

A Promising Parenting Intervention in Foster Care

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The purpose of this study was to evaluate the effectiveness of a 2-component intervention for biological and foster parent (pairs) to improve parenting practices, co-parenting, and child externalizing problems. Participants were biological and foster parents ($N = 128$) of primarily neglected children (ages 3 to 10 years) placed in regular foster homes. Biological and foster parents were randomly assigned in pairs to the intervention ($n = 80$) or a usual care ($n = 48$) condition. Intervention families received a 12-week parenting course (Incredible Years) and a newly developed co-parenting component. Key findings included significant gains in positive parenting and collaborative co-parenting for both biological and foster parents at the end of the intervention. At follow-up, intervention parents sustained greater improvement in positive parenting, showed gains in clear expectations, and reported a trend for fewer child externalizing problems. Findings supported the feasibility of offering joint parenting training to meet the needs of participating families and demonstrated that the co-parenting construct applied to families in the foster care system was amenable to intervention.

Keywords: foster care, intervention, discipline practices, co-parenting, externalizing problems

In 2002, despite recent efforts to curtail the number of children placed in out-of-home care, there were 532,000 children in foster care in the United States (U.S. Department of Health and Human Services, 2004). There is a growing literature demonstrating the extensive mental health problems of foster children, particularly their high risk for externalizing and conduct difficulties, including noncompliance, aggressiveness, and emotional lability. For example, according to the most comprehensive study of children in the child welfare system to date (National Survey of Child & Adolescent Well-Being Research Group, 2002 47%), of foster children between the ages of 2 and 15 show elevated (T score of 64) rates of externalizing problems in the CBCL (Child Behavior Checklist; Leslie, Hurlburt, Landsverk, Barth, & Slymen, 2004). In a study of 426 children (ages 6 to 17) involved in the child welfare system in California, 42% had a psychiatric disorder, mostly attention-deficit/hyperactivity disorder and/or disruptive behavior (Patterns of Care; Garland et al., 2001). Children with externalizing disorders are at high risk for long-term adverse consequences such as high rates of violent behavior (Mason et al., 2004), delinquency (Haapasalo & Tremblay, 1994), marked educational underachievement (Ackerman, Brown, & Izard, 2004), and comorbid disorders such as substance abuse (Molina & Pelham, 2003; Sung, Erkanli, An-

gold, & Costello, 2004) and conduct disorders (Loeber, Green, Lahey, & Kalb, 2000). Early behavior problems among children placed in foster care have predicted delinquency, substance use, and sexual behavior 6 years later (Tauszig, 2002).

Parenting Training to Reduce Child Externalizing Problems

It has long been known that problematic children have an impact on their parents' behavior in reciprocal ways; children with externalizing problems (i.e., noncompliance, oppositional behavior, aggressiveness) elicit less positive and more negative discipline practices (Forehand, Miller, Dutra, & Chance, 1997). Negative mother-child interactions escalate into coercive cycles that deteriorate over time unless they are altered through effective parenting training (Patterson, DeBaryshe, & Ramsey, 1989). Over the past 2 decades, research has demonstrated that parent training based on social learning principles is one of the most successful interventions in the treatment and prevention of child externalizing problems (e.g., aggression, noncompliance; Horwitz, 1994). The Incredible Years Program (IY; Webster-Stratton, 2001), an evidence-based (EB) parent course for young children (3 to 10 years of age) at risk or exhibiting conduct disorders, was developed to promote effective parental discipline and praise, and reduce spanking, critical statements, and other negative discipline practices. IY has been successfully tested among clinical (Webster-Stratton & Hammond, 1997) and community samples (Webster-Stratton, 1998); and it has been replicated independently in one clinic (Scott, Spender, Doolan, Jacobs, & Aspland, 2001) and two urban communities (Gross, Fogg, Webster-Stratton, Garvey, Julion, & Grady, 2003; Miller Brotman, Klein, Kamboukos, Brown, Coard, & Sosinsky, 2003). Long-term effects have been demonstrated for at least 1 year posttraining (Gross et al., 2003; Tucker, Gross, Fogg, Delaney, & Lapporte, 1998).

Positive intervention effects following IY implementation have been reported across low-income families of various ethnic mi-

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nority backgrounds (e.g., Reid, Webster-Stratton & Beauchaine, 2002). However, others have shown differences within ethnic minority subgroups. For example, Gross and colleagues (2003) found that regardless of ethnic background, parents of toddlers residing in a Chicago housing community had benefited from participation in IY; however, Latino parents who attended IY reported using less coercive discipline and more positive parenting than did non-Latino (57% African American) parents. These findings highlight the importance of considering ethnic minority status, particularly Latino versus African American, as a potential moderator of intervention effectiveness.

Parenting Training in Foster Care

Under current child protective practices, parenting training for biological parents is mandated to remediate inadequate parenting skills before family reunification occurs. It is routinely offered to biological parents with a history of child neglect and/or abuse as a sole treatment or core component of a multicomponent service (Kähkönen, 1999). Despite its popularity as a family reunification prerequisite and considerable public resources devoted to training efforts, there are only a few rigorous evaluations of parenting training effectiveness in foster care settings (Dozier, Albus, Fisher, & Sepulveda, 2002). Recent field trials of efficacious EB treatment for families of maltreated children (including parent training), such as Parent–Child Interaction Therapy, MultiSystemic Therapy, Family Connections, and SafeCare have been primarily tested with biological parents of children at home (Corcoran, 2000; Chaffin & Friedrich, 2004), seldom reaching biological parents of children placed in foster homes.

