

Self-Administered Behavioral Family Intervention for Parents of Toddlers: Part I. Efficacy

Alina Morawska and Matthew R. Sanders
University of Queensland

This study examined the efficacy of a self-administered behavioral family intervention for 126 parents of toddlers. The effects of 2 different levels of intensity of the self-administered intervention were contrasted (self-administered alone or self-administered plus brief therapist telephone assistance). The results provide support for the efficacy of the self-administered form of behavioral family intervention. There were significant short-term reductions in reported child behavior problems and improvements in maternal parenting style, parenting confidence, and anger. Families who received minimal therapist assistance made more clinically significant gains compared with families who completed the program with no therapist assistance. The intervention effects were maintained at 6-month follow-up. The implications of the findings for the population-level delivery of behavioral family interventions are discussed.

Keywords: parenting, child behavior, self-help, early intervention

The importance of targeting parenting interventions at parents of young children has been emphasized (Sanders & Markie-Dadds, 1992). Parents of toddlers and, particularly, first-time parents have shorter histories of maladaptive interchanges. The child's behavior problems are likely to be less severe and therefore easier to influence, particularly as there is significant developmental plasticity at this age. In addition, the peak period of interest in learning about parenting is during toddlerhood because children become mobile and start to explore the environment, and most parents start to discipline their children between 12 and 24 months for inappropriate behavior (Prior, Smart, Sanson, Pedlow, & Oberklaid, 1992).

Research has demonstrated the importance of parents as agents of change in modifying children's behavioral problems (e.g., Sanders, Markie-Dadds, Tully, & Bor, 2000; Webster-Stratton, 1992); however, most of the research targeting parenting interventions has been conducted with older children, and very little attention has been targeted at the first 3 years of life (Campbell, Shaw, & Gilliom, 2000; Tucker & Gross, 1997). Furthermore, evidence for the efficacy of family interventions with toddlers has generally been marred by a range of methodological problems (Sanders, 1995; Tucker & Gross, 1997).

Behavioral family interventions (BFIs) aim to effect change in children's behavior and adjustment by modifying aspects of the family environment that maintain and reinforce a child's problem behaviors (Sanders, 1992). BFI has documented efficacy, is relatively inexpensive, and is generally much shorter than traditional child psychotherapy (Serketich & Dumas, 1996). There is substan-

tial evidence that BFI produces significant changes in both parents and children immediately following treatment (Forehand, Griest, & Wells, 1979), and there is good maintenance of treatment gains and generalization of these skills (Forehand & Long, 1988). Finally, parents are satisfied with BFIs and find them socially acceptable (Forehand, Wells, & Griest, 1980; Webster-Stratton, 1989).

Although there is much evidence to support the efficacy of BFI, there are a number of factors that limit its utility. First, very low numbers of parents participate in any form of parent education (Sanders et al., 1999), and there is generally low participation by parents of children who have significant behavior problems (Zubrick et al., 1995). Second, there is a range of psychological and cultural implications to seeking help, with great social stigma attached to perceived difficulties with coping. Finally, the logistics of attending sessions, including work schedules, extracurricular activities, arranging for child care, travel, and transport costs, may prevent many parents from participating in interventions (Cunningham, 1996).

Self-directed interventions have been proposed as an effective strategy for decreasing some of the barriers for families accessing services (Sanders, 2000a). Such interventions overcome many of the barriers associated with accessing face-to-face services, as there is lowered stigma and significantly reduced or eliminated cost, transport, and timing difficulties. Families can complete self-directed programs in their own homes, in their own time and at their own pace. Furthermore, self-administered programs are often very cost-effective, and their use can ease the financial burden of mental health on the community. They can be particularly effective as a means of population-level delivery of parenting programs.

There is a paucity of research in the family intervention field focusing on self-directed interventions. Self-directed interventions have been used to target both specific problem behaviors and broader behavioral difficulties (Connell, Sanders, & Markie-Dadds, 1997; Webster-Stratton, Kolpacoff, & Hollinsworth,

Alina Morawska and Matthew R. Sanders, Parenting and Family Support Centre, School of Psychology, University of Queensland, St. Lucia, Queensland, Australia.

Correspondence concerning this article should be addressed to Alina Morawska, Parenting and Family Support Centre, School of Psychology, University of Queensland, St. Lucia QLD 4072, Australia. E-mail: alina@psy.uq.edu.au

1988). Brief self-directed interventions usually include some kind of practitioner support (e.g., Endo, Sloane, Hawkes, & Jenson, 1991; Hansen, Tisdelle, & O'Dell, 1984) and have small sample sizes (e.g., Connell et al., 1997; Hansen et al., 1984), an absence of control groups (e.g., Hunt & Adams, 1989), an absence of child behavior outcome measures (Hansen et al., 1984), and an absence of independent observations of child and parent behaviors (Connell et al., 1997). Overall, Elgar and McGrath (2003), in a review of self-administered treatments for children and families, concluded that there is evidence to support the use of self-administered interventions; however more randomized controlled trials addressing various problem areas, long-term effects, populations, and media need to be conducted. Furthermore, the role of therapist assistance in self-administered treatments needs to be clarified.

The present research is one of a series of studies evaluating the Triple P-Positive Parenting Program. Triple P is a multilevel, preventively oriented, parenting and family support strategy. It aims to prevent behavioral, emotional, and developmental problems in children by enhancing the knowledge, skills, and confidence of parents. Triple P incorporates five levels of intervention on a tiered continuum of strength. Triple P is a behavioral family intervention based on social learning principles. The distinguishing features of Triple P are program sufficiency, flexible tailoring to identified risk and protective factors, varied delivery modalities, wide potential reach, and a multidisciplinary approach. Using a population-level strategy, as well as intervening to reduce existing problems at the clinical level, the program aims to prevent child problems.

The aim of the current study was to examine the effects of a self-administered BFI for parents of difficult toddlers. Such research would not only extend the literature in the BFI field but also contribute to the evidence base for the efficacy of early parenting interventions. Furthermore, the study aimed to examine the effects of varying levels of intervention, with a particular focus on the effects of brief therapist assistance in enhancing the effects of self-administered interventions. Two levels of intervention (self-administered intervention alone or with the addition of telephone consultations) and a wait-list control (WLC) group were examined. It was predicted that, immediately postintervention, telephone-assisted self-directed BFI (TASD-BFI) would achieve superior improvements compared with self-directed BFI (SD-BFI) (a) in observed and self-reported child disruptive behavior; (b) on measures of dysfunctional parenting style, parenting efficacy, and parental anger; (c) in its effects on parental adjustment, as measured by reduced maternal stress and depression and, in two-parent families, fewer conflicts over parenting and improved marital satisfaction; and (d) that these effects would be maintained at follow-up and (e) would produce clinically significant effects across measures. Finally, it was predicted that (f) parents in the TASD-BFI group would derive greater satisfaction from the program than parents in the SD-BFI group.

Method

Participants

Participants were recruited through child-care centers, kindergartens, schools, and playgroups in metropolitan Brisbane, Queensland, Australia. Media releases were also utilized to gain as wide a participant pool as

possible. Overall, 253 mothers contacted the project and completed a 10-min telephone screening interview with Alina Morawska designed to assess the family's suitability for the program as well as to inform the parent of the requirements of the program.

