

# Reducing Conduct Problems Among Children of Battered Women

Ernest N. Jouriles, Renee McDonald, Laura Spiller,  
and William D. Norwood  
University of Houston

Paul R. Swank  
University of Texas—Houston Health Science Center

Nanette Stephens, Holly Ware, and Wendy M. Buzy  
University of Houston

This study was an experimental evaluation of an intervention designed to reduce conduct problems among children of battered women. Participants were 36 families (mothers and children) in which the mother had sought shelter because of relationship violence and had at least 1 child (4–9 years old) with clinical levels of conduct problems. The intervention consisted of 2 primary components: (a) providing instrumental and emotional support and (b) teaching child management skills to mothers. Families were randomly assigned to either the intervention condition or the existing services comparison condition and were assessed on 5 occasions over 16 months after shelter departure. Compared with families receiving existing services, children in the intervention condition improved at a faster rate, the proportion of children displaying clinical levels of conduct problems was greatly diminished, and mothers displayed greater improvements in child management skills.

Violence against women is now recognized as an important health and social problem that can have devastating consequences for families. Although women are the most obvious victims, it has become increasingly clear that the impact of this violence extends to children as well. Indeed, evidence from disparate studies has indicated that children of battered women, particularly those who reside temporarily at battered women's shelters, are at considerable risk for adjustment problems (Jouriles, Norwood, McDonald, & Peters, 2001; Margolin, 1998). Studies comparing children living with their mothers at battered women's shelters with children living with their nonviolent parents in the community consistently have shown that children of battered women exhibit higher levels of conduct problems (in the form of oppositional, aggressive, and noncompliant behavior) than children in community-comparison families (e.g., Fantuzzo et al., 1991; Holden & Ritchie, 1991; Rossman & Rosenberg, 1992). Furthermore, descriptive investigations of children who have been brought to battered women's shelters have indicated that a sizable proportion of these children experience problems at clinical levels (e.g., Grych, Jouriles, Swank, McDonald, & Norwood, 2000; Hughes & Luke, 1998), with approximately one third or more exhibiting conduct problems at levels that warrant clinical atten-

tion (Christopoulos et al., 1987; O'Keefe, 1994; Ware et al., in press). There is also evidence from longitudinal research demonstrating that when clinical levels of conduct problems are exhibited by children who are brought to battered women's shelters, these problems persist over time (Ware et al., in press). In short, there is ample empirical evidence indicating that children whose mothers have sought refuge from domestic violence at a battered women's shelter are at substantial risk for conduct problems.

Conduct problems among children of battered women should be of concern to clinicians and policy makers for a number of reasons. Not only are such problems extremely disruptive for family members, teachers, and peers, but they also predict a number of difficulties during adolescence and adulthood, including peer rejection, drug abuse, school dropout, and criminal behavior (Loeber & Hay, 1997; Moffitt, 1993). Moreover, the number of children potentially affected by violence against women is enormous. Each year, between 3.3 million (Carlson, 1984) and 10.0 million (Straus, 1992) children in the United States are exposed to some form of interparental physical violence. Close to 1 million children are brought to battered women's shelters each year in the United States because of wife abuse (Jouriles, 2000). Clearly, the association between violence against women and child conduct problems warrants the attention of clinicians and policy makers, and the development of effective interventions to reduce conduct problems among these children—as among all children—should be a national priority.

A number of programs have been developed to address the adjustment problems of children of battered women. In fact, a great deal has been written about such treatments (e.g., Peled, Jaffe, & Edleson, 1995). Although the specific goals of these programs are diverse (e.g., teaching children safety tactics to use when violence occurs, making sure that the children do not feel responsible for their fathers' violence), most have an overarching goal of alleviating children's adjustment problems. Unfortunately,

---

Ernest N. Jouriles, Renee McDonald, Laura Spiller, William D. Norwood, Nanette Stephens, Holly Ware, and Wendy M. Buzy, Department of Psychology, University of Houston; Paul R. Swank, Developmental Pediatrics, University of Texas—Houston Health Science Center.

This research was supported by grants from the Hogg Foundation for Mental Health, the Texas Higher Education Coordinating Board, and by Grant 53380 from the National Institute of Mental Health.

Correspondence concerning this article should be addressed to Ernest N. Jouriles, Department of Psychology, University of Houston, 4800 Calhoun Road, Houston, Texas 77204. Electronic mail may be sent to [ejouriles@uh.edu](mailto:ejouriles@uh.edu).

empirical data evaluating interventions for children of battered women are sparse, and the few outcome studies that have been published provide very little indication that these interventions effectively reduce or prevent children's problems, particularly their conduct problems (see Ezell, McDonald, & Jouriles, 2000; Graham-Bermann, 2001; Jouriles et al., 1998, for reviews). The present investigation was thus designed to empirically evaluate a theory-based intervention for conduct problems among children of battered women. Specifically, the intervention targeted battered women whose children were exhibiting clinical levels of conduct problems (Ezell et al., 2000; Jouriles et al., 1998). This intervention, Project SUPPORT, draws on Patterson's model (Patterson, 1982) of the development and maintenance of antisocial child behavior, the treatment outcome literature for child conduct problems, empirical research on children in families characterized by domestic violence, and our own experiences with battered women and their children.

Patterson and his colleagues (Patterson, 1982; Patterson, Reid, & Dishion, 1992) have argued that some children learn, at an early age, to behave in an oppositional and aggressive manner. That is, the children's defiance and aggression "pay off" (e.g., by acting defiantly or aggressively, the child can avoid certain tasks or responsibilities); thus, such behaviors continue. Patterson's theory points to parents' difficulties in adopting or consistently using effective disciplinary techniques in response to a child's defiance and aggression as central to this learning process. In addition, parents' failures to build warm, affectionate relationships with their children and to systematically encourage prosocial behavior as an alternative to defiance and aggression are hypothesized to contribute to the development and maintenance of child conduct problems. Consistent with this thinking, Patterson and others have documented that the parents of children with conduct problems differ from the parents of children without such problems in their use of specific parenting behaviors (Patterson, 1982; Patterson et al., 1992). Specifically, parents of children with conduct problems are more likely to have difficulties in setting limits, are more likely to use harsh and inconsistent methods of discipline, and are not as warm or affectionate toward their children.

Patterson (Patterson, 1982; Patterson et al., 1992) and others have also proposed that stressful family conditions, such as marital turmoil and tension, contribute to breakdowns in parental discipline in response to child misbehavior as well as to decreases in parental encouragement for the development of prosocial child behavior. This proposition is consistent with the results of experimental laboratory studies, which show that marital conflict can alter parent-child interaction (e.g., Jouriles & Farris, 1992), and with a large body of correlational research linking marital conflict and distress to negative parenting (Erel & Burman, 1995). Although the empirical literature on domestic violence and parenting is sparse, there is some indication that domestic violence relates to some of the same parenting practices specified in Patterson's theory. For example, national survey data have indicated that mothers and fathers in domestically violent families use physical aggression more frequently with their children than mothers and fathers in families not marked by such violence (Straus & Gelles, 1990; Straus, Gelles, & Steinmetz, 1980). In fact, a large proportion of the children of battered women who are brought to battered women's shelters appear to be victims of very harsh parental physical discipline or physical child abuse (Appel & Holden,

1998), and the link between child conduct problems and parental physical aggression toward children has been replicated several times in samples of families characterized by domestic violence (e.g., Jouriles, Barling, & O'Leary, 1987; Jouriles & Norwood, 1995; Jouriles, Spiller, Stephens, McDonald, & Swank, 2000). Domestic violence has also been associated with lower levels of mothers' and fathers' warmth and affection toward children (e.g., Holden & Ritchie, 1991; Levendosky & Graham-Bermann, 2000; McCloskey, Figueredo, & Koss, 1995). However, the link between child conduct problems and parental warmth and affection has not been documented consistently in families characterized by domestic violence.

It is important to keep in mind that within the context of domestic violence, oppositional and aggressive child behavior may be learned and reinforced in a variety of ways. As we reviewed above, there are data suggesting that parenting may play a role in the development of child conduct problems within domestically violent families. However, these data are far from conclusive. Indeed, social learning theory (Bandura, 1973; Huesmann, 1988) might predict that children's consistent exposure to their fathers' aggressive, domineering behaviors may be even more instrumental than coercive parent-child interaction patterns in the development of child conduct problems. However, regardless of how—or from whom—the conduct problems are acquired, it follows from Patterson's (Patterson, 1982; Patterson et al., 1992) theory that if children learned to behave in an oppositional and aggressive manner, they can also learn to behave more appropriately. That is, by teaching parents (or, in our case, by teaching mothers) how to effectively respond to child misbehavior and how to facilitate and encourage appropriate child behavior, learned child conduct problems may be corrected regardless of the experiences that led to their development.