Rigorous evaluations of parenting training for foster parents are also minimal and have shown limited impact (Burry, 1999; Minnis, Pelosi, Knapp, & Dunn, 2000; Puddy & Jackson, 2003). For example, Puddy and Jackson (2003) examined the most widely used preparation program for new foster parents, the Model Approach to Partnerships in Parenting—Group Preparation and Selection of Foster and/or Adoptive Families (MAP–GPS). Foster parents who received the MAP–GPS training improved in only 2 of the 12 parenting areas, namely communication and use of punishment, compared with untrained foster parents.

Two efficacious interventions for foster parents in therapeutic homes are the Multidimensional Treatment Foster Care Program (Chamberlain & Reid, 1998), which resulted in lower youth criminal rates among troubled adolescents as compared to a group care condition, and the Early Intervention Foster Care Program (Fisher, Gunnar, Chamberlain, & Reid, 2000), which found more positive parenting strategies and improved preschooler externalizing problems as compared to control children placed in regular foster homes. Their success supports the need to expand EB programs to foster parents of children in regular foster homes.

The Need to Adapt an Efficacious Program

Recognizing the need to improve child well-being in foster care (Sinclair & Wilson, 2003), we addressed the EB dissemination gap by adapting and implementing a previously efficacious parent training program (IY) for children with the permanency goal of returning home. The current study considers issues of adaptation, implementation, and adoption. Efforts to transport EB parenting

programs into foster care face multiple challenges endemic to large public sectors, such as training and retaining qualified staff, maintaining adherence to program curriculum, and responding to the characteristics of the setting (Fox, Gottfredson, Kumpfer, & Beatty, 2004). In addition to overcoming these programmatic and logistic challenges, the implementation must be responsive to the specific characteristics and structure of the target families. A child placed in a foster home has a new “reconstituted” family, consisting of a visiting biological parent (who is planning for reunification) and a foster parent (who temporarily attends to the child’s daily physical and emotional needs). Current service fragmentation in parenting training (one track for each parent) tends to keep biological and foster parents apart, hampering their ability and that of their caseworker to communicate directly, acknowledge differences, and provide support as they exercise their complementary parental roles. This intervention attempted to enhance service integration by adopting a joint training format (biological and foster parent pairs) to meet the special composition of families with children in foster placement.

Co-Parenting Between Biological and Foster Parent

The need to create a more collaborative parenting relationship between biological and foster parents is particularly crucial in a social ecology traditionally characterized as child-focused, adversarial to biological families, hierarchical, and fragmented in its organizational structure (Colapinto, 1995; Minuchin, Colapinto, & Minuchin, 1998). This need was addressed by implementing a two-component parenting and co-parenting intervention. As an alternative to separate parenting training, a biological–foster joint format may be more likely to succeed, cost-effective, and sensitive to the child’s needs by helping to provide a “united parent front” in the midst of family dislocation and instability. To date, for a variety of reasons including diverging parental agendas or assuring safety of the foster parent, joint approaches to parenting training have not been systematically implemented or empirically tested.

Co-parenting, which refers to the extent to which parents function as partners or adversaries in their parental roles, has been found to reduce child externalizing problems among divorced (Cowan & McHale, 1996) and intact (McConnell & Kerig, 2002; Schoppe, Mangelsdorf, & Frosh, 2001) families. Drawing from the empirical linkage between collaborative co-parenting in adult couples and fewer behavior problems in their children, the co-parenting component in this intervention was developed on the assumption that a child’s emotional adjustment to foster care is facilitated when their caregivers acknowledge their unequal parental roles, communicate directly, and negotiate their interpersonal conflict. The content and methodology developed for this component was informed by principles (i.e., parental alliance, boundaries, triangulation) of structural family systems therapy (Minuchin & Fishman, 1981), previously used to reduce behavior problems among high-risk ethnic minority youth and their nuclear families (Szapocznik et al., 1989).

Goals of the Study

The main goal of this initial prevention trial for children at high risk for externalizing problems was to evaluate a two-component psychosocial intervention to promote positive parenting (The IY

Program) and collaborative co-parenting practices among biological and foster parents compared with a standard usual care condition. Because of the increased availability of services given to all families following placement, the two-component program was designed to augment current treatment services already offered to families. The proximal outcomes are positive discipline practices and collaborative co-parenting, whereas the distal goal is the reduction of child externalizing problems over time. The intervention model is depicted in Figure 1.

We hypothesized that intervention and comparison families would improve over time in the target domains (parenting, co-parenting, and child externalizing problems) but that parents and their children in the intervention would show more improvement. In addition, we explored the impact of intervention dosage (completers vs. noncompleters) as a mediator of effectiveness, and parent ethnic status (Latino vs. African American/Other) and initial child conduct problems (high- vs. low-risk) as moderators of change.

Method

Overall Design

All participants were systematically recruited from monthly census reports at one child welfare agency in New York City. Biological and foster parent pairs were assessed and then randomly assigned to an intervention ($n = 80$ individuals) or to a usual care comparison condition ($n = 48$ individuals). The 60 to 40 assignment ratio was imposed to be responsive to the clinical needs of the sample and also to guard against intervention attrition. Biological and foster parents received three assessments: one at baseline (before intervention), one at the end of the intervention (3 months after baseline), and one at follow-up (3 months after the end of the intervention). The two-component intervention consisted of a 2-hr IY parenting course and a 1-hr co-parenting program offered to biological and foster parent pairs on 2 separate week days for 12 consecutive weeks. Parents (biological and foster) in the intervention received similar community services as parents in the usual care comparison condition. The key outcome measures included self-reports of parenting practices, co-parenting, and child externalizing problems.

