours consultants spent conducting observations for the current study was 6.2 hours. The range of hours was 0 hours to 41.5 hours. Eleven percent of children were not observed as part of CCEP services. The average number of hours was slightly higher than the overall CCEP evaluation sample average of 5.8 hours. The average number of hours consultants spent with families in person for the current study was 4.8 hours. The range of time spent with families was 0 hours to 28.5 hours. Only 1% of consultants did not spend any face to face time with families. The average number of hours consultants spent face to face with families in the overall CCEP evaluation sample was 4.3 hours.

Parents rated their satisfaction with the consultant they worked with and CCEP services. This self-reported information is a form of adherence, as perceived by those participating in CCEP, and yields an estimate of consultees' adherence to or compliance with intervention implementation. Self-reported perceptions of consultation services were considered another way of evaluating the fidelity of service implementation (Sheridan et al., 2009). The parent satisfaction survey measured how helpful parents found their consultant to be and how willing they would be to request services from their consultant in the future, even if other consultants were available. This survey consisted of the Consultant Evaluation Form (CEF), as well as

additional items that assessed parents' perceptions of consultation. In addition to this measure evaluating parents' perception of satisfaction, it was also an indirect way of determining how successful the consultant was at building a relationship with the parent. As indicated by ECMHC literature as well as CCEP cornerstones, relationship building was an important component of services. The parent satisfaction survey was an optional questionnaire that parents completed after CCEP services and mailed to the evaluators in a paid postage, addressed envelope. Given that this measure was optional, not all parents completed the measure. For the current study sample, two-thirds of parents completed and mailed the questionnaire back to the evaluators.

In regards to overall parent satisfaction, scores were generally high, indicating high levels of satisfaction. All questions were rated on a scale of 1 (low, or strong disagreement) to 7 (high, or strong agreement). The CEF consisted of 12 questions with a possible overall score range of 12 to 84. The mean CEF score for the current sample was 76.2 (item mean: 6.4). The mean for individual items that assessed overall perception of consultation (mean = 6.4), overall perception of change in competence (mean = 6.0), perception of behavior improvement in child (mean = 6.0), and time of effectiveness (mean = 5.9), were also rated high. Two additional subscales were incorporated into the satisfaction survey. One subscale assessed parents' acceptability of CCEP services. The possible overall score range was 9 to 63. The mean score for the current sample was 55.5 (item mean = 6.2). The second subscale assessed parents' perception of effectiveness of CCEP services. The possible overall score range for this subscale was 4 to 28. The mean score for the current sample was 22.5 (item mean: 5.6).

Effectiveness of CCEP. The Michigan CCEP Program was identified as one of the national leaders in the ECMHC field by the Center for Early Childhood Mental Health Consultation, Georgetown University, Washington DC. The CCEP program has been found to

result in positive outcomes for children, parents, and providers, as reported in the literature review (Van Egeren et al., 2011). Additional support for this program is evidenced by an earlier evaluation of the CCEP program (Field & Makrain, 2004), where researchers found that only eight of the 213 children in the study who received CCEP services were expelled from child care. Also, this same study found that 94% of staff and families felt they had a better understanding of children's behavior and learned new strategies to manage children's behavior.

Given the CCEP program's effectiveness and identification as a national leader in ECMHC, Duran and colleagues (2009) conducted a two-day site visit in Michigan as part of a large evaluation to identify what components were essential for effective ECMHC programs. Many of the important components that were found for various programs in the evaluation were also components of the CCEP program. Some of the essential components that Duran and colleagues identified and were included in the CCEP program were qualified consultants, ongoing supervision for consultants, high quality services, and strong, positive relationships between consultants, providers, and parents.

Data Analysis

To address the first research question, multiple regression analysis was used to determine whether the ECMHC condition (CCEP vs. comparison group) and parenting stress significantly contributed to lower ratings of behavior problems. Multiple regressions were used to investigate the relationship between several independent or predictor variables and the dependent variable. Furthermore, multiple regression is a commonly used data analytic technique when conducting mediation analysis (MacKinnon, 2000), which was also conducted. The bootstrap method, a type of mediation analysis, was performed to determine whether parenting stress mediated the relation between the ECMHC condition and parent-rated behavior problems. The purpose of mediation

analysis was to determine whether a particular variable is a mediator. According to Baron and Kenny (1986), mediators establish "how" or "why" a variable predicts or causes an outcome variable. A mediator helps explain the relation between a predictor and an outcome.

The bootstrap method was conducted in the current study given the growing literature that supports this advanced analysis testing for indirect effects (Preacher et al., 2007; Shrout & Bolger, 2002). This analysis is a resampling strategy for estimation and hypothesis testing, where the study sample is conceptualized as a pseudo-population that represents the broader population from which the sample was derived. The sampling distribution is generated by calculating the statistic of interest in multiple resamples of the data set. One advantage of this technique is that no assumptions about the shape of the sampling distribution of the statistic were necessary when conducting inferential tests, which is a criticism of other mediation analysis. Additionally, a very large sample is not necessary to conduct this analysis, which is another drawback to other frequently used mediation analyses. While the Sobel test is a mediation analysis that has been widely used, it also has many flaws (Hayes, 2009). Within the current literature, many researchers advocate the use of bootstrap methods to investigate indirect effects, rather than the Sobel test.

To address the second research question, multiple regression analysis was also used. This analysis was used to investigate whether the ECMHC condition and parenting stress significantly contributed to higher ratings of protective factors. Also, the bootstrap method was conducted to examine whether parenting stress mediated the relationship between the ECMHC condition and parent-rated protective factors.

To investigate whether child gender and SES impacted the strength of the indirect effect parenting stress had on children's behavioral outcomes, a model of moderated mediation was

conducted for research question 3. To conduct this test, as suggested by Preacher and colleagues (model 3, 2007), a simple mediation was first conducted, which was accomplished by research questions 1 and 2. Furthermore, a systematic method of testing this special model of moderated mediation, outlined by Preacher and colleagues was conducted.

Given that multiple regression is used to understand the relationship between several predictor variables and the dependent variable, this analysis was also conducted for research questions 4 and 5. Hierarchical regression analyses were used to investigate whether parenting stress, child gender, child age, family SES, and type of referral problem predicted children's behavior problems and protective factors, as rated by parents and teachers. Hierarchical multiple regression allows the researcher to examine how much variance a single variable or set of variables predicts, while controlling for other variables. This analysis investigated how much variance each variable contributed to children's behavioral outcomes.

The Statistical Package for the Social Sciences (SPSS) was used to conduct all of the analyses. A macro for the bootstrap analysis and moderated mediation analysis was downloaded from <u>http://www.afhayes.com/spss-sas-and-mplus-macros-and-code.html</u> and was also conducted in SPSS.

Chapter 4

RESULTS

Prior to conducting primary analyses that were intended to answer the five research questions, Pearson Product-Moment correlations, point biserial correlations and mixed betweenwithin subjects analysis of variance (ANOVA) were conducted. Pearson and point biserial correlations were conducted to examine correlations among the study variables. Given the results of the correlations, mixed between-within subjects ANOVA were conducted. Following these preliminary analyses, results for the five research questions investigated follow. These include bootstrap mediation analyses, moderated mediation analyses, and hierarchical multiple regression analyses.

Correlation Analyses

Pearson correlations were conducted for variables included in the study. Separate correlation matrices for the treatment group (pre and post) and the comparison group (time 1 and time 2) can be found in Tables 4 through Table 7. For the treatment group, at both time 1 and time 2, the Parental Distress and Parent-Child Dysfunctional Interaction subscales were positively correlated with Behavior Concerns and negatively correlated with Total Protective Factors. This suggests that when parents rated more Parental Distress and Parent-Child Dysfunctional Interactions, they also rated their children as exhibiting more behavior problems and fewer protective factors. For the comparison group at time 1, the similar significant correlations were found between variables; however, one difference emerged. Parental Distress and Behavior Concerns were not significantly correlated, whereas Parental Distress and Total Protective Factors were negatively correlated. This suggests that higher ratings of Parental
Pearson Correlations Among Study Variables for CCEP Group (pre)

Variable	1	2	3	4
1. Parental Distress		.59**	.35**	32**
2. Parent-Child Dysfunctional Interaction			.38**	44**
3. Child Behavior Concerns				51**
4. Child Total Protective Factors				

** p ≤ .01

Table 5

Pearson Correlations Among Study Variables for CCEP Group (post)

Variable	1	2	3	4
1. Parental Distress		.59**	.30**	33**
2. Parent-Child Dysfunctional Interaction			.31**	45**
3. Child Behavior Concerns				48**
4. Child Total Protective Factors				

****** p ≤ .01

Table 6

Pearson Correlations Among Study Variables for Comparison Group (time 1)

Variable	1	2	3	4
1. Parental Distress		.62**	.09	31**
2. Parent-Child Dysfunctional Interaction			.25**	49**
3. Child Behavior Concerns				57**
4. Child Total Protective Factors				

** p ≤ .01

Distress was not necessarily related to more behavior problems but was related to fewer protective factors in children.

Additionally, point biserial correlations including the treatment and comparison group variables were also conducted at pre (Table 8) and post (Table 9). At pre and post, the treatment group was negatively correlated with the Parental Distress and Parent-Child Dysfunctional Interaction subscales. Parent participation in the treatment group was related to lower ratings of Parental Distress and Parent-Child Dysfunctional Interactions. Interestingly, the Treatment Group variable was not significantly correlated with child Behavior Concerns or Protective Factors. Unlike parents in the treatment group, children's participation in the treatment group was not related to less behavior problems and more protective factors. Parental Distress was positively correlated with Behavior Concerns and negatively correlated with Protective Factors. Parent-Child Dysfunctional Interaction was also positively correlated with Behavior Problems and negatively correlated with Protective Factors. Similar to the significant correlations discussed above, this suggests that more elevated ratings of Parental Distress and Parent-Child Dysfunctional Interactions were related to more behavior problems and fewer protective factors.

Mixed Between-Within Subjects Analysis of Variance (ANOVA)

The mixed between-within subjects ANOVA combines the use of between-subjects designs (comparing two or more different groups) and within-subjects (one group of subjects exposed to two or more conditions). Given that the treatment group was not significantly correlated with children's behavioral outcomes, a mixed between-within subjects ANOVA was conducted for several reasons. First, it was conducted to determine the impact of the CCEP intervention on the intervention group as well as to examine whether children in the comparison group had an improvement in behavior, regardless of which group they were in. Second, it

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Pearson Correlations Among Study Variables for Comparison Group (time 2)

Variable	1	2	3	4
1. Parental Distress		.52**	.43**	33**
2. Parent-Child Dysfunctional Interaction			.37**	43**
3. Child Behavior Concerns				10
4. Child Total Protective Factors				

Note. ** $p \le .01$

Table 8

Point Biserial Correlations Between Treatment and Comparison Study Variables (pre)

Variable	1	2	3	4	5
1 Treatment Group (CCEP vs		- 13*	- 16*	- 06	- 00
Comparison)					
2. Parental Distress			.61**	.30**	31**
3. Parent-Child Dysfunctional				.35**	44**
Interaction					
4. Child Behavior Concerns					52**
5. Child Total Protective Factors					

Note. * $p \le .05$, ** $p \le .01$

Table 9

Point Biserial Correlations Between Treatment and Comparison Study Variables (post)

	1	2	3	4	5
Variable					
1. Treatment Group (CCEP vs.		11*	18**	04	.10
Comparison)					
2. Parental Distress			.58**	.33**	34**
3. Parent-Child Dysfunctional				.32**	45**
Interaction					
4. Child Behavior Concerns					41**
5. Child Total Protective Factors					

Note. * $p \le .05$, ** $p \le .01$

examined whether there were significant differences between the two groups at post-test. It also examined whether an interaction was present between the type of group (CCEP vs. Comparison) and time (pre vs. post). This determines whether changes in scores were the same over time for the two different groups.

For children's Behavior Concerns, the mixed between-within subjects ANOVA results indicated that there was no significant interaction between group and time, Wilks Lambda = 1.00, F(1, 317) = .06, p > .05. This suggests that changes in scores over time (pre to post) were similar for the two groups. There was a significant main effect found for time, Wilks Lambda = .86, F(1, 317) = 53.36, p < .01. This suggests that significant improvements from pre to post were evident for both groups. The main effect comparing the two groups (CCEP vs. Comparison) was not significant, F(1, 317) = .99, p > .05, indicating no difference in post scores between the CCEP and Comparison groups (Table 10).