The major criteria for eligibility were the presence in the family of a toddler between the ages of 18 and 36 months and that the family lived within the Brisbane metropolitan area. Parents also had to report concerns about their child's behavior ("Are you concerned about your child's behavior?"). In addition, families were excluded if the child had a disability and/or chronic illness, including language and speech impairment; if the parents were currently seeing a professional for the child's behavior difficulties; if the parents were currently receiving psychological help or counseling; or if the parents were intellectually disabled and/or hearing impaired. One hundred and eighty-four families (72.7%) were eligible to participate, and the main reason for noneligibility was residency outside the trial area.

The 126 families who returned the initial assessment package were randomly assigned to one of three conditions. In families with multiple toddlers, parents were asked to identify which toddler they were most concerned about. The mean Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999) Intensity ratings by mothers and fathers were 120.90 and 114.60, respectively ($SDs = 26.12$ and 26.17 , respectively), and the mean numbers of ECBI Problems were 11.09 and 9.06 for mothers and fathers, respectively ($SDs = 6.30$ and 6.48 , respectively). Forty-two participants were assigned to the SD-BFI condition, 43 to the TASD-BFI condition, and 41 to the WLC group. There were similar numbers of boys (50.8%) and girls (49.2%) in the sample, with a mean age of 26.10 months ($SD = 5.05$). Mother's mean age was 33.21 years ($SD = 4.58$), with fathers slightly older ($M = 35.05$ years, $SD = 5.43$). Most children lived with parents who were married (85.7%), in their original families (89.7%), with a mean number of 3.97 individuals living in the home ($SD = 0.93$). A large proportion of both parents had a university education (57.9% of mothers and 48.3% of fathers). Nearly 95% of fathers were employed for an average of 41.85 hr per week ($SD = 11.52$). Fifty percent of mothers were employed, working an average of 22.46 hr per week ($SD = 11.57$). Eight percent of families had an annual income of less than \$25,000, 20.0% had an income between \$25,000 and \$50,000, 35.2% had an annual income between \$50,000 and \$70,000, and 36.8% had an annual income of more than \$70,000.¹

Measures

Child behavior. Toddler behavior was assessed using the ECBI (Eyberg & Pincus, 1999), a 36-item measure of parental perceptions of disruptive behavior in children between the ages of 2 and 16 years. It consists of a measure of the frequency of disruptive behaviors (Intensity) rated on a 7-point scale, ranging from *never* (1) to *always* (7), and a measure of the number of behaviors that are a problem for parents (Problem) using a yes-no format. In this sample, there was high internal consistency ($\alpha = 0.91$ and 0.87 , respectively).

Parenting style. The Parenting Scale (PS; Arnold, O'Leary, Wolff, & Acker, 1993) is a 30-item questionnaire measuring three dysfunctional discipline styles. It yields three factors: laxness (permissive discipline), overreactivity (authoritarian discipline, displays of anger), and verbosity (overly long reprimands or reliance on talking). The three scales and the total score had good internal consistency ($\alpha = 0.85$, 0.81 , 0.64 , and 0.86 , respectively), and the scale has good test-retest reliability ($r_s = 0.83$, 0.82 , 0.79 , and 0.84 , respectively). The Total score was used for analyses in this study, and the clinical cutoff is 3.1.

Parenting confidence. Parents also completed the Toddler Care Questionnaire (TCQ; Gross & Rocissano, 1988), a 37-item questionnaire on which parents rate their confidence in their ability to perform parenting

¹ At the time of the study, U.S. \$1.00 equaled approximately Australian \$0.70.

tasks specific to their toddlers. The TCQ had good internal consistency ($\alpha = 0.94$) in this sample.

Parental anger. The Parental Anger Inventory (PAI; Hansen & Sedlar, 1998) was used to assess parents' abuse potential. The PAI assesses anger experienced by parents in response to child-related situations. It yields a Problem score and an Intensity score. The scale in this sample had good reliability for the Problem and Intensity scales ($r_s = 0.92$ and 0.95 , respectively) and is moderately correlated with other measures of anger and child behavior.

Parent conflict. The Parent Problem Checklist (PPC; Dadds & Powell, 1991) is a 16-item questionnaire that measures interparental conflict over child rearing and rates parents' ability to cooperate and work together in family management. It provides an index of the number of disagreements, as well as the frequency of occurrence of such disagreements. The Problem scale had adequate internal consistency ($\alpha = 0.79$) in this sample and good test-retest reliability ($r = 0.90$); the clinical cutoff is scores greater than 5.

Marital relationship. The Relationship Quality Index (RQI; Norton, 1983) is a six-item index of relationship quality and satisfaction. Five items assess various aspects of marital relationships on 7-point scales, and one global item assesses the happiness of the relationship. Scores can range from a minimum of 6 to a maximum of 45, and the clinical cutoff is scores less than or equal to 29. The measure is strongly correlated with Spanier's (1976) Dyadic Adjustment Scale ($r = 0.86$) and had excellent internal consistency ($\alpha = 0.95$) in this sample.

Parental adjustment. The Depression Anxiety Stress Scale (DASS; S. H. Lovibond & Lovibond, 1995) is a 42-item questionnaire that assesses symptoms of depression, anxiety, and stress in adults, with good internal consistency for each scale ($\alpha_s = 0.95, 0.92,$ and 0.93 , respectively) in this sample. The DASS also has good convergent and discriminant validity (P. F. Lovibond & Lovibond, 1995) and test-retest reliability ($r_s = 0.71$ – 0.81 for each scale). Scores on each scale can range from 0 to 42.

Mother-child interactions. Observations of mother-child interactions took place in the family's home and were of 30-min duration. The observation consisted of four segments, including a free-play segment with the parent, the parent giving a list of simple instructions to the child in the context of play, a clean-up task, and a segment in which the parent was engaged in another activity while the child had to amuse him- or herself. These home observation sessions were videotaped and coded by research assistants masked to condition, and both child and parent behaviors were classified using the Family Observation Schedule (FOS; Sanders, 2000b). The FOS has demonstrated reliability and discriminant validity and is sensitive to the effects of behavioral intervention in children with behavior problems (Sanders & Christensen, 1985). The following dependent measures were derived from the observation system: percentage of intervals of aversive child behavior (e.g., noncompliance, complaint, physical negative) and parent aversive and nonaversive behavior.

Two trained observers coded the interactions. Each rater coded a selection of interactions from each of the assessment periods. The coders were masked to the intervention condition that participants had been assigned to, as well as to the specific hypotheses being tested. A satisfactory level of interrater agreement was achieved ($M \kappa_s = 0.71$ for parent behavior and 0.69 for child behavior).

Client satisfaction. Parents completed a Client Satisfaction Questionnaire (CSQ; Sanders, Markie-Dadds, & Turner, 2001) following the intervention. The CSQ addresses the quality of the service provided, how well the program met the parent's needs and decreased the child's problem behaviors, and whether the parent would recommend the program to others. Scores range from 13 to 91, with higher scores indicating greater satisfaction with the program.

Design

The design of the study was a fully randomized repeated-measures design using a group comparison methodology involving three intervention conditions (SD-BFI vs. TASD-BFI vs. WLC) by three time periods (pre-

intervention, postintervention, and 6-month follow-up). The flow of participants through the course of the intervention is demonstrated in Figure 1.

