

Efficacy of the Incredible Years Group Parent Program With Families in Head Start With a
Child Maltreatment History

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Abstract

Objective: To compare the outcomes of an 8 week prevention form of the Incredible Years (IY) parenting program for parents of children in Head Start with and without a history of reported child maltreatment. Parenting practices and child behavioral outcomes were the primary outcomes of interest.

Methods: A randomized controlled trial of the IY parenting program was conducted in 64 classrooms in seven Head Start centers in Seattle, Washington. Families of 517 children were randomized to participate in the IY program (n=361) or not (n=156). Parenting practices and child behavior were measured through in-home observations and self-report questionnaires prior to the start of the IY program, in the spring after the IY program had concluded, and 12-18 months later when children were in kindergarten. Analyses examine the impact of the IY program on parenting practices and children's behavior, using interaction terms to explore whether the program had differential impacts for parents with and without a prior report of maltreatment.

Results: The IY program resulted in improvements along many parenting dimensions and on several characteristics of observed child behavior. Analyses suggested that program impacts were very similar for parents with and without a history of child maltreatment. However, parents with a history of prior maltreatment had greater initial room for improvement in areas such as harsh/critical parenting, negative affect, and discipline competence than parents without such a history.

Conclusions: The IY parenting program has positive impacts for parents with a history of reported child maltreatment. While similar benefits were observed for both groups of parents in this study, results support delivering evidence-based parenting programs of longer duration and higher intensity than often used by agencies in the community serving parents in contact with child welfare.

Practice: Agencies serving parents referred for child maltreatment should carefully examine the characteristics of the parenting programs they deliver. Use of a parenting program that has a sound base of empirical support, such as IY, and sufficient intensity and duration are likely necessary to make substantial changes in parents' child-rearing practices.

Efficacy of the Incredible Years Group Parent Program with Families in Head Start With a Child Maltreatment History

Subsequent to the 3 million referrals to child welfare that occur each year, pertaining to roughly 5.5 million children, almost 90% of children remain in their home, some with and many without an active child welfare case opened (US DHHS; NCANDS Child Maltreatment 2004). Across the range of families referred, risk for recurrent abuse and neglect is substantial (Drake, Jonson-Reid, Way, & Chung, 2003), as are risks for significant developmental difficulties (Stahmer et al., 2005). Young children are particularly at risk for recurrent maltreatment and for early disruption in adaptive developmental trajectories. In early childhood, parenting skills and the home environment play a major role in children's development and safety (Scarr, 1992; Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000). Many families of young children in contact with child welfare are referred to parent training services to improve children's safety and healthy development, however few of those in routine use have an established base of empirical support (Barth et al., 2005; Hurlburt, Barth, Leslie, Landsverk, & McRae, 2007).

Parenting skills are multi-faceted, including a number of different dimensions, such as warmth and responsiveness, maintaining a safe environment, appropriate supervision, effective discipline, setting of predictable daily routines, and provision of medical care. At present, few studies of parent training programs provide direct evidence regarding changes in objective indicators of key parenting competencies among families involved with child welfare (Chaffin & Valle, 2003; Chaffin et al., 2004; Hurlburt et al., 2007; Lutzker, 1990). Research on changes in parenting practices is central to informing child welfare agencies how they can improve the provision of effective parent training services. The current study examines outcomes of one parent training program with empirical support in a number of settings, the group-based Incredible Years BASIC program (Webster-Stratton & Reid, 2003; Webster-Stratton & Reid, 2005).

Although outcome studies in child welfare are limited, more extensive behavioral health research has in fact informed the development of effective parenting programs. Several well-established and evidence-based programs, originally designed to help parents manage child behavioral difficulties,

emphasize a common set of objectives, including improvement of positive parent-child relationships, tracking of and responsiveness to children's developmental cues, and effective, non-violent alternatives to discipline (Brestan & Eyberg, 1998; Chaffin et al., 2004; Chorpita et al., 2002). Their relevance to child welfare settings has increasingly been recognized (Barth et al., 2005; Child Welfare Clearinghouse, 2006; Hurlburt et al., 2007). By way of example, a relatively recent study illustrating the potential of transporting parent training models from behavioral health to child welfare found strong reductions in physical abuse re-reports among parents who participated in Parent Child Interaction Therapy (PCIT), an individually-based coaching program designed for parents of pre-school and young school-age children, in comparison with an existing community-based parent training program (Chaffin et al., 2004).

The IY BASIC parent training program is another well-developed intervention relevant to caregivers of young children. Similar to other models from children's behavioral health, such as PCIT (Eisenstadt, Eyberg, McNeil, Newcomb, & Funderbunk, 1993; Eyberg et al., 2001; Hembree-Kigin & McNeil, 1995) and parent management training (Bank, Marlowe, Reid, Patterson, & Weinrott, 1991; Bernal, Klinnert, & Schultz, 1980; McMahon, Forehand, & Griest, 1981; Patterson, Chamberlain, & Reid, 1982; Kazdin, Esveldt-Dawson, French, & Unis, 1987), IY builds on social interaction learning theory (Patterson, Reid, & Dishion, 1992) and research that describes characteristics of parenting and parent-child relationships hypothesized to affect children's social, emotional, and behavioral development (Baumrind, 1966). The IY program is well-established as an intervention to help parents reduce harsh/critical parenting, increase parent discipline effectiveness, and improve positive/supportive/responsive parenting, each of which has been tied to children's social and behavioral development (Baydar, Reid, Webster-Stratton, 2003; Reid, Webster-Stratton, & Beauchaine, 2001; Scott, Spender, Doolan, Jacobs, & Aspland, 2001; Webster-Stratton, 1998; Webster-Stratton, Reid, & Hammond, 2001; Webster-Stratton & Reid, 2003; Webster-Stratton, Reid, & Hammond, 2004).