Teaching child management skills is widely recognized as a very promising approach for the treatment of child conduct problems among clinic-referred children (for reviews see Kazdin & Weisz, 1998; Webster-Stratton, 1993). Researchers have consistently found that clinical levels of child conduct problems can be reduced to normative levels when parents learn to use such skills effectively. Furthermore, the improvements in child behavior that result from such interventions are often sustained long after treatment has ended (e.g., Long, Forehand, Wierson, & Morgan, 1994). These outcome data are consistent with our hypothesis that teaching the appropriate use of specific child management skills (i.e., to create a learning environment for the child that reinforces prosocial behavior and discourages antisocial behavior) might prove to be an important component of an effective intervention for those children of battered women who exhibit clinical levels of conduct problems.

Although providing child-management-skills training to both parents might be ideal, there are a number of ethical and practical reasons why this might not be advisable among families seeking shelter because of domestic violence, where the violence is typically at a dangerous level and many of the women are trying to separate from their batterer. Foremost among these reasons is that including domestically violent men in such treatment may put the women at continued risk for physical harm and abuse. Furthermore, there is evidence that the majority of women who seek shelter because of domestic violence are no longer involved with their partner 1 year following shelter departure (Sullivan & Bybee,

1999). Because child-management-skills training is designed to teach caregivers to alter the environmental contingencies for their children's behavior, providing these services to the mothers seemed to us to offer the best opportunity for altering the child's environment consistently over time. We would like to make clear that we do not view battered women or their parenting as the primary *cause* of child conduct problems within domestically violent families, neither do we intend to imply that battered women, as a group, possess "deficits" in parenting. On the contrary, it is quite possible that the parenting practices of most battered women meet the needs of children who have not developed clinical levels of conduct problems (see Holden, Stein, Ritchie, Harris, & Jouriles, 1998; Sullivan, Nguyen, Allen, Bybee, & Juras, 2000, for relevant data and discussion). Thus, one goal of our intervention was to help mothers build on existing parenting skills to teach their children who are displaying clinical levels of conduct problems to behave in a more appropriate manner.

When considering how to alleviate the conduct problems of children who are brought to battered women's shelters, it is important to recognize that wife abuse is typically only one of many stressors impinging on these mothers and their children. By the time most mothers have reached a battered women's shelter, they have often exhausted other sources of social and financial support; they have experienced frequent changes in residence, sometimes including periods of homelessness; and they and their children have lived in a state of chaos and disruption for quite some time (Jouriles et al., 1998; Margolin, Sibner, & Gleberman, 1988; Peled & Edleson, 1994). As might be expected given these circumstances, many battered women are extremely distressed when they enter a shelter (Christopoulos et al., 1987; Hughes & Luke, 1998; Moore & Pepler, 1998; Wolfe, Zak, Wilson, & Jaffe, 1986). Similarly, children in these families report very high levels of distress (Grych et al., 2000; Hughes & Luke, 1998). Although there is some evidence that mothers' and children's distress gradually decreases following shelter residence (Campbell, Sullivan, & Davidson, 1995; Sullivan & Bybee, 1999; Ware et al., in press), from a clinical perspective, it is important to understand that many sources of stress that affect these families do not simply disappear following shelter exit (Jouriles et al., 1998). On the contrary, affording and maintaining adequate housing, furnishing a new household from scratch, finding employment, and procuring suitable child care are often extraordinary challenges for women who are exiting battered women's shelters and establishing residences independent of their batterers. The fact that the wife abuse does not stop after a separation—for some it actually becomes worse (Browne, 1987)—is also a source of persistent stress.

In our efforts to develop an intervention to reduce conduct problems among children of battered women, we thought it imperative to first address mothers' distress stemming from concerns about meeting their family's basic needs. Even though this distress might gradually decrease following shelter residence without intervention (Campbell et al., 1995; Sullivan & Bybee, 1999), facilitating or speeding its decrease, if possible, would clearly reduce suffering and perhaps enhance efforts to reduce child conduct problems. This latter expectation is consistent with child-clinical research indicating that the effectiveness of interventions for child conduct problems can be enhanced when concurrent family stressors are addressed during the course of treatment (Miller & Prinz, 1990).

On the basis of the theory and research reviewed above, we developed an intervention composed of two primary components: (a) providing instrumental and emotional support to mothers during their transition from shelter residence to new homes independent of their batterers and (b) teaching mothers to use a set of child management skills that have been shown to be effective in other populations in the treatment of clinical levels of child conduct problems. We conducted an experimental evaluation of this intervention, targeting families with children who were displaying clinical levels of conduct problems and whose mothers were leaving shelters for battered women and attempting to set up homes independent of their batterers. We hypothesized that children's conduct problems would decrease in families that received the intervention; we expected relatively little change in these problems among families assigned to the comparison condition. Similarly, we expected mothers' child management skills to improve in families receiving the intervention, with little change in such skills among families in the comparison condition. Given that all of the families were moving to presumably less volatile living conditions (residences independent of the batterers), we expected mothers' psychological distress to decrease for families in both conditions. However, we expected this improvement to occur at a faster rate for families receiving our intervention, relative to those in our comparison condition. To our knowledge, this was the first experimental evaluation of a program designed to reduce child conduct problems among children of battered women.

We also evaluated changes in children's internalizing problems (e.g., depression, anxiety) over time. In samples of children of who have been brought to battered women's shelters, internalizing problems have frequently been found to coexist with conduct problems (Grych et al., 2000; Hughes & Luke, 1998). However, internalizing problems have also been found to decrease following shelter departure with either no or minimal intervention directed toward these problems (Holden et al., 1998; Ware et al., in press). Given the importance of internalizing problems, both in their own right and as concomitants of conduct problems (see Zoccolillo, 1992), we assessed whether internalizing problems changed as a function of our intervention.

## Method

### *Participant Eligibility Determination*

Families were recruited from three Houston–Galveston, Texas, area shelters that offer refuge to battered women and their dependent children. To participate, families had to meet preliminary eligibility requirements during shelter residence and additional eligibility requirements after shelter departure. The treatment study was described to mothers while they were residing at the shelter. Those who were interested in the project and who (a) had a child between 4 and 9 years old and (b) were able to communicate in English were scheduled for a screening appointment to determine the family's eligibility for the study.<sup>1</sup> Screening appointments were scheduled at the mothers' convenience, with the majority (79%) taking place during the first 7 days of shelter residence. Screening interviews were conducted by advanced clinical psychology graduate students. To meet preliminary eligibility requirements (in-shelter criteria) for this study, the mother had to (a) report the occurrence of at least one physically violent act from a male

<sup>1</sup> We did not encounter any mothers who were not interested in learning more about the study.

partner during the previous 12 months and (b) have at least one child in the 4–9-year-old age range who met *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM-IV*; American Psychiatric Association, 1994) criteria for oppositional defiant disorder (ODD) or conduct disorder (CD). Families were excluded if either the mother or the target child (the child who met criteria for either ODD or CD) were exhibiting symptoms of serious mental illness (e.g., psychosis, autism). For families in which more than one child met initial eligibility criteria, the youngest child to do so (in the 4–9-year-old age range) was selected as the target child. The instruments used to determine these eligibility criteria are described below under *Screening Measures*.

A total of 153 families were screened during shelter residence, and 73 families met our in-shelter eligibility criteria. Of those 80 families who were not eligible, the children did not meet diagnostic criteria for ODD or CD in 73 families, and either the mother or child or both were experiencing serious mental illness in 7 families. The proportion of families with children who were exhibiting clinical levels of conduct problems (48%) is commensurate with estimates offered in reviews of the literature on children of battered women (McDonald & Jouriles, 1991). Families who were ineligible for participation in the present study were offered clinical referrals as appropriate.

Families identified as eligible for participation at the in-shelter screening interview were followed after shelter departure to determine whether they were still eligible for the study. For families to remain eligible for participation after shelter departure (a) the mother and the target child (i.e., the one displaying clinical levels of conduct problems) had to be living together in the same household, (b) they had to be in a residence in which the former partner was not a member of the household,<sup>2</sup> (c) the residence had to be within 50 miles of the shelter from which they departed, and (d) the residence had to be sufficiently safe for project staff to visit regularly.