For children's Total Protective Factors, the mixed between-within subjects ANOVA results indicated that there was a significant interaction between group and time, Wilks Lambda = .99, F(1, 317) = 3.89, p < .05. This suggests that changes in scores over time (pre to post) were significantly different for the two groups, with the CCEP group demonstrating greater improvement. There was also a main effect for time, Wilks Lambda = .88, F(1, 317) = 44.90, p <.01, which suggests that significant improvements from pre to post was evident for both groups. The main effect comparing the two groups (CCEP vs. Comparison) was not significant, F(1, 317) = .99, p > .05. There was no significant difference in post scores between the two groups (Table 10).

Overall, in regards to behavioral outcomes, significant improvements (fewer behavior problems, more protective factors) were found over time both groups. No significant differences

emerged between groups on post scores, suggesting that scores for Behavior Concerns and Total protective Factors were similar. However, differences emerged for the interaction effects. No significant interaction between group and time were apparent for Behavior Concerns, whereas a significant interaction was found for Total Protective Factors.

Additionally, a mixed between-within subjects ANOVA was conducted for the Parental Distress and Parent-Child Dysfunctional Interaction subscales. Similar to the analysis conducted above, the mixed between-within subjects ANOVA was used to determine the impact of the CCEP intervention on the parents in the intervention group as well as to examine whether parents in the comparison group reported less parenting stress, regardless of which group they were in. Second, it examined whether there were significant differences between the two groups at post-test. It also examined whether an interaction was present between the type of group (CCEP vs. Comparison) and time (pre vs. post).

For Parental Distress, the mixed between-within subjects ANOVA results indicated that there was no significant interaction between group and time, Wilks Lambda = 1.00, F(1, 317) =.15, p > .05. This suggests that changes in scores over time (pre to post) were similar for the two groups. There was a main effect for time, Wilks Lambda = .91, F(1, 317) = 31.81, p < .01, suggesting that significant improvements from pre to post were evident for both groups. The main effect comparing the two groups (CCEP vs. Comparison) was also significant, F(1, 317) =5.46, p < .05. There were differences in post scores between the two groups (Table 11). More specifically, the treatment group reported significantly less Parental Distress, compared to the Comparison group at post.

Results for the Parent-Child Dysfunctional Interaction indicated that there was no significant interaction between group and time, Wilks Lambda = 1.00, F(1, 317) = .15, p < .70.

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Changes in scores over time (pre to post) were similar for the two groups. There was a main effect for time, Wilks Lambda = .94, F(1, 317) = 19.21, p < .01, suggesting that significant improvements from pre to post for evident for both groups. The main effect comparing the two groups (CCEP vs. Comparison) was also significant, F(1, 317) = 11.33, p < .01. Differences in post scores between the two groups were evident (Table 11), with the treatment group reporting fewer dysfunctional interactions with their child, compared to the Comparison group.

Overall, in regards to parenting stress, significant improvements (less Parental Distress, fewer Parent-Child Dysfunctional Interactions) were found over time for both groups. Significant differences also emerged between groups on post scores, suggesting that scores for Parental Distress and Parent-Child Dysfunctional Interaction were different. The CCEP group experienced less distress and fewer dysfunctional interactions with their child at post-test. No significant interaction between group and time were apparent for either subscale, suggesting that that change in scores over time for the two different groups were similar.

Research Question 1: Does parenting stress mediate relations between ECMHC and children's behavior problems, as rated by parents?

Although the preliminary point biserial correlations between the Treatment Group condition and children's behavioral outcomes (Behavior Concerns, Total Protective Factors) were not significantly correlated, the mediation analysis was still conducted. This was justified by the mediation guidelines set forth by Shrout and Bolger (2002). Shrout and Bolger (2002) recommend moving forward with mediation analyses even if the X (Treatment Group) \rightarrow Y (children's behavioral outcomes) relation is not significant. They argue that as causal processes become more distal, the effect size may become smaller because it is more likely to be transmitted through additional links in a causal chain, affected by competing causes, or affected

Effect	E	Concerns		Total Protective Factors				
-	Sum of Squares	df	Mean Square	F	Sum of Squares	df	Mean Square	F
Group	97.71	1	97.71	.35	158.79	1	158.79	.99
Time	1662.22	1	1662.21	53.36**	1889.17	1	1889.17	44.90* *
Group * Time Error	1.97 34741.62	1 317	1.97 109.60	.06	163.57 13336.87	1 317	163.57 42.07	3.89*

Mixed Between-Within Subjects Analysis of Variance (ANOVA) for Behavior Concerns and Total Protective Factors

Note. * $p \le .01$, ** $p \le .01$

Table 11

Mixed Between-Within	n Subjects	Analysis o	of Variance	(ANOVA)	for Parenta	al Distress and	l Parent-Chi	ild Dysfunctional	Interaction
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Effect		Distress		Parent-Ch	ild Dyst	functional In	nteraction	
_	Sum of Squares	df	Mean Square	F	Sum of Squares	df	Mean Square	F
Group	645.96	1	645.96	5.46*	685.97	1	685.97	11.33**
Time	729.58	1	729.58	31.81**	285.64	1	285.64	.02**
Group * Time	3.54	1	3.54	.15	.23	1	.23	.90
Error	7270.89	317	22.94		19200.79	317	60.57	

Note. * $p \le .01$, ** $p \le .01$

by random factors. It may be the case that the more proximal $X \rightarrow M$ and $M \rightarrow Y$ associations are larger than the distal $X \rightarrow Y$ association, therefore the test of $X \rightarrow Y$ may be more powerful when mediation is taken into account. If this is the case, it is necessary to continue with mediation analyses. It is also suggested that the analyses proceed on the basis on the strength of the theoretical argument between $X \rightarrow Y$, rather than the statistical test of X on Y.

To test research question 1 and 2, the SPSS macros for mediation (Hayes, 2011; Hayes, 2012; Preacher & Hayes, 2008) were utilized. The macro gave estimates of the specific indirect effects as well as of the total indirect effect. The current analysis utilized 1,000 bootstrap samples that were created from the original dataset (N = 319) by random sampling with replacement. Ninety-five percent confidence intervals (95% CI) were used to evaluate the significance and magnitude of indirect effects estimated through the bootstrap method. Based on Shrout and Bolger's (2002) suggestion, if the 95% CI for the estimates of the indirect effects based on these 1,000 indirect effect estimates does not include zero, then it can be concluded that the indirect effect is statistically significant at the .05 level.

The results of the analysis showed that the treatment group had a negative direct effect on parental distress (Beta = -.11, p < .05) and parent-child dysfunctional interaction (Beta = -.18, p < .01). Parental Distress (Beta = .33, p < .001) and Parent-Child Dysfunctional Interaction (Beta = .32, p < .001) also had a positive direct effect on children's behavior problems. This suggests that parents in the treatment group experienced less parental distress and dysfunctional interactions. Additionally, parents with more stress had children with more behavior problems. No direct effect was found between the Treatment Group and children's behavior problems even after controlling for both Parental Distress (Beta = -.001, p > .05) and Parent-Child Dysfunctional Interaction (Beta = .02, p > .05). Participation in the treatment group did not

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predict less behavior problems for children. These effects were lower after controlling for the parenting stress subscales, compared to without controlling for them.

For the parental distress model, the total indirect effect was not significant (CI = -.001, 0.16). In the Parent-Child Dysfunctional Interaction model, the total indirect effect was significant with the 95% bootstrap confidence interval excluding zero (CI = .001, .038) (Table 12). This model suggests that the relationship between the Treatment group and children's behavior problems were mediated by Parent-Child Dysfunctional Interaction, but not Parental Distress.

Research Question 2: Does parenting stress mediate relations between ECMHC and children's protective factors, as rated by parents?

In examining the indirect effects on children's total protective factors, the results showed that the treatment group had a negative direct effect on Parental Distress (Beta = -.11, p < .05) and Parent-Child Dysfunctional Interaction (Beta = -.18, p < .01). Parental Distress (Beta = -.34, p < .001) and Parent-Child Dysfunctional Interaction (Beta = -.45, p < .001) had a negative direct effect on children's total protective factors. Similar to the previous mediation model, the results suggest that parents in the treatment group experienced less parental distress and dysfunctional interactions. Additionally, parents with more stress had children with less protective factors. No direct effect was found between the Treatment Group and children's total protective factors, even after controlling for both Parental Distress (Beta = .06, p > .05) and Parent-Child Dysfunctional Interaction (Beta = .02, p > .05). Participation in the treatment group did not predict more protective factors for children. These effects were lower after controlling for the parenting stress subscales, compared to without controlling for them.

For the parental distress model, the total indirect effect was not significant. In the Parent-Child Dysfunctional Interaction model, the total indirect effect was significant with the 95% bootstrap confidence interval excluding zero (CI = -.061, -.001) (Table 13). The relationship between the Treatment group and children's total protective factors was mediated by Parent-Child Dysfunctional Interaction.

Research Question 3: Is the strength of parenting stress between ECMHC and children's behavioral outcomes (behavior problems and protective factors) contingent on child gender or family SES?

To test research question 3, another SPSS macro for moderated mediation (Hayes, 2011; Preacher & Hayes, 2008) was utilized. This was used to test whether the strength of the hypothesized indirect (mediation) effect is conditional on the value of the moderators (gender, family SES). The output of this macro provides the significance of conditional indirect effects at different values of the moderator variable. In this exploratory moderated mediation analysis, it was hypothesized that gender and SES would impact the strength of the mediation between the Treatment Group and children's behavior problems and protective factors. In the first step, the mediator variable (parent-child dysfunctional interaction, parental distress) was regressed on the independent variable (Treatment Group). In the second step, multiple regressions were conducted to predict the dependent variable from the mediator, the independent variable, and the interaction between the mediator and the moderator. Separate analyses were conducted for each of the mediators (parent-child dysfunctional interaction, parental distress) and the outcomes (behavior problems, total protective factors). Results of the moderated mediation analyses indicated that none of the interactions between mediators and moderators were significant. Child gender or family SES did not impact the strength of mediation (parent-child dysfunctional

Bootstrap Analysis of the Statistical Significance of Indirect Effects on Children's Behavior Concerns

	D 1 (
Mediator	Dependent						
Variable	Variable	Estimate	SE	95% CIs			
			~~ <u> </u>				
Parental Distress	Child Behavior	-0.04	.005	(001, .016)			
	Concerns						
Parent-Child	Child Behavior	-0.06	.009	(.001, .038*)			
Dysfunctional	Concerns						
Interaction							
Note. * denotes significance							

Table 13

Bootstrap Analysis of the Statistical Significance of Indirect Effects on Children's Total Protective Factors

Mediator Variable	Dependent Variable	Estimate	SE	95% CIs
Parental Distress	Child Total Protective Factors	.04	.005	(020, .001)
Parent-Child Dysfunctional Interaction	Child Total Protective Factors	.08	.016	(061,001)*

Note. * denotes significance

interaction) between the Treatment Group and children's behavior problems or protective factors (Table 14, Table 15). Parent-child dysfunctional interactions mediated children's outcomes and did not depend on child's gender or family SES. The strength of the mediation relationship was similar, despite gender (male vs. female) and family SES (low SES vs. middle to high SES). Similarly, child gender or family SES did not impact the strength of parental distress as a mediator between the Treatment Group and children's behavior problems and protective factors (Table 16, Table 17). Given that the parental distress mediation model was not found to be significant, it is not surprising that the moderated mediation model was also not significant. **Research Question 4: Are parenting stress, family SES, child gender, child age, and main type of referral problem predictors of children's behavioral problems, as rated by parents and providers?**

To examine this exploratory analysis, hierarchical multiple regression models were developed. In each analysis, the control variables were regressed as a block in the first step. In the second step, the variable of interest was entered. Since each of the variables were examined as the experimental variable (parental distress, parent-child dysfunctional interaction, family SES, child gender, child age, and main type of referral problem) to determine how much variance it contributed to the dependent variable, and there were two dependent variables (parent-rated behavior concerns, provider-rated behavior concerns), several models were conducted.