Selection Process

At the time of enrollment, biological and foster parents were eligible to participate if the foster child met the following study criteria.

Substantiated history of child maltreatment. Based on 75% (48/64) of official classifications available in CPS records, 83% of the children were neglected (failure to exercise a minimum degree of care not resulting from financial circumstances, improper supervision or guardianship, abandon-

ment, or emotional neglect), 6% were physically abused (serious physical injury inflicted by other than accidental means), and 11% were undetermined. The Maltreatment Classification System (MCS; Barnett & Manly, 1993) was used to code for seven types of child maltreatment on the basis of available narratives contained in the official CPS record (records were unavailable for 6 children). Neglect types were lack of supervision (29%), failure to protect (exposure to domestic violence; 26%), failure to provide (19%), emotional (10%), and moral/legal/educational (7%). Abuse types were physical (12%) and sexual (7%).¹

Residence in a nonkinship foster home (FH). Nonkinship FH was defined as a family type home where the daily care of a foster child is provided by a certified nonrelative foster parent(s) who is/are supervised by a caseworker employed by an authorized agency.

Goal of family reunification. Only children with the CPS official goal of family reunification and whose biological parent resided at a known address in the metropolitan area were eligible to participate. Following a "shared parenting" model in the locality where the study took place, biological parents were expected to visit in person or talk to their children on the phone regularly, go to teacher conferences, attend medical visits, plan special celebrations, and engage in other childrearing activities.

We excluded children with documented developmental disabilities (e.g., autism) or an official report of sexual abuse because they require specialized interventions (Deblinger, Steer, & Lippmann, 1999). We retained, however, 4 children whose sexual abuse was uncovered after enrollment. We also excluded biological or foster parents with a known mental handicap and those who did not speak English or Spanish.

From the systematic review of the monthly agency census during 2002–2004, we selected 152 potentially eligible children (Level 1) and subsequently conducted interviews with caseworkers and biological and foster parents to assess study criteria (Level 2). On the basis of this two-level screening procedure (see Figure 2), we excluded 48% (73/152) of the children who did not meet study criteria and 10% (15/152) who refused. From those eligible, we enrolled 81% (64/79) parent pairs. Enrollment did not differ by parent (biological vs. foster) or condition (intervention vs. usual care).

Description of the Sample

The sample consisted of 128 parents (64 biological and foster pairs) of maltreated children placed in short-term foster care; parents were mostly mothers, except for 7 (11%) biological fathers and 1 (2%) foster father. They were primarily Latino (57%) and African American (33%); approximately 50% were foreign born, had less than a high school diploma, and were never married. Approximately one third worked outside the home.

Children were between the ages of 3 and 10 years ($M = 6.2$; $SD = 2.3$) and were placed in regular foster homes for an average of 8.4 months at baseline. Prior to placement, most children resided in apartment buildings in inner city neighborhoods. There were fewer neglected (71%) and more abused (29%) children in the intervention than in the usual care condition (100% and 0%, respectively), $\chi^2(58) = 7.14$, $p < .011$.

Description of the Intervention

Intervention structure. The two-component (parenting and co-parenting) 12-week intervention was offered at the agency by a trained bilingual (English/Spanish) team from the agency mental health unit. The team (parent leaders) delivered the group intervention in pairs. Simultaneous translation to Spanish-speaking families was offered by one of the parent leaders. Each parent leader was assigned a similar number of individual families for the co-parenting sessions. To enhance continuity of care, the same leaders delivered both intervention components (parenting

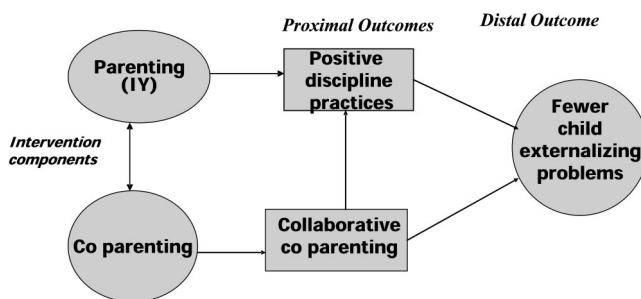


Figure 1. Foster care prevention model.

¹ Percentages do not add to 100% because of multiple codes.

