

Reducing Conduct Problems Among Children Exposed to Intimate Partner Violence: A Randomized Clinical Trial Examining Effects of Project Support

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This study was a randomized clinical trial of Project Support, an intervention designed to reduce conduct problems among children exposed to intimate partner violence. Participants were 66 families (mothers and children) with at least 1 child exhibiting clinical levels of conduct problems. Families were recruited from domestic violence shelters. The Project Support intervention involves (a) teaching mothers child management skills and (b) providing instrumental and emotional support to mothers. Families were randomly assigned to the Project Support intervention condition or to an existing services comparison condition. They were assessed on 6 occasions over 20 months, following their departure from the shelter. Children in families in the Project Support condition, compared with those in the comparison condition, exhibited greater reductions in conduct problems. Mothers in the Project Support condition, compared with those in the comparison condition, displayed greater reductions in inconsistent and harsh parenting behaviors and psychiatric symptoms. Changes in mothers' parenting and psychiatric symptoms accounted for a sizable proportion of Project Support's effects on child conduct problems at the end of treatment. Clinical and policy implications are discussed.

Keywords: conduct problems, partner violence, treatment outcome, child interventions, parenting interventions

Each year in the United States, an incident of severe intimate partner violence (IPV) occurs in the families of over 7 million children (McDonald, Jouriles, Ramisetty-Mikler, Caetano, & Green, 2006). In time, many of these children accompany their mothers during a stay in a domestic violence (DV) shelter. Understandably, children brought to DV shelters often experience adjustment difficulties. Indeed, over one third display clinical levels of conduct problems (Grych, Jouriles, Swank, McDonald, & Norwood, 2000; Ware et al., 2001), which tend to persist after shelter departure (Jouriles et al., 2001; McDonald, Jouriles, & Skopp,

2006; Ware et al., 2001). Severe and persistent child conduct problems are extremely costly and disruptive—to the children themselves, to their families, and to society at large (Foster, Jones, & the Conduct Problems Prevention Research Group, 2005). Such problems also predict a variety of social and mental health problems during adolescence and adulthood (Loeber & Hay, 1997). Thus, from a public health perspective, it seems tremendously important to identify and offer services to children who come to DV shelters and who are exhibiting clinical levels of conduct problems.

Intervention studies on children in families characterized by IPV are scarce, and most have serious methodological shortcomings (Graham-Bermann & Hughes, 2003). The few rigorous intervention studies in this area suggest that treatment that focuses on mother–child interactions can improve child outcomes (e.g., Graham-Bermann, Lynch, Banyard, DeVoe, & Halabu, 2007; Lieberman, Van Horn, & Ippen, 2005). Project Support (Jouriles et al., 2001; McDonald, Jouriles, & Skopp, 2006) is one of the interventions evaluated and found to be promising. Project Support was designed specifically for families in which the children had accompanied their mothers to a DV shelter, at least one child in the family (4 to 9 years old) was exhibiting clinical levels of conduct problems, and the mothers were transitioning to a new home independent of their abusive partners.

The Project Support intervention includes two primary components: (a) teaching mothers child management skills and (b) pro-

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viding instrumental and emotional support to mothers during their transition from the shelter. The first component is based on research on parenting in domestically violent families, Patterson and colleagues' model of the development and maintenance of conduct-disordered child behavior (Patterson, 1982), and the treatment outcome literature on child conduct problems. Specifically, frequent and severe IPV is associated with inconsistent and harsh parenting, including acts of physical and psychological aggression directed at children (e.g., Holden & Ritchie, 1991; Jouriles & LeCompte, 1991; Levendosky & Graham-Bermann, 2000). Theory suggests and research indicates that these dimensions of parenting (consistency, harshness) are important in the development and maintenance of child conduct problems (Patterson, 1982); parenting that provides consistent discipline and parenting that is not harsh have been linked with positive child outcomes (Baumrind, 1996). In addition, a substantial body of research indicates that interventions that reduce inconsistent and harsh parenting can reduce child conduct problems (Eyberg, Nelson, & Boggs, 2008; Kaminski, Valle, Filene, & Boyle, 2008; Lundahl, Risser, & Lovejoy, 2006; McCart, Priestler, Davies, & Azen, 2006).

The second component of Project Support, providing emotional and instrumental support to the mothers, is based on research linking IPV to mothers' psychiatric symptoms and mothers' psychiatric symptoms to their parenting. It is also based on the treatment outcome literature evaluating effects of advocacy interventions for victims of IPV. Considerable research links IPV victimization to psychiatric symptoms (e.g., Ehrensaft, Moffitt, & Caspi, 2006), and longitudinal research links mothers' psychiatric symptoms to their parenting (e.g., Conger, Patterson, & Ge, 1995; DeGarmo, Patterson, & Forgatch, 2004). Studies are also emerging to suggest that mothers' psychiatric symptoms mediate the relation between IPV and mothers' parenting (e.g., Levendosky, Leahy, Bogat, Davidson, & Von Eye, 2006). Taken together, these findings suggest mothers' psychiatric symptoms should also be targeted when intervening on mother-child interactions in families marked by IPV. Results from treatment studies addressing parenting in multiproblem families suggest that targeting parental adjustment can enhance treatment effects (Miller & Prinz, 1990), but findings across studies are equivocal (Lundahl et al., 2006; Kaminski et al., 2008). Advocacy interventions can be very effective in reducing psychiatric symptoms experienced by victims of IPV (Sullivan & Bybee, 1999). It is noteworthy that much of the research on advocacy interventions has been conducted with women who have sought shelter because of IPV and are transitioning from a DV shelter to a new home—that is, families very similar to those targeted by Project Support.

Thus, Project Support is expected to reduce conduct problems among children in families characterized by IPV by altering mothers' parenting (reducing inconsistencies and harshness) and reducing mothers' psychiatric symptoms. The first component of the intervention, teaching mothers child management skills, focuses on altering mothers' parenting. The second component, providing instrumental and emotional support to mothers during their transition from the shelter, is expected to reduce mothers' psychiatric symptoms. The results of an initial randomized clinical trial evaluating effects of Project Support were quite compelling with respect to this intervention reducing child conduct problems (Jouriles et al., 2001; McDonald, Jouriles, & Skopp, 2006). Families in the Project Support group, in contrast to families in the

comparison group, also demonstrated improvements in mothers' child management skills. Mothers' psychiatric symptoms decreased for both groups, but group differences in symptoms were not observed. Although these results were promising, they were based on a sample of only 36 families (mothers and children), and findings from small-sample studies often do not replicate in subsequent research (Maxwell, 2004). Thus, they still must be considered preliminary. It was also unclear from this initial study whether Project Support reduced child conduct problems as theorized, by altering mothers' parenting and reducing mothers' psychiatric symptoms.

The present research was designed to replicate and extend these initial findings. There were four primary objectives. First, we examined effects of Project Support on child conduct problems in a larger sample of families, using a multimethod assessment of conduct problems. In the initial trial, child conduct problems were assessed solely by mothers' reports on the Externalizing scale of the Child Behavior Checklist (CBCL; Achenbach, 1991). The Externalizing scale of the CBCL is widely accepted in research on child psychopathology, and mothers are a valuable source of information on young children's conduct problems. Nevertheless, replicating the effects of Project Support on child conduct problems using additional measures and methods would increase confidence in the results. In addition to using the CBCL in the present research, we obtained mothers' reports of child conduct problems on the Eyberg Child Behavior Inventory (Eyberg & Ross, 1978), a widely used questionnaire, and we obtained observational data on child oppositional behavior.