Procedure

Written informed consent was obtained from all participating families. Families were randomly assigned after assessment to one of the three conditions. Randomization was implemented using a list of computer-generated random numbers, and families were assigned sequentially to condition according to the list. A random subset (two fifths) of participants, equally distributed across the three groups, was observed.

Intervention

Families in the SD-BFI program received program materials along with instructions for completion. The materials included *Every Parent's Self-Help Workbook* (Markie-Dadds, Sanders, & Turner, 1999), as well as tip sheets on various toddler behaviors (Turner, Markie-Dadds, & Sanders, 1996) and the video *Every Parent's Survival Guide* (Sanders, Markie-Dadds, & Turner, 1996). Each week for a period of 10 weeks, parents were expected to read material for that week and complete a series of workbook tasks. Parents in both intervention conditions received the same materials. In addition, parents in the TASD-BFI condition received weekly telephone

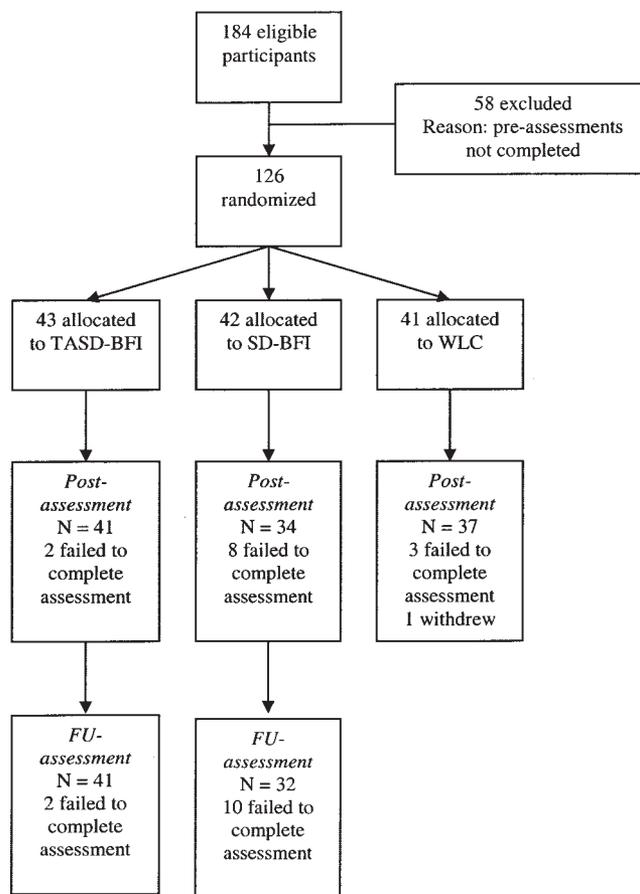


Figure 1. Diagram of the flow of participants (mothers) actively followed throughout the course of the intervention. FU = follow-up; SD-BFI = self-directed behavioral family intervention group; TASD-BFI = telephone-assisted self-directed behavioral family intervention group; WLC = wait-list control group.

consultations for the 10 weeks of the program. In all cases, telephone consultations were conducted with the mother.

The first 4 weeks of the self-directed program introduced parents to the causes of problem behaviors, strategies for promoting children's social competence, and strategies for dealing with difficult behavior. During the next 4 weeks, parents practiced implementing the strategies with the aid of parenting checklists. The final 2 weeks consisted of troubleshooting, revision, and maintenance, as well as closure. The program was based on behavioral principles and included strategies such as general responsiveness, instruction-giving skills, differential social reinforcement, extinction procedures, and time-outs.

The weekly telephone consultations were initiated by the clinician and aimed to encourage parents' own problem-solving skills using a self-regulatory model. Parents were prompted to return to the written material rather than rely on the therapist for solutions. Discussions were restricted to behavior problems of the target toddler and elaboration of concepts nominated by the parent, such as focusing on toilet training or sleep problems. Each telephone session lasted a maximum of 30.0 min, and on average, the sessions lasted 10.1 min. Families completed a mean of seven telephone consultations (range = 3–10).

Families in both groups were contacted at the end of the program (10 weeks) for postintervention assessment. Those families assigned to the WLC group received no intervention for 10 weeks, completed the parent-report measures and home observations, and then completed the program of their choice. The families in the SD-BFI and TASD-BFI groups were assessed once more 6 months after the completion of the intervention for follow-up.

One practitioner completed all telephone consultations, and the therapist was a postgraduate psychologist who had undergone extensive supervision and clinical training in the delivery of the intervention. In addition, detailed written protocols and checklists were utilized to ensure intervention integrity and to minimize protocol drift during the trial.

Attrition Minimization

A number of strategies were utilized to minimize participant attrition, including offering incentives for completion of postintervention and follow-up assessments, such as movie vouchers. Assessment packages were sent with an accompanying letter providing information about the importance of the assessment. Further contact by telephone and mail was used in cases in which parents did not complete assessment. The mean number of days for families to return assessments by mail was 28 (range = 5–120).

Home Observations

Parent-child interactions were observed in family homes at an agreed-upon time. All observations were videotaped, and masked coders recorded the occurrence of each individual behavior code in consecutive 10-s time blocks. Several procedures were implemented to minimize reactivity effects of observation, including training observers not to interact with participants and positioning the observer in a minimally obtrusive location.

Statistical Analyses

Preliminary analyses included analyses of variance (ANOVAs) for continuous variables and chi-square tests for categorical variables on all sociodemographic variables and outcome variables to check for adequate randomization. Statistical analyses involved a series of three-group multivariate analyses of covariance (MANCOVAs) for short-term intervention effects using Time 1 scores as covariates, focusing on the three parent-report areas of child behavior, parenting, and parental adjustment. These three areas were seen as addressing conceptually distinct aspects on which the intervention could impact. Significant univariate effects (analyses of covariance [ANCOVAs]) were examined by pairwise comparisons (*t* sta-

tistic). The level of significance for these analyses was established by using a familywise modified Bonferroni correction in which a *p* value of .05 was divided by the number of measures in the group of measures. Analyses were performed separately for mothers' and fathers' data. Long-term intervention effects were analyzed by 2 (condition: SD-BFI vs. TASD-BFI) \times 2 (time: postintervention and follow-up) repeated-measures multivariate analyses of variance (MANOVAs). To control for attrition effects, we based a secondary set of analyses on an intent-to-treat approach whereby analyses included all clients present at the time of randomization regardless of intervention completion or refusal (Kendall, Butcher, & Holmbeck, 1999).

The impact of the interventions was assessed using a number of criteria. The first was the statistical significance of any changes and differences between groups. The second criterion was of clinical significance, that is, whether the statistically significant effects had practical meaning (Kendall, Marrs-Garcia, Nath, & Sheldrick, 1999). The results were also analyzed in terms of a reliable change index, assessing whether the effects of the intervention were reliable (Jacobson & Truax, 1991). Clinical and reliable changes were analyzed using chi-square procedures across the three groups.

Results

No between-groups differences on demographic variables were found on preliminary analysis. There were also no significant differences across the majority of outcome variables, indicating that the randomization process resulted in three groups that were not significantly different prior to intervention. Nevertheless, pre-intervention scores were used as covariates in subsequent analyses to control for any differences.

