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Father's Role in Parent Training for Children with Developmental Delay

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Abstract

The current pilot study was a quasi-experimental examination of the impact of father involvement in parent training among 44 families with a young child who presented with elevated externalizing behavior problems and developmental delay. All families were offered to receive Parent-Child Interaction Therapy (PCIT), an evidence-based parent-training intervention, at a hospital-based outpatient clinic. Single-mother families were significantly more likely to drop out of treatment than two-parent families. Of the families that completed treatment, children from families in which a father participated in treatment had lower levels of parent-reported externalizing behavior problems than children from single-mother families and children from two-parent families in which the father did not participate in treatment. Additionally, children from father-involved families were significantly more compliant during a cleanup task than children from single-mother families following treatment. The current study is consistent with the limited research examining father involvement in parent training and extends the findings to children with developmental delay. Clinical implications highlight the importance of involving fathers in parent training, particularly when working with children with developmental delay.

Keywords

father involvement; parent training; developmental delay; behavior problems; intervention research

Behavioral parent training is a widely used and efficacious treatment option for families of young children with externalizing behavior problems, including conduct disorders (Eyberg, Nelson, & Boggs, 2008) and attention-deficit hyperactivity disorder (Pelham & Fabiano, 2008). A number of meta-analyses have provided empirical support for the use of behavioral parent training (e.g., Christiansen, Clark, Jenson, Maughan, & Olympia, 2005; Lundahl, Nimer, & Parsons, 2006; Serketich & Dumas, 1996), including the finding that larger effect sizes were associated with interventions that require parents to practice skills with their child during sessions and focus on the importance of parental consistency (Kaminski, Valle, Filene, & Boyle, 2008). Despite the documented importance of parental involvement in parent training, however, limited work has examined the specific impact of father involvement on treatment outcome.

Historically, it has been uncommon for studies on parent training to include fathers in treatment. For example, Budd and O'Brien (1982) found in their review that fathers were included in only 39% of studies and involved in treatment in 13% of over 700 families, and a subsequent review 10 years later yielded similar findings with 13 of 35 (37%) studies

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reporting some father involvement (Coplin & Houts, 1991). Proposed theoretical reasons for not including fathers in research include assumptions by researchers, such as the belief that fathers are more difficult to recruit than mothers, or antiquated norms that fathers have a limited role in childcare (Phares, 1992). Nevertheless, more recent findings suggest that studies on parent training continue to focus primarily on mothers (Fabiano, 2007; Tiano & McNeil, 2005), yielding inconclusive findings about the impact of involving fathers in treatment. Therefore, researchers have called on efforts to pursue research in this neglected, but important, area (Curran, 2003; McBride & Rane, 1997; Phares, Fields, & Binitie, 2006; Phares & Lum, 1997).

Among the limited empirical studies examining the impact of father involvement on treatment outcome, findings have been somewhat inconsistent with respect to the timing of the effect. Some early research found no differences in outcome at post-treatment between families with a father involved in treatment compared to families without a father involved in treatment (Firestone, Kelly, & Fike, 1980; Martin, 1977). However, Webster-Stratton (1985) found better outcomes (i.e., higher child compliance and lower maternal criticism) at a 1-year follow-up among families in which a father was involved in treatment compared to families in which a father was not involved in treatment. Similarly, more recent research demonstrated that mothers reported better maintenance of treatment gains at a 4-month follow-up when a father was involved in treatment compared to single-mothers, suggesting the potential importance of social support in the maintenance of treatment effects (Bagner & Eyberg, 2003).

In addition to individual studies, reviews of parent training that examined the association between father involvement and treatment outcome have also yielded conflicting findings. Specifically, Coplin and Houts (1991) found that studies including fathers in treatment had better treatment outcome at follow-up than studies not including fathers in treatment. Similarly, a review of research on family therapy suggests that fathers can be successfully engaged in family therapy and the involvement of fathers was associated with better outcomes (Carr, 1998). On the other hand, Lundahl, Tollefson, Risser and Lovejoy (2008) demonstrated that immediate outcomes in child and parent behaviors were enhanced in studies that included fathers in comparison to studies that did not include fathers, but that these differences were no longer significant at follow-up. Therefore, there is increasing evidence that including fathers in parent training is associated with better outcomes, but the timing of the effect remains inconclusive.