Second, we examined effects of Project Support on specific aspects of mothers' parenting. The initial evaluation demonstrated that mothers' parenting can be changed in families characterized by frequent and severe IPV and that such changes can be effected during the transition period following a family's departure from a DV shelter (Jouriles et al., 2001). However, in the initial evaluation, mothers' parenting was measured broadly. It was not clear how the intervention might have influenced specific, theoretically important aspects of mothers' parenting. In the present research, we evaluated the effects of Project Support on specific aspects of mothers' parenting that are important in the development and maintenance of child conduct problems, as well as their treatment. These included inconsistency, acts of physical and psychological aggression directed at children, and expressions of negative affect and behavior.

Third, we evaluated effects of Project Support on mothers' psychiatric symptoms in this larger sample. In the initial evaluation of Project Support, mothers' psychiatric symptoms, as measured by the Symptom Checklist-90-Revised (SCL-90-R; Derogatis, Rickels, & Rock, 1976), decreased over the course of the study; however, the rates of reduction and levels of symptoms did not differ across the Project Support and comparison conditions. In the present research, we re-evaluated the hypothesis that Project Support would reduce mothers' psychiatric symptoms, and we extended the assessment of psychiatric symptoms to include mothers' trauma symptoms. Trauma symptoms are common among women who have experienced frequent and severe IPV (Golding, 1999), and maternal trauma symptoms are associated with child adjustment (Bogat, DeJonghe, Levendosky, Davidson, & Von Eye, 2006; Sack, Clarke, & Seeley, 1995).

Fourth, we considered whether Project Support works as theorized. Specifically, we evaluated whether the expected changes in mothers' parenting and psychiatric symptoms explained effects of Project Support on child conduct problems. Very few studies designed to evaluate interventions for child conduct problems include careful and rigorous examination of mediators; thus, there is little empirical knowledge about the processes by which many of these interventions work (Eyberg et al., 2008). The present study was designed to illuminate some of these processes. We hypothesized that, in comparison to families assigned to the comparison condition, families assigned to the Project Support condition would show greater reductions in child conduct problems, mothers' inconsistent and harsh parenting, and mothers' psychiatric symptoms, and that changes in mothers' parenting and psychiatric symptoms would account for reductions in child conduct problems. We also evaluated whether changes in child conduct problems, mothers' parenting, and mothers' psychiatric symptoms occurred during the intervention period, the follow-up period, or both. We were especially interested in changes in child conduct problems, which we reasoned would begin to improve during the intervention period, while the parenting skills are being taught and initially used. However, we also expected that use of the "full package" of parenting skills, acquired over the course of the intervention period, would yield continued reductions in conduct problems through the follow-up period.

Method

Participants

Recruitment and screening procedures. All study procedures were approved by the institutional review board of the institution where the study was conducted. Thirty families were required for each study group (the Project Support condition and the comparison condition) to detect a statistically significant ($p < .05$) group difference for a medium effect size, based on 0.8 power for a growth curve analysis with an average of five data points per family (Snijders & Bosker, 1993). Families were recruited into the project from October 1996 to January 2000 from six urban and suburban DV shelters. Women who entered the shelters with 4- to 9-year-old children were contacted by project staff within a few days of shelter entry. At this contact, mothers were informed that they might be eligible for a shelter follow-up program, which would involve project staff keeping in touch with the mother after she left the shelter to check on how the family is doing and help the family obtain services that they may need. Mothers were also informed that the follow-up program would involve in-home assessments of family functioning, for which there would be financial compensation, and that there was a chance that the mother could have someone come to her home to work with her on ways to help her children. Mothers who were interested in participating and who were able to communicate effectively in English were then scheduled for an in-shelter screen to determine the family's initial eligibility for the project.

Eligibility for the project was determined at three separate time points: (a) during an in-shelter screen, (b) after shelter departure but prior to the first assessment conducted at the family's postshelter residence, and (c) during the first in-home assessment. Figure 1 displays the flow of participants at each step of the

eligibility determination process. The in-shelter screen was conducted within the family's first week of shelter entry, and families were assessed for IPV, psychiatric illness, substance abuse, child conduct problems, and whether they were currently receiving services to address child conduct problems. Prior to participating in the screen, mothers completed informed consent documents for the screening procedures.

As part of the in-shelter screen, mothers completed the Conflict Tactics Scale-Revised (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). To be eligible, the mother had to have reported experiencing at least one act of physical IPV from a male partner during the previous 12 months. Mothers also participated in a brief structured interview about past psychiatric diagnoses (their own and their children's), hospitalizations, suicide attempts, mental health services, prescription medications, and substance use. If significant psychiatric symptoms or substance use was evident or reported, the interviewer consulted the supervising psychologist to determine whether the problems were likely to interfere with the family's ability to participate in the project. If families were judged ineligible because of significant psychiatric symptoms or substance use, project staff assisted them in obtaining appropriate help during their shelter residence. Mothers also participated in a structured clinical interview (McDonald & Stephens, 1998) to assess whether their children (4–9 years old) met criteria for oppositional defiant disorder (ODD) or conduct disorder (CD) from the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition (DSM-IV; American Psychiatric Association, 1994). Examples of reported problematic child behaviors were elicited and responses were probed until sufficient information was gathered to determine the presence, frequency, and time since onset for each diagnostic indicator. The interviews were audio-recorded, and 25% were coded by a second rater; interrater reliability (kappa) was .93 for ODD and .95 for CD. To be eligible, the mother needed to have at least one child between 4 and 9 years old who met the criteria for ODD or CD, and the family must not have been currently receiving services targeting the child conduct problems. For families with more than one eligible child, the oldest was selected as the target child for data collection purposes.

Of the 483 families who participated in the in-shelter screen for eligibility, 283 were determined to be ineligible, leaving 200 potentially eligible families. The mothers in these families were visited throughout their shelter stay to foster rapport, assess plans for exiting the shelter, offer referrals as needed, and maintain contact information so they could be located after exiting the shelter. We tried to establish helpful and supportive relationships with the families while they were in the shelter, reasoning that they would be more likely to participate if they experienced us as helpful and thought that their family might benefit from our services.