Predictors of Parent-Rated Behavior Problems

Parental Distress Model. The first multiple regression model assessed whether Parental Distress predicted children's Behavior Concerns, after controlling for family SES, child gender, child age, and main type of referral problem. The variables that were controlled and entered into

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Moderated Mediation Results for Conditional Indirect Effect with Treatment Group, Child	
Gender and Family SES as a Moderator of the Association Between the Mediator (Parent-C	Child
Dysfunctional Interaction) and the Outcome (Behavior Problems)	

	Child Gender				Family SES				
Predictor	β	SE	t	р	β	SE	t	р	
Constant	21.93	.70	31.16	.00	21.93	.70	31.16	.00	
Group	-2.53	.80	-3.16	.00	-2.53	.80	-3.16	.00	
Constant	54.61	3.28	16.64	.00	49.86	2.31	21.63	.00	
Group	.34	1.16	.30	.77	.59	1.16	.51	.61	
PCDI	.31	.15	2.09	.04	.54	.100	5.41	.00	
Moderator	-4.03	3.67	-1.10	.27	6.07	3.57	1.70	.09	
PCDI * Moderator	.24	.17	1.39	.17	23	.17	-1.38	.17	

Moderated Mediation Results for Conditional Indirect Effect with Treatment Group, Child Gender and Family SES as a Moderator of the Association Between the Mediator (Parent-Child Dysfunctional Interaction) and the Outcome (Total Protective Factors)

	Child Gender				Family SES				
Predictor	β	SE	t	р	β	SE	t	р	
Constant	21.93	.70	31.16	.00	21.93	.70	31.16	.00	
Group	-2.52	.80	-3.16	.00	-2.53	.80	-3.16	.00	
Constant	60.89	3.54	17.20	.00	60.84	2.51	24.26	.00	
Group	.74	1.25	.59	.56	.37	1.26	.30	.77	
PCDI	70	.16	-4.41	.00	75	.11	-6.93	.00	
Moderator	47	3.96	12	.90	79	3.88	20	.84	
PCDI * Moderator	09	.19	50	.62	.01	.18	.03	.97	

Moderated Mediation Results for Conditional Indirect Effect with Treatment Group, Child
Gender and Family SES as a Moderator of the Association Between the Mediator (Parental
Distress) and the Outcome (Behavior Concerns)

	Child Gender				Family SES				
Predictor	β	SE	t	р	β	SE	t	р	
Constant	25.65	.98	26.18	.00	25.65	.98	26.18	.00	
Group	-2.23	1.11	-2.00	.05	-2.23	1.11	-2.00	.05	
Constant	51.32	3.38	15.20	.00	51.61	2.02	25.57	.00	
Group	13	1.15	11	.91	.34	1.15	.29	.77	
Parental Distress	.41	.13	3.14	.00	.38	.07	5.51	.00	
Moderator	2.44	3.66	.67	.51	4.54	3.16	1.44	.15	
Parental Distress * Moderator	07	.15	50	.62	11	.12	91	.37	

Moderated Mediation results for Conditional Indirect Effect with Treatment Group, Child Gender and Family SES as a Moderator of the Association Between the Mediator (Parental Distress) and the Outcome (Total Protective Factors)

	Child Gender				Family SES				
Predictor	β	SE	t	р	β	SE	t	р	
Constant	25.65	.98	26.18	.00	25.65	.98	26.18	.00	
Group	-2.23	1.11	-2.00	.05	-2.23	1.11	-2.00	.05	
Constant	56.73	3.85	14.75	.00	55.52	2.32	23.98	.00	
Group	1.77	1.31	1.36	.18	1.17	1.32	.89	.37	
Parental Distress	45	.15	-3.01	.00	42	.08	-5.31	.00	
Moderator	-3.38	4.17	81	.42	-3.24	3.62	90	.37	
Parental Distress * Moderator	.05	.17	.31	.76	.06	.14	.45	.65	

Step 1 explained 11% of the variance in children's Behavior Concerns. After Parental Distress was added to the model, results indicated that it significantly added to the model for parent-rated Behavior Concerns ($\Delta R^2 = .07$, F(1, 75) = 6.82, p < .01). This contributed 7% of additional variance (Table 18).

Another variable that was a significant predictor for children's Behavior Concerns after controlling for other variables (Parental Distress, child gender, child age, and main reason for referral) was family SES. In this model, the variables that were controlled explained 12% of the variance. After family SES was added to the model, it was found to be a significant predictor $(\Delta R^2 = .06, F(1, 75) = 5.86, p < .05)$. Family SES contributed 6% of additional variance in this model (Table 19). No other variables added significant variance to the model (Tables 20, 21, 22).

Parent-Child Dysfunctional Interaction Model. When including Parent-Child Dysfunctional Interaction as a predictor in the multiple regression model, only family SES significantly added to the model for parent-rated Behavior Concerns ($\Delta R^2 = .05$, F(1, 75) = 4.54, p < .05) (Table 23). Lower SES predicted higher rated Behavior Concerns. The variables that were controlled in this model (Parent-Child Dysfunctional Interaction, child gender, child age, main type of referral problem) explained 14% of the variance. After including family SES, an additional 5% of variance was added to the model. No other variables added significant variance (Tables 24, 25, 26, 27).

Predictors of Provider-Rated Behavior Problems

Parental Distress Model. In predicting provider-rated Behavior Concerns, none of the variables (Parental Distress, family SES, child gender, child age, main type of referral problem) included in the model were significant predictors or added additional variance to the models (Tables 28, 29, 30, 31, 32).

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Family SES	5.09*	2.10	.26		
Child Gender	2.18	2.38	.10		
Child Age	.32	.88	.04		
Main Type of Referral Problem	-1.31	.92	15		
				.11	
Experimental Variable:	.34**	.13	.28		
Parental Distress					
				.18**	.07

Parental Distress Model: Regression Analyses of Parental Distress Predicting Behavior Concerns (Parent-Rated)

Note. *p < .05 and **p < .01

Table 19

Parental Distress Model: Regression Analyses of Family SES and Predicting Behavior Concerns (Parent-Rated)

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parental Distress	.34**	.13	.28		
Child Gender	2.18	2.38	.10		
Child Age	.32	.88	.04		
Main Type of Referral Problem	-1.31	.92	15		
				.12*	
Experimental Variable:	5.09*	2.10	.26		
Family SES					
				.18*	.06

b	SEb	β	Model R^2	ΔR^2
.34**	.13	.28		
5.01*	2.10	.26		
.32	.88	.04		
-1.31	.92	0.15		
			.17	
2.18	2.38	.10		
			.18	.01
	<i>b</i> .34** 5.01* .32 -1.31 2.18	b SEb .34** .13 5.01* 2.10 .32 .88 -1.31 .92 2.18 2.38	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	b SEb β Model \mathbb{R}^2 .34** .13 .28 5.01* 2.10 .26 .32 .88 .04 -1.31 .92 0.15 .17 .18

Parental Distress Model: Regression Analyses of Child Gender Predicting Behavior Concerns (Parent-Rated)

Note. *p < .05 and **p < .01

Table 21

Parental Distress Model: Regression Analyses of Child Age Predicting Behavior Concerns (Parent-Rated)

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parental Distress	.34**	.13	.28		
Family SES	5.10*	2.10	.26		
Child Gender	2.18	2.38	.10		
Main Type of Referral Problem	-1.31	.92	15		
				.18*	
Experimental Variables:	.32	.88	.04		
Child Age					
C C				.18	.00

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parental Distress	.34**	.13	.28		
Family SES	5.10*	2.10	.26		
Child Gender	2.18	2.38	.10		
Child age	.32	.88	.04		
e				.16**	
Experimental Variables:	-1.31	.92	15		
Main Type of Referral Problem					
~ 1				.18	.02

Parental Distress Model: Regression Analyses of Main Type of Referral Problem Predicting Behavior Concerns (Parent-Rated)

Note. *p < .05 and **p < .01

Table 23

PCDI Model: Regression Analyses of Family SES Predicting Behavior Concerns (Parent-Rated)

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parent-Child Dysfunctional Interaction	.34	.20	.19		
Child Gender	2.03	2.44	.09		
Child Age	.09	.89	.01		
Main Type of Referral Problem	-1.31	.95	15		
				.09	
Experimental Variable:	4.69*	2.20	.24		
Family SES					
				.14*	.05

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Family SES	4.69*	2.20	.24		
Child Gender	2.03	2.44	.09		
Child Age	.09	.89	.01		
Main Type of Referral Problem	-1.31	.95	15		
				.11	
Experimental Variable:	.34	.20	.19		
Parent-Child Dysfunctional Interaction					
				.14	.03

PCDI Model: Regression Analyses of Parent-Child Dysfunctional Interaction and Predicting Behavior Concerns (Parent-Rated)

Note. *p < .05 and **p < .01

Table 25

PCDI Model: Regression Analyses of Child Gender Predicting Behavior Concerns (Parent-Rated)

b	SEb	β	Model R^2	ΔR^2
.34	.20	.19		
4.69*	2.20	.24		
.09	.89	.01		
-1.31	.95	15		
			.13*	
2.03	2.44	.09		
			.14	.01
_	<i>b</i> .34 4.69* .09 -1.31 2.03	b SEb .34 .20 4.69* 2.20 .09 .89 -1.31 .95 2.03 2.44	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$

PCDI model: Regression Analyses of Child Age Predicting Behavior Concerns (Parent-Rated)

	b	SEb	β	Model R^2	ΔR^2
Control Variables:					
Parent-Child Dysfunctional Interaction	.34	.20	.19		
Family SES	4.69*	2.20	.24		
Child Gender	2.03	2.44	.09		
Main Type of Referral Problem	-1.31	.95	15		
				.14*	
Experimental Variables:	.09	.89	.01		
Child Age					
				.14	.00

Note. *p < .05 and **p < .01

Table 27

PCDI Model: Regression Analyses of Main Type of Referral Problem Predicting Behavior Concerns (Parent-Rated)

	b	SEb	β	Model R^2	ΔR^2
Control Variables:					
Parent-Child Dysfunctional Interaction	.34	.20	.19		
Family SES	4.69*	2.20	.24		
Child Gender	2.03	2.44	.09		
Child age	.09	.89	.01		
				.12*	
Experimental Variables:	-1.31	.95	15		
Main Type of Referral Problem					
				.14	.02

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Family SES	1.91	1.98	.11		
Child Gender	.27	2.24	.01		
Child Age	-1.11	.83	16		
Main Type of Referral Problem	82	.87	11		
				.07	
Experimental Variable:	.19	.12	.17		
Parental Distress					
				.09	.03

Parental Distress Model: Regression Analyses of Parental Distress Predicting Behavior Concerns (Provider-Rated)

Table 29

Parental Distress Model: Regression Analyses of Family SES and Predicting Behavior Concerns (Provider-Rated)

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parental Distress	.19	.12	.17		
Child Gender	.27	2.24	.01		
Child Age	-1.11	.83	16		
Main Type of Referral Problem	82	.87	11		
				.08	
Experimental Variable:	1.91	1.98	.11		
Family SES					
-				.09	.01

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parental Distress	.19	.12	.17		
Family SES	1.91	1.98	.11		
Child Age	-1.11	.83	16		
Main Type of Referral Problem	82	.87	11		
				.09	
Experimental Variable:	.27	2.24	.01		
Child Gender					
				.09	.00

Parental Distress Model: Regression Analyses of Child Gender Predicting Behavior Concerns (Provider-Rated)

Parental Distress Model: Regression Analyses of Child Age Predicting Behavior Concerns (Provider-Rated)

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parental Distress	.19	.12	.17		
Family SES	1.91	1.98	.11		
Child Gender	.27	2.24	.01		
Main Type of Referral Problem	82	.87	11		
				.07	
Experimental Variables:	-1.11	.83	16		
Child Age					
				.09	.02

Parent-Child Dysfunctional Interaction Model. Similarly, Parent-Child Dysfunctional Interaction, family SES, child gender, child age, and main type of referral problem were not found to be significant predictors or add additional variance to the models (Tables 33, 34, 35, 36 37).

Research Question 5: Are parenting stress, family SES, child gender, child age, and main type of referral problem, predictors of children's protective factors, as rated by parents and providers?