The Incredible Years model may be particularly relevant to child welfare because it is group-based, focused on building support networks and decreasing isolation, and has a format designed to reduce stigma and increase parental participation. Using data from a large trial of IY conducted in Head

Start settings in Seattle, this paper examines the effects of IY on several key parenting competencies and child behavioral indicators among families with and without a history of child welfare involvement. Although more distal indicators, such as maltreatment recurrence and change in children's developmental trajectories might also be of interest, proximal indicators of parenting competencies are a primary focus of this study and are important immediate precursors of maltreatment and positive change in children's development.

Analyses reported focus on several dimensions of parenting competence using observational measures, including indicators of harsh/critical discipline, discipline competence, and positive/supportive/responsive parenting. Harsh/critical discipline is a notable component of the authoritarian parenting style. It has been linked with the initiation and maintenance of cyclical patterns of coercive parent-child interactions and, in combination with the presence of ineffective discipline skills, has been associated with the likelihood of child maltreatment (Frias-Armenta & McCloskey, 1998).

From a developmental perspective, harsh/critical discipline, ineffective discipline, and physical maltreatment have been linked to increased likelihood of child externalizing behavioral difficulties, poorer social skills, more withdrawn behavior, and other kinds of developmental difficulties (Aber, Allen, Carlson, & Cicchetti, 1989; Crick & Dodge, 1994; Erickson, Egeland, & Pianta, 1989; Fantuzzo, delGaudio, Atkins, Meyers, & Noone, 1998; Jaffee, Caspi, Moffitt, & Taylor, 2004; Knutson, DeGarmo, Koepl, & Reid, 2005). The Incredible Years focuses on more positive parent-child relationships, improved discipline effectiveness, and reduced harsh/critical discipline to change overall patterns of parent-child interaction.

From a theoretical and empirical perspective, supportive/nurturing/responsive parenting, an important part of the authoritative parenting style, has also been linked to child developmental outcomes (Baumrind, 1989). It includes such features as positive affect, proactive teaching, inductive discipline, positive reinforcement of prosocial behavior, respect for one's child, open communication, and involvement with a child's activities (Pettit, Bates, & Dodge, 1997). Theoretically, supportive/nurturing parenting is hypothesized to reduce the likelihood that parents will need to resort to coercive disciplinary

practices because children will be socialized to anticipate and respond to inductive disciplinary approaches (Criss, Shaw, & Ingoldsby, 2003). Several studies suggest that supportive/nurturing parenting is associated with development of conscience (Kochanska, 1993) and non-combative conflict resolution skills (Pettit, Dodge, & Brown, 1988). Parental warmth has a strong negative association with children's externalizing behavioral problems in preschool and among school-age children (Miller, Cowan, Cowan, Hetherington, & Clingempeel, 1993), and has been found to mediate effects of the IY program on parent-reported child behavioral problems (Gardner & Burton, 2006). Pettit et al. (1997) also found that supportive parenting prior to kindergarten forecast several different developmental outcomes at grade 6, including fewer externalizing problems, greater social skillfulness, and higher academic performance.

This paper examines the effects of a short, prevention version of the IY BASIC program on several broad parenting competencies measured through home observation, and on observer and parental reports of child behavior. For each parenting domain, the primary question of interest is whether the positive effects of IY observed overall for participants in the original Head Start study (Webster-Stratton, 1998) were of similar magnitude for families with a reported history of maltreatment as for those without such history. Analyses examine whether parenting competencies and child behavioral difficulties were poorer at baseline relative to families in Head Start without such a history. They also examine whether differential changes in parent and child behaviors occurred over the course of one school year.

Method

Participants

In a sample collected in 1993 and 1994, eight Head Start centers were invited to participate in a study of the IY parenting program as a method for preventing and reducing behavioral difficulties, and increasing social competence in preschool children. The study was approved by an institutional review board and informed consent was obtained from all participants. Centers were located within one large Head Start district in the Seattle, Washington area. Only one center declined to participate in the study. The remaining seven Head Start centers were randomly assigned via lottery to either intervention or control conditions. Initially, 542 families enrolled in the study. During the fall baseline assessment

period, some families began to drop out of the Head Start center, a common occurrence. A total of 517 families ultimately contributed some data during the baseline assessments, with 361 assigned to the intervention condition and 156 assigned to the control condition (based on random assignment at the center level). Among these families, 56.2% were headed by a single mother. Almost all children (95%) were living with their biological mother. Remaining children lived in either kinship care (4%) or foster care (1%). The mean age of maternal caregivers was 29.1 ($SD = 6.2$). There were 269 boys and 248 girls (mean age of 4.7 years, $SD = 0.36$). Minority groups were represented in 39.1% of the children (18.0% African-American, 4.3% Hispanic/Latino, 1.0% Asian-American, 1.9% Native-American, and 13.9% multi-racial). Approximately 85.8% of participating families received financial aid (such as welfare), with a median family income of approximately \$10,000 per year (equal to approximately \$13,200 in 2005). Parents answered questions about whether they had ever been reported for child abuse or had abused their children. Just over one fifth (20.8%) of the families had been involved with a child welfare agency due to suspected child maltreatment.

By the time fall baseline assessments and immediate post-intervention follow-ups were completed, 116 (21%) of the original 542 families had dropped out of the Head Start program and were unavailable for spring post-assessments. This early attrition rate was consistent with an overall Head Start drop-out rate of 22% for this particular district in previous years. Post randomization attrition of families completing baseline assessments was comparable in the intervention ($n = 66$ dropped of 361; 18%) and control ($n = 25$ dropped of 156; 16%) conditions. For analyses examining correlations of measures at baseline, information from all 517 respondents available at baseline was included. Those analyses emphasizing change over time focused on the 426 participants remaining in the study at the immediate post-intervention follow-up.