Immediately after an eligible family exited a participating shelter, we attempted to locate them and schedule the family's first assessment at their new, postshelter residence. Families were considered ineligible at this point if (a) they could not be located, (b) they had moved more than 50 miles (80.5 km) from the location where the project was based, (c) the mother's abusive partner lived with the family following the shelter departure, or (d) the family declined participation. Of the 200 families that were eligible during shelter stay, 93 were excluded after they left the shelter and

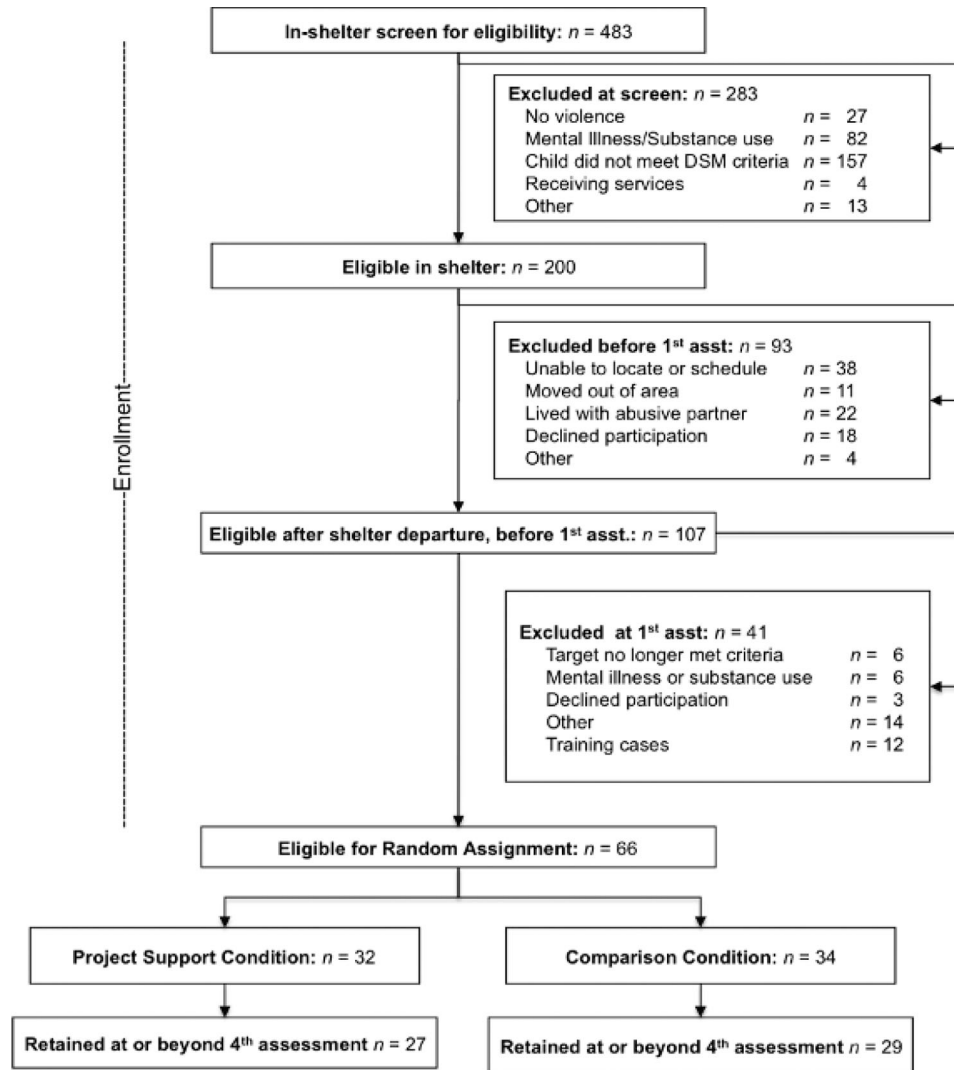


Figure 1. Flow of participants through the study. Asst. = assessment.

before their first assessment (when participation actually commenced), leaving 107 potentially eligible families.

Prior to participating in the first assessment, mothers completed informed consent documents for the study procedures. During the first assessment, we repeated aspects of our in-shelter screen for child conduct problems, psychiatric illness, and substance abuse. At the conclusion of this assessment, families were deemed ineligible if (a) the target child no longer met the *DSM-IV* criteria for ODD or CD, (b) the assessment revealed problems (psychiatric illness, substance abuse) not detected during the in-shelter screen that would interfere with the family's ability to participate in the project, or (c) the family no longer wanted to participate. Families were excluded for other reasons as well (e.g., responding randomly to assessment questions). Of the 107 families who were eligible prior to the first assessment, 29 were excluded at the first assessment, leaving 78 eligible families. Twelve of these 78 were used as training cases for project therapists. Thus, 66 families participated in the evaluation study.

Each of the 66 families was randomly assigned to either the Project Support ($n=32$) condition or the comparison ($n = 34$) condition. The project coordinator for the evaluation study developed a separate randomization code for each of the six participating shelters, using a random numbers table. The site coordinator for a particular shelter (the project staff person who was responsible for organizing and managing the screening and assessments schedules for that shelter) was informed of the group assignment prior to the first assessment, and mothers were informed of the condition to which she was assigned by the site coordinator after the first assessment was completed. Mothers assigned to the Project Support condition were told that they would receive "intensive services" for up to 8 months, which would involve weekly home visits by project staff and training in child management skills. They were also told that after completing the intensive services portion of the program, they would be contacted monthly for the next 12 months to keep in contact with them and offer referral information if they desired such information. Mothers who

were assigned to the comparison condition were told that they would be contacted monthly for the next 20 months to keep in contact with them and offer referral information if they desired.

Families in the Project Support condition were in the shelter an average of 47 ($SD = 33$) days, and families in the comparison condition averaged 48 ($SD = 32$) days. An average of 25 ($SD = 23$) days elapsed between shelter departure and the first assessment for families in the Project Support condition, and 26 ($SD = 23$) days for families in the comparison condition. At the first assessment, the Project Support and comparison groups did not differ on measured demographic (Table 1) or outcome (Table 2) variables. As can be inferred from the data presented in Table 1, this sample was very low income, transitional, and characterized by frequent IPV.

Experimental Conditions

Project Support condition. Families in the Project Support condition received a family intervention (described in Jouriles et al., 2001; McDonald, Jouriles, & Skopp, 2006) that included two primary components: (a) teaching mothers child management skills and (b) providing instrumental and emotional support to mothers. The child management skills were detailed in a manual that specified the particular skills to be taught, scenarios for practice role plays using the skills, and homework assignments. The child management skills component of the program was modeled after other behavioral parent training programs (Dangel & Polster, 1988; Forehand & McMahon, 1981). It included 12 child management skills (e.g., listening to your child, praising, reprimanding). The skills were presented in sequence; the initial skills focused on improving the quality of the mother-child relationship and increasing prosocial child behavior, and the latter skills focused on reducing problematic behavior. The instrumental and emotional support component of the intervention was based on Sullivan and Bybee's (1999) advocacy intervention for women departing from DV shelters. Therapists regularly assessed and

addressed safety concerns, provided emotional support to the mothers, assessed families' current needs (e.g., food, transportation, etc.), offered referrals and help as indicated, and delivered donated goods such as furniture and small household items.

A trained therapist accompanied by one or more advanced undergraduate or postbaccalaureate students delivered the intervention. Eight master's level clinicians and one clinical psychologist served as therapists. Therapists received extensive training in the content and techniques of the intervention. Specifically, therapists in training read and discussed the treatment manual and background materials on behavioral parent training with the clinical supervisor (a clinical psychologist), attended weekly group supervision meetings to learn from discussions and supervision of ongoing cases, and were required to complete a mastery test (three role plays) to evaluate their proficiency in delivering the intervention. After completing the mastery test, each trainee therapist then accompanied a more senior therapist in providing the services to a family. They were then assigned their own training case. After successfully completing the training case, therapists were considered adequately trained to deliver the intervention to project families.