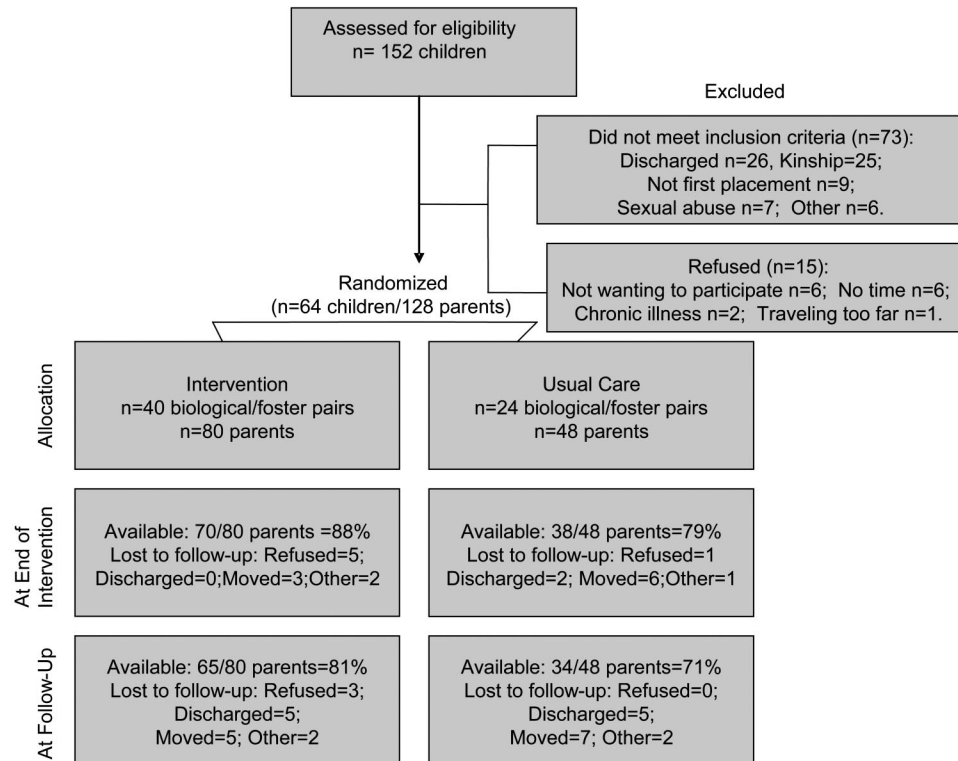


Figure 2. Study flow chart.

and co-parenting). The parenting component was offered to groups of 4 to 7 parent pairs for 2-hr sessions by using the manualized Parents and Children Basic Series Program (IY; Webster-Stratton, 2001), which comprises four programs: play, praise and rewards, effective limit setting, and handling misbehavior. Strategies included videotaped vignettes, role plays, and homework. Written adaptations were made to address placement issues (i.e., safety, attachment). Biological and foster parents, their children, and leaders had a hot meal after each parenting session.

The co-parenting component was offered to individual families (biological and foster parent pair and target child) in a separate session by using a newly developed curriculum (available from L. Oriana Linares). During this session, parent pairs had the opportunity to expand their knowledge of each other and their child, practice open communication, and negotiate interparental conflict regarding topics such as family visitation, dressing and grooming, family routines, and discipline. Family systems strategies included joining, didactic lesson, reenactment, and restructuring.

Training and consultation. Parent leaders received a 3-day initial training from the IY staff and from a family therapy trainer from the Center for Family Studies, University of Miami. In addition, the principal investigator (PI; L. Oriana Linares) and the agency staff spent additional time reviewing and practicing the sessions for a total of 70 training hours prior to the beginning of the intervention. On-site weekly peer supervision was provided by the PI and a local family therapy consultant. A full-time coordinator (Daniela Montalto) provided implementation support throughout the trial.

Adherence to protocol. All groups were taped to monitor program adherence and coded under IY guidelines for *format* (homework, barriers), *content* (principles, techniques), and *group process* (collaborative approach). Eight of the 72 taped sessions were randomly selected and coded by using a 5-point Likert-type scale ranging from 1 (*not well*) to 5 (*extremely well*) by two trained raters who reached 80% interrater agreement. Adequate adherence was operationalized as a mean global rating of

≥ 3 , which was obtained for 50% of the independently coded sessions. Self-evaluation by parent leaders on format and content of weekly sessions resulted in 100% manual adherence.

Consumer satisfaction. A consumer satisfaction questionnaire was administered weekly and at the end of the intervention assessing biological and foster parent satisfaction with the IY session format, content, and group process. Ratings ranged from 1 (*low*) to 5 (*high*). At the end of the intervention, biological and foster parents reported being very satisfied: global rating = 4.4, format = 4.3, content = 4.1, and group process = 4.0.

Description of the Usual Care Condition

The intervention was evaluated against an existing standard *usual care condition*, defined as services offered to the families in the absence of this intervention by the agency or other local facilities (e.g., drug treatment, mental health, etc.). To guard against contamination, parent leaders were asked not to use learned techniques in their clinical work with participants outside of the intervention. Over the course of the study, services utilization for biological parent, foster parent, and child was tracked across study conditions (intervention vs. usual care), via a self-report checklist developed for this project (for parent) and a standard instrument (for child).

Procedure

Biological and foster parents signed a written informed consent approved by the New York University Institutional Review Board and local and state CPS bodies. The project was implemented by two separate teams (intervention and assessment), so that those assessing study outcomes were blind to group assignment. Each biological and foster parent was compensated \$25 per assessment; they were not compensated for attending the intervention. At their preference, biological parents were interviewed in their home or at the agency. Foster parents were interviewed in their

homes, and ratings of the quality of the foster home were gathered by an independent observer. All instruments were translated into Spanish and back-translated; 34% of the interviews were conducted in Spanish.

Measures

All measures were administered to both (biological and foster) parents except for the Home Observation for Measurement of the Environment and the Social Skills Rating System (Gresham & Elliot, 1990; this measure was not included here), which were gathered from the foster parent only. Ratings of child externalizing problems in the classroom were collected from the teacher.