Procedures

Baseline assessments were conducted with the 1993 and 1994 cohorts in the fall of each year. Parents assigned to centers participating in the intervention condition took part in 8 weeks of an abbreviated version of the IY parent-training program (referred to as PARTNERS in its shorter prevention

form at the time). A total of 31 parent groups were delivered in intervention centers. Following the conclusion of the parent training program, post assessments were conducted with all parents in the study in the spring of the school year. Additionally, follow-up interviews were completed 12-18 months after the post assessment when the children were in kindergarten. All assessments consisted of parent interviews, questionnaires, and in-home observations.

The mothers who participated in the IY intervention attended an average of 5.61 ($SD = 2.62$) 2-hour sessions. Nearly 79% completed at least four of the 8 parenting group sessions. While group-based parent training is relatively common for families receiving child welfare services, the IY program differs from such services on a number of dimensions (Hurlburt et al., 2007). The IY clinical approach emphasizes parental participation in group discussion, de-emphasizes the expert role for group facilitators, and emphasizes the collaborative relationship between parents and group facilitators. Didactic presentation of material is limited, except in a few key domains such as how to use Time Out effectively. Meetings revolve around a relatively small number of parenting principles that group members extract from discussion following the viewing of 10-15 short video vignettes of parent-child interactions each session. Group facilitators help parents to identify, summarize, and apply parenting principles to their own specific parenting situations and goals for their children. Role play among participants is designed to occur in every session, to provide parents with hands-on behavioral practice applying new parenting skills to situations they encounter with their children at home, to provide group leaders with opportunities to monitor group and individual progress in learning and applying targeted skills, and to facilitate tailoring of future sessions.

The IY program is designed to be socially rewarding to group participants, to use parents' own experience and expertise to solidify learning and practice of parenting skills, to de-stigmatize the process of practicing skills, and to enhance learning through engaging parents on cognitive, emotional, and behavioral levels. The program content begins by emphasizing skills for developing a strong positive parent-child bond. It also includes components focused on the value of praise and selectively praising

desired behaviors, ignoring inappropriate child behaviors, specific non-violent alternatives for discipline, and parent-child problem-solving skills.

Measures

Measures included in this analysis were observational indicators of parent and child behavior occurring during home observation sessions, and parent reports of children's behavior. Parenting and child behaviors were measured by: the Dyadic Parent-Child Interaction Coding System-Revised (DPICS-R), a post home observation Coder Impression Inventory (CII), the Eyberg Child Behavior Inventory (ECBI), and the Child Behavior Checklist (CBCL).

Dyadic Parent-Child Interaction Coding System – Revised. The DPICS-R is an extensively researched rating system used by independent observers to record parent and child behaviors in the home (Robinson & Eyberg, 1981; Webster-Stratton 1985b; Webster-Stratton & Fjone, 1989; Webster-Stratton & Lindsay-Woolley, 1999). In the current study, mothers were observed with their children in their homes for 30-minute periods at the baseline, post, and follow-up assessments. Four parent summary variables were assessed: positive parenting (which encompasses praise, positive affect, and physically positive behavior), total critical statements, total commands, and a nonverbal affect dimension. Nonverbal affect, also known as valence, was assessed by raters every five minutes, during which they coded the parent's valence on a scale of 1 to 5 (exuberant affect to unrestrained negative affect). The three child summary variables assessed in this study included total child deviance and noncompliance (including physical and verbal aggression), total positive affect and prosocial behaviors, and nonverbal affect valence.

Observers in this study were highly experienced or extensively trained prior to starting the project. They were blind as to the study condition of participating families. Reliability checks were completed on a weekly basis using standardized videotapes, in addition to 15% of home observations. Interrater reliabilities for parent summary variables, as assessed by intraclass correlations, were as follows: positive parenting (.70), total critical statements (.77), total commands (.80), and nonverbal

affect (.91). Interrater reliability for child summary variables included: total deviance and noncompliance (.87), total positive affect and prosocial behaviors (.51), and nonverbal affect (.79).

Coder Impressions Inventory. The CII, a 72-item inventory adapted from the Oregon Social Learning Center questionnaire and Observer Impressions Inventory (Capaldi & Patterson, 1989), was completed by independent observers regarding their impressions of observable in-home parent and child behaviors. Three scales assessed parenting characteristics, including: nurturing or supportive parenting ($\alpha = .91$), harsh or critical parenting ($\alpha = .88$), and discipline competence ($\alpha = .84$). The nurturing and supportive scale consisted of 13 items relating to affection, patience, and respect for the child. The harsh or critical scale contained 11 items pertaining to sarcasm, neglect, and disregard for the child. The discipline competence scale included 13 items relating to the parent's ability to obtain the child's compliance through disciplining techniques. Three child behavior scales included: child misbehavior and negative affect ($\alpha = .74$), child positive affect and prosocial behavior ($\alpha = .67$), and overall poor conduct (single item). The child misbehavior and negative affect scale included items regarding the child's noncompliance, irritability, and aggressiveness, whereas the child positive affect and prosocial behavior scale pertained to affection and compliance.

Eyberg Child Behavior Inventory. The ECBI is a 36-item behavioral inventory (Robinson, Eyberg, & Ross, 1980), completed by parents, that assesses child behavioral problems for children ages 2-16 years. This inventory has been empirically validated to correlate with independent observations of child behaviors (Webster-Stratton, 1985a; Webster-Stratton 1985c)

Child Behavior Checklist. The CBCL (Achenbach & Edelbrock, 1991) is a 118-item behavioral inventory, also completed by the parents, that describes child problem behaviors. This questionnaire is a widely used inventory with established norms, and has been shown to differentiate between clinic-referred and nonreferred children (Webster-Stratton & Lindsay-Woolley, 1999).