Therapists worked primarily with the mothers, although children were brought into sessions for evaluating mothers' use of skills and children's responses to the skills. The skills were taught to mothers through didactic instruction accompanied by written materials, role plays, in vivo practice, corrective feedback, between-session homework assignments, and mastery checks. The students who accompanied the therapists to the sessions served as child mentors (providing positive support and serving as prosocial models) for the target child and any siblings in the home, allowing the therapist and mother time alone as needed. Families assigned to this condition could receive Project Support services for up to 8 months following shelter departure. Families received an average of 20 ($SD = 9$, range = 2 to 40) home-based treatment sessions during the 8-month period following shelter departure.

Comparison condition. Project staff attempted to contact families in the comparison condition monthly, either in person or by telephone. These monthly contacts were structured so that these families could receive instrumental and emotional support services similar to those provided to Project Support families. In addition, no restrictions were placed on comparison families' receipt of services from other sources; indeed, we encouraged them to make use of community resources. During the 8-month period following shelter departure, families assigned to the comparison condition averaged 3.7 ($SD = 2.66$, range = 0 to 9) contacts with project staff in which a safety issue was addressed, emotional support was provided, a referral was requested or offered, some form of instrumental support was provided, or the family received some combination of support services.

Families in the comparison condition received no clinical services through our program or from project therapists that addressed parenting or child behavior. Among the 34 families in the comparison condition, 11 received some form of child mental health or parenting services outside of our project over the course of the 20-month period following shelter departure. However, the services received were typically minimal. For example, 6 of these 11 families received three or fewer sessions of counseling for the target child.

Table 1
Characteristics of the Project Support and Comparison Groups

Variable	Project Support %	Comparison %
Child sex (% male)	58.8	41.2
Mother's employment (% employed)	32.4	38.7
Ethnicity		
Asian or Pacific Islander	0	3.1
Black, not of Hispanic origin	38.2	40.6
Hispanic	20.6	18.8
White	41.2	37.5
	<i>M (SD)</i>	<i>M (SD)</i>
Mother's age	29.8 (6.2)	29.1 (4.2)
Mother's education (years)	11.7 (1.6)	11.6 (2.0)
Mother's monthly income	\$549 (507)	\$519 (571)
Number of children in family	3.5 (1.6)	3.0 (1.3)
Estimated number of acts of physical aggression experienced by mother in past 12 months	46.6 (36.2)	45.8 (46.0)
Moves in past 12 months (excluding to and from the shelter)	2.3 (1.3)	2.5 (1.2)

Treatment integrity. Close supervision, standardized materials, and comprehensive training were used to optimize treatment integrity. Therapists kept detailed session notes, and sessions were audio-recorded and reviewed in weekly supervision. A staff person trained in implementing the intervention independently reviewed session notes and the therapy components delivered. Among the 32 families assigned to the Project Support condition, an average of 51% ($SD = 16$) of session time was dedicated to the child management skills. Fifteen families (47%) received instruction on all 12 child management skills, 23 (72%) received instruction on at least 8 child management skills, and 26 (81%) received instruction on at least 4 child management skills.

Assessment and Sample Retention Procedures

Assessments were conducted in families' homes every 4 months over a 20-month period (baseline, 4, 8, 12, 16, and 20 months). Each of the six assessments was administered over three days (2–3 hr per day) within a 2-week period. All questionnaires were read aloud to participants (i.e., in the form of an interview); we reasoned that doing so would (a) reduce participant embarrassment about poor literacy or language comprehension, as well as the likelihood of obtaining invalid data from participants who were reluctant to acknowledge such problems, and (b) reduce hurried and/or careless responding. We also reasoned that empathic but nonleading interviewer responses to the information provided by participants would foster continued rapport with family members. A member of the research staff who was blind to the families' experimental condition administered the questionnaires.

Observational data were collected and coded at three of the six time points: baseline, and 8 and 16 months. During these assessments, mother–child interactions were observed for 45 min on each of the 3 assessment days (a total of 135 min of observational data at each time point). The observation procedures were explained to families, and they were given time to become comfortable with the equipment prior to beginning the recordings. As little structure as possible was imposed on family members during the taping of sessions, other than that all families were videotaped during and shortly after a meal or snack.

Ratings of child oppositional behavior and mothers' expressed negative affect and behavior were provided for each 1-min time block (the coding system is described below under *Measures of Treatment Effects*). Observational data coders completed approximately 15 hr of instruction and 6 hr of practice coding, and they were required to pass a competency test prior to coding data from the study. Coders' practice tape codes were compared to those of a primary coder, and coders were considered proficient if the kappa value relating the practice codes and primary codes was $\geq .85$. Coders met at least once every 2 weeks with the primary coder to review the coding procedures to help prevent observer drift. Coders were blind to families' experimental condition. Reliability data were collected on approximately 10% of the observational data used in analyses.

Mothers in both conditions were paid for participating in the assessments. Also, to maximize sample retention, project staff attempted to contact all families monthly during the final 12 months of a family's participation in the project (from 8 months to 20 months following shelter departure) to offer support. These contacts were structured similarly to those described above for

families in the comparison condition. During this period, families in the Project Support condition averaged 5.4 ($SD = 4.84$, range = 0 to 16) contacts in which a safety issue was addressed, emotional support was provided, a referral was requested or offered, some form of instrumental support was provided, or the family received some combination of support services. Families in the comparison condition averaged 4.0 ($SD = 3.44$, range = 0 to 17) such contacts.

Of the 66 participating families, 42 completed all six assessments, 9 completed five, 5 completed four, 4 completed three, and 6 completed two or fewer. Project Support families completed an average of 5 ($SD = 1.5$) assessments, as did comparison families ($SD = 1.3$).

Measures of Treatment Effects

Child conduct problems. Mothers reported child externalizing problems during the previous 4 months on the CBCL (Achenbach, 1991), rating how true each statement (about a child problem) was for their child on a 3-point scale: 0 (*not at all true*), 1 (*somewhat or sometimes true*), 2 (*very true or often true*). The CBCL is widely used and has excellent psychometric properties (Achenbach, 1991). Mothers also completed the Eyberg Child Behavior Inventory (ECBI; Eyberg & Ross, 1978) indicating the frequency of specific child behaviors over the previous 4 months. Responses were reported on a 7-point scale, ranging from 1 (*never*) to 7 (*always*). The ECBI is also widely used and has excellent psychometric properties (Boggs, Eyberg, & Reynolds, 1990; Burns & Patterson, 1990; Robinson & Eyberg, 1981). Oppositional child behavior was coded from the observational data using a code developed by Hetherington and Clingempeel (1986), reflecting the degree to which the child disrupted family interactions or actively resisted or defied authority figures by being inconsiderate, non-compliant, hostile, coercive, or aggressive. Ratings were made each minute on a 5-point scale: 1 (*not at all characteristic*), 2 (*mainly uncharacteristic*), 3 (*somewhat characteristic*), 4 (*mainly characteristic*), and 5 (*highly characteristic*). Interrater reliability for this code was $r = .81$. The 1-min ratings were summed for each of the days in which a child was observed (45 min each day), and these daily scores were averaged to derive an Oppositional Child Behavior score for each assessment point. Higher scores reflect higher levels of oppositional child behavior.