In addition to the limited research on the impact of father involvement in parent training, existing findings have been restricted to families of children without developmental delay. There are several reasons to examine the impact of father involvement in parent training among families with a child with a developmental delay. First, the prevalence rates of clinically significant externalizing behavior problems are considerably higher among children with developmental delay (Dekker, Koot, van der Ende, & Verhulst, 2002), with rates as high as 54% (Emerson, Robertson, & Wood, 2005). Despite the clear need for treatment, the majority of previous studies on evidence-based parent-training interventions have excluded children with developmental delay. Only recently, research has started to examine the efficacy of adapting parent-training interventions for children with developmental delay and include the following treatments: Incredible Years (IY; McIntyre & Abbeduto, 2008), Parent-Child Interaction Therapy (PCIT; Bagner & Eyberg, 2007), and Positive Parenting Program (Triple P; Roberts, Mazzucchelli, Studman, & Sanders, 2006). One multiple baseline study found some success with fathers participating in parent training for their child with developmental delay (Russell & Matson, 1998). However, no study to date has examined the impact of father involvement on treatment outcome following parent training among children with developmental delay.

Second, previous research has demonstrated that father involvement has a significant impact on child development (Lamb, 2000), including the influence of father language input on later child expressive language skills (Pancsofar & Vernon-Feagans, 2006). Findings also support the involvement of fathers in head start to improve educational outcomes (Fagan & Iglesias, 1999). Additionally, more responsive parenting practices among fathers was a significant predictor of higher child cognitive and language functioning (Tamis-LeMonda, Shannon, Cabrera, & Lamb, 2004), including the finding that more responsive fathers were nearly five times more likely to have a child in the normal range of cognitive functioning (Shannon, Tamis-LeMonda, London, & Cabrera, 2002). Given the impact fathers can have on child development and the positive relationship between developmental delay and behavior problems in children (Fergusson & Horwood, 1995; Horwitz, et al., 2003), including fathers in parent training for children with developmental delay can potentially maximize the effect of treatment for behavior problems with this at-risk population.

Third, parenting a child with a developmental delay can be very stressful, particularly when the child also has concurrent behavior problems (Baker, Blacher, Crnic, & Edelbrock, 2002). In fact, parenting stress in both mothers and fathers of delayed children was bi-directionally related to child behavior problems over time (Baker, et al., 2003), highlighting the transactional influence between behavior problems and family functioning in this population. Given that the increased stress of having a child with a developmental delay among mothers may be due to the dual role of caregiver and intervention provider (Tehee, Honan, & Hevey, 2009), increasing father involvement in parent training may help to ease the overall burden for the mother (Flippin & Crais, 2011). In addition, research has shown that the marital relationship is important to both parents' well-being when parenting a child with a developmental delay (Kersh, Hedvat, Hauser-Cram, & Warfield, 2006). Including both parents in treatment can have a positive impact on marital functioning (Ireland, Sanders, & Markie-Dodds, 2003), which, in turn, may have a more positive impact on the child's response to treatment. Collectively, these findings highlight the importance of examining the effect of father involvement in treatment for children with developmental delay.

No study to date, however, has examined the effect of father involvement in parent training for families with a child with developmental delay. Therefore, the goal of the current study was to examine the effect of father involvement on dropout and outcome in parent training for families with a child with externalizing behavior problems and developmental delay that had participated in one of two randomized controlled trials. Consistent with previous research (Bagner & Eyberg, 2003; Webster-Stratton, 1985), we compared involved-father (IF) families with uninvolved-father (UF) families, in which fathers in the IF group attended at least one treatment session and fathers in the UF group did not attend any treatment sessions.