To examine this exploratory analysis, hierarchical multiple regression models were developed. Similar to the previous analyses, the control variables were regressed as a block in the first step of each of the analyses. In the second step, the variable of interest was entered. Since each of the variables were examined as the experimental variable (parental distress, parentchild dysfunctional interaction, family SES, child gender, child age, and main type of referral problem) to determine how much variance it contributed to the dependent variable, and there were two dependent variables (parent-rated total protective factors, provider-rated total protective factors), several models were conducted.

Predictors of Parent-Rated Protective Factors

Parental Distress. The first multiple regression model was assessed Parental Distress as a predictor for children's Total Protective Factors, after controlling for family SES, child gender, child age, and main type of referral problem. The variables that were controlled and entered into Step 1 explained 11% of the variance in children's Total Protective Factors. After Parental Distress was added to the model, results indicated that it significantly added to the model for parent-rated Total Protective Factors ($\Delta R^2 = .06$, F(1, 75) = 5.40, p < .01). This contributed 6% of additional variance (Table 38).

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	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parental Distress	.19	.12	.17		
Family SES	1.91	1.98	.11		
Child Gender	.27	2.24	.01		
Child age	-1.11	.83	16		
-				.08	
Experimental Variables:	82	.87	11		
Main Type of Referral Problem					
				.09	.01

Parental Distress Model: Regression Analyses of Main Type of Referral Problem Predicting Behavior Concerns (Provider-Rated)

PCDI Model: Regression Analyses of Family SES Predicting Behavior Concerns (Provider-Rated)

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parent-Child Dysfunctional Interaction	12	.19	08		
Child Gender	09	2.28	09		
Child Age	-1.31	.83	-1.84		
Main Type of Referral Problem	90	.88	12		
				.05	
Experimental Variable:	2.39	2.05	.13		
Family SES					
				.07	.01

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Family SES	2.39	2.05	.13		
Child Gender	09	2.28	004		
Child Age	-1.31	.83	-1.84		
Main Type of Referral Problem	90	.88	12		
				.07	
Experimental Variable:	12	.19	08		
Parent-Child Dysfunctional Interaction					
-				.07	.00

PCDI Model: Regression Analyses of Parent-Child Dysfunctional Interaction and Predicting Behavior Concerns (Provider-Rated)

PCDI Model: Regression Analyses of Child Gender Predicting Behavior Concerns (Provider-Rated)

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parent-Child Dysfunctional Interaction	12	.19	08		
Family SES	2.39	2.05	.13		
Child Age	-1.31	.83	-1.84		
Main Type of Referral Problem	90	.88	12		
				.07	
Experimental Variable:	09	2.28	09		
Child Gender					
				.07	.00

PCDI model: Regression	Analyses of	^c Child Age H	Predicting Behavior	Concerns	(Provider-Rat	ed)
0	~ .	0	0			

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parent-Child Dysfunctional Interaction	12	.19	08		
Family SES	2.39	2.05	.13		
Child Gender	09	2.28	09		
Main Type of Referral Problem	90	.88	12		
				.04	
Experimental Variables:	-1.31	.83	-1.84		
Child Age					
				.07	.03

PCDI Model: Regression Analyses of Main Type of Referral Problem Predicting Behavior Concerns (Provider-Rated)

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parent-Child Dysfunctional Interaction	12	.19	08		
Family SES	2.39	2.05	.13		
Child Gender	09	2.28	09		
Child age	-1.31	.83	-1.84		
				.06	
Experimental Variables:	90	.88	12		
Main Type of Referral Problem					
				.07	.01

Another variable that was a significant predictor for children's Total Protective Factors after controlling for other variables (Parental Distress, family SES, child gender, and child age) was main type of referral problem. In this model, the variables that were controlled explained 13% of the variance. After main type of referral problem was added to the model, it was found to be a significant predictor ($\Delta R^2 = .04$, F(1, 75) = 3.84, p < .05). It contributed 4% of additional variance in this model (Table 39). Within the Parental Distress model, no other variables significantly added to the model (Tables 40, 41, 42).

Parent-Child Dysfunctional Interaction. When examining Parent-Child Dysfunctional Interaction as a predictor in the multiple regression model, it was the only variable that significantly added variance to the model in parent-rated Total Protective Factors ($\Delta R^2 = .14$, *F* (1, 75) = 13.82, *p* <.001) (Table 43). The variables that were controlled in this model (Family SES, child gender, child age, and main type of referral problem) explained 11% of the variance. After including Parent-Child Dysfunctional Interaction, 14% of variance was added to the model. No others variables were found to significantly add to the model (Tables 44, 45, 46, 47).

Predictors of Provider-Rated Protective Factors

Parental Distress. In predicting provider-rated Total Protective Factors, none of the variables (Parental Distress, family SES, child gender, child age, main type of referral problem) included in the model were significant predictors or added additional variance to the models (Tables 48, 49, 50, 51, 52).

Parent-Child Dysfunctional Interaction. Similarly, Parent-Child Dysfunctional Interaction, family SES, child gender, child age, and main type of referral problem were not found to be significant predictors or add additional variance to the models (Tables 53, 54, 55, 56, 57).

	Ь	SEb	β	Model R^2	ΔR^2
<u> </u>			•		
Control Variables:					
Family SES	-1.15	2.23	06		
Child Gender	-2.16	2.53	09		
Child Age	1.52	.93	.18		
Main Type of Referral Problem	1.91*	.98	.21		
				.11	
Experimental Variable:	32*	.14	25		
Parental Distress					
				.17*	.06

Parental Distress Model: Regression Analyses of Parental Distress Predicting Protective Factors (Parent-Rated)

Note. *p < .05 and **p < .01

Table 39

Parental Distress Model: Regression Analyses of Main Type of Referral Problem Predicting Protective Factors (Parent-Rated)

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parental Distress	32*	.14	25		
Family SES	-1.15	2.23	06		
Child Gender	-2.16	2.53	09		
Child age	1.52	.93	.18		
-				.13*	
Experimental Variables:	1.91*	.98	.21		
Main Type of Referral Problem					
				.17*	.04

	b	SEb	β	Model R^2	ΔR^2
Control Variables:					
Parental Distress	32*	.14	25		
Child Gender	-2.16	2.53	09		
Child Age	1.52	.93	.18		
Main Type of Referral Problem	1.91*	.98	.21		
				.17**	
Experimental Variable:	-1.15	2.23	06		
Family SES					
-				.17	.00

Parental Distress Model: Regression Analyses of Family SES Predicting Protective Factors (Parent-Rated)

Note. *p < .05 and **p < .01

Table 41

Parental Distress Model: Regression Analyses of Child Gender Predicting Protective Factors (Parent-Rated)

	b	SEb	β	Model R^2	ΔR^2
Control Variables:					
Parental Distress	32*	.14	25		
Family SES	-1.15	2.23	06		
Child Age	1.52	.93	.18		
Main Type of Referral Problem	1.91*	.98	.21		
				.16**	
Experimental Variable:	-2.16	2.53	09		
Child Gender					
				.17	.01

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parental Distress	32*	.14	25		
Family SES	-1.15	2.23	06		
Child Gender	-2.16	2.53	09		
Main Type of Referral Problem	1.91*	.98	.21		
				.14*	
Experimental Variables:	1.52	.93	.18		
Child Age					
C				.17	.03
$N_{1} + \psi = 0.5 + 1.4 \psi = 0.1$					

Parental Distress Model: Regression Analyses of Child Age Predicting Protective Factors (Parent-Rated)

Note. *p < .05 and **p < .01

Table 43

PCDI Model: Regression Analyses of Parent-Child Dysfunctional Interaction Predicting Protective Factors (Parent-Rated)

	b	SEb	β	Model R^2	ΔR^2
Control Variables:					
Family SES	.18	2.16	.008		
Child Gender	-2.38	2.41	10		
Child Age	1.65	.88	.20		
Main Type of Referral Problem	1.81	.93	.20		
				.11	
Experimental Variable:	73	.20	38		
Parent-Child Dysfunctional Interaction					
				.25**	.14

PCDI Model: Regression Analyses of Family SES Predicting Protective Factors (Parent-Rated)

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parent-Child Dysfunctional Interaction	73	.20	38		
Child Gender	-2.38	2.41	10		
Child Age	1.65	.88	.20		
Main Type of Referral Problem	1.81	.93	.20		
				.25	
Experimental Variable:	.18	2.16	.008		
Family SES					
				.25	.00

PCDI Model: Regression Analyses of Child Gender Predicting Protective Factors (parent-rated)

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parent-Child Dysfunctional Interaction	73	.20	38		
Family SES	.18	2.16	.008		
Child Age	1.65	.88	.20		
Main Type of Referral Problem	1.81	.93	.20		
				.24	
Experimental Variable:	-2.38	2.41	10		
Child Gender					
				.25	.01

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	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parent-Child Dysfunctional Interaction	73	.20	38		
Family SES	.18	2.16	.008		
Child Gender	-2.38	2.41	10		
Main Type of Referral Problem	1.81	.93	.20		
				.21	
Experimental Variables:	1.65	.88	.20		
Child Age					
				.25	.04

PCDI Model: Regression Analyses of Main Type of Referral Problem Predicting Protective Factors (Parent-Rated)

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parent-Child Dysfunctional Interaction	73	.20	38		
Family SES	.18	2.16	.008		
Child Gender	-2.38	2.41	10		
Child age	1.65	.88	.20		
				.21	
Experimental Variables:	1.81	.93	.20		
Main Type of Referral Problem					
				.25	.04

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Family SES	.29	2.49	.01		
Child Gender	1.35	2.83	.06		
Child Age	1.48	1.04	.17		
Main Type of Referral Problem	.56	1.09	.06		
				.04	
Experimental Variable:	04	.16	03		
Parental Distress					
				.04	.00

Parental Distress Model: Regression Analyses of Parental Distress Predicting Protective Factors (Provider-Rated)

Table 49

Parental Distress Model: Regression Analyses of Main Type of Referral Problem Predicting Protective Factors (Provider-Rated)

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parental Distress	04	.16	03		
Family SES	.29	2.49	.01		
Child Gender	1.35	2.83	.06		
Child age	1.48	1.04	.17		
				.04	
Experimental Variables:	.56	1.09	.06		
Main Type of Referral Problem					
				.04	.00

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parental Distress	04	.16	03		
Child Gender	1.35	2.83	.06		
Child Age	1.48	1.04	.17		
Main Type of Referral Problem	.56	1.09	.06		
				.04	
Experimental Variable:	.29	2.49	.01		
Family SES					
				.04	.00

Parental Distress Model: Regression Analyses of Family SES Predicting Protective Factors (Provider-Rated)

Table 51

Parental Distress Model: Regression Analyses of Child Gender Predicting Protective Factors (Provider-Rated)

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parental Distress	04	.16	03		
Family SES	.29	2.49	.01		
Child Age	1.48	1.04	.17		
Main Type of Referral Problem	.56	1.09	.06		
				.04	
Experimental Variable:	1.35	2.83	.06		
Child Gender					
				.04	.00

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parental Distress	04	.16	03		
Family SES	.29	2.49	.01		
Child Gender	1.35	2.83	.06		
Main Type of Referral Problem	.56	1.09	.06		
				.02	
Experimental Variables:	1.48	1.04	.17		
Child Age					
-				.04	.02

Parental Distress Model: Regression Analyses of Child Age Predicting Protective Factors (Provider-Rated)

PCDI Model: Regression Analyses of Parent-Child Dysfunctional Interaction Predicting Protective Factors (Provider-Rated)

	b	SEb	β	$Model R^2$	ΔR^2
Control Variables:					
Family SES	03	2.54	001		
Child Gender	1.50	2.82	.06		
Child Age	1.53	1.02	.18		
Main Type of Referral Problem	.60	1.09	.06		
Experimental Variable: Parent-Child Dysfunctional Interaction	.12	.23	.06	.04	
,				.04	.00

	b	SEb	β	$Model R^2$	ΔR^2
Control Variables:					
Parent-Child Dysfunctional Interaction	.12	.23	.06		
Child Gender	1.50	2.82	.06		
Child Age	1.53	1.02	.18		
Main Type of Referral Problem	.60	1.09	.06		
				.05	
Experimental Variable:	03	2.54	001		
Family SES					
-				.05	.00

PCDI Model: Regression Analyses of Family SES Predicting Protective Factors (Provider-Rated)