Attrition

Overall, a very high retention rate at postintervention was achieved, with 112 of the original 126 (88.9%) mothers completing postassessment. Only one (0.8%) participant withdrew from the study, in the WLC group, shortly following randomization. A further 8 (6.3%) participants in the SD-BFI group, 2 (1.6%) participants in the TASD-BFI group, and 3 (2.4%) participants in the WLC group did not complete postintervention assessment. There were no significant differences in the rates of attrition across the three groups, $\chi^2(2, 126) = 4.57, ns$. Seventy-eight of the original 103 (75.7%) fathers who completed the preassessment also completed the postassessment.

To examine any significant differential attrition across groups, we used a series of one-way ANOVAs to compare completers versus noncompleters across all dependent variables at preintervention. Families who completed the postassessment reported a slightly lower initial level of parental conflict than those who did not complete the postassessment, $F(1, 112) = 4.61, p < .05$. Furthermore, there was a trend for mothers who completed the postassessment to report higher levels of parenting confidence, $F(1, 124) = 3.87, p = .051$. There were no other significant differences. Similarly, at 6-month follow-up, a very high retention rate was achieved, with 73 of the original 85 (85.9%) mothers within the two intervention conditions completing follow-up assessment. However, at follow-up, significantly more participants in the SD-BFI condition ($n = 10$) failed to complete the assessment than in the TASD-BFI condition ($n = 2$), $\chi^2(1, 85) = 6.43, p < .05$. One-way ANOVAs indicated that parents in the SD-BFI group who failed to complete follow-up assessment were initially less confident, $F(1, 41) = 4.49, p < .05$; had more areas of conflict over parenting with their partner, $F(1, 36) = 4.24, p < .05$, and

higher extent of conflict, $F(1, 36) = 5.22, p < .05$; and were more depressed, $F(1, 41) = 6.01, p < .05$, than those who completed the follow-up assessments.

Short-Term Intervention Effects

Effects on child behavior. A significant intervention effect was found for child behavior problems for mothers' report, $F(4, 212) = 5.46, p < .001$, indicating that there were significant intervention effects across groups. Univariate ANCOVAs indicated significant intervention effects for both intensity and number of child behavior problems, as indicated in Table 1. Table 2 provides the t statistics for pairwise comparisons for all significant univariate effects for mothers only. Pairwise comparisons indicated that for both ECBI Intensity and Problem scales, the SD-BFI and T ASD-BFI groups differed significantly from the WLC group, but there was no significant difference between the two intervention groups. No significant differences were found on either index of child behavior according to father report, $F(4, 134) = 2.03, ns$.

Effects on parenting variables. A significant intervention effect was found for parenting style, parental confidence, and parental anger for mothers' report, $F(6, 202) = 7.46, p < .001$. No significant differences were found on any of the parenting variables according to paternal report, $F(6, 138) = 1.20, ns$. Univariate ANCOVAs for maternal reports indicated significant intervention effects for parental confidence and PS Total, as shown in Table 3. Table 2 provides the t statistics for pairwise comparisons for all significant univariate effects. Pairwise comparisons indicated a tiered effect for TCQ, with mothers in the T ASD-BFI group becoming more confident than those in the SD-BFI group and the WLC group and mothers in the SD-BFI group becoming more confident than those in the WLC group. For PS Total, there were no significant differences between the two intervention groups, and both differed significantly from the WLC group.

Effects on personal and marital adjustment. No significant intervention effect was found for either maternal or paternal reports of personal and marital adjustment, $F(12, 172) = 0.863, ns$, and $F(12, 122) = 0.871, ns$, respectively. Table 4 provides details of the means and standard deviations for the DASS subscales, PPC Problem and Extent, and RQI. As indicated in Table 4, all scores, with the exception of PPC Problem preintervention scores for the T ASD-BFI group, were within the normal range, thus making it likely that floor effects obscured intervention effects.

Table 2
Pairwise Comparisons of Significant Short-Term Univariate Intervention Effects for Mothers Only

Measure	Contrast (t statistic)		
	SD-BFI vs. WLC	T ASD-BFI vs. WLC	SD-BFI vs. T ASD-BFI
ECBI Intensity	2.15*	3.97***	1.71
ECBI Problem	2.74**	4.50***	1.62
TCQ	2.77**	6.93***	3.97***
PS Total	-2.35*	-4.18***	-1.72
PAI Extent	-1.09	-2.89**	-1.73

Note. SD-BFI = self-directed behavioral family intervention; T ASD-BFI = telephone-assisted self-directed behavioral family intervention; WLC = wait-list control; ECBI = Eyberg Child Behavior Inventory; TCQ = Toddler Care Questionnaire; PS = Parenting Scale; PAI = Parental Anger Inventory.

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

Effects on parent-child interaction. Data-screening checks on observational variables indicated significant skew for all parent variables, with almost no aversive parent behavior evident. There were no significant differences between groups on any of the parent or child observational variables at preintervention as assessed using a series of univariate ANOVAs. It is important to note that the correlations between child behavior observed during the parent-child interactions and reported by parents in their reports of their children's behavior were very low.

Table 5 provides a summary of the means and standard deviations for observed child negative and parent positive and negative behavior across the three groups at pre- and postintervention. Children's preintervention scores were not elevated, and similarly, as shown in Table 5, the level of aversive parent behavior was extremely low from the outset, with virtually no negative mother behavior evident in the observations.

Analysis of mothers' observed positive interaction and children's negative behavior was conducted using MANCOVA, and there was no significant condition effect, $F(4, 78) = 0.764, ns$. However, perusal of the means in Table 5 indicates that there was considerable variability in children's behavior, as evidenced in the high standard deviations, which limits the conclusions that may be drawn about changes in observed behavior.

Table 1
Short-Term Intervention Effects for Maternal and Paternal Reports of Intensity and Number of Child Behavior Problems

Measure	SD-BFI				T ASD-BFI				Wait-list				ANCOVA	p
	Pre		Post		Pre		Post		Pre		Post			
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD		
Mother report	$(N = 34)$				$(N = 41)$				$(N = 37)$				$F(2, 107)$	
ECBI Intensity	118.27	25.24	111.89	24.92	123.48	29.95	105.86	21.13	119.90	23.75	123.40	27.54	7.92	.001
ECBI Problem	10.29	5.88	7.50	4.83	12.02	7.13	6.41	5.48	10.19	6.01	10.70	6.79	10.29	.000
Father report	$(N = 22)$				$(N = 27)$				$(N = 24)$				$F(2, 68)$	
ECBI Intensity	116.61	25.15	100.36	22.98	113.92	29.38	110.73	25.50	110.08	23.71	111.57	20.41	1.77	.178
ECBI Problem	10.64	5.83	7.05	4.87	7.00	6.13	5.41	4.60	7.38	4.55	7.87	5.33	2.06	.135

Note. SD-BFI = self-directed behavioral family intervention; T ASD-BFI = telephone-assisted self-directed behavioral family intervention; Pre = preintervention; Post = postintervention; ANCOVA = analysis of covariance; F = ANCOVA univariate effect for condition; ECBI = Eyberg Child Behavior Inventory.