Of the 73 families who met our in-shelter eligibility criteria, five of the mothers moved to residences apart from their children (e.g., the child moved in with grandparents). In 13 of the families, the mother and child returned to the battering male partner immediately after exiting the shelter. Six families moved out of the Houston–Galveston metropolitan area, and 6 families were deemed ineligible for other reasons (e.g., moved into a residence that project staff deemed unsafe for regular home visits). We were unable to contact 1 family, and 2 families declined participation following their shelter departure. Thus, 40 of the 73 families who met preliminary eligibility criteria during shelter residence also met our post-shelter eligibility criteria and participated in this research. The first 4 of these families served as pilot participants, assisting in the development and refinement of our intervention procedures. The remaining 36 families compose our sample.

## Participants

The target children in the participating families included 26 boys and 10 girls. Twenty-six children met diagnostic criteria for ODD, and the remaining 10 met criteria for CD. The mean age of the mothers was 27.97 years ( $SD = 4.90$ ), and the mean years of education for the mothers was 11.03 ( $SD = 2.19$ ). Most of the mothers (83%) had multiple children ( $M = 2.78$ ,  $SD = 1.15$ ). The mean age for the target child was 5.67 years ( $SD = 1.88$ ). Our sample was ethnically diverse, as determined by mothers' reports of their own ethnicity (11 African American, 10 Caucasian, 12 Latino, 1 Asian American, and 2 classified as Other). The mean number of acts of violence perpetrated toward the women by their batterers during the year prior to coming to the shelter was estimated at 68.38 ( $SD = 53.65$ ).<sup>3</sup> In our sample, 75% of the mothers reported that they had been beaten up by their partner, and 36% reported that their partner had used or threatened to use a knife or gun against them during the year prior to shelter residence.

The immediate circumstances of these 36 families (i.e., having recently sought shelter because of wife abuse and then establishing a residence independent of a battering partner) makes it difficult to provide precise

estimates of family income. In addition, a number of women did not know their partner's income or indicated that their partner did not assume any financial responsibility for the household or children. However, all 36 families who participated in this study could accurately be described as low income. For example, mothers reported a mean preshelter personal income of \$7,500 ( $SD = \$7,100$ ), and 89% of the mothers reported receiving some form of public financial assistance during the year prior to their shelter residence. After shelter departure, 70% of the mothers were without employment, 53% had no personal transportation, and 42% lived in a home without a telephone. The living arrangements of these families varied tremendously following their departure from the shelter, 31% of the participants moved in with family or friends, 11% moved to homeless shelters or transitional-living centers, 8% returned to their previous residence after the battering partner vacated, and 50% moved to a residence that was different from the one where they lived prior to shelter entry and was not shared with family, friends, or their former partner.

## Screening Measures

*Diagnostic interview.* A structured interview was created to identify the presence of clinical levels of child disruptive behavior problems. The screening questions asked mothers to indicate whether their children exhibited behaviors that constitute the criteria for the *DSM-IV* diagnostic categories of ODD and CD. Examples were elicited and responses were probed until sufficient information was gathered to determine the presence, frequency, and time since onset for each diagnostic indicator. Information collected from these interviews was reviewed during weekly staff meetings that included two clinical psychologists. Final determination of whether the child met diagnostic criteria for either ODD or CD was made on the basis of these meetings.

*Clinical interview.* Mothers participated in a brief interview to screen for symptoms of serious mental illness. In addition, inquiries were made about prior hospitalizations and family members' use of medications. If evidence or signs of serious mental illness were identified, the mother's or child's mental health history was investigated to determine whether the family was eligible for participation in the research and to determine appropriate referrals.

*Conflict Tactics Scale—Spousal version (CTS).* The Physical Violence subscale of the CTS (Straus, 1979) was completed by mothers for sample selection and sample description purposes. The CTS includes eight items describing physically violent acts. Mothers indicated how often each of these acts occurred during the previous 12 months. In addition, this subscale of the CTS was readministered at each of the five assessments, with mothers asked to indicate the acts of abuse directed toward them during the 4-month period preceding each assessment. The Physical Violence subscale of the CTS is often used for sample selection purposes in domestic violence research, and it has been associated with many variables that are theoretically linked to domestic violence (Straus & Gelles, 1990).

<sup>2</sup> As noted earlier, we limited participation to those mothers who did not return to their battering partners immediately on shelter exit for several reasons. We certainly recognized, however, that some mothers might resume involvement with violent partners during their participation in our project. In such cases, families were allowed to remain in the project if the women felt it was safe for themselves and their children to do so. We did not want to make continued participation in the project contingent on a mother's decision to remain independent of the batterer. In these circumstances, we addressed mothers' safety and relationship issues when necessary but shifted the focus to the children as quickly as clinical judgment allowed.

<sup>3</sup> The number of acts was estimated by substituting the mean of the response range (e.g., 6–10 times was entered as 8 times) and then summing those values across all of the items.

### *Sample Retention and Assessment Procedures*

At the conclusion of the screening assessments, a meeting was scheduled during which the mothers were provided with feedback about the assessment and informed of their eligibility for the treatment study. The study was described in detail to eligible families with considerable attention given to explaining the intervention and comparison conditions and random assignment to condition. One hundred percent of the mothers who were eligible to participate in the study provided written consent to do so. In addition, each provided the project staff with contact information for at least two individuals who could help us contact them should we be unable to locate them in the future. Project staff were typically aware of the mothers' plans prior to leaving the shelter and would make arrangements to contact families a few days after shelter exit. The first in-home assessment was conducted in the family's residence as soon as possible after the family was settled in at their new residence. The mean number of days between the shelter exit and the first assessment was 27.74 ( $SD = 27.84$ ).

Assessment sessions lasted 2 to 3 hr and consisted of mothers' completion of questionnaires and a videotaped 45-min family interaction. Assessments were repeated every 4 months (i.e., within a 2-week window of the 4-month assessment point), resulting in a total of five assessments over a 16-month period. Thirty-one of the families participated in all five assessments; 33 families participated in three of the five assessments. Of the 3 families that participated in two or fewer, 2 had been assigned to the intervention condition and 1 had been assigned to the comparison condition. Results of a Fisher's exact test revealed no significant differences between the intervention and comparison groups in the number of assessments completed or in the number of days that elapsed between completed assessments.

Successfully following families exiting battered women's shelters is extremely challenging. The families' financial disadvantage contributes to a chaotic and stressful existence. In concrete terms, this often translates into transience in housing and employment circumstances. Families engage in frequent moves (e.g., 56% of the women in our sample moved three times or more during the 16-month period of their participation), often go for extended periods without telephone service, and many (e.g., those in suburban or rural areas) have no regular access to personal or public transportation. Maintaining contact with families in these circumstances—to facilitate their continued participation in research—entails dogged persistence. It also elicits great sympathy for the plight of these families. We thus developed tracking procedures that not only ensured that we could continue to follow families but also communicated to them that we cared about their condition. Mothers were compensated financially for the time spent participating in the assessments, and we provided families in both the intervention and comparison conditions with donated tangible goods (e.g., household items such as sheets, pots and pans, school supplies, Thanksgiving dinners, and birthday and Christmas presents). Each family was also contacted monthly, either by phone or in person. At each monthly contact, we inquired about their needs and facilitated contact with community social service agencies when possible.

### *Intervention Condition and Comparison Condition*

Families were randomly assigned to either the intervention or the comparison condition after the initial in-home assessment was completed. Each condition included 13 families in which a child displayed behavior problems consistent with a diagnosis of ODD and 5 families in which a child displayed behavior problems consistent with a diagnosis of CD. The groups did not differ at this initial assessment on any of the demographic variables, screening measures, or measured outcome variables (screening measures are described above, measured outcome variables are described below).

**Intervention condition.** Families in the intervention condition received a multicomponent family intervention (described in more detail in Ezell et al., 2000; Jouriles et al., 1998). This intervention comprised two primary components: (a) providing mothers and children with social and instru-

mental support and mothers with problem-solving skills and (b) teaching mothers to use certain child management skills designed to help reduce their children's conduct problems. Families in this condition were assigned to an intervention team consisting of a trained therapist and one or more advanced undergraduate or postbaccalaureate students. Therapists worked primarily with the mothers (e.g., providing support and facilitating the development of problem-solving skills, teaching child management skills), while the students served as mentors for the children (e.g., providing positive support and serving as prosocial models).