The Parenting Practices Interview (PPI; Webster-Stratton, 1998) is a self-report instrument used to assess discipline attitudes, beliefs, and practices based on the Oregon Social Learning Center's Parenting Discipline Questionnaire (LIFT). Minor word adaptations (i.e., *as far as you know; in an average visit*) were made in order to increase relevance for biological parents. We used scale item means for four discipline scales: (a) *Positive Discipline* (15 items) included items such as praising, giving a hug, buying something, or giving a reward. Cronbach's alpha coefficients were .75 and .68 for biological and foster parents, respectively; (b) *Appropriate Discipline* (16 items) included items such as having the child correct the problem, using time-out, removing privileges, giving extra chores, or discussing the problem. Cronbach's alpha coefficients were .85 and .78 for biological and foster parents, respectively; (c) *Clear Expectations* (3 items) regarding chores, conduct, and family routines. Cronbach's alpha coefficients were .40 and .65 for biological and foster parents, respectively; and (d) *Harsh Discipline* (15 items) included items such as yelling, threatening to punish, showing anger yelling, or spanking. Cronbach's alpha coefficients were .83 and .77 for biological and foster parents, respectively.

We assessed the co-parenting relationship using 5 items from the Family Functioning Style Scale (FFSS; Dunst, Trivette, & Deal, 1988 (6, items from the Family Adaptability and Cohesion Scale (FACES III—couple version; Olson, 1986), and 2 newly developed items: *flexibility* (e.g., when problems arise we compromise), *mutual social support* (e.g., we support each other's discipline), and *problem solving* (e.g., we talk about how to deal with a problem). Biological and foster parents rated each item on a 5-point scale ranging from 1 (*not at all like us*) to 5 (*almost always like us*). On the basis of factor analytical procedures, items were summed into a total composite score. Cronbach's alpha coefficients for total score were .91 and .86 for biological and foster parents, respectively.

The Child Behavior Checklist (CBCL; Achenbach, 1991, 1992) for ages 2–3 and 4–8 was used to gather an externalizing *T* score. At baseline, 37% of biological parents and 57% of foster parents reported externalizing *T* scores ≥ 60 .

The Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999) assesses externalizing and conduct problems and yields an ECBI total *T* score. Alpha coefficients for the ECBI total *T* score were .93 and .94 for biological and foster parents, respectively. At baseline, 21% of biological parents and 31% of foster parents reported ECBI total *T* scores ≥ 60 .

The Sutter–Eyberg Student Behavior Inventory—Revised (SESBI–R; Eyberg & Pincus, 1999) is a measure of disruptive classroom behaviors and yields a SESBI–R total *T* score. Alpha coefficient for the SESBI–R total *T* score was .98. At baseline, 31% of teachers reported SESBI–R total *T* scores ≥ 60 .

The Home Observation for Measurement of the Environment (HOME; Caldwell & Bradley, 1984) was used to assess positive parenting in the foster home during a 20-min period, in which foster parents were asked to introduce and discuss the routines of the day with the child. The 12 observational items of the HOME included whether the foster parent attended to, conversed with, answered, praised, caressed, or did not scold the child. Interviewers, who were uninformed of study condition, were trained to criterion to observe dyadic interactions. A second rater independently rated 11% (7/62) of the interactions reaching 89% interrater agree-

ment across visits. At baseline, the correlation between HOME positive parenting and self-reports of PPI positive parenting ($r = .31, p < .01$) suggested convergent validity of the PPI. The HOME was not used as an outcome measure because it was only administered to one parent (foster).

Attendance to intervention was defined as the number of parenting and co-parenting sessions each parent attended over the course of the intervention.

Service utilization was assessed by biological and foster parents' self-report on a measure created specifically for this study that asked whether (*yes–no*) the parent had attended or was currently attending another parent education course (not IY) and whether they received psychotropic medication, psychological therapy (individual, family or group), or drug rehabilitation services. In addition, a modified version of the Brief Services Assessment for Children and Adolescents (Horwitz, 1994; Horwitz et al., 2001) was administered to each parent to assess whether or not the child was receiving psychotropic medication, psychological services or evaluation, or special education services.

Data Analyses

We conducted preliminary analyses to assess baseline differences between biological and foster parent psychosocial characteristics (i.e., age, ethnicity, country of origin, education, employment status, marital status, and parental distress) and to assess baseline differences across study condition (intervention vs. usual care). Following the intent to treat methodology, the primary analyses included all randomized participants whose outcome scores (discipline practices, co-parenting, child externalizing problems) were subjected to general linear model analyses of covariance (ANCOVAs) at two endpoints: at the end of the intervention and at follow-up. Baseline scores for each dependent measure were used as the covariate in these analyses. In these primary analyses, we examined intervention main effects (parent groups combined) and interaction effects (Parent \times Study Condition).

In addition, we conducted secondary analyses to examine mediators or moderators of change by using separate ANCOVAs for each dependent variable: the effects of dosage (0 = noncompleters, 1 = completers) among those randomized to the intervention, the moderating intervention effects of ethnic status (1 = Latino, 2 = African American/Other), and the initial level of child conduct problems (0 = ECBI total *T* score < 60 = ECBI total *T* score ≥ 60).

Results

Preliminary Analyses

Baseline comparisons in psychosocial characteristics by parent. To check on the study design's internal validity, baseline data were analyzed for parent differences in psychosocial characteristics (see Table 1). Biological and foster parents were similar in regard to ethnic minority status, education, employment status, and involvement with a partner. Compared with foster parents, biological parents were more likely to be younger, $t(63) = -10.24, p < .000$; born in the United States, $\chi^2(3, 127) = 9.1, p = .03$; never married, $\chi^2(2, 128) = 24.7, p < .000$; and to report higher levels of parental distress, $t(60) = 7.74, p < .001$ (Brief Symptom Inventory; Derogatis, 1993).