In the current sample, most of the fathers in the IF group (69%) had attended at least 60% of all sessions and more than half (54%) had attended at least 75% of the sessions. Most fathers that attended at least one session had attended most of the treatment sessions and were, therefore, considered involved in treatment. Absent-father (AF) families were families in which there was no paternal caregiver figure living in the home or involved in the child's life, and, therefore, there was no possibility for the father to be involved in treatment. Based on the limited research on father involvement in parent training, IF families were expected to have lower dropout rates than UF and AF families. Additionally, children from IF families were predicted to have better outcomes defined as significantly lower levels of child externalizing behavior problems and higher levels of child compliance to parental commands than children from UF or AF families.

Method

Participants

Participants were 44 families that had participated in one of two treatment studies for their young child (30 families in study A and 14 families in study B), and the main outcome results for these studies are reported elsewhere (Bagner & Eyberg, 2007; Bagner, Sheinkopf, Vohr, & Lester, 2010). In both studies, children were referred for treatment of behavior problems to a hospital-based outpatient clinic and were mostly (80 to 88%) referred by other pediatric health care professionals (e.g., pediatricians, nurses), as well as by teachers, early intervention providers, and self-referred after seeing a study brochure. The inclusion and exclusion criteria for the two studies were very similar: the mother had to rate their child above the clinically significant range on a measure of child externalizing behavior problems and obtain a standard score of 75 or higher on a cognitive screening measure. Exclusion criteria for the child included major sensory impairments (e.g., deafness, blindness), autism spectrum disorders, and significant motor impairments (e.g., cerebral palsy). For study A, the child was required to be between 36 and 72 months and have a developmental delay. For study B, the child was required to be between 18 and 60 months and at-risk for a developmental delay due to premature birth, but only those children with IQ scores ≤ 80 (42% of the original sample) were included in the current study. A higher cutoff for developmental delay in study B was used due to the more favorable sensitivity and specificity values at 1.5 SD below the mean (Elbaum, Gattamorta, & Penfield, 2010), limitations of relying solely on IQ scores among children born premature (Aylward, 2002), and the relatively small sample size and pilot nature of the current study.

For the participants included in the current study, the children were mostly boys (73%), with a mean age of 49.59 months (*SD* = 12.98, range of 19 to 76 months). Racial/ethnic composition of the child participants was 59% Caucasian, 18% African American, 14% Biracial, and 9% Hispanic. The mean age of the primary caregiver, which was the mother in all cases, was 35.09 (*SD* = 7.59) years, and racial/ethnic composition of the mothers was 72% Caucasian, 16% African American, 7% Biracial, and 5% Hispanic. For families with a father, the mean father age was 37.40 (*SD* = 10.65) years, and racial/ethnic composition of the fathers was 84% Caucasian, 11% African American, 3% Hispanic, and 2% Biracial. Among all families, mean monthly income was $2,890.12 (*SD* = 2,285.13), and most mothers (89%) and fathers (82%) had at least a high school education.

Screening Measures

Maternal Cognition—The Wonderlic Personnel Test (Dodrill, 1981) and the Wechsler Abbreviated Scale of Intelligence (Wechsler, 1999) are reliable screeners of intelligence that were used to exclude mothers with cognitive impairment in studies A and B, respectively.

Child Cognition—The Wechsler Preschool and Primary Scale of Intelligence-Third Edition (Wechsler, 2002) was administered to assess cognitive ability in children ages 3 years and older, whereas the Bayley Scales for Infant and Toddler Development – Third Edition (Bayley, 2006) was administered to assess cognitive ability in children younger than 3 years. Both tools are widely used and reliable measures of cognitive functioning in young children and were used to assess developmental delay in the children in both studies.

Outcome Measures

Child Behavior Checklist for 1½ to 5 Year Olds (CBCL; Achenbach & Rescorla, 2001)—The CBCL is a 99-item parent-rating scale designed to measure the frequency of children's behavioral and emotional problems with excellent 8-day test-retest reliability (*r* = .68 to .92), interrater reliability (mean mother-father *r* = .61), and success in

discriminating between referred and nonreferred children (Achenbach & Rescorla, 2001). The externalizing scale was used as the outcome of maternal-reported child behavior problems (α = .82).