Mothers' parenting. Mothers completed the consistency subscale of the Parenting Dimensions Inventory (PDI; Power, 1993), reporting the degree of inconsistency in their responses to child misbehaviors on a 6-point scale ranging from 1 (*not at all descriptive of me*) to 6 (*highly descriptive of me*). This scale has shown excellent internal consistency, $\alpha = .82$ (Power, 1993). Assessment of harsh parenting included measures of (a) physical and (b) psychological aggression directed toward the child, and (c) an observational measure of mothers' expressed negative affect and harsh behavior toward the child. Mothers reported the frequency of maternal acts of aggression toward their child during the previous 4 months on the physical assault and psychological aggression scales of the Revised Conflict Tactics Scale—Parent-Child (Straus et al., 1996). Responses were reported on a 7-point scale that ranged from 0 (*never*) to 6 (*more than 20 times*). The alpha coefficients for these two scales are .55 and .60, respectively (Straus et al., 1996). Mothers' expressed negative affect and harsh

behavior toward the child was coded from the observational data using a code derived from the work of Hetherington and Clingempeel (1986), which reflects the degree to which the mother displays hostile, angry, rejecting, threatening, and/or irritated affect or behavior about the child (in the child's presence) or toward the child. Ratings were made each minute on a 5-point scale: 1 (*not at all negative*), 2 (*slightly negative*), 3 (*moderately negative*), 4 (*very negative*), and 5 (*extremely negative*). Interrater reliability for this code was $r = .78$. The 1-min ratings were summed for each of the days in which the mother was observed (45 min each day), and these daily scores were averaged to derive a Mother Expressed Negative Affect and Behavior score for each assessment point. Each of the parenting measures was scored so that higher scores reflect higher levels of problematic parenting (inconsistency and harshness).

Mothers' psychiatric symptoms. Mothers reported on the SCL-90-R (Derogatis, Rickels, & Rock, 1976) the level of distress caused by psychiatric symptoms (0 = *not at all* to 4 = *extremely*) in the previous week, including anxiety, depression, and somatic complaints. The Global Severity Index of the SCL-90-R was used for analyses. The SCL-90-R has demonstrated validity (Derogatis et al., 1976) and has shown excellent internal consistency, $\alpha = .97$, in a DV shelter sample (Ware et al., 2001). Mothers reported trauma symptoms in the previous week in relation to past incidents of IPV on the Impact of Event Scale (IES; Horowitz, Wilner, & Alvarez, 1979). The IES contains 15 items assessing the frequency of avoidant (e.g., purposeful avoidance or efforts to dull emotional reactions to a stressful event) or intrusive (e.g., unwanted thoughts, feelings, or images of a stressful event) experiences. Responses are rated on a 4-point scale: 0 (*not at all*), 1 (*rarely*), 2 (*sometimes*), 3 (*often*). The IES has shown excellent internal consistency, $\alpha = .96$ (Creamer, Bell, & Failla, 2003).

Results

Analytic Approach

We used piecewise growth curve modeling (Singer & Willett, 2003) to evaluate the effects of treatment on child conduct problems, mothers' parenting, and mothers' psychiatric symptoms. This approach allows estimation of growth parameters separately for different time periods within a longitudinal design (e.g., intervention period and follow-up period) and for assessment of whether the parameters differ across the periods. We calculated the slope and intercept separately for the intervention period (Assessments 1–3) and the follow-up period (Assessments 4–6) and tested whether the parameters differed across treatment groups during those periods. Families were assessed at baseline, and at 4, 8, 12, 16, and 20 months postbaseline. Analyses were based on an intention-to-treat design; thus, all 66 families who were randomly assigned to either the Project Support ($n = 32$) condition or the comparison ($n = 34$) condition were used in these analyses.

Because we had multiple measures of child conduct problems, mothers' parenting, and mothers' psychiatric symptoms, we conducted multivariate hierarchical linear modeling (MGLM) analyses (Hox, 2002), examining multiple dependent variables simultaneously. MGLM considers the multiple dependent variables, rather than time, as Level 1 variables, necessitating an additional level in the typical two-level growth curve model. The Level 1 dependent

variables were nested within each of the six assessments at Level 2, which were nested within families at Level 3. Within each class of dependent variables (child conduct problems, mothers' parenting, and mothers' psychiatric symptoms), the separate measures of the dependent variables were dummy coded so that one served as a reference variable against which the others were compared. All dependent variables were converted to z scores, as suggested by Hox (2002), but the predictor variables were not. We report unstandardized regression coefficients, which can be interpreted to reflect the relative magnitude of the treatment on the various dependent variables.

Three-level MGLM models generate numerous two-way and three-way interaction terms, many of which are not theoretically important. After computing the full three-level models for each class of dependent variables, we dropped nonsignificant three-way interactions, recomputed the models, and next dropped nonsignificant two-way interactions, yielding reduced models for final analysis (see Hox, 2002, for more details on this approach). Below we report the results for these reduced models.

Treatment Effects

Child conduct problems. Externalizing problems (CBCL), problem behaviors (ECBI), and observed oppositional child behavior were the dependent variables for analyses examining treatment effects on child conduct problems. Externalizing problems served as the reference variable against which effects for problem behaviors and observed oppositional child behavior were compared. The Level 1 model included the intercept, which represented the level of externalizing problems; a dummy variable representing the difference between externalizing problems and problem behaviors; and a dummy variable representing the difference between externalizing problems and observed oppositional child behavior (Hox, 2002). The Level 2 equations reflected the piecewise growth curves of the Level 1 variables across the assessments. Estimates (slopes, intercepts) for externalizing problems and for the difference between the slopes and intercepts of externalizing problems and each of the other dependent variables were computed for the intervention period and for the follow-up period (see Singer & Willett, 2003). Level 3 analyses tested whether the slopes and intercepts differed across the Project Support and comparison groups.

The growth parameters for externalizing problems and problem behaviors did not differ from one another (i.e., none of the main effects or interactions involving the dummy-coded variable reflecting the difference between externalizing problems and problem behaviors were statistically significant); therefore, the dummy-coded variable was dropped, together with two-way and three-way interactions including that variable (all of which were not statistically significant). Because the growth parameters for observed oppositional child behavior differed from those for the other two dependent variables, we note below when such differences emerged. When no such difference is noted, results apply equally across all three dependent variables.

During the intervention period, child conduct problems decreased in the Project Support group, $b = -.53$, $t(64) = -7.13$, $p < .001$, as well as in the comparison group, $b = -.30$, $t(64) = -5.16$, $p < .01$. However, they decreased more rapidly in the Project Support group than in the comparison group, $b_{\Delta} = .23$,

$t(64) = 2.78, p < .01$. For the follow-up period, conduct problems continued to decrease in the Project Support group, $b = -.24, t(331) = -3.11, p < .005$, but not in the comparison group, $b = .06, t(64) = 1.21, p = .23$. Decreases again occurred more rapidly in the Project Support group, $b_{\Delta} = .30, t(331) = 3.28, p < .005$. Although oppositional child behavior decreased more slowly than the other measures of child conduct problems, $b_{\Delta} = .39, t(332) = 4.92, p < .001$ (e.g., the rate of decrease for observed oppositional child behavior during the intervention phase was $-.53 + .39 = -.14$), oppositional child behavior still decreased more rapidly in the Project Support group than the comparison group during both the intervention and follow-up periods. For illustrative purposes, the results for child externalizing problems, as indexed by the CBCL, are depicted in Figure 2.