The social and instrumental support component of the intervention is similar to Sullivan and colleagues' advocacy intervention conducted for women departing from battered women's shelters (Sullivan & Bybee, 1999; Sullivan, Campbell, Angelique, Eby, & Davidson, 1994; Sullivan & Davidson, 1991; Sullivan, Tan, Basta, Rumptz, & Davidson, 1992; Tan, Basta, Sullivan, & Davidson, 1995). Therapists and mentors provided emotional support to the women during their transition from the shelter and helped them obtain physical resources and social supports central to their efforts to become self-supporting. In addition, safety concerns were addressed with all families. Following the work of D'Zurilla and Goldfried (1971), the social and instrumental support component of the intervention also included training in decision-making and problem-solving skills.

The principal component of our intervention targeting child conduct problems directly was teaching mothers to effectively use a particular set of child management skills. Through direct instruction, practice, and feedback, mothers were taught skills with which to increase desirable child behavior, decrease undesirable child behavior, communicate more effectively with their children, and facilitate a more positive and warm relationship with their children. The core of the child management component of the intervention was based on programs of other researchers (Dangel & Polster, 1988; Forehand & McMahon, 1981) and augmented to address the circumstances of children in violent families. Although manualized, the intervention was sufficiently flexible to allow adaptation to the needs of each family. That is, therapists systematically assessed each mother's beliefs, practices, and knowledge about parenting, each child's behavior patterns, and the relationships among family members. The intervention was then tailored to meet the family's specific needs, with a focus on using the child management skills to address these needs. Specific child management skills that were taught included contingent praise and positive attention, giving appropriate instructions and commands, and contingent negative consequences for noncompliance and aggressive behavior.

The intervention was designed to include weekly sessions of 1–1.5 hr. Sessions were conducted in the family's home, beginning after shelter departure and continuing for up to 8 months. It should be noted that a rigid once-a-week attendance schedule was not expected or required for families to benefit from the intervention. That is, we recognized at the outset that most of the mothers who participated in this study would be confronted with crises and a variety of pressing demands. Some would not be able to schedule consistent once-a-week sessions, whereas others would desire additional meetings during times of crisis. In short, the intervention was structured so that it could be delivered in a flexible manner, but it was stopped for all families after 8 months. The average number of sessions for families who completed the intervention was 23.

**Comparison condition.** Families in the comparison condition were contacted monthly either in person or by telephone. We encouraged families in the comparison condition to use existing community or shelter services. That is, no restrictions were placed on families' receipt of services from other sources, and indeed, we encouraged them to make use of the resources available to them. With the exception of immediate safety concerns, the families in the comparison condition received no clinical services through our program or from therapists who were delivering clinical services through our program, other than referrals and the tangible goods noted in the section titled *Assessments and Sample Retention*. When safety was an issue, we addressed the safety concerns immediately and offered appropriate referrals.

*Therapists.* Six clinical psychology graduate students and one clinical psychologist served as therapists for the families assigned to the intervention condition. The therapists received extensive training in the content and techniques of the intervention (graduate coursework). The child-management-skills component of the intervention was detailed in a manual that specified the skills to be taught, recommended role plays, and suggested homework assignments. Each therapist-in-training acted as a co-therapist with a more experienced therapist for at least one case before being assigned a client family.

*Treatment integrity.* Close supervision, standardized materials, and comprehensive training were used to ensure treatment integrity. Specifically, therapists kept detailed session notes and audiotaped their sessions. Session notes and audiotapes were reviewed during weekly supervision meetings. In addition, a staff person trained in implementing the intervention conducted independent reviews of session notes and completed a checklist of the therapy components delivered. This review indicated that 100% of the child management skills were presented in all of the completed therapy cases. All of the therapists used didactic instruction along with written materials, role plays, in vivo practice, corrective feedback, between-sessions homework assignments, and mastery checks to teach the child management skills. This review also indicated that a substantial proportion of the in-session time (over 25% of the time in most sessions) was devoted to addressing stressors and problems other than child conduct problems (e.g., procuring resources).

### Measures Used to Assess Treatment Effects

*Child Behavior Checklist (CBCL).* Mothers' reports of target children's behavior problems were measured using the CBCL (Achenbach, 1991). The Externalizing scale of the CBCL assesses conduct problems, such as noncompliance and aggression. The Internalizing scale of the CBCL assesses withdrawal, depression, and anxiety. The CBCL is a widely used measure of child behavior problems, and the psychometric properties of this instrument are well documented (Achenbach, 1991). As suggested by Achenbach, mothers were asked to report on their children's behavior over the past 4 months (because mothers' reports were collected at 4-month intervals). The reduced time interval may result in slightly reduced scale scores, but it should not interfere with efforts to measure change over time.

*Direct observation of mothers' child management skills.* Mothers were observed during 45-min sessions with their children. The families were videotaped during and shortly after a meal/snack. Although research on reactivity effects suggests that a family's behavior is not altered dramatically by the process of observation (Jacob, Tennenbaum, Seilhamer, Bargiel, & Sharon, 1994), special efforts were made to reduce possible biases in data due to reactivity. Observations were conducted so that the video equipment was as unobtrusive as possible. Family members were presented with a complete explanation of the procedures and were given time to become comfortable with the observational equipment prior to the videotaping. As little structure as possible was imposed on family members during the taping of sessions: family members were told to "do what you would normally do." Each observation period lasted for 45 min, but only the final 40 min of each tape was coded.

We coded a dimension of parenting labeled *child management skills* that was designed to reflect the degree to which the mothers correctly used specific skills with their children (e.g., contingent praise and positive attention, giving appropriate instructions and commands, contingent negative consequences for noncompliance and aggressive behavior) and the extent to which they interacted with their children in an involved, affectionate, and responsive manner.<sup>4</sup> This observational code was adapted from coding schemes developed by Hetherington and Clingempeel (1986, 1992) and by Dadds, Schwartz, and Sanders (1987). Ratings were provided for each 1-min time block, and ratings were made on a 5-point scale that was anchored as follows: 1 = *highly inappropriate*, 2 = *mainly inappropriate*, 3 = *between the two extremes*, 4 = *mainly appropriate*, and 5 = *highly appropriate*. One primary coder rated each of the videotapes; an indepen-

dent coder rated approximately 15 hr of data. Both the primary and independent coders were trained in the child management skills used in our intervention, and both had administered the intervention during the pilot phases of the project. In addition, both coders were unaware of the families' experimental condition as well as the particular assessment (one through five) that was being rated. The Pearson correlation between the primary and independent coders' ratings was .83.

*Symptom Checklist-90-Revised (SCL-90-R; Derogatis, Rickels, & Rock, 1976).* The General Severity Index of the SCL-90-R was used as an index of mothers' psychological distress. This measure asks respondents to indicate how much they have been bothered by symptoms of psychological distress (including fear, anxiety, depression, and somatic complaints) in the past week. Coefficient alpha for the General Severity Index has been reported to be .97 in a women's shelter sample (Ware et al., in press). There is also substantial evidence for the validity of this instrument as a measure of psychological distress for both psychiatric and nonpsychiatric populations (Derogatis et al., 1976).

### Additional Measures

We also collected data on the number of times each family moved, the number of job changes for the mother, and the family's receipt of services during the 16-month period of the study. The mean number of moves was 3.7 ( $SD = 1.7$ , mode = 3), and the mean number of job changes was 1.8 ( $SD = 1.7$ , mode = 0). There were no differences between families assigned to the treatment and comparison conditions on either of these two variables. With respect to families' receipt of services, none of the families in the intervention condition received additional mental health services for the target child's conduct problems. Similarly, none of the families in the comparison condition sought out and received mental health services for the target child.

## Results

We conducted mixed models analyses to measure the change in outcomes attributable to the intervention. This analysis strategy allows change to be modeled as a continuous process. The analysis was conducted in two steps. First, for the entire sample, we conducted a series of model-fitting analyses to develop models of within-subject change over time that best reflected the form and nature of individuals' change in the outcome variables. With more than three assessment points, it is possible to model change as a curvilinear function. Thus, we estimated up to three change parameters for each individual on each of the outcome variables: the mean (intercept), the rate of change (slope), and the extent to which the rate of change was accelerating or decelerating (curvature). For each outcome variable, we first evaluated whether a curvilinear (quadratic) function best described the pattern of change; if not, we fit the data to a linear function. Where the data were successfully fit to a curvilinear function, we estimated the intercept, slope, and curvature (on the basis of the quadratic term) parameters. Where the data were best captured by a linear function, we estimated the intercept and slope. In the final step of the analyses, we conducted an analysis evaluating the effects of the intervention by testing whether there were group differences in the change parameters for each of the outcome variables. For all analyses, data were centered at the third (posttreatment) assess-

<sup>4</sup> We attempted to code child antisocial behavior as well, but our observational situation did not elicit much variability in child antisocial behavior.

ment point. Thus, change parameters were estimated at the time when the intervention group had just completed treatment. Centering at this point is in accord with recommendations to avoid centering data at extreme time points to minimize correlations between linear and nonlinear terms (Bryk & Raudenbush, 1992).