Dyadic Parent-Child Interaction Coding System – Third Edition (DPICS-III; Eyberg, Nelson, Duke, & Boggs, 2004)—The DPICS-III is a measure of the quality of parent-child interactions with documented reliability and validity (Eyberg, et al., 2004), in which parent and child behaviors are coded by recording the frequency of each occurrence. For this study, child compliance to maternal commands during cleanup was used as an objective measure of child behavior. Child compliance was calculated as the total number of times the child complied divided by the total number of times the child complied and did not comply and was used as the outcome of observed child behavior. Coders were trained to 80% agreement with a criterion tape and were uninformed whether families had received treatment. Half of the observations were coded a second time for reliability, and the mean kappa was .66 for child compliance.

Procedure

Both studies were approved by the affiliated Hospital Institutional Review Board. Following referral, families were scheduled to participate in a screening evaluation in which the primary caregiver completed an informed consent form and the screening measures described above. Families that met criteria for the study completed the measures and observation and were randomized to either the PCIT or waitlist control (WL) group. All families were re-evaluated at a second evaluation approximately 4 months later to compare the PCIT and WL group. Families in the WL group then received PCIT and participated in a third evaluation approximately 4 months after beginning treatment. Families in study A received $10 for participation in the first assessment and $15 for participation in the second and third assessments. Families in study B did not receive compensation for participation in the assessments, although treatment was free of charge for families in both studies. For the current study, the “pretreatment” scores were from the assessment immediately preceding the start of treatment (i.e., following the 4-month wait period for the WL group), and the “post-treatment” scores were from the assessment conducted approximately 4 months after beginning treatment. On average, the time between the pretreatment and post-treatment assessments for all families was 18.17 weeks (*SD* = 3.73). Of the 44 families that were enrolled in one of the two studies, 4 families dropped out after the initial screening visit and 5 families dropped out during the waitlist period. Of the 35 families that participated in treatment (i.e., attended at least one session), 13 families (37%) dropped out of treatment, which is consistent with previous research on PCIT (Schuhmann, Foote, Eyberg, Boggs, & Algina, 1998; Werba, Eyberg, Boggs, & Algina, 2006).

Intervention Description

PCIT is a manualized parent-training intervention with extensive research demonstrating its efficacy and long-term maintenance in treating young children with externalizing behavior problems (Eyberg et al., 2008). Treatment progresses through two distinct phases. During the Child Directed Interaction (CDI), the parents learn to follow their child’s lead in play and use differential attention. During the Parent Directed Interaction (PDI), the parents learn to use effective commands and timeout for noncompliance. Each phase begins with a teach session, in which the therapist provides a didactic instruction about the skills the parents will use with their child. Following each teach session, the therapist coaches each parent in-vivo through a one-way mirror (using a wireless headset) in their use of the skills with their child during coach sessions. Sessions were conducted once a week for approximately 1 hour in length, and treatment lasted until parents met mastery criteria of the interaction skills

assessed during a 5-min observation, and that the child's behavior was within normal limits on a measure of disruptive behavior.

In the current sample, families completed treatment in an average of 13.14 sessions (SD = 2.08) with a range of 10 to 18 sessions. The therapists encouraged all fathers to attend as many sessions as possible, and sessions were scheduled at flexible times (e.g., evenings) to increase the likelihood that fathers attended treatment. Additionally, therapists indicated that the CDI and PDI teach sessions were especially important to attend given the amount of information provided during those sessions. Among the IF families, only 2 fathers missed both teach sessions and 2 fathers missed only the PDI teach sessions, and these 4 fathers were the only fathers that had attended less than 60% of the sessions. All other fathers (69%) participated in both PDI and CDI teach sessions and had attended at least 60% of the sessions. All therapy sessions were videotaped, and 50% were randomly selected and coded for integrity by a research assistant uninvolved in coding behavioral observations. Accuracy, defined as the percent with which the therapist adhered to key elements of each session detailed in the treatment manual, was 96%.