Mothers' parenting. Scores on inconsistency (reference variable), mother-child physical aggression, mother-child psychological aggression, and mothers' expressed negative affect and behavior (collectively referred to as inconsistent and harsh parenting behaviors) served as the dependent variables in this analysis. The growth curves of all four dependent variables were similar. None of the dummy variables that reflect differences between the dependent variables and none of the associated two-way and three-way interaction terms involving these dummy variables were significant. Thus, these variables and their related interaction terms were dropped from the analysis, and the model was recomputed. During the intervention period, inconsistent and harsh parenting behaviors decreased in the Project Support group, $b = -.32, t(331) = -6.17, p < .001$, and in the comparison group, $b = -.15, t(331) = -2.81, p < .01$, with more rapid decreases in the Project Support group, $b_{\Delta} = .18, t(331) = 2.35, p < .05$. During the follow-up period, no changes in inconsistent and harsh parenting behaviors emerged in either of the groups, nor did their slopes differ from one another, $b_{\Delta} = .10, p = .22$.

Mothers' psychiatric symptoms. Mothers' reports of global psychiatric symptoms (SCL-90-R; reference variable) and trauma were the dependent variables for this analysis, and the form of the growth curves did not differ across these two variables, indicating comparable rates of change across the measures. In other words,

the terms (main effects and interactions) that reflect differences in the growth curves between the two dependent variables were not statistically significant, and therefore they were dropped from the analysis. At the multivariate level, maternal psychiatric symptoms decreased during the intervention period in the Project Support group, $b = -.39, t(331) = -4.20, p < .001$, and in the comparison group, $b = -.18, t(331) = -2.93, p < .005$, and the rate of decrease did not differ across the groups, $b_{\Delta} = .20, t(331) = 1.80, p < .08$. During the follow-up period, psychiatric symptoms continued to decrease in the Project Support group, $b = -.13, t(331) = -1.93, p = .05$, but not the comparison group, $b = -.04, p = .55$; however, the slopes did not differ across the groups, $b_{\Delta} = .09, p = .31$.

Effect Sizes and Clinical Significance

We computed Cohen's d and corresponding 95% confidence intervals (CI) as an indicator of effect size for the three statistically significant between-group differences in slopes for the MGLM analyses: conduct problems during the intervention period, Cohen's $d = 0.68, 95\% \text{ CI} = (0.19, 1.18)$; conduct problems during the follow-up period, Cohen's $d = 0.81, 95\% \text{ CI} = (0.31, 1.31)$; and mothers' parenting during the intervention period, Cohen's $d = 0.58, 95\% \text{ CI} = (0.09, 1.07)$. Effect sizes for our MGLM models are not directly comparable to more commonly used procedures for determining effect size, because our effect sizes refer to differences in slopes, not means. Thus, to help facilitate comparisons with effects sizes reported in other studies, we also computed effect sizes for each of the dependent variables, calculating the effect size for the difference in means between the Project Support and comparison conditions at the posttreatment and the final assessment points, controlling for baseline scores. Table 2 presents the means and standard deviations for the univariate outcome variables for families at the baseline, posttreatment (third), and final assessment points, and effect sizes for differences between the Project Support and comparison groups from baseline to posttreatment and from baseline to the final assessment. For the final assessment point, we used data from the sixth assessment for those families who completed the sixth assessment, but for others, we used data from their last assessment conducted during the follow-up period (fourth or fifth assessment). As indicated in Table 2, effects for the measures of child conduct problems were generally in the medium to large range. Effect sizes for the measures of mothers' parenting and psychiatric symptoms were generally in the small to medium range.

Clinical significance was also examined at the end of the intervention period and at the final follow-up assessment. Procedures suggested by Kendall, Marrs-Garcia, Nath, and Sheldrick (1999) were used to determine the clinical significance of changes in child conduct problems, as indexed by the CBCL. We first determined the normative range of scores, which Kendall et al. defined as within one standard deviation of the mean. Thus, for the CBCL, T scores ($M = 50, SD = 10$) between 40 and 60, inclusive, were considered within the normal range.

In the Project Support group, only 15.6% (5 of 32) of the children had CBCL scores in the normative range at pretreatment. At the end of the intervention period, 57.1% (16 of 28) were in the normative range; and at the final follow-up assessment, 74.1% (20 of 27) were in the normative range. For the comparison group,

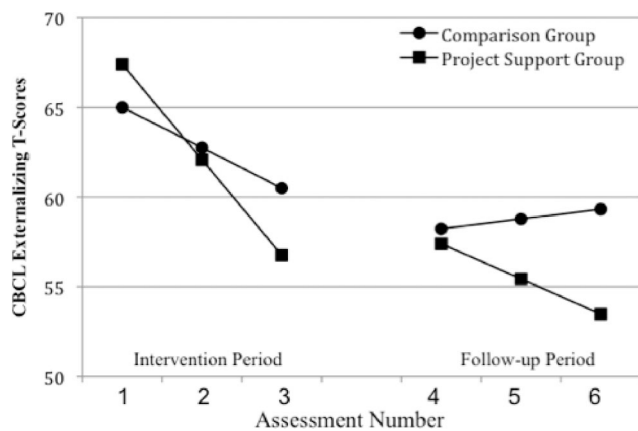


Figure 2. Estimated changes in externalizing problems in the Project Support and comparison groups during the intervention period (Assessments 1–3) and during the follow-up period (Assessments 4–6). CBCL = Child Behavior Checklist.

Table 2
Means at Pretreatment, Posttreatment, and Final Follow-Up Assessment by Group, and Effect Sizes for Posttreatment and Follow-Up Assessments

Variable	Pretreatment		Posttreatment		Final follow-up		Cohen's <i>d</i> (CI)	
	Project Support	Comparison	Project Support	Comparison	Project Support	Comparison	Posttreatment	Follow-up
Externalizing problems (CBCL)	67.9	65.9	57.4	61.6	53.3	59.0	0.66 (0.11, 1.19)	0.63 (0.04, 1.20)
Problem behaviors (ECBI)	142.1	129.8	102.5	102.7	82.8	103.8	0.17 (-0.36, 0.70)	0.66 (0.03, 1.26)
Oppositional child behavior ^a	57.6	55.9	54.1	57.4	52.9	55.0	0.52 (-0.05, 1.07)	0.57 (-0.03, 1.15)
Inconsistent parenting (PDI)	26.8	23.1	21.0	22.7	21.6	20.3	0.63 (0.08, 1.16)	-0.01 (-0.58, 0.55)
Physical aggression ^a (CTSPC)	4.8	5.4	3.2	2.6	2.2	2.8	-0.04 (-0.57, 0.49)	0.25 (-0.33, 0.81)
Psychological aggression (CTSPC)	9.4	7.5	6.0	6.0	5.8	6.0	0.32 (-0.22, 0.84)	0.34 (-0.24, 0.90)
Negative affect and behavior ^a	52.7	52.6	52.1	52.5	50.5	52.6	0.18 (-0.37, 0.73)	0.37 (-0.22, 0.94)
Psychiatric symptoms (SCL90)	60.0	60.1	53.4	50.7	53.1	53.8	-0.19 (-0.73, 0.36)	0.04 (-0.57, 0.64)
Trauma symptoms (IES)	26.4	24.8	14.7	18.6	12.6	14.3	0.49 (-0.06, 1.03)	0.12 (-0.47, 0.70)