In evaluating the within-subject portion of the models to determine the form (linear, curvilinear) of the observed change over time for each outcome variable, we specified parameters with significant variability as random effects (random variation expected across participants); if they demonstrated no significant respondent variability, they were specified as fixed effects. We followed a hierarchical sequence in specifying the individual growth models. As noted above, we first evaluated whether a curvilinear (quadratic), random effects model explained the observed change in outcomes. If the quadratic term was not found to have significant variance, we specified the quadratic term as a fixed effect and reevaluated the model fit. If the quadratic term did not differ significantly from zero, we dropped the curvilinear term and fit the data to a linear model with random effects. If the slope's variance did not differ significantly from zero, we then specified the slope term as a fixed effect and again reevaluated the model fit, testing whether the slope differed from zero. In this fashion, we developed models that best captured the form of individual change in our sample for each outcome variable and specified whether there was substantial individual variability in the change parameters or whether the observed change appeared to be similar across individuals.

Results of these initial model-fitting analyses indicated that a linear model with random intercept and fixed slope best defined the pattern of change in our sample for mothers' child management skills and children's internalizing problems. For maternal distress

and children's externalizing problems, change was best characterized by a curvilinear model with random intercept and fixed slope and curvature parameters. The estimated growth curves for the treatment and comparison groups for each of the outcome variables are depicted in Figure 1. The observed means and standard deviations for each of our outcome measures for the treatment and comparison groups are presented in Table 1. Alpha was set at .05 for all analyses. For tests of hypotheses predicting intervention effects in a specific direction, one-tailed tests of significance were used.

### CBCL Externalizing Scale

The results of the model evaluating change over time in children's externalizing problems indicated significant intercept variance ( $\tau = 3.24, p < .01$ ), the mean intercept was significantly greater than 50, intercept = 57.85,  $SE = 1.8, t(35) = 4.47, p < .01$ , the slope was significantly less than zero,  $t(33) = -5.57, p < .01$ , and the curvature parameter was greater than zero,  $t(32) = 1.75, p < .05$ . Thus, externalizing problems in the sample improved over time, with the rate of improvement diminishing over time. In the analysis testing for group differences, no differences between the treatment and comparison groups emerged on the intercept or curvature parameters, but there was a significant difference in slope across the two conditions,  $t(126) = -6.12, p < .01$ . This result suggests that although the group mean CBCL Externalizing scores were not statistically different from one another at Assessment 3 (the point at which the data were centered), externalizing problems were improving at a faster rate among children in the treatment condition (slope =  $-3.53$ ) than in the comparison condition (slope =  $-1.95$ ).

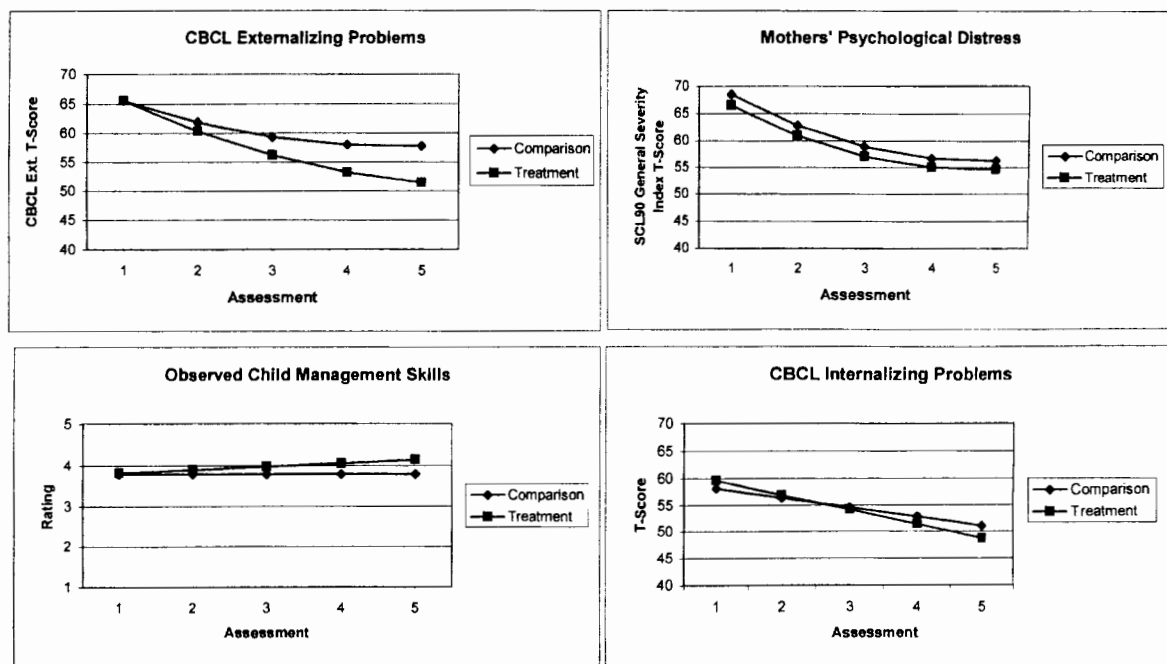


Figure 1. Estimated growth curves by group for each outcome variable. CBCL = Child Behavior Checklist; Ext. = Externalizing; SCL90 = Symptom Checklist-90—Revised.

Table 1  
Group Means and Standard Deviations of Outcome Variables at Each Assessment

Variable and condition	Asst 1		Asst 2		Asst 3		Asst 4		Asst 5	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
CBCL externalizing										
Treatment	66.28	10.00	58.69	9.41	57.00	11.10	54.80	12.95	49.79	9.17
Comparison	65.56	9.13	61.61	12.01	60.11	10.81	55.47	10.39	58.59	13.62
Child management skills										
Treatment	3.58	0.53	4.03	0.40	4.04	0.34	4.02	0.36	3.88	0.39
Comparison	3.75	0.43	3.67	0.54	3.80	0.47	3.66	0.38	3.83	0.41
SCL-90-GSI										
Treatment	67.78	8.85	59.94	13.66	53.40	12.55	58.87	14.27	52.38	8.15
Comparison	67.44	9.49	64.28	11.17	59.83	11.08	54.00	13.74	55.94	11.31
CBCL internalizing										
Treatment	62.28	8.94	53.06	9.38	52.07	9.71	53.20	9.79	48.07	7.98
Comparison	58.72	11.96	55.06	12.35	55.41	10.43	50.94	9.28	51.59	9.66

Note. Asst = assessment; CBCL = Child Behavior Checklist; SCL-90-GSI = Symptom Checklist-90—Revised, General Severity Index.

### Direct Observations of Mothers' Child Management Skills

The final model for the observed use of child management skills was a curvilinear function with the intercept specified as a random effect and slope and curvature as fixed effects. There was significant variation in intercepts in the sample ( $\zeta = 2.21, p < .05$ ), the slope did not differ significantly from zero,  $t(111) = 1.56, p = .12$ , and the curvature term was marginally significant,  $t(111) = -1.73, p = .08$ . Results of the analysis testing for group differences in the growth parameters revealed a significantly higher mean level of child management skills at Assessment 3 for the treatment condition,  $t(110) = -1.91, p = .03$ , and that the child management skills among the families in the treatment condition improved more rapidly than those of the comparison condition,  $t(110) = 2.35, p < .05$ .

### SCL-90-Revised—General Severity Index

The quadratic model with random intercept and fixed slope and curvature effects revealed significant intercept variance ( $\zeta = 3.43, p < .01$ ); the mean intercept was significantly greater than 50, intercept = 58.0,  $SE = 1.75, t(35) = 4.56, p < .05$ . In addition, the slope was less than zero (slope =  $-3.0$ ),  $t(127) = -6.79, p < .01$ . The curvature parameter was significantly greater than zero,  $t(127) = 2.37, p < .05$ . These results indicate that mothers' psychological distress diminished over time with the rate of improvement in distress diminishing over time. The change parameters did not differ significantly across the treatment and comparison conditions.