Table 55

PCDI Model: Regression Analyses of Child Gender Predicting Protective Factors (providerrated)

	b	SEb	β	$Model R^2$	ΔR^2
Control Variables:					
Parent-Child Dysfunctional Interaction	.12	.23	.06		
Family SES	03	2.54	001		
Child Age	1.53	1.02	.18		
Main Type of Referral Problem	.60	1.09	.06		
				.04	
Experimental Variable:	1.50	2.82	.06		
Child Gender					
				.04	.00
Table 56

PCDI Model: Regression Analyses of Child Age Predicting Protective Factors (Provider-Rated)

	b	SEb	β	Model R ²	ΔR^2
Control Variables:					
Parent-Child Dysfunctional Interaction	.12	.23	.06		
Family SES	03	2.54	001		
Child Gender	1.50	2.82	.06		
Main Type of Referral Problem	.60	1.09	.06		
				.02	
Experimental Variables:	1.53	1.02	.18		
Child Age					
				.05	.03

Table 57

PCDI Model: Regression Analyses of Main Type of Referral Problem Predicting Protective Factors (Provider-Rated)

	b	SEb	β	$Model R^2$	ΔR^2
Control Variables:					
Parent-Child Dysfunctional Interaction	.12	.23	.06		
Family SES	03	2.54	001		
Child Gender	1.50	2.82	.06		
Child age	1.53	1.02	.18		
				.04	
Experimental Variables:	.60	1.09	.06		
Main Type of Referral Problem					
				.04	.00

Chapter 5

DISCUSSION

Correlations Between Variables

Significant associations were found between parenting stress and children's behavior for both the CCEP and Comparison group at time 2. More specifically, the more parenting stress reported, the more behavior problems reported. This is consistent with previous literature that suggest when parents experience more stress, children's behavior is more likely to be rated as problematic (e.g., Anthony et al., 2005; Barry et al., 2005; Crnic et al., 2005; Shaw et al., 1998; Williford et al., 2007). Additionally, higher ratings of parenting stress were associated with fewer protective factors. While this link has been less studied in research, the current study's results are consistent with the preliminary evidence that suggests parenting stress negatively impacts children's behavioral strengths (e.g., Anthony et al., 2005).

CCEP and Child Outcomes

The type of group (CCEP vs. Comparison) did not directly predict child outcomes in the current study, which is contradictory to the literature that has provided support for positive outcomes following ECMHC. In further analyses investigating this unexpected finding, analyses of the CCEP group revealed that they had significantly less behavior concerns and more protective factors, following services. It was also found that children in the comparison group experienced similar results, despite not receiving CCEP services.

In regards to studies that included a treatment group and a comparison group, the current study produced slightly inconsistent results. One reason may be due to the difference in raters of children's behavior and who actually ECMHC received services. In Upshur and colleagues' (2009) study, the researchers found that the intervention group, matched to the comparison

group, exhibited significantly less aggressive and maladaptive behavior and exhibited more adaptive behavior following intervention. In their study, teachers both participated in ECMHC services and were the raters of children's behavior. In the current study, providers and parents participated in CCEP services however mediation analyses only included parent ratings of children's behavior. It could be the case that providers worked with consultants more frequently than parents, and children's behavior change did not generalize to the home setting, the environment where parents observed and rated their child's behavior.

Including a randomized control group may have also contributed to differences in findings. Raver and colleagues' (2009) study and Gilliam's (2007) study included a randomized control group, rather than a comparison group. Additionally, Raver and colleagues' (2009) also implemented an evidence-based intervention within consultation service delivery. This superior methodology minimizes confounding variables that may differ between the two groups and the use of an evidence-based intervention improved the likelihood of positive outcomes following consultation compared to consultation services without a specific evidence-based intervention.

The improvements found for the CCEP group in the current study were consistent with previous pre-post research designs that examined effectiveness of treatment. Perry and colleagues' (2008) study found that children experienced less behavior problems and more social skills, as rated by providers, after participating in ECMHC. Van Egeren and colleagues (2011) matched participants in the comparison group to the CCEP group and found that children in the CCEP group had significantly less behavior problems and more protective factors, as rated by parents and providers.

When examining only the comparison group (not compared to a treatment group), behavioral improvements have also been documented in the literature, even though they did not

receive treatment. For example, Upshur and colleagues (2009) reported that in their comparison group, children's adaptive behavior improved from time 1 to time 2. Furthermore, Van Egeren and colleagues (2011) found behavioral improvements for children in their comparison group (less behavior problems and more protective factors) over time. It makes sense that Van Egeren and colleagues' comparison group findings are somewhat consistent with the current study, given that the current study's sample was taken from this larger evaluation.

In the current study, one possible reason that children in the CCEP group and comparison group experienced improved behavioral outcomes could be due to maturational effects. It may be the case that as children continued to develop, they experienced behavior improvements over time. While Van Egeren and colleagues (2011) utilized dosage as way to overcome this challenge in the CCEP Evaluation report, this is a common limitation that many longitudinal studies experience. Maturational effects were unable to be evaluated separately in the current study.

Another similarity shared by the CCEP and comparison group was the decline in parenting stress. Both groups had significantly less parenting stress at time 2 compared to time 1, although the CCEP group did have significantly lower ratings than the comparison group. Since it is hypothesized that parenting stress influences behavioral outcomes, it makes sense that if parents in both groups experienced less stress, then fewer behavior problems would also be evident for both groups.

While comparing the two groups' changes in parenting stress was not a large focus of the study, it is noteworthy to mention that these significant decreases in stress for the CCEP group were inconsistent with previous research examining parenting stress as an outcome in ECMHC studies. For example, Upshur and colleagues' (2009) and Shelton and colleagues' (2001) found

no changes in parenting stress between the treatment and the comparison group after participating in an ECMHC program. Similarly, Langkamp (2007) examined parent outcomes in a subset of their sample and found no declines in stress. This inconsistency between the current study and previous research may be due to factors such as the length of time consultation services were provided or the number of participants in the study. In the current study, participants in the treatment group received CCEP services for about six months on average, whereas the treatment lasted 10 weeks in the Shelton and colleagues' (2001) study. The current study also had a larger number of participants in the treatment group that completed a parenting stress rating scale (N = 247), whereas the number of participants in Langkamp's study (2007) was much smaller (N = 34 at time 1, N = 31 at time 2).

Parents in the comparison group may have experienced improvement due to factors that the study did not consider. Given that 89% of families in the comparison group reported receiving some type of services (e.g., food assistance, Early On), it could be the case that children benefited from these services. While families in the comparison group were ineligible to participate in the study if their child attended a publically funded preschool, or if their child attended Head Start, they could have sought other resources. Social resources such as family support, therapeutic resources such as a social skills group or therapy, or assistance from other professionals, such as pediatricians, may have contributed to an improvement in children's behavior problems.

Several factors could have led parents in the CCEP group to not make as many predicted gains following CCEP services. Given that dysfunctional parent-child interactions appeared to play a mediating role in children's behavior outcomes following CCEP, it could be the case that other factors not targeted as part of consultation or not measured in the study strongly influenced

outcomes. One factor that may have influenced outcomes was their reported relationship with the consultant. The relationship between the consultant and parent is an important feature of ECMHC and has been suggested to be one of the most important characteristics of effective service delivery (Green et al., 2006). Although most reported a positive relationship with the consultants on the satisfaction surveys (Mean score = 76.2 out of 84), one-third of the sample did not complete the satisfaction survey. This raises the question of whether there is a difference between those who submitted satisfaction surveys to the researchers and those who did not. It could be the case that those who chose not to submit had a different experience with services or the consultant. The most important characteristic of ECMHC is the consultants' ability to form positive, collaborative relationships with adults (Green et al., 2006) and the theory behind ECMHC is that this positive, trusting relationship between the consultant and adult(s) working with children is essential to facilitate change (Cohen & Kaufman, 2000). Therefore, if some parents did not experience that relationship with the consultant, they may have reported less improvement.

Parent-Child Dysfunctional Interaction and Parental Distress as Mediators

Consistent with hypotheses, results indicated that parent ratings of dysfunctional interactions with their child played a mediating role in the relationship between CCEP and children's behavioral outcomes. This is consistent with previous literature that has investigated parenting stress as a mediator in treatment studies. Kazdin and Whitley (2003) evaluated parentfocused and child-focused interventions intended to reduce children's behavior problems. They found that when children's behavior improved, parents experienced significantly less stress. Parenting stress was measured using the Parenting stress Index, which is comprised of the Parental Stress and Child Stress subscales. The subscales distinguish sources of stress that are from the child (e.g., adaptability, demandingnesss, child mood) and sources of stress related to parent functioning (e.g., competence, role restriction, social isolation). Scores on both subscales, decreased from pre to post, however, the Child Stress subscale had a larger decrease. This suggests that parents' perceptions of stress from their child declined more than the stress related to their role as a parent, following an intervention that targeted child behavior.

Additionally, Feinfield and Baker's (2004) study demonstrated that when parents received an intervention component focusing on parent problem solving, greater therapeutic change was evident for the child. Their results indicated that parent factors, such as attitude, stress, and parenting practices played a role in the relationship between the treatment (which consisted of child- and parent-focused components) and children's behavioral outcomes. In a preliminary analysis, they found that significant decreases were evident for the Child Stress subscale on the PSI, but not the Parental Stress subscale. The study demonstrated that parents' attitude, measured by negative perceptions of the parent-child relationship and parenting efficacy, and stress, as measured by the Child Stress subscale of the PSI, were found to be mediators in the relationship between the treatment and children's behavior problems. When parents experienced fewer negative perceptions about their child and reported less stress caused by their child, children's behavior were likely to experience more improvement. Children's behavioral improvement also mediated changes in parent attitudes and stress. Additionally, improved parenting practices (e.g., decreases in inconsistent discipline, power assertion) were found to mediate decreases in externalizing behavior problems.

In both of these studies, the Child Stress subscale appeared to be more closely aligned with children's behavior. This subscale measured parents' perception of stress that the child causes the parent, whereas the Parental Stress subscale measures stress related to the actual

parenting role. This is somewhat consistent with the current study's findings. In the current study, the Parent-Child Dysfunctional Interaction subscale evaluated the parent and child's interactions and measured parents' negative perceptions of the child, which was found to play a mediating role in children's behavioral outcomes. Parental Distress on the other hand, which were perceptions of child-rearing competence, social support, stresses associated with the restrictions placed on other life roles, was not found to play a mediating role. Parents' negative perceptions of the child, the child's behavior, and the amount of stress the child causes may be more closely linked to children's externalizing behavior problems. Perceptions of parenting competence and efficacy and restrictions placed on the parent may be less related to externalizing behavior problems but may be linked to other child and/or parent difficulties (e.g., child internalizing problems, parental depression), however, future research needs to closely examine these links.

This study's results are also consistent with the ECMHC study conducted by Raver and colleagues (2009) which found that negative classroom environment, poor classroom management techniques, teacher perceptions of little control in their classroom, and high job demands were related to externalizing and internalizing behavior problems exhibited by preschool children. While Raver and colleagues' study examined teachers rather than parents, their findings illustrated how adults negative perceptions of their job, perceptions of caring for children, and poor behavior management techniques were related to behavior problems.

In the current study, parents in the CCEP group that experienced more stress had children with more behavior problems and parents with less stress had children with more protective factors. Research has suggested that a contributing factor to parenting stress is parents' perception of access to resources (Deater-Deckard, 1998). This means that parents who have less

knowledge about child development and child-rearing, lower feelings of parenting competence, fewer emotional resources, and fewer instrumental resources are likely to experience more stress. Given that ECMHC provides parents with various resources, including knowledge, skills, and support, it could be the case that parents in the CCEP group experienced a reduction in stress as a result of improved access to resources and understanding of their child's behavior. In turn, reductions in stress may have led to more use of positive techniques and helped to improve their child's behavior following ECMHC.

Additionally, parents may have taken the knowledge and skills learned from the consultants and began using them with their child, which resulted in fewer behavior problems exhibited by children, and also reduced stress. Theoretically, ECMHC targets adults to alter their behavior, which hopefully results in altering the child's behavior. Therefore, parents may have improved their understanding of children's behavior, received guidance on effective parenting techniques, and enhanced positive interactions with their child, which contributed to reduced stress. This may have led to even more positive parenting, and thus improved behavior outcomes. Given that parents' ratings of stress and their child's behavior were taken at the same time, it is difficult to determine which came first, the reductions in stress or improvement in children's behavior. However, given previous research and the amount of research that has illustrated the associations between the two, it is likely that both contributed, rather than only one predicting the other.