Data analysis Plan

Preliminary analyses examined any potential demographic differences between the two treatment studies and whether any significant associations existed between the type of study, group assignment, and outcome measures. Additionally, preliminary analyses examined any potential demographic differences between IF, AF, and UF families. The effect of father involvement on treatment dropout was examined via logistic regression. A multivariate analysis of covariance (MANCOVA) was conducted to examine differences between IF, UF, and AF families on treatment outcome. A MANCOVA was used rather than separate ANCOVAs because the two dependent variables were theoretically related as measures of child behavior problems. The pretreatment scores were entered as covariates to reflect covariate adjusted change in the outcome variables. All analyses were conducted using SPSS 18.0.

Results

Descriptive statistics for the demographic and pretreatment scores for all participants (including dropouts) are presented in Table 1, and all variables were normally distributed. Preliminary analyses indicated no significant associations between the study and group assignment (i.e., PCIT vs. WL), rate of treatment dropout, or outcome measures. However, when comparing the two studies, children in study A were significantly older, $t(42) = 3.92$, $p < .001$, and had lower IQ scores, $t(42) = -3.69$, $p < .01$, than children in study B. In comparison to AF families, IF and UF families had higher monthly incomes ($p = .016$), and children from AF families were significantly less compliant during cleanup at the pretreatment assessment than children from IF families ($p = .047$). Additionally, families that completed treatment had significantly higher income than families that dropped out of treatment ($p = .016$), and children from families that completed treatment had significantly lower scores on the pretreatment CBCL Externalizing scale than children from families that dropped out of treatment ($p = .029$). Therefore, all subsequent analyses controlled for child age, child IQ, and monthly income, as well as pretreatment scores for all outcome variables. For the treatment outcome analyses, all available data were used, which included treatment completers and two families that dropped out of treatment after completing the post-treatment evaluation.

Family Status and Treatment Dropout

As previously stated, 9 families dropped out of the study either immediately after the initial screening or during the waitlist period for families assigned to the WL group. These families could not be assigned to IF or UF groups because they never started treatment, although approximately half (44%) were single-mother families. Of the 35 families that started treatment (i.e., attending the first session), 13 families (37%) dropped out prematurely because they stopped coming into treatment and did not respond to calls or letters before completing treatment and meeting mastery criteria (defined above). Seventy percent of the AF families dropped out of treatment in comparison to 15% of the IF families and 33% of the UF families. A logistic regression was conducted to determine whether group status was associated with treatment dropout. Results indicated that AF family status significantly predicted treatment dropout (odds ratio = 9.94 [1.11–89.31], $p = .040$). Dropout rates between the IF and UF families were not significantly different. As displayed in Table 2, the average number of treatment sessions among dropouts is similar across IF ($M = 8.50$), UF ($M = 7.75$), and AF ($M = 9.50$) families but less than the average length of treatment for completers ($M = 13.14$). A majority of IF (50%), UF (67%), and AF (75%) families completed the CDI phase before dropping out of treatment, and only one family dropped out after completing only the first session.

Father Involvement and Treatment Outcome

A MANCOVA was conducted to determine whether treatment outcome differed between IF, UF, and AF families. Each analysis controlled for child age, child IQ, and family income, as well as pretreatment scores to reflect a change score. Group status of type of family was the between-subject variable, whereas post-treatment CBCL externalizing raw scores and child compliance were entered as the dependent variables. The MANCOVA was significant, $F(4, 32) = 4.61$, $p = .005$ (partial eta-squared = .37), with follow-up ANCOVAs significant for post-treatment CBCL externalizing scores, $F(2, 16) = 10.27$, $p = .001$ (partial-eta squared = .56) and child compliance, $F(2, 16) = 5.01$, $p = .020$ (partial eta-squared = .39). As shown in Table 2, follow-up contrast tests revealed that mothers from IF families reported significantly lower post-treatment CBCL externalizing scores compared to mothers from UF families ($p = .005$) and AF families ($p = .001$), but UF and AF families did not significantly differ from each other ($p = .259$). With regard to compliance during cleanup, children from IF families were significantly more compliant than children from AF families ($p = .008$), but UF families did not significantly differ in child compliance from IF ($p = .117$) or AF families ($p = .139$).