### CBCL Internalizing Scale

A linear model with the intercept specified as a random effect and the slope as a fixed effect was specified. Results indicated significant intercept variance ( $\zeta = 3.43, p < .01$ ), mean intercept greater than 50, intercept = 54.4,  $SE = 1.4, t(35) = 3.18, p < .05$ , and slope significantly less than zero, slope =  $-2.2, t(128) = -5.73, p < .01$ . The change parameters did not differ across the treatment and comparison conditions. These results indicate that

children's internalizing problems diminished over time, with similar rates of change for the comparison and treatment conditions.

### Clinical Significance of Intervention Outcome

The above results suggest that the intervention resulted in reductions in mothers' reports of children's externalizing problems and improvements in mothers' child management skills over the course of the intervention and follow-up periods relative to controls. We also considered the clinical significance of the treatment effects for children's externalizing problems. First, we used normative comparisons to test whether the level of externalizing problems of children in the treatment condition was reduced to a level equivalent to that of the general population (Kendall, Marrs-Garcia, Nath, & Sheldrick, 1999). Following the procedure detailed by Kendall and colleagues and using data on the normative sample reported by Achenbach (1991), we first defined the normative range of externalizing problems as being less than 1 standard deviation above the mean CBCL Externalizing *T* score for the normative group ( $M = 50, SD = 10$ ). Next, we conducted a one-sided normative comparison to determine whether the level of externalizing problems for the treatment group at the fifth assessment fell within the normative range. Finally, we conducted a traditional hypothesis test of the means for the treatment and normative samples (i.e., a test of the null hypothesis that the mean of the treatment group equals the mean of the normative population). Results of the equivalency test indicated that at the fifth assessment, the intervention group was clinically equivalent to the normative group with regard to externalizing problems ( $\zeta_{CE} = 3.83, p < .01$ ), and the mean level of externalizing problems for the treatment group did not differ significantly from the mean of the normative population ( $\zeta_{rad} = 0.08, ns$ ). By contrast, using these same procedures to compare externalizing problems within the comparison group at the fifth assessment to that of the normative sample, results indicated that the level of externalizing problems for the comparison group remained above the normative range ( $\zeta_{CE} = 0.53, ns$ ) and the mean level of externalizing problems for the control group continued to differ significantly from the mean of the normative population



( $t_{\text{traq}} = 3.22, p < .01$ ). These results provide evidence for clinically significant treatment effects attributable to the intervention.

As a second measure of the clinical significance of the intervention outcome, we considered the proportion of children whose problems were reduced to within nonclinical levels at the end of the follow-up period. At the first assessment, 13 of the 18 children in the treatment condition and 13 of the 18 children in the comparison condition had CBCL Externalizing *T* scores greater than or equal to 60 (the 90th percentile; a cutpoint recommended by Achenbach, 1991, for distinguishing clinical from subclinical problems). At the fifth assessment point, 3 children in the treatment condition and 8 in the comparison condition were still reported to have externalizing problems at clinical levels. We conducted a repeated measures logistic analysis to evaluate whether the proportion of children with clinical levels of externalizing problems differed as a function of time and treatment condition. Results indicated that the change over time in the proportion of children at clinical levels differed significantly across the treatment and comparison conditions,  $\chi^2(4, N = 36) = 9.66, p < .05$ .

### *Additional Indication of Outcome*

Although all of the families moved from shelters to homes away from their battering partners, many had continued contact (e.g., child visitation, attempts to reconcile) with the battering partners. We reasoned that the frequent contact between the project staff and families in the intervention condition might serve as a deterrent to continued domestic violence (e.g., batterers knew a therapist visited regularly with the mothers and might thus be less likely to become violent). Therefore, we examined whether there were differences in the likelihood of violence against the mother across the treatment and comparison conditions after initiation of the project (i.e., after the first assessment). For this analysis, violence was considered to be present if the mother reported at *any* of Assessments 2–5 that a partner had been physically aggressive toward her during the previous 4 months. Violence was considered absent if it was *not* reported to have occurred at any of those assessment points. Forty-four percent of mothers in the comparison condition and 31% in the treatment condition reported a recurrence of violence during the follow-up period. A chi-square analysis indicated that these proportions did not differ significantly across the two conditions.

### Discussion

This study evaluated a clinical intervention targeting children with clinical levels of conduct problems who were brought to shelters for battered women. The intervention, guided by previous theory and research (e.g., Kazdin & Weisz, 1998; Patterson, 1982; Patterson et al., 1992), included two primary components: (a) providing instrumental and emotional support to mothers during their transition from shelter residence to new homes independent of their batterers and (b) teaching mothers to use a set of child management skills that have been shown to be effective in the treatment of clinical levels of conduct problems in other populations. Our results provide empirical support for the effectiveness of this intervention. Specifically, children's conduct problems decreased at a faster rate among children in families receiving the

intervention relative to children in families assigned to the comparison condition. In addition, the level of conduct problems for children in the intervention group was brought to within the normative range. It is also noteworthy that mothers in families receiving the intervention demonstrated more rapid and greater improvements in child management skills (a hypothesized mechanism through which the intervention reduces child conduct problems) compared with families who did not receive the intervention. To our knowledge, this is the first empirical demonstration, in a randomized controlled study, of an effective treatment program for conduct problems among children of battered women.

Given the number of children who are brought to women's shelters each year (Jouriles, 2000), the sizable proportion with conduct problems at clinical levels (Grych et al., 2000; Ware et al., in press), and the long-term negative consequences of untreated conduct problems (Loeber & Hay, 1997), the results of this evaluation are very encouraging. That is, children who are exhibiting clinical levels of conduct problems, and who are thus at substantial risk for long-term problems, can be identified and helped by a practical, circumscribed, and time-limited intervention. It is particularly noteworthy that the positive results of our intervention were achieved despite the presence of a multitude of stressors, many of which have been empirically established as risk factors for continued child conduct problems. Specifically, all of the families who participated in this study lived in poverty and were in the often chaotic process of establishing new homes. The mothers were also adjusting to being single parents and many were revictimized by their assailants during the course of the project. That the level of conduct problems of children in the intervention condition was brought within the normative range in the face of these ongoing stressors highlights that women who have been battered and who have sought refuge at a shelter can effectively help their children overcome some of the deleterious effects of living in a home characterized by severe wife abuse.

Although conduct problem scores decreased for children in the comparison condition over the course of the study, the mean CBCL Externalizing scores for these children remained at or very close to clinical levels over the entire 16-month period. That is, despite reductions in conduct problems among children in the comparison condition, most of these children did not move out of the clinical range as indicated by their CBCL scores. It is important to keep in mind that families in both conditions received some services such as tangible goods, referral information, and regular contacts by project staff. In addition, families in both conditions were experiencing a number of changes (e.g., separation from the batterer). Thus, it is impossible to determine why these decreases occurred. However, our data suggest that, without intervention directed at reducing child conduct problems, *clinical levels* of child conduct problems exhibited by children who are brought to battered women's shelters remain relatively stable over the 16-month period following shelter departure. In other words, conduct problems at clinical levels do not appear to simply remit with the mother's separation from the batterer or with time following shelter departure. Although other empirical research has documented short-term stability of clinical levels of conduct problems among children of battered women (Ware et al., in press), this study is the first to do so over a relatively long-term (longer than a year) follow-up period.

In general, mothers residing at the participating women's shelters were very interested in learning more about our treatment study when it was first introduced to them. Furthermore, the participation rate among eligible families was very high (95% of the families eligible to participate elected to do so). Thus, it appears that women at battered women's shelters are interested in services that might benefit them and their children, and our multicomponent intervention was viewed as desirable among these women. It is noteworthy, however, that none of the mothers in the comparison condition sought mental health services for their children's conduct problems during the 16-month period following their departure from the shelter. Thus, although services in general may be desirable, there appear to be barriers to the actual receipt of services specifically targeted for the children in these families, suggesting a need for greater outreach.