Note. Oppositional child behavior and mother expressed negative affect and behavior were observed at Assessment 5. Means are computed from those for whom we have data at each particular assessment. Cohen's *d* is the effect size for the comparison between the Project Support and Comparison group means, controlling for the Assessment 1 score. Confidence interval (CI) for Cohen's *d* is the 95% CI for the effect size estimate. A positive Cohen's *d* indicates that the decrease in the Project Support group was greater than the decrease in the comparison group. CBCL = Child Behavior Checklist (Achenbach, 1991); ECBI = Eyberg Child Behavior Inventory (Eyberg & Ross, 1978); PDI = Parenting Dimensions Inventory (Power, 1993); CTSPC-R = Revised Conflict Tactics Scale-Parent-Child (Straus et al., 1996); SCL-90-R = Symptom Checklist-90-Revised (Derogatis, Rickels, & Rock, 1976); IES = Impact of Event Scale (Horowitz, Wilner, & Alvarez, 1979).

^a Data for these variables were log-transformed for analyses (and thus, for calculation of Cohen's *d*). For interpretability, raw means are reported in the table.

23.5% (8 of 34) scored in the normative range at pretreatment; 38.7% (12 of 31) did so at the end of the intervention period; and 48.3% (14 of 29) did so at the final follow-up. Chi-square tests (with Yates correction) indicated that the proportion of children in the normative range did not differ across the Project Support and comparison groups at pretreatment, $\chi^2(n = 66, 1) = .25, p = .31$, or at the end of the intervention period, $\chi^2(n = 59, 1) = 1.33, p = .12$. However, the proportion of children in the normative range was greater for the Project Support group than the comparison group, $\chi^2(n = 56, 1) = 2.90, p < .05$, at the end of the follow-up period.

Mediation Analyses

We next examined whether the effects of Project Support on child conduct problems were mediated by mothers' inconsistent and harsh parenting and mothers' psychiatric symptoms. The parenting variables and psychiatric symptoms were added to the models as Level 2 time-varying predictors. Because observations of mothers' expressed negative affect and behavior were available at only three time points, those measures were not included in this analysis.

The five measures of mediating variables (inconsistency, mother-child physical aggression, mother-child psychological aggression, global psychiatric symptoms [SCL-90-R], and trauma symptoms) were added simultaneously to the Level 2 MHLM equations for child conduct problems, with the mediation effects allowed to vary across the measures of conduct problems and across experimental conditions. The Level 3 equations tested whether the mediating paths operated differently across the groups.

Mediation was established by testing the statistical significance of the indirect effects of the independent variables on the outcomes "through" the mediators (e.g., MacKinnon, Lockwood, Hoffmann, West, & Sheets, 2002), using the distribution

of products test (MacKinnon, Lockwood, & Williams, 2004), as calculated by PRODCLIN (MacKinnon, Fritz, Williams, & Lockwood, 2007). This test generates asymmetric CIs around the mediated effects. CIs that did not include 0 were considered statistically significant (MacKinnon et al., 2004). The proportion of the total effect of an independent variable on an outcome variable that was accounted for by a given mediator (P_M) was computed as its mediation effect size (Shrout & Bolger, 2002). We tested whether the mediating effects (a) accounted for changes in the outcomes over time within individuals and (b) accounted for group differences (i.e., Project Support vs. comparison) in the rate of change in the outcomes over time between individuals. These were examined separately for the treatment and follow-up periods, resulting in four tests of mediation. Mediation emerged during the intervention period, but not during the follow-up period. Thus, results are reported below for tests of mediation during the intervention period only.

For mediation of the reference outcomes (CBCL and ECBI, which did not differ in their growth curves) over time within individuals, inconsistency, $p < .01$, $P_M = 12.4%$, mother-child psychological aggression, $p < .01$, $P_M = 15.3%$, and trauma symptoms, $p < .05$, $P_M = 7.8%$, partially accounted for within-person changes in outcomes over time. These effects did not differ across the Project Support and comparison groups. Global psychiatric symptoms (SCL-90-R) also demonstrated partial mediation, but it was more strongly related to child outcomes in the Project Support group, $b = .32, t(303) = 6.60, p < .001$, than in the comparison group, $b = .13, t(303) = 2.04, p < .05$; $b_\Delta = -.20, t(303) = -2.28, p < .05$. Thus, the mediating effect of global psychiatric symptoms was greater in the Project Support group, $p < .01$, $P_M = 18.1%$, than in the comparison group, $p < .05$, $P_M = 7.5%$. Taken together, the mediating variables account for 53.6% (total $P_M = 12.4% + 15.3% + 7.8% + 18.1%$) of the change in outcomes for the Project Support group and 43.0% (total

$P_M = 12.4\% + 15.3\% + 7.8\% + 7.5\%$) of the change in outcomes for the comparison group.

Between-group differences in rates of decreases in the reference outcomes were accounted for by inconsistency, $p < .01$, $P_M = 25.0\%$, mother-child psychological aggression, $p < .05$, $P_M = 22.1\%$, and trauma symptoms, $p = .05$, $P_M = 9\%$. Approximately 56.1% of the difference between the groups in the change in outcome over time was attributable to these mediators.

The growth curve for observed oppositional child behavior differed from that of the reference behaviors. Thus, we reparameterized the dummy variables in the MGLM to facilitate the interpretation of the parameter estimates, coding oppositional child behavior as the reference variable (see Tein, Sandler, MacKinnon, & Wolchik, 2004). Results indicated that inconsistency partially mediated the within-individual reductions in oppositional behavior, $p < .05$, as well as the difference in the rates of reduction across the groups, $p < .05$. Inconsistency functioned as a suppressor in these analyses; thus, P_M was incalculable (see Shrout & Bolger, 2002).

Discussion

This study evaluated effects of Project Support, an intervention for children between 4 and 9 years old who had clinical levels of conduct problems and whose mothers had sought refuge at a DV shelter. Results indicate greater reductions in conduct problems for children in the Project Support condition, compared with those in the comparison condition. In addition, mothers in the Project Support condition showed greater reductions in inconsistent and harsh parenting over the course of the intervention period, compared with mothers in the comparison condition. Maternal psychiatric symptoms decreased during the intervention period for mothers in both conditions, but the rate of decrease did not differ across the two conditions. The findings pertaining to child conduct problems and mothers' parenting replicate results of the initial evaluation of Project Support (Jouriles et al., 2001; McDonald, Jouriles, & Skopp, 2006). The present findings, however, are particularly noteworthy, given the larger sample and the replication across multiple measures of child conduct problems and mothers' parenting. The reductions in maternal psychiatric symptoms over time, and the absence of a between-groups difference in these symptoms, are also consistent with the original evaluation of Project Support.