Table 3
Short-Term Intervention Effects for Maternal and Paternal Reports of Parenting Confidence, Parenting Style, and Parental Anger

Measure	SD-BFI				TASD-BFI				Wait-list				ANCOVA	p
	Pre		Post		Pre		Post		Pre		Post			
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD		
Mother report	(N = 33)				(N = 39)				(N = 37)				F(2, 103)	
TCQ	136.56	15.94	150.55	17.02	138.51	19.97	164.10	13.30	137.12	19.92	141.78	19.19	24.25	< .001
PS	2.98	0.72	2.59	0.60	3.16	0.55	2.48	0.62	2.97	0.59	2.88	0.53	8.86	< .001
PAI Intensity	92.67	27.29	85.32	27.15	96.96	26.36	80.04	19.94	92.25	25.87	91.02	24.25	4.25	.007
Father report	(N = 25)				(N = 27)				(N = 25)				F(2, 71)	
TCQ	124.36	19.77	139.00	21.29	130.23	19.50	144.15	19.53	124.76	21.35	132.09	20.05	2.61	.081
PS	3.06	0.65	2.91	0.69	2.95	0.41	2.77	0.44	2.93	0.50	2.83	0.59	0.50	.607
PAI Intensity	87.40	27.24	80.12	23.83	90.27	28.19	81.86	22.41	84.35	24.70	75.48	18.43	0.32	.727

Note. SD-BFI = self-directed behavioral family intervention; TASD-BFI = telephone-assisted self-directed behavioral family intervention; Pre = preintervention; Post = postintervention; ANCOVA = analysis of covariance; F = ANCOVA univariate effect for condition; TCQ = Toddler Care Questionnaire; PS = Parenting Scale; PAI = Parental Anger Inventory.

Clinical significance of change. Published clinical cutoffs were used for each questionnaire. The TASD-BFI group improved more compared with the WLC group on both the ECBI Intensity and Problem scales, $\chi^2(1, 72) = 6.69, p < .01$, and $\chi^2(1, 71) = 6.32, p < .05$, respectively, whereas the SD-BFI group did not differ from the WLC group on either scale, $\chi^2(1, 64) = 2.55, ns$, and $\chi^2(1, 65) = 2.55, ns$, respectively. As can be seen in Table 6, there was a shift toward the normal range in the TASD-BFI group.

On the PS, the TASD-BFI condition showed significantly higher levels of clinical change than both the SD-BFI and WLC groups, $\chi^2(1, 73) = 9.14, p < .01$, and $\chi^2(1, 76) = 12.55, p < .001$, respectively, whereas the SD-BFI group did not differ from the WLC group, $\chi^2(1, 69) = 0.237, ns$. Overall, there were clear differences between the two intervention conditions in terms of clinical change favoring the TASD-BFI condition.

Reliable change. The TASD-BFI group improved reliably compared with the WLC group in both ECBI Intensity and Problem, $\chi^2(1, 77) = 6.80, p < .05$, and $\chi^2(1, 73) = 13.41, p < .001$, respectively, whereas the SD-BFI group did not differ from the WLC group, $\chi^2(1, 68) = 0.424, ns$, and $\chi^2(1, 68) = 0.731, ns$, respectively. As can be seen in Table 6, more than 40% of mothers in the TASD-BFI condition reported reliable change in their children's behavior, compared with less than 20% of mothers in the SD-BFI condition.

For the TCQ, there was a significant difference between the TASD-BFI and WLC groups, $\chi^2(1, 76) = 13.39, p < .01$, and there was no difference between the SD-BFI and WLC groups, $\chi^2(1, 68) = 2.83, ns$. For the PS Total score, both intervention groups differed from the WLC group: TASD-BFI, $\chi^2(1, 78) = 11.35, p < .01$; SD-BFI, $\chi^2(1, 69) = 6.01, p < .05$.

Table 4
Short-Term Intervention Effects for Maternal and Paternal Reports of Personal Adjustment, Parental Conflict, and Marital Relationship

Measure	SD-BFI				TASD-BFI				Wait-list			
	Pre		Post		Pre		Post		Pre		Post	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Mother report	(N = 33)				(N = 39)				(N = 37)			
PPC Problem	4.90	2.99	3.03	2.63	5.05	3.61	3.73	3.59	4.85	4.02	3.94	3.14
PPC Extent	29.60	11.11	27.29	11.52	31.79	15.72	26.15	12.33	29.47	14.42	29.28	10.89
RQI	36.13	6.79	37.03	6.77	37.24	6.61	38.36	5.62	36.97	7.30	36.47	7.35
DASS Depression	5.37	5.73	3.33	4.45	8.02	8.93	4.37	6.24	5.32	7.85	3.71	6.36
DASS Anxiety	4.27	7.41	2.18	4.26	2.91	4.24	1.78	3.97	2.38	4.15	1.32	2.07
DASS Stress	11.18	8.50	7.50	6.71	12.03	7.78	8.12	7.04	10.21	7.53	7.71	5.41
Father report	(N = 25)				(N = 26)				(N = 24)			
PPC Problem	4.60	3.03	3.40	3.07	4.00	3.21	3.08	2.88	2.58	1.91	3.42	2.86
PPC Extent	29.28	10.70	27.60	12.86	28.35	11.91	25.25	6.27	26.29	7.35	29.96	8.01
RQI	36.96	7.56	38.48	6.38	39.35	5.65	40.62	5.35	39.38	5.87	38.46	5.93
DASS Depression	4.75	5.49	3.44	4.43	3.16	4.01	2.00	3.48	3.58	4.09	3.33	4.17
DASS Anxiety	2.68	4.76	2.33	4.05	1.49	4.76	0.62	1.17	1.08	1.59	1.25	2.47
DASS Stress	10.95	7.32	7.36	6.05	7.46	5.81	6.13	5.40	7.42	5.43	7.25	6.13

Note. SD-BFI = self-directed behavioral family intervention; TASD-BFI = telephone-assisted self-directed behavioral family intervention; Pre = preintervention; Post = postintervention; PPC = Parent Problem Checklist; RQI = Relationship Quality Index; DASS = Depression Anxiety Stress Scale.

Table 5
Short-Term Intervention Effects for Parent–Child Interactions (Percentage of Intervals)

Observed behavior	SD-BFI (N = 14)				TASD-BFI (N = 15)				Wait-list (N = 16)				ANCOVA F(2, 39)	p
	Pre		Post		Pre		Post		Pre		Post			
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD		
Child negative	23.10	16.79	20.96	12.98	26.82	18.80	19.49	13.83	24.39	16.32	22.87	16.14	0.45	.642
Parent negative	0.23	0.56	0.20	0.52	0.18	0.34	0.18	0.34	0.56	1.48	0.56	1.48	0.29	.749
Parent postive	99.77	0.55	99.80	0.52	99.82	0.34	99.82	0.34	99.43	1.48	99.43	1.48	0.29	.747

Note. SD-BFI = self-directed behavioral family intervention; TASD-BFI = telephone-assisted self-directed behavioral family intervention; Pre = preintervention; Post = postintervention; ANCOVA = analysis of covariance; F = ANCOVA univariate effect for condition.

Overall, the TASD-BFI group showed superior outcomes in terms of clinical and reliable changes compared with the SD-BFI and WLC conditions. Although mothers in the SD-BFI condition reported statistically significant levels of change in a range of areas, these do not appear in many cases to have been clinically or reliably different from preintervention. In contrast, not only did mothers in the TASD-BFI condition report statistically significant changes but these were also clinically and reliably different from preintervention.

Intent-to-treat analyses. Intent-to-treat analyses were conducted including all clients present at the time of randomization regardless of intervention completion. Where postintervention scores were not available (dropouts), original preintervention scores were substituted. Intent-to-treat analyses were conducted only when the original analyses on completers were significant, that is, for mothers only and for their reports of child behavior and their parenting.