Related to the point above, it is our belief that the instrumental and emotional support component of the intervention was essential in the recruitment and retention of families into the project, as well as in the successful treatment of these families. In other words, we believe that very few of the mothers would have elected to participate in the intervention, or would have benefited from it, had it consisted only of training in child management skills. Consistent with other research (Peled & Edelson, 1994; Sullivan & Bybee, 1999), most of our participants faced a number of urgent needs immediately following their shelter departure (e.g., obtaining adequate housing), many of which required immediate attention. Furthermore, it was also our impression that few of the women were aware (or convinced) of the heightened risk for serious and persistent problems that their children's conduct problems represented. The support component of the intervention was designed specifically to address the many urgent needs these mothers were likely to confront. We believe this component attracted most of the mothers to the intervention program, gave us credibility as concerned service providers, and helped mothers reach a point where they could benefit from the training in child management skills. Our findings suggest that a primarily child-oriented service (e.g., child management skills) paired with a highly desired social service for families in crisis (instrumental and emotional support) can have a demonstrable effect on child behavior in a multiproblem sample.

Another finding of note is that mothers' psychological distress and mothers' reports of children's internalizing problems decreased at a steady rate across both the intervention and comparison families. Again, it is important to keep in mind that families in both conditions received tangible goods and referral information and were contacted regularly by project staff; it is possible that these factors contributed to the observed decreases in mothers' psychological distress and children's internalizing problems. However, it is noteworthy that our results are consistent with previous research findings indicating that mothers' and children's psychological distress decrease following shelter residence without formal intervention (Campbell et al., 1995; Sullivan & Bybee, 1999; Ware et al., in press). Although this result is by itself encouraging, it does raise questions about the limits to interpretation of data collected from women and children during shelter residence. These findings suggest that researchers should consider that scores on measures of emotional distress during shelter residence may reflect temporary distress related to factors that led to or involve shelter residence (e.g., recent violence, temporary homelessness, the move

to a shelter) rather than a stable pattern of emotional difficulties or adjustment problems. Indeed, distress is likely to be normative—in some cases, adaptive—under conditions such as those surrounding shelter entry and residence.

It should also be noted that the mean observational rating for mothers' child management skills, prior to the delivery of any services, was between the midpoint and the *mainly appropriate* anchor points on our Parenting scale. This finding is consistent with the view that many battered women are competent parents (e.g., Sullivan et al., 2000). On the other hand, it is important to remember that all of these mothers had children who were exhibiting clinical levels of conduct problems, and children in the comparison condition, as a group, exhibited clinical levels of conduct problems during the entire 16-month period following their departure from the shelter. Thus, parenting between the midpoint and *mainly appropriate* anchor points, as operationalized in the present research, was not sufficient to address clinical levels of child conduct problems—something more was needed.

Several limitations of this research warrant comment. Our sample was small, so replication is desirable to confirm our results. The sample size also did not allow for analyses that might help us distinguish those families who benefited most from our intervention from those who benefited less. Second, our study design did not permit an evaluation of the relative contribution of the individual components of the intervention to the observed effects. Although the pattern of findings (i.e., maternal distress was reduced in both groups, whereas parenting changes were observed only in the intervention group) suggests that the reductions in child conduct problems occurred as a result of changes in mother-child interaction, this could not be tested directly in this study. "Dis-mantling" research, which identifies the separate contribution of each component, would help clinicians and policy makers determine the most cost-effective approach to intervention with these high-risk children. We should further note that in spite of our findings regarding child management skills, we believe our assessment of parenting was limited. Specifically, our assessment of parenting was not very sensitive (scores ranged primarily in the upper half of a 5-point distribution), and our assessment strategy made it impossible to determine whether the observational assessments actually captured mothers' typical use of specific child management skills. In fact, it is quite possible that the demand characteristics of this observational assessment produced a "knowledge test" of child management skills rather than an ecologically valid assessment of parenting. We would argue, however, that the two are clearly not exclusive (typical use depends on knowledge of the skills) and that it certainly could be that knowledge of child management skills drives the effectiveness of this intervention whether the skills are used typically or only occasionally (e.g., when mothers find that other methods are not working). Despite these limitations, we believe that the results of this study provide a solid and practical foundation for further investigation into how to best help children who are brought to battered women's shelters and who are displaying clinical levels of conduct problems. Specifically, the results of this study suggest that an intervention that provides support to women during their transition from a shelter to a new home and that teaches women how to effectively address their children's conduct problems shows great promise.

## References

- Achenbach, T. (1991). *Manual for the Child Behavior Checklist/4-18 and 91 Profile*. Burlington: University of Vermont, Department of Psychiatry.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- Appel, A. E., & Holden, G. W. (1998). The co-occurrence of spouse and physical child abuse: A review and appraisal. *Journal of Family Psychology, 12*, 578-599.
- Bandura, A. (1973). *Aggression: A social learning analysis*. Englewood Cliffs, NJ: Prentice-Hall.
- Browne, A. (1987). *When battered women kill*. New York: Free Press.
- Bryk, A. S., & Raudenbush, S. W. (1992). *Hierarchical linear models: Applications and data analysis methods*. Newbury Park, CA: Sage.
- Campbell, R., Sullivan, C. M., & Davidson, W. S., II (1995). Women who use domestic violence shelters: Changes in depression over time. *Psychology of Women Quarterly, 19*, 237-255.
- Carlson, B. E. (1984). Children's observations of interpersonal violence. In A. Roberts (Ed.), *Battered women and their families* (pp. 147-167). New York: Springer.
- Christopoulos, C., Cohn, D. A., Shaw, D. S., Joyce, S., Sullivan-Hanson, J., Kraft, S. P., & Emery, R. E. (1987). Children of abused women: Adjustment at time of shelter residence. *Journal of Marriage and the Family, 49*, 611-619.
- Dadds, M., Schwartz, S., & Sanders, M. (1987). Marital discord and child conduct disorders. *Journal of Consulting and Clinical Psychology, 55*, 396-403.
- Dangel, R. F., & Polster, R. A. (1988). *Teaching child management skills*. New York: Pergamon Press.
- Derogatis, L., Rickels, K., & Rock, A. (1976). The SCL-90 and the MMPI: A step in the validation of a new self-report scale. *British Journal of Psychiatry, 128*, 280-289.
- D'Zurilla, T. J., & Goldfried, M. R. (1971). Problem solving and behavior modification. *Journal of Abnormal Psychology, 78*, 107-126.
- Erel, O., & Burman, B. (1995). Interrelatedness of marital relations and parent-child relations: A meta-analytic review. *Psychological Bulletin, 118*, 108-132.
- Ezell, E., McDonald, R., & Jouriles, E. N. (2000). Helping children of battered women: A review of research, sampling of programs, and presentation of Project SUPPORT. In J. Vincent & E. Jouriles (Eds.), *Domestic violence: Guidelines for research-informed practice* (pp. 144-170). London: Kingsley Publishers.
- Fantuzzo, J. W., De Paola, L. M., Lambert, L., Martino, T., Anderson, G., & Sutton, S. (1991). Effects of interparental violence on the psychological adjustment and competencies of young children. *Journal of Consulting and Clinical Psychology, 59*, 258-266.
- Forehand, R. L., & McMahon, R. J. (1981). *Helping the noncompliant child: A clinician's guide to parent training*. New York: Guilford Press.
- Graham-Bermann, S. A. (2001). Designing intervention evaluations for children exposed to domestic violence: Applications of research and theory. In S. Graham-Berman & J. Edleson (Eds.), *Domestic violence in the lives of children: The future of research, intervention and social policy* (237-267). Washington, DC: American Psychological Association.
- Grych, J. H., Jouriles, E. N., Swank, R., McDonald, R., & Norwood, W. D. (2000). Patterns of adjustment among children of battered women. *Journal of Consulting and Clinical Psychology, 68*, 84-94.
- Hetherington, E. M., & Clingempeel, W. G. (1986). *Longitudinal study of adjustment to remarriage: Global coding manual*. Charlottesville: University of Virginia, Department of Psychology.
- Hetherington, E. M., & Clingempeel, W. G. (1992). Coping with marital transitions: A family systems perspective. *Monographs of the Society for Research in Child Development, 57*, 2-3.
- Holden, G. W., & Ritchie, K. L. (1991). Linking extreme marital discord, child rearing, and child behavior problems: Evidence from battered women. *Child Development, 62*, 311-327.
- Holden, G. W., Stein, J. D., Ritchie, K. L., Harris, S. D., & Jouriles, E. N. (1998). Parenting behaviors and beliefs of battered women. In G. W. Holden, R. Geffner, & E. N. Jouriles (Eds.), *Children exposed to marital violence: Theory, research, and applied issues* (pp. 289-334). Washington, DC: American Psychological Association.
- Huesmann, L. R. (1988). An information processing model for the development of aggression. *Aggressive Behavior, 14*, 13-24.
- Hughes, H. M., & Luke, D. A. (1998). Heterogeneity in adjustment among children of battered women. In G. W. Holden, R. Geffner, & E. N. Jouriles (Eds.), *Children exposed to marital violence: Theory, research, and applied issues* (pp. 185-221). Washington, DC: American Psychological Association.
- Jacob, T., Tennenbaum, D., Seilhamer, R. A., Bargiel, K., & Sharon, T. (1994). Reactivity effects during naturalistic observation of distressed and nondistressed families. *Journal of Family Psychology, 8*, 354-363.
- Jouriles, E. N. (2000, April). Gaps in our knowledge about the prevalence of children's exposure to domestic violence and impact of domestic violence on children. Paper presented to the National Academy of Sciences, Washington, DC.
- Jouriles, E. N., Barling, J., & O'Leary, K. D. (1987). Predicting child behavior problems in maritally violent families. *Journal of Abnormal Child Psychology, 15*, 165-173.
- Jouriles, E. N., & Farris, A. M. (1992). Effects of marital conflict on subsequent parent-son interactions. *Behavior Therapy, 23*, 355-374.
- Jouriles, E. N., McDonald, R., Stephens, N., Norwood, W., Spiller, L. C., & Ware, H. S. (1998). Breaking the cycle of violence: Helping families departing from battered women's shelters. In G. Holden, R. Geffner, & E. N. Jouriles (Eds.), *Children exposed to marital violence: Theory, research, and applied issues* (pp. 185-221). Washington, DC: American Psychological Association.
- Jouriles, E. N., & Norwood, W. D. (1995). Physical aggression toward boys and girls in families characterized by the battering of women. *Journal of Family Psychology, 9*, 69-78.
- Jouriles, E. N., Norwood, W., McDonald, R., & Peters, B. (2001). Domestic violence and child adjustment. In J. Grych & F. Fincham (Eds.), *Child development and interparental conflict* (pp. 315-336). Cambridge, England: Cambridge University Press.
- Jouriles, E. N., Spiller, L. C., Stephens, N., McDonald, R., & Swank, P. (2000). Variability in adjustment of children of battered women: The role of child appraisals of interparent conflict. *Cognitive Therapy and Research, 24*, 233-249.
- Kazdin, A. E., & Weisz, J. R. (1998). Identifying and developing empirically supported child and adolescent treatments. *Journal of Consulting and Clinical Psychology, 66*, 19-36.
- 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.
- Levendosky, A. A., & Graham-Bermann, S. A. (2000). Behavioral observations of parenting in battered women. *Journal of Family Psychology, 14*, 80-94.
- Loeber, R., & Hay, D. (1997). Key issues in the development of aggression and violence from childhood to early adulthood. *Annual Review of Psychology, 48*, 371-410.
- Long, P., Forehand, R., Wierson, M., & Morgan, A. (1994). Does parent training with young noncompliant children have long-term effects? *Behaviour Research and Therapy, 32*, 101-107.
- Margolin, G. (1998). Effects of domestic violence on children. In P. K. Trickett & C. J. Schellenbach (Eds.), *Violence against children in the family and the community* (pp. 57-101). Washington, DC: American Psychological Association.
- Margolin, G., Sibner, L. G., & Gleberman, L. (1988). Wife battering. In