Discussion

Consistent with the hypothesis about dropout, the likelihood of dropout was nine times higher among AF families than IF families in the current study. The finding that single-mother families were more likely to drop out of treatment than two-parent families was consistent with previous research on predictors of dropout from parent training (Reyno & McGrath, 2006) and extends these findings to a sample of children with developmental delay. The lack of a significant difference in dropout rate between IF and UF families is consistent with previous research on father involvement in parent training (Bagner & Eyberg, 2003). However, the dropout rate was twice as high among the UF families as the IF families, suggesting the lack of statistically significant findings may be due to the relatively small sample size in the current study. Nevertheless, the current findings highlight the impact single-mother status can have on the likelihood of not completing treatment for children with developmental delay, although it is possible that other variables associated with single-mother status (e.g., parental depression, lack of social support) that were not assessed in the current study are predictors of treatment dropout. Additionally, there may

have been other reasons for dropout (e.g., lack of motivation, competing demands with other services such as speech therapy) that were not examined given the inability to follow-up with families that dropped out of treatment.

Among families that completed treatment, the results were somewhat consistent with the hypothesis that children from IF families would have better treatment response than children from UF and AF families. Specifically, mothers from IF families reported more improvements in child externalizing behavior problems from pre to post-treatment than mothers from both UF and AF families. Additionally, children from IF families displayed higher rates of compliance to maternal commands following treatment than children from AF families. These findings may reflect increased parental consistency in the home, but home-based measurement of parental behavior was not examined. Changes in child compliance following treatment did not significantly differ between IF and UF families, which may have also been due to the small sample size of the current study. The better immediate treatment response among IF families is consistent with some of the research on father involvement in parent training (Lundahl et al., 2008) but differed from the earlier studies that found no differences at post-treatment (Firestone et al., 1980; Martin, 1977) and studies that only found a positive effect of father involvement at follow-up (Bagner & Eyberg, 2003; Webster-Stratton, 1985; Coplin & Houts, 1991).

The conflicting findings may be due to the focus on developmentally delayed children in the current study. Similar to most research on parent training, all previous studies examining the impact of father involvement in parent training excluded children with developmental delay or intellectual disability. It may be the case that father involvement in parent training has a more immediate and substantial impact on treatment outcome when working with children with developmental delay compared to children without developmental delay. Additionally, children with developmental delay are more likely to receive additional services (e.g., speech therapy, occupational therapy), which also may have a positive impact on outcome, particularly for IF families. For example, fathers involved in parent training may be more likely to participate in other treatment programs as well, and it is possible that their involvement in these services also had a positive impact on child behavior. The impact father involvement in other services can have on behavioral parent-training interventions should be explored in future research.

As previously stated, parents of children with developmental delay have higher rates of stress, particularly when the child also displays significant behavior problems (Baker et al., 2002; Baker et al., 2003). The father's attendance at treatment sessions may help reduce the mother's perceived burden on caring for their child with a delay and help both parents focus on practicing and improving the techniques learned during treatment. Additionally, participating in treatment may improve the marital relationship, which also can have a positive impact on child treatment response. Measures of perceived burden and marital functioning were not included in this study, but future research should examine these constructs as potential mediators of the impact of father involvement on treatment outcome among families of children with developmental delay.

The current study has some limitations that are important to consider. First, the sample size was relatively small, and the data presented should be interpreted as preliminary. Additionally, the small number of families within the IF group did not allow for examination of the cumulative effect of father attendance on treatment outcome, although previous research found no effect of father attendance rate on treatment outcome with a larger subsample of IF families (Bagner & Eyberg, 2003). Overall, limited research has been conducted in the area of father involvement in parent training, and no previous research has examined this question in a sample of children with developmental delay. Despite the

limited sample size, therefore, the present study represents a first step in this important line of research, but future research should aim to replicate the current findings and explore the effect of father attendance on treatment outcome with a larger sample.