A significant intervention effect was found for child behavior problems for mothers' report, $F(4, 240) = 5.81, p < .001$. Univariate ANCOVAs indicated significant intervention effects for both intensity and number of child behavior problems, $F(2, 121) = 8.64, p < .001$, and $F(2, 121) = 11.02, p < .001$, respectively.

A significant intervention effect was found for parenting style, parental confidence, and parental anger for mothers' report, $F(6, 230) = 7.41, p < .001$. Univariate ANCOVAs indicated signifi-

cant intervention effects for parental confidence, $F(2, 117) = 23.43, p < .001$; PS Total, $F(2, 117) = 9.65, p < .001$; and PAI Extent, $F(2, 117) = 5.21, p < .01$.

Intervention acceptability. A total satisfaction score was obtained by summing all Likert-type items (on a 7-point scale with 7 being *very satisfied*). The maximum reported score was 90, whereas the minimum was 29. A one-way ANOVA indicated a significant difference in the level of satisfaction between the TASD-BFI and SD-BFI groups, $F(1, 69) = 9.21, p < .01$, with mothers in the TASD-BFI group reporting higher levels of satisfaction with the program than those in the SD-BFI group ($M = 68.41, SD = 13.22$, and $M = 59.38, SD = 11.71$, respectively).

Long-Term Intervention Effects

Long-term intervention effects were assessed using two repeated-measures MANOVAs comparing postintervention and follow-up effects for the two intervention groups across child behavior and parenting variables, followed by univariate ANOVAs across the variables of interest; the results of these can be seen in Table 7. There were no significant multivariate time effects for either child behavior, $F(2, 69) = 0.493, ns$, or parenting variables, $F(3, 65) = 2.25, ns$, and there were also no significant Time \times Group interaction effects, $F(2, 69) = 0.952, ns$, and $F(3, 65) =$

Table 6
Clinical and Reliable Change and Effect Sizes at Pre- and Postintervention and Follow-Up

Measure	Condition	% clinical range (n/n)			% reliable change (n/n)		Effect size	
		Pre	Post	Follow-up	Post	Follow-up	Post	Follow-up
ECBI Intensity	TASD-BFI	39.53 (17/43)	14.63 (6/41)	19.51 (8/41)	40.00 (16/40)	23.68 (9/38)	0.68	0.58
	SD-BFI	35.71 (15/42)	26.47 (9/34)	18.75 (6/32)	19.35 (6/31)	20.83 (5/24)	0.44	0.47
	Wait-list	39.02 (16/41)	35.14 (13/37)	—	13.51 (5/37)	—	—	—
ECBI Problem	TASD-BFI	34.88 (15/43)	14.63 (6/41)	14.63 (6/41)	43.59 (17/39)	39.02 (16/41)	0.70	0.68
	SD-BFI	28.57 (12/42)	11.76 (4/34)	12.50 (4/32)	11.76 (4/34)	25.00 (6/24)	0.54	0.53
	Wait-list	21.95 (9/41)	32.43 (12/37)	—	5.88 (2/34)	—	—	—
TCQ	TASD-BFI	—	—	—	57.50 (23/40)	60.98 (25/41)	1.35	1.51
	SD-BFI	—	—	—	34.38 (11/32)	43.75 (14/32)	0.48	0.61
	Wait-list	—	—	—	16.67 (6/36)	—	—	—
PS Total	TASD-BFI	67.44 (29/43)	17.07 (7/41)	24.39 (10/41)	41.46 (17/41)	38.46 (15/39)	0.69	0.50
	SD-BFI	35.71 (15/42)	20.59 (7/34)	21.89 (7/32)	31.25 (10/32)	25.81 (8/31)	0.50	0.64
	Wait-list	43.90 (18/41)	29.73 (11/37)	—	8.11 (3/37)	—	—	—

Note. Dashes indicate that no data are available either because the wait-list group did not complete follow-up or because, in the case of the TCQ, there are no clinical cutoffs. Pre = preintervention; Post = postintervention; ECBI = Eyberg Child Behavior Inventory; TCQ = Toddler Care Questionnaire; PS = Parenting Scale; SD-BFI = self-directed behavioral family intervention; TASD-BFI = telephone-assisted self-directed behavioral family intervention.

Table 7
Long-Term Intervention Effects for Maternal Reports of Number and Intensity of Child Behavior Problems and Parenting Confidence, Parenting Style, and Anger

Measure	SD-BFI				TASD-BFI				ANOVA	<i>p</i>
	Post		Follow-up		Post		Follow-up			
	<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>(N = 32)</i>				<i>(N = 40)</i>			<i>F(1, 70)</i>
ECBI Intensity	111.19	25.48	111.59	22.23	105.20	20.97	108.64	23.51	0.70	.406
ECBI Problem	7.53	4.98	7.94	5.21	6.48	5.53	5.98	5.74	0.01	.938
			<i>(N = 29)</i>				<i>(N = 40)</i>			<i>F(1, 67)</i>
TCQ	151.55	17.78	153.00	17.70	164.10	13.30	166.29	12.71	1.94	.168
PS	2.49	0.55	2.52	0.59	2.47	0.62	2.58	0.66	2.33	.131
PAI Extent	81.04	25.40	79.15	27.69	79.34	19.68	82.17	24.56	0.07	.785

Note. SD-BFI = self-directed behavioral family intervention; TASD-BFI = telephone-assisted self-directed behavioral family intervention; Post = postintervention; ANOVA = analysis of variance; *F* = ANOVA univariate effect for condition; ECBI = Eyberg Child Behavior Inventory; TCQ = Toddler Care Questionnaire; PS = Parenting Scale; PAI = Parental Anger Inventory.

1.22, *ns*, respectively, indicating a maintenance effect over the 6-month period.

Table 6 shows the clinical and reliable change effects, as well as effect sizes at follow-up, for the two intervention groups. In general, the results for the TASD-BFI group at follow-up were consistent with those at postintervention, indicating maintenance of clinical effects. Similarly, the effect sizes for the group indicated good intervention effects across time. There was an apparent improvement for the SD-BFI group evident in clinical and reliable change as well as in higher effect sizes on some measures related to differential attrition in this group.

Discussion

The results of the present study provide support for the efficacy of a self-administered form of BFI. There were significant short-term effects of intervention in terms of parent-reported child behavior problems and maternal parenting style, confidence, and anger, and there were some differences between the two intervention conditions, providing support for our first and second hypotheses. Participants in the SD-BFI condition made statistical gains similar to those in the TASD-BFI condition; however, the TASD-BFI condition led to clearly superior outcomes in clinical terms. Participants in the TASD-BFI condition changed reliably, and there was a shift away from the clinical range for this group. Furthermore, the effects reported in this study were confirmed by more conservative intent-to-treat analyses, which controlled for the effects of attrition. These effects were maintained over the longer term, providing support for our fourth hypothesis. Finally, parents in the TASD-BFI group were more satisfied with the program than those in the SD-BFI condition, supporting our sixth hypothesis. Differences in satisfaction may explain the differential level of attrition at the follow-up assessment, with almost all participants in the TASD-BFI condition completing the assessment compared with those in the SD-BFI condition. Parents in SD-BFI condition received less clinical input, reported poorer outcomes, and were less satisfied with the program; thus, they may have felt less committed to completing the follow-up assessments.