Analysis

The primary focus of analyses was to examine whether differential intervention effects occurred between baseline and follow-up for parents with and without a history of report for child maltreatment,

examining both parenting behaviors and child behaviors. Preparatory to these analyses, correlations of the observational and parent report indicators with one another were computed to illustrate the interrelationships of outcome measures. Stability correlations were examined for parent and child indicators among families in the control condition to facilitate interpretation of outcomes. Group differences at baseline were examined to understand the degree to which families with and without such a history may differ from one another prior to entry into a parent training intervention.

Finally, we examined the degree of change that occurred over time as a result of participation in the IY intervention for families with and without a history of child maltreatment. These analyses utilized repeated measures mixed model ANCOVAs, controlling for the baseline level of each outcome variable studied. For each dependent variable, initial models included terms for the baseline level of the dependent variable, study condition, and indicator variables for time and whether a history of report for maltreatment existed (step 1). In subsequent model steps, interaction terms were tested for: (a) condition * baseline level interactions to understand whether parents or children with more significant difficulties benefited more from the intervention; (b) time * condition interactions to understand whether intervention outcomes remained relatively stable over the immediate post intervention and follow-up time points; and (c) a child maltreatment * condition interaction to understand whether intervention effects differed for parents with and without a history of report of maltreatment. These interaction terms were only retained in the models if they contributed significantly ($p < .05$) to prediction of the dependent variable. Given the relatively modest number of parents in the study with a reported history of child maltreatment, we were most interested in the effect size of the condition * maltreatment interaction. Very small interaction parameters would indicate similar effect sizes for parents with and without such a history, whereas larger, or even significant parameters would suggest differential effects for parents with and without a reported history of maltreatment. For all dependent variables, we show what the maltreatment report and maltreatment report * condition parameters were when included in the repeated measures models, even if not close to significance, as these parameters were of principal interest for this paper.

Results

Parenting Behaviors

To understand the degree of overlap among measured parenting indicators and the stability of those indicators over time, correlations among the indicators at baseline were examined, as were the correlations of each indicator with itself from baseline to post and baseline to follow-up time frames (see Table 1). Over time correlations were calculated only for participants in the control condition.

Indicators of parenting had small to moderate intercorrelations at baseline. For most of the indicators, over time correlations were low to modest. Highest levels of stability were observed for positive affect/praise, total critical statements, and total commands.

Child Behaviors

Table 2 summarizes correlations among observational indicators of child behaviors derived from the DPICS-R and CII. Moderate associations were present for a number of variables. A moderately strong correlation existed at baseline between the two parent reports of child behavior, the ECBI and CBCL. Weak relationships were observed between these variables and observational measures of child behavior.

For most of the indicators described above, over time correlations were low to modest among participants in the control condition. In particular, correlations of observational indicators with themselves were relatively low. According to inter-rater reliability analyses, these variables were measured with high reliability, but had low to modest cross-time stability. Parent reports of child behavior were much more stable over time.

Dyadic Behaviors

Taking a dyadic perspective, in which one partner's behavior and affect may be highly intertwined with those of the other partner in the dyad, correlations were also examined between observational indicators of parent and child behavior. Relationships among indicators of parent and child behaviors were quite strong, overall. For example, total deviance and noncompliance was associated with greater parental negative affect ($r = .33$), more critical statements ($r = .48$), and coder perceived harsh/critical parenting ($r = .51$). Parent and child affect valence were highly intercorrelated ($r = .62$).

Coder impressions of nurturing/responsive parenting and discipline competence had consistent moderate to strong relationships with observed child behavior and affect. The collection of observed correlations was consistent with parent and child behaviors being highly intertwined during home observations. Small correlations were observed between observational indicators of parenting and parent reports of child behavior on the ECBI and CBCL. Although small, correlations of the ECBI and CBCL were consistently slightly higher with observed *parenting* behaviors (Table 3) than with observed *child* behaviors (Table 2).

Baseline Differences and Change Over Time in Parent and Child Behaviors

At baseline, reliable differences appeared between families with and without a history of report to child welfare (Table 4). According to observational indicators, mothers with such a history issued more critical statements ($d = .34$), and had higher negative affect ($d = .30$). According to coder impressions, mothers were also less supportive/nurturing to children ($d = -.37$), more harsh/critical ($d = .34$), and had less competent discipline efforts than mothers without a report of child maltreatment ($d = -.24$).

With regard to child behaviors, mothers with a history of child welfare involvement reported a somewhat higher level of behavior problems at baseline among their children than mothers without such a history ($d_{\text{ECBI}} = .37$; $d_{\text{CBCL}} = .48$). No significant differences in child behavior were observed in the coded parent-child interactions among children in families with and without a history of child maltreatment.

Table 5 summarizes mean levels for each variable at baseline, post-intervention, and follow-up. This table closely replicates information originally presented in Webster-Stratton (1998) regarding changes in parent-child indicators for families in intervention and control conditions. Tests of differences between conditions over time, and of the similarity of effects for families with and without reported child welfare contact, are summarized in multivariate models presented in Table 6.

Effects of Intervention, Child Maltreatment, and Their Interaction on Outcomes

Parenting behaviors. Multivariate model development followed a consistent approach. For each measured variable, Tables 6 and 7 show the results at the final step of model development, along with additional information about what the child maltreatment and child maltreatment * condition parameters

would have been had they been included in the final model. All models controlled for the initial level of the dependent variable, which was significant in each case.