The mediation results were also consistent with the hypothesis that parent-child dysfunctional interactions would be more strongly relate to children's behavioral improvements than parental distress. The Parent-Child Dysfunctional Interaction subscale evaluated the parents perception of their interactions with their child and measured negative perceptions that a parent

has about their child, such as that the child does not meet their expectations and the interactions with the child are not reinforcing. Given that this subscale assessed the parents' perceptions of interactions with their child, it may be a more direct measure of their actual behavior with their child compared to the parental distress subscale. For example, if parents rated their perceptions of interactions with their child as negative or endorsed items that suggest negative parental behaviors toward their child, this may be a better predictor of their actual behavior. Negative interactions may have a greater impact on their child's behavior than parents' perceptions of child-rearing competence, social support, and stresses associated with the restrictions placed on other life roles.

It may also be the case that the Parental Distress subscale is more closely related to parental emotional health, as suggested by the findings from Haskett, Ahern, Ward, and Allaire (2006). In Haskett and colleagues' (2006) analysis of the psychometric properties of the PSF-SF and its subscales, they found that the Parental Distress subscale (which they referred to as Personal Distress in their article), was strongly related to parents' emotional health. Emotional health was measured by the Symptom Checklist-90-Revised, which measures a broad range of psychological problems. The analysis also revealed that the Parent-Child Dysfunctional Interaction subscale, combined with some items from the Difficult Child subscale, created a subscale they referred to as Child Rearing Stress. This was strongly related to children's behavior problems and parental behavior. The results of Haskett and colleagues' (2006) study suggest that these subscales measure two different types of stress. Considering this in regards to the current study, the Parent-Child Dysfunctional Interaction subscale may be measuring actual parent behavior more closely. Parental Distress may not play a mediating role if it is experienced in isolation and without negative parenting behaviors.

According to a study that examined psychometric properties of the Parental Distress and Parent-Child Dysfunctional Interactions subscales of the PSI-SF (Whiteside and colleagues, 2007), the Parental Distress subscale was found to be more strongly associated with negative life events than the Parent-Child Dysfunctional Interaction. This suggests that this subscale may less related to only stress as it relates to parenting and may be more encompassing of other life stressors. Additionally, the study found support for the decomposition of the Parent-Child Dysfunctional Interaction subscale into two additional subscales, Dyadic Interaction and Perception of Child. The Dyadic Interaction score was found to be associated with aggressive child behavior, therefore providing support that the Parent-Child Dysfunctional Interaction subscale as a whole may be more strongly associated with child behavior.

Parenting stress influences children's behavior problems as well as protective factors. Literature has suggested that parenting stress affects parenting behavior and feelings toward their child (Deater-Deckard, 1998). Therefore, parents with less stress may have more positive feelings toward their child and more positive interactions with their child. Opposite to the coercive parenting cycle (Patterson, 1982), positive interactions toward the child may elicit more positive behaviors from the child, thus resulting in parents' perception of improved behavior. Children may also observe these positive parental behaviors and imitate this type of behavior as well as learn how to solve problems using positive, rather than negative strategies. Parents using consistent, positive parenting techniques may be more likely to nurture the development of protective factors, such as attachment. Parents with less stress may also interact with their child more frequently, thus allowing the child more opportunities to exercise initiative and self-control behaviors. These positive behaviors exhibited by children will elicit more positive responses from parents and others with whom they interact with, thus reinforcing children's use of positive behaviors.

Child Gender and Family SES as Moderators

In regards to the exploratory moderated mediation analyses, neither gender nor family SES impacted the strength of the mediation. Moderators were explored due to research suggesting that parenting stress can be influenced by various factors. The fact that child gender did not impact the strength of mediation suggests that parenting stress was a mediator for children's behavioral outcomes, regardless of the child's gender. Some research has suggested that child gender affects parenting and the way parents respond to their child, however in regards to parenting stress, other literature suggest that child gender does not impact parenting stress levels (Raikes & Thompson, 2005; Scher & Sharabany, 2005). In another words, parents of boys and girls do not exhibit significantly different levels of stress, which is supportive of the current study's findings. Interestingly, when considering parent gender in addition to child gender and its relation to parenting stress, significant results have been found in one study. For example, mothers of sons and fathers of daughters have been found to exhibit significantly more parenting stress than mothers of daughters and fathers of sons (Sher & Sharabany, 2005). There is limited and conflicting research in this area, therefore, continuing to consider parent and child gender in combination might be an important next step to better understand moderators of parenting stress.

Family SES was also not a significant moderator. It did not impact the strength of the mediation, suggesting that regardless of parents' SES, if they are stressed, their stress will influence children's behavioral outcomes. It could be the case that parental characteristics that were not measured as part of the current study buffers the impact low SES has on parenting stress. Low SES may directly or indirectly influence other variables and pathways, which impact

children's behavior. For example, Raikes and Thompson (2005) found that low SES does not always predict parenting stress levels. The researchers examined parental self-efficacy, and found that when self-efficacy was considered, family income was not related to parenting stress levels. Self-efficacy was found to moderate the impact of income on parenting stress, which supports the claim that other variables, rather than just low SES, may be more influential in impacting the strength of parenting stress as a mediator for children's outcomes.

Predictors of Parent-Rated Child Behavior

Of the variables that were investigated as predictors of behavior problems and protective factors in the CCEP group, only parental distress and family SES were found to be significant predictors of parent-rated behavior problems. Low SES and higher ratings of parental distress predicted more behavior problems. This is consistent with a meta-analysis conducted by Reyno and McGrath (2006), who examined numerous variables that influence children's behavioral outcomes following treatment that targeted parents. Of the family demographic variables, child variables, participation variables, and parent variables investigated, maternal psychopathology and low SES had the largest standardized effect size and were the most influential in predicting treatment outcomes. This is somewhat consistent with the current study's findings. While maternal psychopathology was not investigated, it has certainly been linked to parenting stress (Deater-Deckard, 1998). As mentioned previously, parents exhibiting more stress are more likely to engage in less positive and inconsistent parenting, which can contribute to children's behavior problems. Additionally, parents who are more stressed may be biased and rate their children's behavior as more problematic. Given these links between stress and psychopathology, it is not surprising that parents' ratings of stress were a predictor of children's behavior.

In the same review (Reyno and McGrath, 2006), low SES also predicted parent-rated behavior problems. This is consistent with results of the meta-analysis mentioned above, as well as many studies that have suggested that children from low SES families are more likely to exhibit behavior problems (e.g., Qi & Kaiser, 2003). According to the family stress model of economic hardship, economic pressures increase parental stress, negatively influences parenting behaviors, and increase the likelihood of behavior problems. Despite participating in CCEP services and receiving some instrumental and emotional resources, financial burdens will continue to affect the family and may influence parent-ratings of behavior.

Child gender was not a significant predictor of behavior problems or protective factors. The previous research examining gender has been somewhat conflicting. While some evidence exists for gender differences, with boys often exhibiting more behavior problems than girls (e.g., Anthony et al., 2005), others suggest that preschool boys and girls may present similarly in behavior problems and that the divergence that is often documented may actually not be apparent until early elementary school years (Campbell, 1995). In examining the specific ECMHC literature, limited research has examined whether gender predicts children's behavior after participating in ECMHC. The limited research that has investigated gender produced similar results to the current study. For example, Upshur and colleagues (2009) found that gender was not a significant predictor in their model predicting children's behavioral outcomes.

Additionally, age of the child was also not a significant predictor for behavior problems or protective factors. It was hypothesized that age would predict behavior problems given that younger children may continue to exhibit behavioral difficulties due to their developmental level (Perry et al., 2007). However, research has found that while some behavior problems do decrease over time from toddlerhood to the preschool years, certain types of behavior may not naturally

decrease, such as noncompliance (Smith, Calkins, Keane, Anastopoulos, & Shelton, 2004). It could be the case that children across various ages in the current sample exhibited behavior that is less likely to decline naturally over time. Therefore, even older children may in fact continue to demonstrate challenging behaviors. This makes particular sense for this sample given that the highest frequency of problem behaviors were in the developmental domain, which includes noncompliant behaviors.

In longitudinal trajectory studies examining children's behavior over time, it has also been suggested that children are at or close to their peak levels of disruptive behavior when they enter school, and then decrease problematic behavior significantly after entering school (Broidy et al., 2003). Therefore, prior to entering school, children may demonstrate more similar than different behaviors and it is not until they enter school that they mature and learn to control aggression and oppositional behavior. Other explanations for why age was not a predictor could due to the broad measure of behavior problems used in the study and the fact that the sample consisted of fewer young children.

Children's main type of referral problem was not found to be a predictor of children's behavior problems. One reason why this may be the case was due to the nature of the rating scale that measured children's behavior problems. The reason for referral problem description key, which was used to determine children's initial problems, was very detailed whereas the behavior rating scale mainly assessed for broad externalizing behavior, such as hyperactivity, impulsivity, and aggression. Broadband behavior rating scales are advantageous in that they provide a wide range of behavior to be sampled. However, it is important when assessing a particular type of behavior problem that an instrument that reflects the most critical elements is utilized (Riley-Tillman, Chafouleas, Christ, Briesch, & LeBel, 2009). Therefore, it could be the case that the

more broad behavior concerns subscale on the DECA did not capture specific behavior changes. Another reason this could be the case is because the scale on the DECA that assessed for behavior problems consisted of only ten items, which is a fewer number of items, compared to previous studies. For example, Perry and colleagues' (2008) measure of behavior problems for preschool children consisted of 42 items and Raver and colleagues' (2009) assessment of externalizing and internalizing problems consisted of 28 items.

The majority of children (84%) exhibited several behavioral difficulties, not just one, which could span across multiple domains. Within the data, a child was reported to have a problem in a particular domain based on the number of problems recorded by the consultant. For example, if a child had two aggression problems and three developmental problems, the child would be recorded as mainly exhibiting developmental challenges. Therefore, given that the majority of the children in this sample exhibited numerous, complex problems, it is difficult to conclude that the type of problem the child was initially referred for does or does not predict overall behavioral outcomes.

It is interesting that main type of referral problem was not a significant predictor for behavior problems, but was for protective factors. Results indicated that initial difficulties in the developmental domain predicted more protective factors after CCEP. This result could be related to issues of measurement, as mentioned above. While the rating scale that measured behavior concerns assessed problematic behavior more broadly, the DECA measured protective factors more specifically. The protective factors scale was comprised of subscales including Attachment, Initiative, and Self-Control. Specific behaviors related to these were included on the developmental difficulties problem description key (except for Self-Control, which was included in the regulatory domain). Therefore, it could be the case that if a child with difficulties related to

these behaviors experienced improvement following services, parents were more likely to rate these behaviors as improved, which led to higher ratings of protective factors. If children were reported as having difficulties initiating play with other children, not seeking adult help, or as exhibiting attachment problems on the initial reason for referral form, and these difficulties decrease over time, then the ratings on the corresponding protective factor scales would be rated as high. For the protective factor behaviors assessed, the reason for referral form and the protective factor subscales on the DECA were more closely aligned.

Previous ECMHC research has reported specific reasons children were referred to their programs (e.g., aggression problems; Perry et al., 2008; Upshur et al., 2009) and others have reported broadly what types of behavior problems children presented with (e.g., externalizing problems; Raver et al., 2009). However, no studies have examined whether the type of referral problem was related to or predicted children's behavioral outcomes. The current study's investigation of this illustrates a good first step toward better understanding whether reasons for referral predict certain behavioral outcomes. Given the limited research in this area, further investigation of this is necessary, especially since studies have typically implemented ECMHC with children that are exhibiting externalizing problems, and little is known about outcomes for children with other types of behavior problems (e.g., Gilliam, 2007).