Baseline comparisons in study outcomes by parent (see Table 2). Biological parents reported higher scores on appropriate discipline, $t(56) = 3.02, p < .01$, harsh discipline, $t(56) = 3.60, p < .001$, and mutual social support, $t(55) = 2.80, p < .01$, as compared with foster parents. These parental differences in baseline study outcomes were controlled in the primary analyses by using

Table 1
Baseline Comparisons in Psychosocial Characteristics by Parent

Characteristic	Biological parent (<i>n</i> = 63)			Foster parent (<i>n</i> = 63)			<i>p</i>
	<i>M</i>	<i>SD</i>	%	<i>M</i>	<i>SD</i>	%	
Parental age	32.10	7.70		46.2	9.1		.00 ^a
Ethnicity							.12 ^b
Latino			53			61	
African American			31			34	
Other			16			5	
Country of birth							.03 ^b
United States			63			42	
Latin America			32			56	
Caribbean			2			2	
Other			3			0	
Years of school completed	10.60	2.70		10.80	3.30		.64 ^a
Currently employed			27			43	.06 ^b
Marital status							.00 ^b
Never married			67			23	
Married			11			27	
Ever married			22			50	
Currently with a partner			47			42	.64 ^b
BSI parental distress	54.70	40.70		13.5	12.3		.00 ^a

Note. BSI = Brief Symptom Inventory.

^a Paired-samples *t* test. Sample size ranged from 61 to 63 pairs. ^b Chi-square.

parent initial scores as a covariate and by running intervention comparisons by parent in the secondary analyses.

Baseline comparisons in service utilization by parent. At the outset of the trial, 38% of biological parents had already attended a parenting course (26% of the intervention, 57% of the usual care [*p* = .06]). Following their family court timeline plans, by the end of the trial, an additional 18% of biological parents in the usual

care condition were referred to the agency or a community parenting program.

At baseline, 35% of the biological parents reported use of parental psychotropic medication, 33% individual therapy, and 25% drug rehabilitation, whereas less than 5% of foster parents reported use of the above services. On average, 14% of the biological and foster parents reported use of child psychotropic

Table 2
Baseline Comparisons in Study Outcomes by Parent

Baseline	Biological parent (<i>n</i> = 61)		Foster parent (<i>n</i> = 61) ^a		ICC ^b	<i>p</i> ^c
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Parenting Practices Interview						
Positive discipline	4.80	0.85	4.60	0.76	.15	.13
Appropriate discipline	4.90	1.10	4.40	0.88	.03	.01
Clear expectations	5.80	0.94	6.10	0.77	.24	.06
Harsh discipline	2.20	0.82	1.80	0.57	.00	.00
Co-parenting						
Flexibility	11.50	5.30	11.40	4.00	.17	.90
Mutual social support	15.70	7.10	12.70	6.20	.20	.01
Problem solving	8.2	3.9	7.60	3.60	.39	.25
Total	35.80	15.20	31.80	12.60	.26	.09
Child externalizing problems						
CBCL Externalizing <i>t</i> score	57.10	14.50	59.30	11.00	.25	.32
ECBI total <i>t</i> score (parent)	49.90	10.70	53.50	12.00	.24	.07
SESBI-R total <i>t</i> score (teacher: <i>M</i> = 54.70, <i>SD</i> = 11.40)					.20	

Note. ICC = intraclass correlation; CBCL = Child Behavior Checklist; ECBI = Eyberg Child Behavior Inventory, SESBI-R = Sutter-Eyberg Behavior Inventory—Revised.

^a Data from 2 foster parents (one of each condition) were missing. ^b ICC was computed from ratings of biological and foster parent except for teacher ICC, which was the difference of the teacher rating from the average rating of the biological and foster parent. ^c Paired-samples *t* test. Sample size ranged from 56 to 61 pairs.

medication, and 11% of the biological foster parents reported special education placement. There were no significant differences at baseline or over the course of the study in service utilization by study condition; thus, service utilization was not used as a covariate in the primary analyses.

Baseline comparisons by study condition. No statistically significant differences at baseline by study condition were found for psychosocial characteristics and study outcomes (parenting practices, co-parenting, and child externalizing problems), indicating that participants were equivalent prior to randomization to the intervention. Because of baseline differences in type of child maltreatment (i.e., neglect vs. abuse) by study condition, we ran analyses with the entire (neglect and abuse) sample and then reran the data excluding the abused children (not present in the usual care condition) to test whether the presence of abused children in the intervention group contributed to differential program effects. These analyses produced identical results.

Primary Analyses: Intervention Findings

Attendance. There were 71% and 51% of the parents who attended at least one session of the parenting and co-parenting components, respectively; 55% attended ≥6 sessions of IY, and

16% attended the co-parenting sessions (completers). On average, biological and foster parents attended 5.4 (*SD* = 4.4) of IY and 2.0 (*SD* = 2.6) of co-parenting sessions, with no significant differences in attendance by parent.