- V. B. Van Hasselt, R. L. Morrison, A. S. Bellack, & M. Hersen (Eds.), *Handbook of family violence* (pp. 87–117). New York: Plenum.
- McCloskey, L. A., Figueredo, A. J., & Koss, M. P. (1995). The effects of systemic family violence on children's mental health. *Child Development, 66*, 1239–1261.
- McDonald, R., & Jouriles, E. N. (1991). Marital aggression and child behavior problems: Research findings, mechanisms, and intervention strategies. *The Behavior Therapist, 14*, 189–192.
- Miller, G. E., & Prinz, R. J. (1990). Enhancement of social learning family interventions for childhood conduct disorder. *Psychological Bulletin, 108*, 291–307.
- Moffitt, T. E. (1993). Adolescent-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review, 100*, 674–701.
- Moore, T. E., & Pepler, D. J. (1998). Correlates of adjustment in children at risk. In G. W. Holden, R. Geffner, & E. N. Jouriles (Eds.), *Children exposed to marital violence: Theory, research, and applied issues* (pp. 157–184). Washington, DC: American Psychological Association.
- O'Keefe, M. (1994). Linking marital violence, mother-child/father-child aggression, and child behavior problems. *Journal of Family Violence, 9*, 63–78.
- Patterson, G. R. (1982). *Coercive family process*. Eugene, OR: Castalia.
- Patterson, G. R., Reid, J. B., & Dishion, T. J. (1992). *Antisocial boys*. Eugene, OR: Castalia.
- Peled, E., & Edleson, J. L. (1994). Advocacy for battered women: A national survey. *Journal of Family Violence, 9*, 285–296.
- Peled, E., Jaffe, P. G., & Edleson, J. L. (1995). *Ending the cycle of violence: Community responses to children of battered women*. Thousand Oaks, CA: Sage.
- Rossmann, B. B. R., & Rosenberg, M. (1992). Family stress and functioning in children: The moderating effects of children's beliefs about their control over parental conflict. *Journal of Child Psychology and Psychiatry, 33*, 699–715.
- Straus, M. A. (1979). Measuring intrafamily conflict and violence: The Conflict Tactics (CT) Scales. *Journal of Marriage and the Family, 41*, 75–88.
- Straus, M. A. (1992). Children as witness to marital violence: A risk factor for life long problems among a nationally representative sample of American men and women. In D. F. Swartz (Ed.), *Children and violence: Report of the twenty-third Ross roundtable on critical approaches to common pediatric problems* (pp. 98–104). Columbus, OH: Ross Laboratories.
- Straus, M. A., & Gelles, R. J. (Eds.). (1990). *Physical violence in American families*. New Brunswick, NJ: Transaction.
- Straus, M. A., Gelles, R. J., & Steinmetz, S. K. (1980). *Behind closed doors: Violence in the American family*. Garden City, NY: Anchor Press.
- Sullivan, C. M., & Bybee, D. I. (1999). Reducing violence using community-based advocacy for women with abusive partners. *Journal of Consulting and Clinical Psychology, 67*, 43–53.
- Sullivan, C. M., Campbell, R., Angelique, H., Eby, K. K., & Davidson, W. S. (1994). An advocacy intervention program for women with abusive partners: Six-month follow-up. *American Journal of Community Psychology, 22*, 101–122.
- Sullivan, C. M., & Davidson, W. S., II (1991). The provision of advocacy services to women leaving abusive partners: An examination of short-term effects. *American Journal of Community Psychology, 19*, 953–960.
- Sullivan, C. M., Nguyen, H., Allen, N., Bybee, D., & Juras, J. (2000). Beyond searching for deficits: Evidence that battered women are nurturing parents. *Journal of Interpersonal Violence, 15*, 583–598.
- Sullivan, C. M., Tan, C., Basta, J., Rumpitz, M., & Davidson, W. S. (1992). An advocacy intervention program for women with abusive partners: Initial evaluation. *American Journal of Community Psychology, 20*, 309–332.
- Tan, C., Basta, J., Sullivan, C. M., & Davidson, W. S. (1995). The role of social support in the lives of women exiting domestic violence shelters: An experimental study. *Journal of Interpersonal Violence, 10*, 437–451.
- Ware, H. S., Jouriles, E. N., Spiller, L. C., McDonald, R., Swank, P. R., & Norwood, W. D. (in press). Conduct problems among children at battered women's shelters: Prevalence and stability of maternal reports. *Journal of Family Violence*.
- Webster-Stratton, C. (1993). Strategies for helping early school-aged children with oppositional defiant disorders and/or conduct disorders: The importance of home-school connections. *School Psychology Review, 22*, 437–457.
- Wolfe, D. A., Zak, L., Wilson, S. K., & Jaffe, P. (1986). Child witnesses to violence between parents: Critical issues in behavioral and social adjustment. *Journal of Abnormal Child Psychology, 14*, 95–104.
- Zoccolillo, M. (1992). Co-occurrence of conduct disorder and its adult outcomes with depressive and anxiety disorders: A review. *Journal of the American Academy of Child and Adolescent Psychiatry, 31*, 547–556.

Received June 21, 2000

Revision received April 3, 2001

Accepted April 9, 2001 ■