Between baseline and post-intervention assessments, parents participating in the Incredible Years intervention improved more than parents in the control condition on a number of positive parenting characteristics, including positive affect/praise/physical positives, nurturing/supportive parenting, and discipline competence. They also reduced negative parenting behaviors more than parents in the control condition, including total commands and affect valence. These results are reflected in significant condition parameters in each model. Although not indicated by the final model shown, parents in the intervention condition also reduced their total critical statements significantly. An interaction of condition and initial status on this variable showed that parents with the highest levels of critical statements at baseline reduced their critical statements the most. The effect of the intervention was also significant when included only as a main effect. Inclusion of the child maltreatment and child maltreatment * condition interaction terms however, described further below, changed the condition effect to slight non-significance.

Inclusion of terms related to child maltreatment were tested in all models, bearing on whether a history of child maltreatment was related to differential change from baseline to follow-up time points, and whether any condition effects differed for families with and without a history of reported child maltreatment. A history of child maltreatment was associated with higher negative affect, lower nurturing/supportive parenting, and poorer discipline competence at follow-up time points, after controlling for baseline differences.

Interactions of study condition with reported child maltreatment were also included to examine whether any evidence existed that intervention effects might differ for families with and without a history of reported child maltreatment. The bottom two rows of Tables 6 and 7 show what the child maltreatment report and child maltreatment report * condition parameters would have been had they been included in the final models simultaneously. (In all models, inclusion of this interaction had little impact on other

model parameters, so we only report these parameters separately.) In most cases, these variables did not make statistically significant contributions to the final model. Trends revealed that the sizes of intervention effects were very similar for families with and without a history of child maltreatment. For example, addition of these interaction terms suggested that mothers with a reported child maltreatment history tended to have less positive affect/praise/physical positives than families without such a history at follow-up time points ($b = -5.88$), but that this result was almost negated for families with a history of child maltreatment participating in the intervention condition ($b = 4.03$). The same kind of trend was present for total critical statements, nurturing/supportive parenting, and discipline competence. None of these terms was statistically significant. For several variables, these parameters were small, but for some they were nearly zero (negative affect valence and harsh/critical parenting). None suggested that families with a history of reported child maltreatment benefited less than families without such history.

Child behaviors. In all models of child behaviors, baseline levels predicted follow-up behavior and were included as variables in simple analyses of covariance. Children of parents participating in the IY intervention showed reductions in negative affect and improvements in positive affect according to observational indicators. Study condition was not related to changes in other observed or parent-reported child behaviors over the follow-up period.

In several areas, children of parents with a history of child maltreatment had significantly poorer outcomes over time than children in families without such a history, including poorer child conduct and lower positive affect during in-home observational sessions. For none of the variables, however, was there a significant interaction between study condition and child maltreatment. Across models, the parameters for these interactions were small and not indicative of differences in IY intervention effectiveness for children in families with and without a history of child maltreatment.

Discussion

Using a controlled trial design with a large number of participating parents in an indicated prevention setting, this study found that an abbreviated form of the Incredible Years parenting program

resulted in significant positive changes in parenting practices, confirming results initially reported for this Head Start-based trial (Webster-Stratton, 1998). In addition, intervention effects did not differ in any notable way for parents with and without a history of involvement with child welfare. Parents with such a history did start off with more negative and less positive parenting practices, consistent with other studies comparing matched samples of parents with and without a history of child maltreatment (Aragona & Eyberg, 1981; Burgess & Conger, 1978). Parents with a history of reported maltreatment also had poorer parenting practices in several areas at the one year follow-up and their children's behavior tended to deteriorate slightly over this time. This is consistent with the work of Egeland (1991), who found a high degree of consistency in parenting practices among parents identified as maltreating. The results of the study are positive in the sense that they provide further support for the effectiveness of a well-established parent training model from the children's behavioral health arena as a method for helping to improve key parenting competencies. The results contribute important new knowledge with regard to further development of effective parent training approaches for families in child welfare.

The Incredible Years model is one of several parenting interventions that have emerged from a common theoretical foundation in social interaction learning theory, and that have received extensive empirical support for their ability to change parenting practices and to reduce child behavior problems (Barth et al., 2005; Chorpita et al., 2002; Hurlburt et al., 2007; Webster-Stratton & Reid, 2003). The IY group-based parenting program is unique in the emphasis it places on using video-based vignettes to provide parents with models for extracting parenting principles, development of a group process designed to support and empower parents to identify parenting principles together in a tight social group, and then to incorporate those principles into their own circumstances through extensive role-play practice opportunities (Webster-Stratton, 1982). This study provides specific support for the IY intervention model as an approach to changing parenting practices among families involved with child welfare and, due to their common intervention targets, further indirect support for other kinds of programs having a similar intervention focus, such as PCIT and PMT. The IY model may be a particularly relevant approach to develop further for families involved in child welfare because the group-based intervention

model can be efficient, cost-effective, and, due to the highly social nature of the IY group format, foster high levels of participation. The intervention is receiving increasing attention from child welfare organizations around the country, so further research on use of the model in child welfare is important (California Evidence-Based Clearinghouse, n.d.).

Outcomes examined in this paper reflect immediate and one-year follow up changes parenting practices. Across a number of key parenting dimensions, positive intervention effects were observed, including improvements in parental positive affect, critical statements, commands, affect valence, nurturing/supportive parenting, and discipline competence. Effect sizes fell in the small (commands, $d = .23$) to moderate (positive affect, $d = .33$) range. However, the effect sizes are indicative of patterns of parent-child interactions that occur repeatedly over time, so even what may appear to be modest effects on parenting practices may magnify themselves over time as parents and children develop their relationships through ongoing interaction. Furthermore, due to the broad-based nature of intervention effects on parenting practices, the intervention should be seen as having a larger overall impact than is reflected by any one parenting indicator.