Second, the study included a quasi-experimental design because children were not randomly assigned to be in a family where a father was involved or uninvolved in treatment. Therefore, group differences are not necessarily limited to father involvement in treatment and may be related to other variables. However, all analyses controlled for monthly income, which was the one demographic variable that differed between the groups, suggesting that the effect of father involvement was above and beyond the effect of income status. Nevertheless, there may have been other variables that were not collected in this retrospective study that may have influenced the findings. Additionally, other variables that are hypothesized to be mediators (e.g., perceived burden, marital functioning) were not examined.

Third, the current study did not include a follow-up assessment, and findings were limited to effects at post-treatment. The limited time frame of the current study may explain some of the differences in findings with other studies that found positive effects of father involvement only at follow-up (Bagner & Eyberg, 2003; Webster-Stratton, 1985; Williams Coplin & Houts, 1991). Future work should examine the long-term impact of father involvement in parent training for children with developmental delay. Fourth, most of the children were male, so future research should explore whether the findings generalize to girls with developmental delay. Finally, the report of child behavior was limited to a single informant, and findings may have differed when using other informants, including the child's father and teacher/caregiver.

Despite these limitations, the current study is the first to examine the effect of father involvement on dropout and treatment response among children with developmental delay. Given the findings on dropout, clinicians should be mindful that single mothers of a child with developmental delay are at a considerably higher risk for dropping out prematurely from parent training. Future research should examine how best to keep single mothers in treatment, such as the use of motivational interviewing techniques, which has been successfully implemented with at-risk families (Shaw, Dishion, Supplee, Gardner, & Arnds, 2006). The results on outcome suggest that clinicians should encourage fathers of children with developmental delay to participate in parent training because their involvement may enhance the child's response to the intervention. Some exciting work has begun to explore unique ways to increase participation of fathers of children with behavior problems (e.g., Fabiano, et al., 2009; Fabiano, et al., 2012), but this research has been limited to children without developmental delay. Future research should explore similar ways to encourage fathers to participate in parent training in order to maximize treatment response for children with developmental delay.

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Table 1

Descriptive Statistics of IF, AF, and UF families

	IF (*n* = 13)		UF (*n* = 12)		AF (*n* = 10)			
	***M*/%**	***SD***	***M*/%**	***SD***	***M*/%**	***SD***	***F* (2, 34)**	X^2
Demographic Measures								
Child age (in months)	47.92	13.57	49.08	12.19	50.30	14.74	.09	
Child sex (% male)	76.92		83.33		60.00			1.63
Child IQ	61.92	11.06	58.58	10.97	64.70	15.77	.66	
Mother age	34.77	7.49	35.92	5.89	35.90	8.72	.10	
Mother IQ	96.00	11.44	104.50	13.64	92.70	13.90	2.51	
Monthly income	3818.56	2721.36	4149.98	2088.44	1516.00	1112.91	4.75*	
Pretreatment scores								
CBCL externalizing raw score	33.23	7.16	32.25	6.38	33.50	9.07	.09	
Child compliance (%) during cleanup	66.38	22.90	60.36	16.06	43.44	22.66	3.38*	

Note. IF = involved-father family; UF = uninvolved-father family; AF = absent-father families; CBCL = Child Behavior Checklist.

* $p < .05$.

Table 2

Summary of Results For Groups

	IF	UF	AF
Percent dropout	15%	33%	70%
Odds of dropping out of treatment	--	2.75 [.41–22.55]	9.94 * [1.11–89.31]
Average number of treatment sessions for treatment dropouts (range)	8.50 (6 to 11)	7.75 (1 to 13)	9.50 (2 to 17)
Post-treatment outcomes			
CBCL externalizing raw score	10.75 (1.54)[a]	18.78 (1.90)[b]	22.90 (2.64)[b]
Child compliance (%) during cleanup	90.00 (6.10)[a]	73.60 (7.50)[ac]	52.20 (10.40)[bc]

Note. IF = involved-father family; UF = uninvolved-father family; AF = absent-father families; CBCL = Child Behavior Checklist; values in in post-treatment outcomes that are enclosed in parentheses represent standard errors; estimated means in the same row that do not share superscripts differ at $*p < .05$; all analyses controlled for child age, child IQ, and monthly income.