Predictors of Provider-Rated Child Behavior

None of the variables investigated were significant predictors for provider-rated behavior problems or protective factors, while parental distress, family SES, and main type of referral problem were found to be predictors for parent-rated behavior outcomes. It is not uncommon for parent and teacher ratings of child behavior to be inconsistent. A previous review by Achenbach, McConaughy, & Howell (1987) found modest agreement between raters, and a more recent

analysis conducted by De Los Reyes and Kazdin (2005) supported this claim. Recent studies examining rater agreement for preschool-age children have found small correlations (Gross, Fogg, Garvey & Julion, 2004) or no correlations (Kerr, Lunkenheimer, & Olson, 2007) between parent and teacher behavior ratings. Similar to Barry and colleagues' (2005) study that found parenting stress and parent-rated behavior problems to be related but parenting stress and teacher-rated behavior problems not related, it could be the case that ratings of child behavior may be influenced by maternal bias. Given that stress and behavior problems may exacerbate one another, parents may rate their children's behavior problems differently than providers. Additionally, inconsistent ratings between raters could also be the result of real differences in the child's behaviors across settings.

Conclusion

Although research on ECMHC has been on the rise and has shown to lead to positive outcomes for children, limited research has explored parenting factors that may indirectly influence treatment outcomes for children. Examining parent factors following ECMHC is important given that adults are viewed as the change agents in this type of intervention and may play a role in mediating children's behavior. The literature provides evidence for a strong relationship between parenting stress, negative parenting strategies, and behavior problems exhibited by young children. This study examined parenting stress as a mediating factor between an ECMHC program and children's behavioral outcomes to better understand the indirect influences that contribute to successful outcomes for children following ECMHC. Results of the current study indicated parent-child dysfunctional interactions mediated the relationship between CCEP and children's behavioral outcomes, including both behavior problems and protective factors. Results also found that parental distress and low SES were predictors of parent-rated, but

not provider-rated, behavior problems. Additionally, parental distress, parent-child dysfunctional interactions, and main type of referral problem were significant predictors of parent-rated protective factors.

Implications for Practice

High parenting stress levels have been associated with more behavior problems and fewer protective factors in children (e.g., Anthony et al., 2005; Barry et al., 2005). The current study further supports this link by illustrating that one type of parenting stress, parent-child dysfunctional interactions, mediates children's behavioral outcomes. Evidence suggests that parents' negative perception of their interactions with their child influences their behavior toward the child. Given this, it is important to target parent behavior in treatment. More specifically, assisting parents improve their own behavior and how they interact with their child. While many other factors have also been found to be associated with behavior problems (e.g., violent communities, low SES), parent-child interactions may be one factor that is more malleable and responsive to change in intervention services, when compared to other factors such as a the type of community one resides in or the amount of financial resources a family has available (Kazdin & Whitley, 2003).

The findings of the current study, as well as previous studies, have suggested parents' negative perceptions of the child and the child's behavior also mediate children's outcomes following treatment. Therefore, in addition to targeting parent-child interactions in intervention, it would be important to evaluate negative perceptions and help parents improve their perceptions of the child. Evaluating negative perceptions of the child may also serve as a preventative measure, given that this may be a precursor to negative interactions with the child.

Additionally, parenting stress literature has suggested that an educational component in treatment for children's behavior problems helps reduce stress experienced by parents. Education about child development, the nature of behavior problems, reasonable expectations for a young child, becoming more sensitive to a child's needs, may help reduce negative perceptions of the child and the child's behavior.

Research has demonstrated that specific types of parenting behaviors are associated with different types of behaviors exhibited by children. Negative parenting behaviors such as harsh discipline have been related to more stress experienced by parents, as well as elevated behavior problems in young children. Conversely, maternal sensitivity and responsiveness have been associated with less behavior problems. Evaluating these parenting behaviors directly would be ideal to help identify and prevent negative outcomes for children, however it may be impractical to conduct observations of parents and children interacting to determine this. Instead, assessing self-reported perceptions of the child and the interactions they have with their child, may be a feasible and effective way to determine whether a parent is at-risk for poor parenting practices given the strong links between negative parent-child interactions and less effective parenting practices. Examining this may help to target parents and enhance the likelihood of effectiveness when treating children with behavior problems.

Given the findings of the current study that found that mediating influence parent-child interactions have on children's behavioral outcomes, an important next step may be to improve awareness and sensitivity of this link to professionals working with children, particularly treatment providers. While it is normal for all parents to experience some level of parenting stress, elevated or stable levels of parenting stress is cause for concern. Only treating the child may not be as beneficial as treating the child in addition to providing supports to the parent.

Implications for Research

It is important to continue investigating the differences between parent-child dysfunctional interactions and parental distress. While both of these subscales have been found to be predictors of children's behavioral problems, only parent-child dysfunctional interactions were suggested to mediate children's behavioral outcomes. Future research could examine how these two types of stress are different and how each influences children's behavior.

In addition to the current study's findings, previous research has also suggested that these domains of parenting stress may be different, which may affect children differently and require different types of interventions. Improved understanding of these would help to effectively target the difficulties parents may be faced with. Intervention must accurately target and provide parents with skills and strategies that directly relate to the difficulties they are experiencing.

Given the limited number of ECMHC studies that have investigated the relation of parent factors and children's outcomes, it is important for future research to continue investigating parent-child dysfunctional interactions, as well as other factors that have been linked to children's behavior. It would also be worthwhile to investigate parent-child interactions when parents and children participate in a manualized evidence-based intervention. Studying this in a more structured treatment program would help to overcome the limitations found with the implementation of ECMHC, a more individualized approach to intervention.

Interventions targeted at increasing young children's prosocial skills and decreasing problematic behaviors have begun to incorporate parenting components to complement direct child intervention (e.g., Incredible Years; Webster-Stratton & Hammond, 1998). While interventions including parent components have been shown to be effective in helping parents learn and use positive parenting techniques, stress reduction components are not typically

included. One study that has included a stress reduction component implemented Mindfulness Training for children and their parents (van der Oord, Bogels, & Peijnenburg, 2012). Results found reductions in children's challenging behaviors consistent with ADHD and Oppositional Defiant Disorder as well as a decrease in parenting stress and overreactivity. The Mindfulness Parenting intervention was unique in that it taught parents to pay attention to the child and their own parenting behavior, decrease their non-judgmental thinking, increase awareness of the present moment with their child, decrease automatic negative thoughts, and reduce negative reactions to the child. Furthermore, the program taught parents meditation practices, strategies for how to take care of themselves, and ways to bring calmness to the self and their family. It could be beneficial to investigate effectiveness of this treatment program with preschool-age children and other types of programs that include a parenting stress management component. This is especially important given that some research has suggested that reducing parenting stress not only helps the parent and improves their well-being, but also because it has been found to improve the efficacy of treatments for children's behavioral problems (Kazdin, 1995).

Limitations

One limitation in this study worth mentioning was related to the ECMHC literature review. The ECMHC literature review mainly comprised of evaluation studies and few published studies in peer-reviewed journals. This is important to note and also has been noted in previous research syntheses of ECMHC literature (Brennan et al., 2008). Brennan and colleagues report that while some studies may not be published due to methodological weaknesses, others may be due to evaluators only being interested in communicating the results to their community, funders, and other stakeholders.

Given that the CCEP Program is not a manualized consultation approach and does not require a certain amount of hours or services for each family served, it is difficult to know which services were implemented and which were effective. One of the advantages of this type of consultation approach is its flexibility in service delivery to meet the needs of each individual family, however a disadvantage is not knowing which components are effective and which are not. While several variables were evaluated to determine whether CCEP services were implemented as intended for the participants included in the study, these variables were not definite, direct indicators of implementation fidelity. These limitations are consistent with other ECMHC studies in the literature (Gilliam, 2007; Perry et al., 2010).

The current study was unable to control for maturational effects. As with many studies that examine children developmentally across time, it is difficult to rule out maturational effects. Given that the CCEP group and the comparison group both improved over time, it is likely that children in both groups improved their behavior due to maturation. As children grow during the preschool period, research has suggested the core executive function components develop (Garon, Bryson, & Smith, 2008). This may include behavioral regulation, attention, impulse control, shifting, and memory. Children improving in these areas would likely demonstrate improvements in behaviors that parents or providers rated as problematic. It is important to ensure that treatment improves children's behavior beyond the natural maturational effects they are experiencing in order to best serve children and utilize resources effectively. Also, given the nature of the study design, a major limitation of the study was the lack of random assignment to the CCEP condition. Therefore, pretreatment differences among the groups may account for some of the differences found.

Another limitation of the current study to note is in regards to the sample. It is unknown whether parents and children who chose to participate in the CCEP program were different than parents and children that had similar behavior difficulties, and whether families in the comparison group who agreed to participate were different than families that chose not to. It is also unknown whether differences existed between parents that took initiative and chose to contact the researchers and those who may have been exposed to recruitment efforts, but chose not to. The CCEP program had the potential to impact participants in the treatment group through the services that it provided such as education, skill building, enhancement of parent-child interactions, and consultant support, therefore differentiating them from the comparison group, despite its limitations and lack of control for maturational effects.

Additionally, although the sample size in the current study was larger than sample sizes in previous ECMHC studies, a larger sample would have allowed for increased power. It is possible that additional relationships would have been significant. This is especially true for the moderated mediation and hierarchical regression analyses that utilized an even smaller sample size than the mediation analyses. Something else important to note is that the sample for the current study was taken from a larger sample in the CCEP Evaluation. The current study's sample was smaller due to exclusion criteria. Therefore, there could be differences between participants who completed the measures necessary to be included in the study and those who did not complete the measures.

As discussed in previous sections, there are various parental factors and behaviors that are linked to children's behavior, however the current study only examined parenting stress. Additional indirect influences may play a mediating or moderating role. It would be important to

examine these variables in the future as they relate to parenting stress and children's outcomes following ECMHC.

In the current study, only a self-report measure of parenting stress was utilized. Parenting stress is complex and while it is a distinct domain of stress, it is likely that other life stressors may impact parents' perceptions of stress. Additionally, it has been noted that parenting stress may overlap with personality characteristics, such as depressed mood and neuroticism (Deater-Deckard, 1998). Therefore, additional forms of data collection such as different measures and interview data from parents may increase the likelihood of capturing this type of stress.

Related to the parenting stress measure, it is important to mention that only two of the subscales on the PSI-SF were utilized. The current study used the Parental Distress and Parent-Child Dysfunctional Interaction subscales. While these two subscales are often the only two from the measure used in research (Whiteside-Mansell, 2007), the PSI-SF actually consists of three subscales that yield a total score, which may produce a more reliable and valid measure of parenting stress.

Another limitation related to data collection is that only one questionnaire assessing for behavior concerns and protective factors was used. The behavior concerns scale measured broad behavior problems for preschool children, therefore making it difficult to determine what types of challenging behaviors improved following ECMHC. Furthermore, the behavior concerns subscale comprised of fewer questions than the protective factor subscale. The majority of the children in the current study were preschool age, however some were younger. Given that the DECA forms for younger children did not include a behavior concerns scale, behavior problems could not be calculated for this age group. Future research should incorporate additional measures assessing for behavior problems and protective factors.

Another limitation is the extant data set approach taken in the current study. The data used was collected for purposes other than the current study. The reliability coefficients of the subscales included in the study could not be calculated, given that items were already combined into subscales and not included in the data set. Additionally, some variables included in the study were predetermined, such as low SES. The criteria were set forth by the researchers of the larger evaluation from which the current data was taken. Furthermore, while additional variables mentioned previously may have also been important to investigate in addition to the variables included in the current study, the use of an extant data set limited the choice of data used.

In regards to generalizability, the sample in the study would make it difficult to generalize these findings to young children participating in different ECMHC programs. CCEP services were only available to particular counties within the state of Michigan. Therefore, participation in this program was not available to everybody in the state. Those that resided in the counties that provided services and chose to participate may be different than those who resided in the counties and did not participate. Additionally, given that the researchers were evaluating the program and it was not required by all participants in the CCEP Program to consent to sending their data to the researchers, there could be a difference between those who provided consent and those that did not. It would be beneficial to further investigate parenting stress and children's outcomes following ECMHC programs by recruiting a larger number of participants from various geographic areas. Randomly recruiting more participants would help strengthen future investigations.

Future Directions

Theories such as the coercive parenting cycle illustrate how parenting behaviors and child behavior influences one another, however limited research has examined how parenting

behaviors impact or nurture protective factors. The results of this study suggest that not only does parenting stress mediate the relationship between ECMHC and behavior problems, but ECMHC and protective factors as well. Future research should further investigate this area to better understand parenting behaviors, specifically parenting stress, and its influence on protective factors. Does less stress allow for more positive interactions with their child, which reduces the likelihood for behavior problems? Or does it reduce behavior problems and allow for more opportunities for positive behaviors to occur?