Intervention comparisons with parent groups combined. There was a significant difference between the intervention and usual care conditions on positive discipline at the end of the intervention, $F(1, 104) = 3.77, p < .05$, and again at follow-up, $F(1, 94) = 7.58, p < .001$. There was a significant difference between the intervention and the usual care condition on clear expectations at follow-up, $F(1, 94) = 6.18, p < .001$. There was a significant difference between the intervention and the usual care condition on co-parenting flexibility, $F(1, 104) = 4.14, p < .05$, co-parenting problem solving, $F(1, 102) = 6.38, p < .01$, and co-parenting total, $F(1, 97) = 5.13, p < .05$, at the end of intervention. Although not statistically significant, intervention families reported children as having lower CBCL externalizing *T* score, $F(1, 97) = 2.71, p = .10$, and ECBI total *T* score, $F(1, 94) = 2.30, p = .13$, at follow-up (see Table 3).

Intervention comparisons by parent. We examined Condition × Parent interactions to test for possible differential intervention effects by parent. Only one significant condition by parent

Table 3
Adjusted Means and Effect Sizes Over Time for Parenting, Co-Parenting, and Child Problems

Measure	Intervention	95% CI	Usual care	95% CI	Effect size (<i>d</i>) ^a
End of intervention (<i>n</i> = 104)					
Parenting Practices Interview					
Positive discipline	4.95	4.80–5.11	4.71	4.50–4.92	.40*
Appropriate discipline	4.63	4.40–4.85	4.78	4.48–5.08	.23
Clear expectations	6.05	5.88–6.22	6.12	5.89–6.35	.04
Harsh discipline	1.82	1.69–1.96	1.87	1.68–2.06	.09
Co-parenting					
Flexibility	12.58	11.63–13.52	11.48	10.24–12.71	.42*
Mutual social support	15.43	13.83–17.02	14.37	12.23–16.52	.34
Problem solving	8.86	8.06–9.65	7.98	6.93–9.03	.52*
Total	37.20	34.05–40.34	33.85	29.65–38.05	.48*
CBCL Externalizing <i>T</i> score	56.37	54.53–58.21	57.33	54.78–59.87	.14
ECBI total <i>T</i> score	49.94	48.20–51.68	51.69	49.33–54.04	.23
SESBI-R total <i>T</i> score (teacher) ^b	55.74	51.99–59.48	55.24	51.02–59.47	.05
3 month follow-up (<i>n</i> = 94)					
Parenting Practices Interview					
Positive discipline	4.93	4.76–5.11	4.54	4.30–4.77	.59**
Appropriate discipline	4.78	4.52–5.03	4.81	4.47–5.15	.01
Clear expectations	6.27	6.09–6.45	5.91	5.66–6.15	.54*
Harsh discipline	1.92	1.77–2.07	2.04	1.83–2.25	.20
Co-parenting					
Flexibility	15.10	13.60–16.61	14.58	12.32–16.84	.10
Mutual social support	12.03	11.02–13.05	11.78	10.29–13.28	.05
Problem solving	8.72	7.94–9.49	8.48	7.33–9.63	.00
Total	36.02	32.92–39.13	34.73	30.10–39.35	.06
CBCL Externalizing <i>T</i> score	57.47	55.26–59.69	60.82	57.65–63.98	.36
ECBI total <i>T</i> score	50.33	48.20–52.45	53.43	50.40–56.46	.33
SESBI-R total <i>T</i> score (teacher) ^c	56.71	51.19–62.23	53.08	45.27–60.89	.32

Note. CI = confidence interval; CBCL = Child Behavior Checklist; ECBI = Eyberg Child Behavior Inventory; SESBI-R = Sutter-Eyberg Behavior Inventory—Revised.

^a Effect sizes of >.30 appear in bold. ^b Available teacher reports at end of intervention: *n* = 39. ^c Available teacher reports at 3 month follow-up: *n* = 45.

* *p* < .05. ** *p* < .01.

interaction was found at follow-up: Biological parents ($M = 5.06$) retained intervention gains for positive discipline more than did foster parents ($M = 4.36$), $F(1, 93) = 5.96, p < .05$.

Secondary Analyses

ANCOVA analyses showed that IY completers reported higher positive discipline (adjusted $M = 5.09$) than did noncompleters (adjusted $M = 4.67$), $F(1, 60) = 6.45, p < .01$, at follow-up. There was a Condition \times Ethnic Status interaction for harsh discipline at the end of the intervention: African American parents reported more improvement in harsh discipline (adjusted $M = 1.70$) than did Latino parents (adjusted $M = 1.93$), $F(1, 103) = 5.58, p = .02$. Initial level of child conduct problems (high- vs. low-risk) did not moderate intervention effects.

Discussion

Researchers have highlighted the need for methodologically rigorous dissemination studies with strong research designs in the “real world” (Dore & Lee, 1999). This initial prevention trial responded to this challenge by implementing a culturally sensitive community-based hybrid trial with characteristics of effectiveness and efficacy methodology (Botvin, 2004; Castro, Barrera, & Martinez, 2004). We successfully offered joint (biological and foster) parenting training, developed a feasible program for foster agency mental health clinicians to implement, and monitored program adherence under real-life conditions. We also developed a co-parenting (biological–foster) component to meet the needs of families of foster children, wrote a parent leader manual, and evaluated the feasibility of the co-parenting construct for target families.