Changes in mothers' inconsistent and harsh parenting and their psychiatric symptoms accounted for a sizable proportion (over 50%) of Project Support's effects on two of the measures of child conduct problems during the treatment phase of the present study. Reductions in parenting inconsistency, acts of psychological aggression directed at children, and maternal global psychiatric symptoms and trauma symptoms were especially important. These mediation findings are consistent with the hypothesis that Project Support is effective in reducing child conduct problems because it reduces mothers' inconsistent and harsh parenting and psychiatric symptoms. The mediation results for inconsistency and harsh parenting (e.g., psychological aggression) are also consistent with findings from other studies on how treatments work to reduce child conduct problems (e.g., Beauchaine, Webster-Stratton, & Reid, 2005; Tein et al., 2004). It is important to note, however, that a sizable proportion (over 40%) of Project Support's effects on child

conduct problems cannot be attributed to changes in the hypothesized mediators. This might be due to incomplete measurement of mothers' parenting and psychological well-being. It is also likely that Project Support affects variables that were not assessed in this study, which may also influence child conduct problems.

The magnitude of Project Support's effects is especially noteworthy when one considers the broader literature on the treatment of child conduct problems. Effect sizes for the difference between Project Support and the comparison group were generally in the medium to large range for child conduct problems for our MGLM analyses (.68, .81) and for our univariate analyses at the posttreatment (.66, .52, .17) and final follow-up (.66, .63, .49) assessments. These effect sizes are greater than would be expected on the basis of recent meta-analytic reviews of treatments for child conduct problems (Kaminski et al., 2008; McCart et al., 2006). It should be noted, however, that the CIs for our effect sizes were quite large, due to our sample size. In short, the magnitude of the effects highlights the potential significance of Project Support for families in the aftermath of IPV, especially as an intervention for child conduct problems.

Our analytic methods allowed us to examine changes in the outcome variables during the intervention period and the follow-up period. Reductions in inconsistent and harsh parenting occurred during the intervention period, and those effects were maintained, although they did not continue to decrease, during the follow-up period. In contrast, children's conduct problems decreased over the course of the intervention period and continued to decrease throughout the follow-up period. Upon reflection, this pattern seems reasonable. If parenting skills were sufficiently learned and practiced in treatment, and if the skills were instrumental in improving children's behavior during treatment, mothers would likely continue using the skills after treatment ends. However, consolidation and regular competent use of the acquired skills, rather than further improvements in implementation of the skills, would be expected. Child conduct problems, on the other hand, should begin to decrease as the mothers begin to learn and apply new skills during treatment, and they should continue to decrease beyond the treatment period—as mothers assimilate and regularly use the collective set of skills—until the conduct problems have dissipated and the child's behavior reaches normative levels.

Project Support offers mothers services at an acutely and significantly stressful time. By definition, women in DV shelters are experiencing tremendous relationship difficulties—they have separated from a partner and are deciding whether to make the separation permanent. They often worry about the effects of potential relationship dissolution on their children and how they will make ends meet without the financial support of their partners. We believe the ancillary services, the support and assistance, provided in the intervention are central to engaging mothers in treatment and offering what the mothers themselves believe they most need at the outset of treatment. Diligent attention to the mothers' focal concerns and the provision of tangible help to address those concerns facilitated considerable trust in the motives of Project Support staff. Mothers came to recognize that the therapists had the family's best interest at heart and consequently seemed more receptive to information about parenting children after violence.

It is interesting to speculate why differences in maternal psychiatric symptoms did not emerge across the Project Support and

comparison conditions. One possibility is that families in the comparison condition received sufficient instrumental and emotional support, either as a function of their participation in this evaluation study or as a result of events outside of the study, to reduce psychiatric symptoms. A related possibility is that the instrumental and emotional support component of the Project Support intervention was simply not potent enough to produce a between-groups difference in maternal psychiatric symptoms at a time when these symptoms might be decreasing for other reasons (e.g., because of help received at the DV shelter, because of time and distance from the events that led to shelter entry). Both of these interpretations are consistent with the finding that maternal psychiatric symptoms decreased for mothers in both conditions.

It is also interesting that among the families in the comparison condition who sought services for their children's conduct problems, the service modality most commonly used was individual counseling for the child (even if just for a few sessions). In the Project Support condition, mothers themselves were often surprised that an intervention designed to help their children involved so much of their own time and attention. Conversations with them about the great importance and potential influence of children's relationship with their mothers and how mothers can be pivotal in improving their children's behavior problems helped them understand the potential utility of a parenting intervention. Perhaps the more compelling argument was that mothers spend many hours a day with their children, offering many more opportunities to significantly influence their children than would be possible if the child attended counseling an hour or so a week.

Several caveats should be kept in mind when interpreting the present results. First, although this study was conducted in a sample twice as large as the initial evaluation of Project Support, it is arguably still a small sample. Given that there have only been two evaluation studies of Project Support, with 102 families (mothers and children) across the two evaluations, the results still must be considered somewhat preliminary and in need of additional replication. Second, Project Support includes two components (teaching mothers child management skills and providing instrumental and emotional support to mothers during their transition), each of which is composed of multiple parts. Given the cost of offering in-home services to families, it may be worthwhile to determine if all components are essential. Third, Project Support is an example of a university–community partnership. Shelters, however, rarely have sufficient resources to conduct home visits; nor do they have child mentors readily available to assist with the services. Dissemination research will therefore be important to determine the feasibility and utility of this particular intervention in community settings without university involvement. Fourth, although this study included a multimethod assessment of the central variables (child conduct problems, mothers' parenting, and mothers' psychiatric symptoms), it still could be argued that a more comprehensive approach to the measurement of some of these variables might have resulted in valuable information and additional findings. For example, the assessment of child conduct problems focused on problems in the home and in the presence of the mother. It would be valuable to know if changes in child conduct problems generalized to other settings (e.g., school). Related to this point, Project Support focused on re-

ducing child conduct problems; however, the children in these families often exhibit a range of adjustment difficulties (Grych et al., 2000). It would be valuable to know if the effects of Project Support generalized to other areas of child functioning. Fifth, many families were screened out of this evaluation study. In fact, it might be argued that some of the most difficult families (e.g., those in which the mother had a significant substance abuse problem) were screened out. To obtain a better sense of the eventual utility of Project Support, it might be beneficial to evaluate it with a more representative sample seeking help at a DV agency.

In conclusion, our findings are consistent with those of other clinical researchers who have intervened successfully with children who have been exposed to IPV (Graham-Bermann et al., 2007; Lieberman et al., 2005), indicating that effective interventions can be offered to help them. This study replicates and extends earlier findings on Project Support demonstrating that it is possible to provide effective services to families (mothers and children) who are transitioning away from a DV shelter, and in which the children are displaying problematic behavior at clinical levels (Jouriles et al., 2001; McDonald, Jouriles, & Skopp, 2006). When one considers the number of children who are exposed to IPV (McDonald, Jouriles, Ramisetty-Mikler, et al., 2006) and who have significant conduct problems (Grych et al., 2000; Ware et al., 2001), and that their families are difficult to reach and difficult to serve, the present findings are of enormous potential significance.

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