This study does raise a very important issue about intervention dose. It is not uncommon for child welfare settings to seek brief interventions that will be sufficient to help parents adjust their parenting styles. In this experiment, parents with a history of child maltreatment achieved similar levels of benefit, but on average had much greater change to make in parenting skills because their parenting approach was more critical to begin with. On many indicators of parenting, group level differences continued to exist between parents with and without a history of child welfare involvement at follow-up time points. Parents having such a history continued to have more negative and less nurturing/supportive parenting. This study helps to dispel the notion that brief, lower intensity parenting interventions will have sufficient impact on parenting outcomes. The current recommended form of the IY BASIC parenting program for prevention universal populations is 12 weeks. In intervention settings or settings in which families have higher numbers of risk factors, such as families with child welfare involvement, a

program lasting 16-24 weeks is recommended. The IY program is currently being piloted as a 16-18 week program with child welfare populations in several areas across the nation.

In addition to resulting in broad-based changes in parenting practices, the specific areas in which change occurred are important due to their link with child maltreatment. Fairly strong evidence exists that physical abuse frequently arises in the context of ineffective and inconsistent parental discipline efforts (Gil, 1970; Herrenkohl, Herrenkohl, & Egolf, 1983; Straus, 2000) and harsh/critical discipline (Greenwald, Bank, Reid, & Knutson, 1997). Evidence also suggests that harsh/critical parenting practices are not only a characteristic of families referred for physical abuse, but of families referred for neglect as well (Knutson et al, 2005; Kolko, Hurlburt, Zhang, Barth, Leslie, & Burns, in review; Pianta, Egeland, & Erickson, 1989). (Bousha & Twentyman, 1984; Burgess & Conger, 1978; Dolz & Cerezo, 1997; Lau, Valeri, McCarty, & Weisz, 2006; Kavanagh, Youngblade, Reid, & Fagot, 1988). In a trial of PCIT conducted by Chaffin and colleagues (2004), changes in observed patterns of negative parental behaviors served to partially mediate the positive effects of PCIT on maltreatment outcomes. The current study, while not able to examine child maltreatment recurrence directly, provides strong support for future research examining the impact of the IY intervention on maltreatment recurrence.

Limitations

This study has clear limitations. It was conducted in a prevention setting, with an abbreviated form of the IY intervention, so there is a possibility that some of the conclusions drawn about intervention effects might not generalize to families currently referred to child welfare. However, the ages of children in the study suggest that child welfare involvement was likely fairly recent for most families reporting such involvement. This study was randomized at the Head Start level. Although some slight differences emerged between the control and intervention families, these differences were relatively minor and seemed quite plausibly in the range of what could be adjusted for through ANCOVA. The study also was limited, for the most part, to observational indicators of parent and child behaviors. While these were felt to be less biased, reactivity is still a potential problem since parents in the IY condition may have known more about the kinds of behaviors that would be socially desirable during the in-home observations.

Although a possible explanation, this seems unlikely. In the trial of PCIT conducted by Chaffin et al. (2004), in which control condition parents participated in another group format parent training program rather than no parent training, changes in observed parenting practices actually trended toward deterioration in the control condition despite parents' participation in a program having similar intended targets to PCIT, suggesting that reactivity is not likely to be a substantial problem with observational measures.

This study is also limited in the range of dependent variables explored. While good evidence exists for the link between measured parenting constructs and child development and child maltreatment, this study did not measure child developmental or maltreatment outcomes directly, other than changes in child behavioral functioning. Small changes were observed in some child behaviors, particularly affect valence, but changes in parent-reported child behavioral problems were not detected. This could be due to the fact that only 20% of parents reported CBCL externalizing problems in the clinical range, creating a floor effect and not enough power to see changes in the sample that did report behavior problems. The presence of a floor effect is likely due to the fact that child behavioral difficulties are not as common a problem at this age in a prevention setting. Thus, this study contributes additional evidence regarding the likely impacts of the IY intervention for families in child welfare, but cannot provide further evidence about possible links between parenting practices and child maltreatment in particular. This seems an especially important area for further research development.

Considering these limitations, and the pattern of existing results from other studies, this study represents incremental new information supportive of further efforts to refine and test the IY group-based parent training model, and other similar parent training approaches, as methods for supporting child maltreatment prevention and more positive child development.

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Table 1

*Correlations Among DPICS-R and CII Indicators of Parenting Behaviors and Cross-time Stability
Correlations in the Control Group*

	1	2	3	4	5	6	7	Pre/Post	Pre/F-U
DPICS-R									
1. Positive affect, praise, and physical positive	1							0.17	0.35*
2. Total critical statements	.01	1						0.51*	0.37*
3. Total commands	.12*	.39*	1					0.41*	0.29*
4. Affect valence	-.44*	.40*	.04	1				0.29*	0.14
CII									
5. Nurturing or supportive	.50*	-.32*	-.02	-.53*	1			0.29*	0.19
6. Harsh or critical	-.16*	.64*	.13*	.53*	-.52*	1		0.39*	0.16
7. Discipline competence	.37*	-.30*	-.04	-.50*	.77*	-.47*	1	0.30*	0.20

Note. Correlations among variables at baseline were computed for the entire sample. Correlations greater than .09 were significant at the $p < .05$ level. Cross-time stability correlations were computed only for the control group. Pre/Post correlations greater than .17 were significant at the .05 level and Pre/Follow-up correlations greater than .20 were significant at the .05 level. Post assessments occurred at the end of the IY parenting program, in the spring of the school year. Follow-up assessments occurred approximately 12-18 months after the post-assessment when children were in kindergarten. CII = Coder Impressions Inventory, DPICS-R = Dyadic Parent-Child Interaction Coding System – Revised, F-U = Follow-up.