The results of this study are consistent with previous research, which has supported the use of BFIs in reducing child behavior

problems and increasing parental confidence and parenting skills (e.g., Forehand et al., 1980; Sanders et al., 2000; Scott, Spender, Doolan, Jacobs, & Aspland, 2001). Consistent with previous research, this study provides support for changes in both mothers and children immediately following BFI (e.g., Forehand et al., 1979) and for maintenance of treatment gains over a longer time frame (e.g., Dadds, Sanders, & James, 1987; Forehand & Long, 1988). This research also extends the available evidence on the efficacy of BFIs with very young children. Given the focus on the early years and the empirical evidence indicating the critical nature of the context of development during this period, the outcomes of this study provide support for implementing BFIs with parents of toddlers.

Contrary to previous findings (e.g., Connell et al., 1997; Forehand et al., 1980), there were no significant effects of BFI on parents' personal adjustment or their marital relationships. Our third hypothesis, that there would be a tiered effect of intervention for participants in terms of personal and marital adjustment, was not supported. There were no significant intervention effects for either condition. However, it is important to note that there was a considerable level of skew in all personal and marital adjustment variables, with most participants scoring well within the normal range at preintervention, indicating that floor and ceiling effects most likely accounted for a lack of significant findings. It is interesting to note, however, that it was parents who reported more conflict with their partner and higher levels of depression in the SD-BFI condition who were less likely to complete the intervention and follow-up assessments, indicating that elevated levels of personal or relationship difficulty can have an impact on parents' ability to implement an intervention, particularly without clinician support, a finding consistent with Sanders et al. (2000). Thus, parents who report difficulties with their personal or relationship adjustment may benefit from professional support in working through a self-administered intervention.

It is interesting to note that fathers reported no changes as a result of the intervention in either of the conditions. This may reflect a number of issues; however, two are particularly relevant. Fathers in general were less concerned than mothers about their toddler's behavior, and thus, floor effects may have obscured the

effects. A second and related issue is the fact that fathers generally spent less time with their children. Most fathers worked full time, whereas only about half the mothers were employed, mainly part time. Thus, fathers may not have reported as many concerns about their children and may not have seen changes in the children's behavior.

Although there was significant support for the hypotheses relating to child and parenting variables, these findings were not confirmed through the observational assessments, which is a limitation of this study. There are a number of explanations that may account for this lack of effect. First, the observed levels of negative behavior were low; thus, a floor effect may have been operating. This is particularly the case for parent negative behavior, which was virtually unobserved during the interactions. Observed child negative behavior was similar in level to postintervention groups in previous studies (e.g., Sanders et al., 2000), thus making it difficult to detect intervention effects. Second, there were very low correlations between observed and parent-reported child behavior, indicating that perhaps the observational tasks were not capturing an adequate sample of children's behavior. The parent-report measure used in the study, the ECBI, has considerable support in the literature and may provide a better representation of the child's behavior over longer periods of time. It is important to note the limitation of observational methods when dealing with behaviors that are high amplitude but relatively low rate. However, it is a drawback of the study that the results were primarily demonstrated through maternal self-report given that there can be biases in parental reports.

The study demonstrates that self-administered interventions can provide benefits in terms of maternal reports of child behavior and parenting confidence and skills. Furthermore, it has also demonstrated that a tiered effect was evident in which mothers who received a small amount of clinical input were able to make more significant, clinically meaningful improvements. It is important to note that the clinician input in this study was relatively minimal. Telephone consultations lasted an average of approximately 10 min, and overall, on average, each participant in the TASD-BFI received just over an hour of clinical input over the course of the program. What made this hour unique was that it was designed to enhance parents' self-regulatory skills—that is, to enable them to make their own changes and be able to generalize these changes over time and situations. The self-regulatory framework of Triple P includes parental self-sufficiency, self-efficacy, self-management, personal agency, and problem solving (Sanders, 1999). Parents set the agenda for these sessions, and they were guided to solve their difficulties or concerns using the resources that had been provided to them, rather than the clinician providing advice or solutions.

There are a number of limitations of this study that need to be considered in interpreting the findings. First, the sample was drawn from the general population and thus consisted of families in the clinical and nonclinical ranges, which may limit the generalizability of the findings to clinical families; however, the findings can be generalized to families who report concerns about their child's behavior. Further research is needed with both clinical and nonclinical populations to address the issue of how efficacious the program is both as a prevention intervention at a population level and as a treatment intervention for high-risk children. Second, the lack of significant findings for the observational data points to the importance of further examination of the reasons for the lack of correspondence between parent report and observational measures.

In retrospect, the selection of a different set of observational tasks (e.g., family mealtime) may have provided a more change-sensitive index of parent-child interaction. Finally, the lack of findings in parents' own and in their marital adjustment needs to be further examined. The measures were not sensitive enough to detect changes in a normal population, and it is important to explore the intervention effects in a higher risk sample.

The results of this study provide support for the efficacy of self-administered BFIs. It was demonstrated that even minimal clinician input, within a self-regulatory framework, led to significant, clinically meaningful changes in maternal report of children's behavior and parenting confidence and skills. Given the paucity of methodologically sound research in the area of self-administered interventions, these results provide a significant contribution to the literature in the area. Furthermore, this research informs the area of telephone counseling and support, which is a burgeoning form of therapy and support. However, although the effects of the intervention were significant, it is important to consider the issue of dissemination and delivery of this efficacious intervention to clinicians and, ultimately, more families.

There are a number of implications of this research for different parent populations. First, for clinical populations, the findings of this study extend the evidence base for flexibly delivered self-administered BFI. Flexible delivery is an important intervention feature, as it allows improved access, particularly for families who live in remote areas or have difficulty in accessing services. Second, for both clinical and normal populations, the findings of this study provide support for the principle of sufficiency—minimal levels of intervention can have a significant impact on levels of child behavior problems. Finally, for the parent population in general, flexibly delivered preventive interventions can reduce the population level of risk and reduce the burden of child behavioral and emotional problems in the community.

References

- Arnold, D. S., O'Leary, S. G., Wolff, L. S., & Acker, M. M. (1993). The Parenting Scale: A measure of dysfunctional parenting in discipline situations. *Psychological Assessment, 5*, 137–144.
- Campbell, S. B., Shaw, D. S., & Gilliom, M. (2000). Early externalizing behavior problems: Toddlers and preschoolers at risk for later maladjustment. *Development and Psychopathology, 12*, 467–488.
- Connell, S., Sanders, M. R., & Markie-Dadds, C. (1997). Self-directed behavioral family intervention for parents of oppositional children in rural and remote areas. *Behavior Modification, 21*, 379–408.
- Cunningham, C. E. (1996). Improving availability, utilization, and cost efficacy of parent training programs for children with disruptive behaviour disorders. In R. D. Peters & R. J. McMahon (Eds.), *Preventing childhood disorders, substance abuse, and delinquency* (pp. 144–160). Thousand Oaks, CA: Sage.
- Dadds, M. R., & Powell, M. B. (1991). The relationship of interparental conflict and global marital adjustment to aggression, anxiety, and immaturity in aggressive and nonclinic children. *Journal of Abnormal Child Psychology, 19*, 553–567.
- Dadds, M. R., Sanders, M. R., & James, J. E. (1987). The generalization of treatment effects in parent training with multidistressed parents. *Behavioral Psychotherapy, 15*, 289–313.
- Elgar, F. J., & McGrath, P. J. (2003). Self-administered psychosocial treatments for children and families. *Journal of Clinical Psychology, 59*, 321–339.
- Endo, G. T., Sloane, H. N., Hawkes, T. W., & Jenson, W. R. (1991). Reducing child whining through self-instructional parent training materials. *Child and Family Behavior Therapy, 13*(3), 41–58.