Designing and carrying out high quality studies would be desirable to continue moving this research forward. Recruiting a larger sample would improve generalizability. Additionally, since many pre-post studies have been conducted in the ECMHC research, it makes sense to design studies where participants are randomly assigned to treatment and control conditions. Incorporating additional parenting behaviors as variables of interest are also important, given the strong link between parent and child behavior.

In regards to ECMHC, it would be important for future research to determine which consultation services and which method of delivery are most effective, particularly when working with parents. A consultant's overall goal is to build and improve adults' ability to work with young children exhibiting behavior problems. However, it has not been investigated whether certain consultation services are more effective for parents versus providers. It is assumed that all consultations services are equally effective for adults that have different roles within a child's life. While parallels between the two exist, no research has examined whether differences do exist. In addition to understanding what services are effective, examining what specifically influences parent-child interactions would help further the important findings of the current study.

Along the same lines, it would be important for future work to examine the consultantparent relationship. In the ECMHC literature, it has been suggested that the relationship a consultant has with consultees is one of the most important predictors of positive outcomes (Green et al., 2006), however only the consultant-teacher relationship has been investigated. What characteristics of the consultant, parent, and relationship between the two facilitate optimal outcomes for children and parents? What components of the relationship influence parent-child interactions? Understanding these differences would help prepare a consultant to develop a positive, collaborative relationship with a parent rather than a provider, and be better equipped to facilitate this unique relationship.

Another area that lacks understanding is implementation fidelity. An improved system of implementation fidelity would help to rule out whether services were implemented as intended and better understand which programs and services are effective or ineffective. Researchers have reported that an essential component of ECMHC programs are the implementation of fidelity structures, however little is known about how this is monitored and carried out (Duran et al., 2009).

Appendices

APPENDIX A Child Care Expulsion Prevention INTAKE FORM

(Child-Family Centered and/or Programmatic Consultation)

Date:_____

- O Child-Family Referral
- O Programmatic Referral
- O Combination Referral

CHILD CARE PROGRAM INFORMATION

Program	
Name:	City:
Street	
Address:	
P.O. Box:	State:
ZIP:	
Contact Person (Program):	Ph: ()
Email:	
Provider Type:OChild Care CenterOFamily HomeOGroup HomeORelativeCareOIn-Home Care	
Type of Program Total # children enrolled in the program at referral: Total # staff, including director, employed in program referral: Staff: child ratio in child's classroom at	n, at

referral_____

Accepts DHS child care subsidy?

- O Yes
- O No

Type of programmatic consultation requested (Use CCEP Programmatic Consultation Codes):

	CHILD-FA	CHILD-FAMILY INFORMATION			
Child's Last Name:		First:			
Middle:					
DOB:	Age:	# Hours/week in child			
care:					
Gender: () Male	O Female			
Parent 1/Guardian Nam	le:	Relationship to			
Child:					
Cell or Work Ph: (Home Ph: ()			
Parent1 /Guardian Ema	il:				
Street Address:					
City:					
P.O. Box:		State:			
ZIP:					
Parent 2/Guardian Nam	ie:	Relationship to			
Child:	_				
Cell or Work Ph: (Home Ph: ()			
Parent2/Guardian Emai	1:				
Street Address:					
City:					
P.O. Box:		State:			
ZIP:					
Relative Ph in case pare	ent/guardian canno	ot be contacted: (
Relative Email:		Relationship to			
relative:					
Street Address:					
City:					
P.O. Box:		State:			
ZIP:					

Living arrangements (check only one box):

- O Child lives with two biological parents
- O Child lives with two adoptive parents
- O Child primarily lives with one parent (mother) and same sex partner
- O Child primarily lives with one parent (father) and same sex partner
- O Parents are separated or divorced with joint physical custody: child shares time living with each parent in separate households)
- O Child primarily lives with biological mother and stepfather (or live-in boyfriend)
- O Child primarily lives with biological father and stepmother or live-in girlfriend
- O Child lives full-time with mother only
- O Child lives full-time with father only
- O Child lives full-time with other relative (specify relationship: _____)
- O Child lives with foster family
- O Other (specify):

Primary Language spoken at home:

Number in	househol	d, (includiı	ng participa	ant child) (check only	one in each	category):
# Adults (over 18 years)	1	2	3	4	5	6	7
# Children and youth (under 18 years)	1	2	3	4	5	6	7

Resident primary caregiver's (e.g. mother) highest educational attainment (check only one box):

O Not yet completed High School (HS)	O Associates Degree e.g. CDA
O High school Diploma /GED	O Bachelor's Degree e.g. B.A., B.S.
O Some college	O Advanced Degree e.g. MS, PhD., M.D.

Household income in past 12 months:

Child's Race (fill in up to three bubbles):	Child's Ethnicity (check only one
	O prefer not to answer
O \$35,000-\$54,999	O more than \$100,000
O between \$15,000 - \$34,999	O \$75,000- \$99,999
O less than \$15,000	O \$55,000 –\$ 74.999

Ο

0

Child's Race (fill in up to three bubbles): box):

- O White
- O African/Black
- O Amer. Indian/Alaskan Native
- O Asian
- O Native Hawaiian/Pacific Islander

Reason for Referral

Provider Intensity Parent Intensity

0

0

0

Hispanic or Latino

Not Hispanic or Latino

Other

Unknown

Refused

(Use CCEP Problem Description Key and add more rows as needed)

1	
2.	
2	
3	
4.	

 5._____

 6._____

Previous Expulsions:_____

Reasons:

Referred By:

- O Parent
- O Child Care Provider
- O Community Agency
- O Other (specify):____

Health Insurance:

Yes	No	
0	0	Does the family receive a DHS child care subsidy?
0	0	Are there other family members being seen at CMH?
Is the family	involve	d in any of the following MI programs? :
0	0	Family Independence Program
0	0	Food Assistance Program (Food Stamps)
0	0	Medical Assistance (Medicaid)
0	0	Family to Family Health Information and Education Center
0	0	Early On (i.e., early intervention services for children 0-3 years (with disabilities)
0	0	Strong Families/Safe Children (i.e., state program on child safety (and improving families)
0	0	Other, please specify

APPENDIX B Child Care Expulsion Prevention PROBLEM DESCRIPTION KEY

On the CCEP Intake Form in the "Reason for Referral" box, please:

- 1. Identify the problem category, using the first letter of the category topic (e.g., aggression would be "A").
- 2. Identify the number of the associated behavior in that category.
- 3. Rate the intensity level of the behavior from 1 to 5 (1=mild and 5=extreme).

For example, if a child was exhibiting regulatory issues in the form of toileting problems with an intensity level of extreme, you would designate it as: R.3-5.

AGGRESSION (A)	DEVELOPMENTAL (D)
 Biting Hair pulling Head butting Property destruction Hitting Spitting System System Bullying Verbal aggression Kicking Scratching Other 	 Clingy Cognitive delay Problem focusing Disruptive Doesn't listen to care provider/parent Trouble accepting "no" Cries for parent/guardian Trouble with sharing Withdrawn High activity level Impulsive Play problems (initiating, maintaining) Does not seek adult help/resource Attachment problems Poor social skills
REGULATORY (R)	PHYSICAL (P)
 Can't adjust to change in routine Doesn't sleep or rest as needed Toileting problems Feeding difficulties/eating Tantrums Controlling Running away Unable to self-regulate (easily frustrated, screaming) Gaze aversion/lack of eye contact Demanding Irritable Other 	 Hearing/language (may appear to not understand) Problems focusing (vision) Gross motor difficulties (bumps into things, unusual gait, etc.) Fine motor difficulties (can't use scissors, fork, etc.) Chronic ear infections Elevated lead level Other

SENSORY INTEGRATION (SI)	EXTERNALIZED BEHAVIOR-NOS (EB)
 Perseveration Repetitive speech/echoing Sensitivity to noise, touch, personal space, etc. Under-responsive to stimuli Excessive touching of others/objects Twirling/spinning Easily distracted Other 	 Seductive/sexual acting out Fearful Risky behavior Doesn't like to come to child care Bizarre behaviors (unusual body movements, obsessive-compulsive behaviors, makes strange noises, hears voices) Self-mutilation Depressed/sad affect Oppositional/defiant Other

APPENDIX C

Based on the child's age, ask the following questions of the parent. If the parent reports the child has demonstrated two or more behaviors from the list below, the parent is eligible to participate in the study.

All children exhibit the behaviors I am going to read from time to time but which of the following behaviors has your child shown CONSISTENTLY in the past month?

INFANT	TODDLER	PRESCHOOLER
(birth to 12 months)	(12 – 36 months)	(3 – 5 years)
1. Resists Holding	1. Shows little preference for	1. Is very clingy
2. Rarely makes eye contact	any particular adult	2. Does not turn to familiar
with others	2. Shows no fear of strangers;	adults for comfort or help
3. Doesn't smile; often	goes with strangers easily	3. Rarely makes eye contact
appears sad	3. Is very clingy	with others
4. Appears fearful or tense	4. Does not turn to familiar	4. Seems very irritable or very
5. Has strong reactions to	adults for comfort or help	fearful
environmental stimuli (light,	5. Rarely makes eye contact	5. Has frequent night terrors
sound, touch, movement)	with others	6. Seems sad or withdrawn
6. Rarely coos, babbles, or	6. Seems very irritable or very	7. Is unable to comfort or calm
vocalizes; no babbling or	fearful	self
pointing or other gesture by	7. Has frequent night terrors	8. Has strong reactions to
12 months	8. Seems sad or withdrawn	environmental stimuli (light,
	9. Is unable to comfort or	sound, touch)
	calm self	9. Shows aggressive behaviors
	10. Does not engage in play	(e.g., biting, hitting, kicking)
	with peers	10. Has difficulty participating
	11. Has strong reactions to	in group activities
	environmental stimuli (light,	11. Consistently prefers to play
	sound, touch)	alone
		12. Seems to lack empathy
		toward others
		13. Hurts self, other people, or
		animals
APPENDIX D Child Care Expulsion Prevention CHILD-FAMILY CENTERED CONSULTATION CODES

A. REFERRAL	B. POSITIVE GUIDANCE
 Early Care and Ed Early Head Start Head Start Michigan School Readiness Program Other child care or education setting 	 Intake Observation Child care Home – parent and child Other
 Early Intervention and Special Ed. ISD/RESA – Early On ISD/RESA – Special Ed Local schools – EC Dev Delay Program (formerly PPI) Other 	 3. Child Assessment Time 1: 1. Questionnaires – provider 2. Questionnaires parent 3. Other (specify)
 3. Children's Mental Health Services Assessment Home-based services Infant mental health Wraparound Child case management Play therapy Family therapy Specialty services (e.g., Children's 	 Time 2: 1. Questionnaires – provider 2. Questionnaires – parent 3. Other (specify) 4. Positive Guidance Action Plan Development 5. Positive Guidance Plan Implementation
9. Other	 Informal training – parent Informal training – provider Coaching – parent
 4. Adult Mental Health and Substance Abuse Services Assessment Individual Counseling 	 4. Coaching – provider 5. Follow-up DECA – preschooler 6. Follow-up DECA – infant-toddler 7. Other follow-up assessment (specify) 8. Team programs provider/(available)
 Other Community Services and Supports Child Care Resource & Referral (4C) Michigan State University Extension Primary health care provider/pediatrician Developmental pediatrician Neurologist Public Health (e.g., lead or fetal	6. Conclusion of Services

7. Occupational therapist	
8. Physical therapist	
9. Speech/language therapist	
10. DHS (e.g., cash assistance, child care	
subsidy, etc.)	
11. Domestic violence program	
12. Parent education and support services	
(e.g., divorce group)	
13. Infant massage	
14. National and state	
associations/resource centers	
15. Other	
C. RESOURCES	D. WRITTEN REPORTS FOR:
1. Toys for parents	1. Parent
2. Articles for parents	2. Child care
3. Books for parents	3. Psychologist
4. Toys for child care	4. Domestic Violence Program
5. Articles for child care	5. Medical Provider
6. Books for child care	6. Early On
7. Other-child care	7. Head Start
8. Other-parents	8. Other

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