* $p < .05$.

Table 2

*Correlations Among DPICS-R and CII Indicators of Child Behaviors and Cross-time Stability
Correlations in the Control Group*

	1	2	3	4	5	6	7	Pre/ Post	Pre/F-U
Parent Report Measures									
1. Eyberg Child Behavior Inventory	1							0.65*	0.57*
2. CBCL Externalizing (T Score)	.55*	1						0.74*	0.64*
DPICS-R									
3. Total deviance and noncompliance	.17*	.15*	1					0.26*	0.49*
4. Positive affect	.01	-.03	-.03	1				0.03	0.19
5. Affect valence	.10*	.07	.47*	-.44*	1			0.17	0.12
CII									
6. Poor conduct	.15*	.09	.54*	-.21*	.39*	1		0.22*	0.17
7. Positive affect	-.11*	-.09	-.34*	.28*	-.39*	-.53*	1	0.25*	0.14

Note. Correlations among variables at baseline were computed for the entire sample. Correlations greater than .09 were significant at the $p < .05$ level. Cross-time stability correlations were computed only for the control group. Pre/Post correlations greater than .17 were significant at the .05 level and Pre/Follow-up correlations greater than .20 were significant at the .05 level. Post assessments occurred at the end of the IY parenting program, in the spring of the school year. Follow-up assessments occurred approximately 12-18 months after the post-assessment when children were in kindergarten. CII = Coder Impressions Inventory, DPICS-R = Dyadic Parent-Child Interaction Coding System – Revised, F-U = Follow-up.

* $p < .05$.

Table 3

Intercorrelations of DPICS-R and CII Indicators of Parent and Child Behaviors at Baseline

Child Behavior Indicators	Parent Behavior Indicators						
	1	2	3	4	5	6	7
Parent Report Measures							
Eyberg Child Behavior Inventory	-.11*	.21*	.01	.19*	-.22*	.24*	-.13*
CBCL Externalizing (T score)	-.08	.13*	.02	.11*	-.15*	.17*	-.12*
DPICS-R							
Total deviance and noncompliance	-.09	.48*	.15*	.33*	-.27*	.51*	-.32*
Positive affect	.57*	.03	-.04	-.33*	.30*	-.08	.32*
Affect valence	-.36*	.20*	.04	.62*	-.35*	.36*	-.35*
CII							
Poor conduct	-.20*	.28*	.13*	.37*	-.45*	.40*	-.57*
Positive affect	.27*	-.25*	-.03	-.40*	.68*	-.39*	.61*

Note. Correlations among variables at baseline were computed for the entire sample. Correlations greater than .09 were significant at the $p < .05$ level. Indicators of parenting behaviors included: 1 = Positive affect, praise and physical positive, 2 = Total critical statements, 3 = Total commands, 4 = Affect valence, 5 = Nurturing/supportive parenting, 6 = Harsh or critical parenting, 7 = Discipline competence. CBCL = Child Behavior Checklist, CII = Coder Impressions Inventory, DPICS-R = Dyadic Parent-Child Interaction Coding System – Revised.

* $p < .05$.

Table 4

Baseline Mean DPICS-R and CII Indicators of Parent and Child Behaviors for Families with and without a History of Reported Child Maltreatment

	History of Child Welfare Involvement		No History of Child Welfare Involvement		<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Parenting Behaviors					
DPICS-R					
Positive affect, praise, and physical positive	21.75	16.94	22.19	15.63	
Total critical statements	25.48	19.30	19.07	17.36	0.001
Total commands	43.23	26.41	44.92	28.45	
Affect valence	3.06	0.55	2.90	0.51	0.007
CII					
Nurturing/supportive	2.29	0.53	2.47	0.45	0.000
Harsh/critical	1.60	0.58	1.42	0.46	0.001
Discipline competence	2.11	0.49	2.22	0.41	0.013
Child Behavior Indicators					

Parent Report Measures

Eyberg Child Behavior Inventory	11.06	6.58	8.52	7.20	0.002
CBCL Externalizing (T score)	58.43	9.90	53.72	9.64	0.000

DPICS-R

Deviance and noncompliance	15.33	17.31	13.29	17.96
Positive affect	15.40	17.17	14.20	14.68
Negative affect	2.90	0.50	2.80	0.51

CII

Poor conduct	3.48	1.36	3.29	1.30
Positive affect	2.18	0.48	2.29	0.49

Note. *d* in text computed as the mean difference between caregivers with and without a history of child maltreatment divided by the pooled standard deviation. CII

= Coder Impressions Inventory, DPICS-R = Dyadic Parent-Child Interaction Coding System – Revised.

Table 5

Mean DPICS-R, CII, and Parent-Reported Child Behavioral Indicators at Pre, Post, and One-Year Follow-up for Families in Intervention and Control Conditions

	Intervention						Control					
	<u>Pre</u>		<u>Post</u>		<u>Follow-up</u>		<u>Pre</u>		<u>Post</u>		<u>Follow-up</u>	
	<i>M</i>	<i>(SD)</i>	<i>M</i>	<i>(SD)</i>	<i>M</i>	<i>(SD)</i>	<i>M</i>	<i>(SD)</i>	<i>M</i>	<i>(SD)</i>	<i>M</i>	<i>(SD)</i>
Parenting Behaviors												
DPICS-R												
Positive affect, praise, and physical positive	21.90	(15.50)	31.40	(19.60)	29.10	(20.50)	23.30	(17.10)	26.00	(18.10)	26.70	(19.20)
Total critical statements	20.30	(18.80)	13.30	(15.00)	14.00	(14.60)	20.50	(16.20)	19.00	(16.80)	18.40	(17.80)
Total commands	43.10	(27.10)	34.60	(25.30)	33.90	(26.40)	46.40	(29.30)	43.60	(26.40)	40.90	(24.60)
Affect valence	2.90	(0.50)	2.70	(0.60)	2.70	(0.60)	2.90	(0.60)	2.90	(0.50)	2.90	(0.40)
CII												
Nurturing / supportive	2.50	(0.50)	2.60	(0.30)	2.60	(0.40)	2.40	(0.50)	2.50	(0.40)	2.50	(0.40)
Harsh / critical	1.50	(0.50)	1.30	(0.40)	1.30	(0.40)	1.40	(0.50)	1.40	(0.40)	1.30	(0.40)
Discipline competence	2.20	(0.40)	2.40	(0.40)	2.40	(0.30)	2.30	(0.40)	2.30	(0.40)	2.30	(0.40)