- Eyberg, S. M., & Pincus, D. (1999). *Eyberg Child Behavior Inventory and Sutter-Eyberg Student Behavior Inventory—Revised: Professional manual*. Odessa, FL: Psychological Assessment Resources.
- Forehand, R., Griest, D. L., & Wells, D. C. (1979). Parent behavioral training: An analysis of the relationship amongst multiple outcome measures. *Journal of Abnormal Child Psychology*, 7, 229–242.
- Forehand, R., & Long, N. (1988). Outpatient treatment of the acting-out child: Procedures, long-term follow-up data and clinical problems. *Advances in Behavior Research and Therapy*, 10, 129–177.
- Forehand, R., Wells, K. C., & Griest, D. L. (1980). An examination of the social validity of a parent training program. *Behavior Therapy*, 11, 488–502.
- Gross, D., & Rocissano, L. (1988). Maternal confidence in toddlerhood: Its measurement for clinical practice and research. *Nurse Practitioner*, 13(3), 19–29.
- Hansen, D. J., & Sedlar, G. (1998). *Manual for the PAI: The Parental Anger Inventory*. Lincoln: University of Nebraska, Clinical Psychology Training Program.
- Hansen, D. J., Tisdelle, D. A., & O'Dell, S. L. (1984). Teaching parents time out with media materials: The importance of observation and feedback. *Child and Adolescent Psychotherapy*, 1, 20–25.
- Hunt, S., & Adams, M. (1989). Bibliotherapy-based dry bed training: A pilot study. *Behavioural Psychotherapy*, 17, 290–302.
- Jacobson, N. S., & Truax, P. (1991). Clinical significance: A statistical approach to defining meaningful change in psychotherapy research. *Journal of Consulting and Clinical Psychology*, 59, 12–19.
- Kendall, P. C., Butcher, J. N., & Holmbeck, G. N. (Eds.). (1999). *The handbook of research methods in clinical psychology* (2nd ed.). New York: Wiley.
- Kendall, P. C., Marrs-Garcia, A., Nath, S. R., & Sheldrick, R. C. (1999). Normative comparisons for the evaluation of clinical significance. *Journal of Consulting and Clinical Psychology*, 67, 285–299.
- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, 33, 335–343.
- Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the Depression Anxiety Stress Scales* (2nd ed.). Sydney: Psychology Foundation of Australia.
- Markie-Dadds, C., Sanders, M. R., & Turner, K. M. T. (1999). *Every parent's self-help workbook*. Milton, Australia: Families International.
- Norton, R. (1983). Measuring marital quality: A critical look at the dependent variable. *Journal of Marriage and the Family*, 45, 141–151.
- Prior, M., Smart, D., Sanson, A., Pedlow, R., & Oberklaid, F. (1992). Transient versus stable behavior problems in a normative sample: Infancy to school age. *Journal of Pediatric Psychology*, 17, 423–443.
- Sanders, M. R. (1992). Enhancing the impact of behavioural family intervention with children: Emerging perspectives. *Behaviour Change*, 9, 115–119.
- Sanders, M. R. (1995). *Healthy families, healthy nation: Strategies for promoting family mental health in Australia*. Bowen Hills: Australian Academic Press.
- Sanders, M. R. (1999). Triple P-Positive Parenting Program: Towards an empirically validated multilevel parenting and family support strategy for the prevention of behavior and emotional problems in children. *Clinical Child and Family Psychology Review*, 2, 71–90.
- Sanders, M. R. (2000a). Community-based parenting and family support interventions and the prevention of drug abuse. *Addictive Behaviors*, 25, 929–942.
- Sanders, M. R. (2000b). *Family Observation Schedule*. Brisbane, Australia: University of Queensland, Parenting and Family Support Centre.
- Sanders, M. R., & Christensen, A. (1985). A comparison of the effects of child management and planned activities training in five parenting environments. *Journal of Abnormal Child Psychology*, 13, 101–117.
- Sanders, M. R., & Markie-Dadds, C. (1992). Toward a technology of prevention of disruptive behaviour disorder: The role of behavioural family intervention. *Behaviour Change*, 9, 186–200.
- Sanders, M. R., Markie-Dadds, C., Tully, L. A., & Bor, W. (2000). The Triple P-Positive Parenting Program: A comparison of enhanced, standard, and self-directed behavioral family intervention for parents of children with early onset conduct problems. *Journal of Consulting and Clinical Psychology*, 68, 624–640.
- Sanders, M. R., Markie-Dadds, C., & Turner, K. M. T. (1996). *Every parent's survival guide* [Video]. Brisbane, Australia: Families International.
- Sanders, M. R., Markie-Dadds, C., & Turner, K. M. T. (2001). *Practitioner's manual for Standard Triple P*. Milton, Australia: Families International.
- Sanders, M. R., Tully, L. A., Baade, P. D., Lynch, M. E., Heywood, A. H., Pollard, G. E., et al. (1999). A survey of parenting practices in Queensland: Implications for mental health promotion. *Health Promotion Journal of Australia*, 9, 112–121.
- Scott, S., Spender, Q., Doolan, M., Jacobs, B., & Aspland, H. (2001). Multicenter controlled trial of parenting groups for childhood antisocial behaviour in clinical practice. *British Medical Journal*, 323, 194–198.
- Serketich, W. J., & Dumas, J. E. (1996). The effectiveness of behavioral parent training to modify antisocial behavior in children: A meta-analysis. *Behavior Therapy*, 27, 171–186.
- Spanier, G. B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and the Family*, 38, 15–28.
- Tucker, S., & Gross, D. (1997). Behavioral parent training: An intervention strategy for guiding parents of young children. *Journal of Perinatal Education*, 6(2), 35–44.
- Turner, K. M. T., Markie-Dadds, C., & Sanders, M. R. (1996). *Triple P tip sheet series for toddlers*. Brisbane, Australia: Families International.
- Webster-Stratton, C. (1989). Systematic comparison of consumer satisfaction of three cost-effective parent training programs for conduct problem children. *Behavior Therapy*, 20, 103–115.
- Webster-Stratton, C. (1992). Individually administered videotape parent training: A comparison study. *Journal of Consulting and Clinical Psychology*, 62, 583–593.
- Webster-Stratton, C., Kolpacoff, M., & Hollinsworth, T. (1988). Self-administered videotape therapy for families with conduct problem children: Comparison with two cost-effective treatments and a control group. *Journal of Consulting and Clinical Psychology*, 56, 558–566.
- Zubrick, S. R., Silburn, S. R., Garton, A., Burton, P., Dalby, R., Carlton, J., et al. (1995). *Western Australia Child Health Survey: Developing health and well-being in the nineties*. Perth: Australian Bureau of Statistics and the Institute for Child Health Research.

Received October 5, 2004

Revision received May 24, 2005

Accepted June 3, 2005 ■