Our findings indicate that biological and foster parents endorsed positive parenting practices, clear expectations, and collaborative co-parenting at the end of the intervention more often than those in the usual care condition. The finding that gains in positive parenting remained over the duration of the follow-up is promising given low levels of positive discipline (social praise, positive verbal statement, hugs, smiles) associated with abusive as well as neglectful parenting (Crittenden, 1988). The group-based parenting intervention may be more cost-effective for increasing positive parental behaviors for neglectful parents (83% in this sample), as compared with one-on-one interventions such as Project SafeCare (Lutzker & Bigelow, 2002). Gains in positive parenting practices for foster parents are also encouraging given the risk for attachment difficulties among foster children (Dozier, Albus, Fisher, & Sepulveda, 2002). Despite their vulnerability, biological parents in this study showed similar program engagement (5.4 sessions attended), as did Head Start families (5.9 sessions attended; Webster-Stratton, 1998), and higher completion rates than did maltreating parents with children at home (16%; Corcoran, 2000). Biological parents (as well as foster parents) attending ≥ 6 sessions showed more improvement in positive parenting than those attending < 6 sessions, demonstrating the key role of program dosage to reach program outcomes.

Results of the current study are compelling for three main reasons. First, findings illustrate that manualized interventions can be used by trained foster care staff and are superior to standard usual care in key dimensions of parenting and co-parenting among

this difficult-to-reach population. Second, this study tested the feasibility of a novel joint format for parent education among biological and foster parents. As such, this intervention holds the promise of a cost-effective integrated approach to parent training in this population. Third, this study generated strong preliminary support for the notion of co-parenting as an important family outcome malleable to change and applicable to nontraditional families.

Loss of co-parenting gains in the follow-up suggests the need for system-wide training efforts (e.g., for caseworkers and supervisors) to create appropriate organizational structures to strengthen collaborative co-parenting between biological and foster parents (e.g., open rules for communication exchange). Treatment attenuation over time is a challenge for vulnerable families (Gross et al., 2003; Hughes & Gottlieb, 2004) and underscores the need for continued support to both parents to maintain program gains.

The feasibility of a separate co-parenting component was not demonstrated in that only 16% of parents completed the additional co-parenting sessions. We speculate that the joint format of the parenting IY course served as the “active ingredient” that contributed to the co-parenting gains by providing a therapeutic, perhaps less threatening, co-parenting context for parent contact, an opportunity for shared memories and narratives, and a safe forum to discuss appropriate discipline practices. We are currently integrating the principles of the co-parenting curriculum into the joint format of the parenting groups and plan to formally evaluate this integrated program in a large-scale iteration.

Improved parenting forecasts changes in child externalizing problems among high-risk samples (Tolan & Gorman-Smith, 2002), which is likely to operate in a similar fashion over time in this population. Our findings show a trend for the “slowing down” of child externalizing problems for intervention children at follow-up, whereas child externalizing problems tend to “accelerate” or become worse for children in the usual care comparison condition. The high malleability of child externalizing behavior, even when intervention is not directed to the children themselves, but to their parents, is promising and speaks to the benefit of a joint intervention in improving child outcomes.

The successful adaptation of efficacious interventions depends on responsiveness to the social context in which the intervention takes place (Glisson & Hemmelgarn, 1998), the quality of the program implementation, and the ability to strike a balance between adherence to core principles and flexibility to adopt (Biglan, 2004). Adherence to the original model is important to preserve the change mechanisms that made the original model effective (Arthur & Blitz, 2000). Attending an authorized workshop by a certified trainer, using the standardized materials, completing self-evaluation checklists, providing weekly peer support and consultation, and sending videotapes to the developer for feedback were all prescribed steps followed to reach adequate program adherence. Our parent leaders mastered the program content but were less skilled in the use of a collaborative, flexible, and nonprescriptive approach (C. Webster Stratton, personal communication; January, 5, 2005). Additional feedback, supervision, and ongoing consultation may be needed for “early adopters” to shift into an intervention perspective that may differ from current practices in their organizational setting (Rogers, 2002).

Several limitations of the study are noted. First, outcome data were based on parent self-reports. The use of multiple infor-

mants to provide convergent validity of self-ratings (child problems reported by the foster and biological parent and teacher) and independent observations of the foster home (i.e., HOME assessment) attenuates, but does not eliminate, this limitation. Future studies are under way that use direct parent and child observations unaffected by self-report biases. Second, the sample is selective in that it screened out kinship foster parents, and biological parents with histories of sexual abuse and not actively planning for their children's return to the home (family reunification goal). It also excluded children in long-term foster care (>24 months). Nevertheless, these findings apply to the majority of foster children: those with histories of parental neglect whose parents are planning for family reunification, those in nonkinship foster homes, and those in short-term care. It is unknown whether our findings can be generalized to other foster children. Third, as a single-site study, it requires replication to other foster care agencies to ascertain aspects of the larger service context (e.g., organizational climate and structure) that might facilitate or hamper program outcomes. Finally, as an initial controlled prevention trial in the foster care system, the study was not designed to isolate the individual impact of the program components. A study which dismantles the two components would address this question.

Aside from these caveats, this study provides support for a joint parenting format as a viable intervention for improving parenting and co-parenting practices for foster children placed in regular foster homes. Additional controlled studies are needed to replicate our findings before this integrated training approach can be accepted as first-line training for this population; however, our data suggest that this approach deserves further research scrutiny. These findings also suggest the importance of expanding the range of appropriate and effective interventions to attend to the complex mental health needs of foster children and their families. We are moving in this direction by developing a child-focused (skill building) approach to complement parenting training for these families. The development of trauma-focused interventions is also an important goal given that 28% of neglected children in our sample were victims (along with their mothers) of intrafamily violence. An array of alternative effective psychological (and psychopharmacological) approaches would provide the opportunity for analyses of preintervention predictors of outcomes (e.g., parent and child characteristics) and enable us to match children and their families with interventions that are most likely to be helpful.

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