Child Behaviors

Parent Report Measures

Eyberg Child Behavior Inventory	9.60	(7.50)	7.20	(6.60)	7.90	(7.80)	8.70	(6.60)	7.70	(6.60)	7.60	(6.30)
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CBCL Externalizing (T Score)	54.90	(9.90)	52.20	(10.40)	53.50	(10.80)	54.90	(9.70)	52.70	(9.20)	53.70	(9.60)
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DPICS-R

Total deviance and noncompliance	15.20	(18.60)	9.40	(11.80)	9.80	(10.90)	10.20	(14.60)	9.70	(11.60)	6.90	(9.00)
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Positive affect	13.70	(13.50)	18.20	(13.80)	17.00	(13.40)	16.70	(18.60)	17.10	(14.50)	15.00	(14.80)
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Affect valence	2.90	(0.50)	2.60	(0.50)	2.70	(0.60)	2.70	(0.50)	2.80	(0.50)	2.80	(0.40)
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CII

Poor conduct	3.40	(1.30)	2.60	(1.30)	2.70	(1.20)	3.00	(1.20)	2.90	(1.20)	2.60	(1.10)
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Positive affect	2.30	(0.50)	2.50	(0.40)	2.50	(0.50)	2.30	(0.40)	2.40	(0.50)	2.40	(0.40)
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Note. CBCL = Child Behavior Checklist, CII = Coder Impressions Inventory, DPICS-R = Dyadic Parent-Child Interaction Coding System – Revised.

Table 6

Effects of Condition, History of Reported Child Maltreatment, and Time on Intervention Outcomes – Parent Competencies

	DPICS-R				CII		
	Positive affect, praise physical <u>positive</u> <i>B</i>	Total critical <u>statements</u> <i>B</i>	Total <u>commands</u> <i>B</i>	Affect <u>valence</u> <i>B</i>	Nurturing / <u>Supportive</u> <i>B</i>	Harsh / <u>Critical</u> <i>B</i>	Discipline <u>competence</u> <i>B</i>
Intercept	16.56***	8.44***	30.19***	2.40***	1.98***	0.98***	1.83***
Pre level of DV	0.37***	0.49***	0.25***	0.16***	0.22***	0.25***	0.21***
Condition	5.94***	-1.57	-6.33**	-0.16**	0.15***	-0.07	0.14***
Condition * Pre level of DV (if relevant)		-0.14					
Reported maltreatment	-3.05	1.34	-2.59	0.16**	-0.09*	0.08	-0.11**
Reported maltreatment * Condition							
Time	-1.18	-0.14	-1.01	0.04	0.013	-0.03	0.03
Time * Condition (if relevant)							

Reported Maltreatment	-5.88	1.84	-4.80	0.15	-0.20**	0.06	-0.21**
Reported Maltreatment *	4.03	-0.91	3.14	0.02	0.15	0.02	0.14
Condition							

Note. The interaction term for condition * critical statements was significant when child abuse was not in the model. Condition was a significant predictor if no interaction term was included. Only when the maltreatment and child maltreatment * condition interaction terms were entered into the model was condition not a significant predictor. Condition was also a significant predictor for harsh/critical discipline as measured by the CII when child maltreatment variables were not included in the model. CII = Coder Impressions Inventory, CW = Child Welfare, DPICS-R = Dyadic Parent-Child Interaction Coding System – Revised.

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 7

Effects of Condition, History of Reported Child Maltreatment, and Time on Intervention Outcomes – Child Behavior

	<u>ECBI</u>	<u>CBCL</u>	<u>DPICS-R</u>			<u>CII</u>	
	<u>Total</u>	<u>Externalizing</u>	<u>Deviance and noncompliance</u>	<u>Positive affect</u>	<u>Negative affect</u>	<u>Poor conduct</u>	<u>Positive affect</u>
	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>
Intercept	2.67***	17.00***	5.81***	13.80***	2.43***	1.92***	2.18***
Pre level of DV	0.54***	0.66***	0.23***	0.13***	0.15**	0.24***	0.12**
Condition	-0.71	-0.66	0.17	1.67	-0.15**	-0.24	0.12**
Condition * Pre level of DV (if relevant)							
Reported maltreatment	0.93	0.64	0.31	-2.91	0.09	0.37**	-0.20***
Reported maltreatment * Condition							
Time	0.21	1.04*	-0.57	-1.52	0.07	-0.07	0.06
Time * Condition (if relevant)							

Reported maltreatment	1.26	-0.35	-2.14	-4.96	0.07	0.33	-0.20*
Reported maltreatment *	-0.47	1.41	3.62	2.93	0.04	0.05	0.01
Condition							

Note. ECBI = Eyberg Child Behavior Inventory, CBCL = Child Behavior Checklist, CII = Coder Impressions Inventory, CW = Child Welfare, DPICS-R = Dyadic Parent-Child Interaction Coding System – Revised, DV = Dependent Variable.

* $p < .05$, ** $p < .01$, *** $p < .001$