Testing Effectiveness of a Community-Based Aggression Management Program for Children 7 to 11 Years Old and Their Families

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ABSTRACT

Objective: There are few well-evaluated uncomplicated community-based interventions for childhood aggression. The authors assess the impact of a community-based anger management group on child aggressive behaviors, using a randomized, controlled trial (RCT). **Method:** Families with children 7 to 11 years old were recruited through advertisements and randomized (N = 123). Inclusion required parent concern about anger/aggressive behavior, RCT agreement, and a telephone behavior screen. Intervention participants were offered three parent psychoeducation/skill-building group sessions, 10 weekly child group sessions, and three in-home family practice sessions. Nine groups ran from August 2002 to August 2004. Interviewers naïve to randomization collected data on all participants pre- and postgroup. Outcomes included child-rated anger and parent-rated child aggressive behavior, externalizing behavior and hostility, parent–child relationship, and parenting stress. Intent-to-treat analyses were done. **Results:** Pre/postoutcome comparisons indicated no significant differences between intervention versus control, with small effect sizes for most outcomes (0.27–0.29). Although not significant, the magnitude of improvement favored intervention families on all parent-rated measures. **Conclusions:** Overall, there was no differential impact of participating in a community-based anger management group versus control on child aggressive behaviors and other associated measures. The impact of regression to the mean, effect, and sample size estimates; child comorbidity; and programmatic and methodological issues are discussed. *J. Am. Acad. Child Adolesc. Psychiatry,* 2006;45(9):1085–1093. **Key Words:** effectiveness study, anger management, group program, cognitive-behavioral therapy.

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Excessive aggression, such as fighting, stealing and victimization, is a common childhood problem (Offord and Lipman, 1996; Offord et al., 1989), affecting up to 10% of 6- to 15-year-olds. Aggressive behaviors often co-occur with other emotional, behavioral, academic, and social relationship problems. Moreover, these behaviors tend to aggregate in families (Lahey et al., 1988). During adolescence, these children often exhibit increased rates of school dropout, depression, juvenile delinquency, substance abuse, and poor peer relationships (Campbell, 1991; Loeber, 1991). In adulthood, criminal behavior, antisocial personality disorder, unemployment, substance use, and early pregnancy among females occur (Lipman and Offord, 2006; Pajer,

1998). The immediate and long-term consequences of childhood aggression can be profound.

Interventions provided in childhood have the potential to both decrease current difficulties and prevent future impairments. However, provision of interventions to children with aggressive behaviors and their families can be difficult. First, although aggression accounts for more than one third of referrals (37.7%) to outpatient children's mental health services (Lipman and Offord, 2006) and is perhaps the most common reason for clinic referral, many children with aggressive behaviors never reach the clinic. Only one in six children with such behaviors are likely to receive specialized services (Offord et al., 1989), so the vast majority of these children remain in the community. Second, clinical services are not uniformly available. For example, in Canada, clinical services tend to be clustered in larger, urban, and southerly locations (Lipman and Boyle, 2003). Third, even if children are referred for clinical services, family circumstances may act as barriers to service utilization or completion (Lipman and Boyle, 2003). Childhood aggression is associated with socioeconomic disadvantage, family stress, and other family psychopathology, all factors known to reduce service use (Kazdin et al., 1993). Fourth, with several exceptions (Kazdin et al., 1989, 1992; Luk et al., 1998; van Manen et al., 2004), there are few clinic-based interventions for aggression available in typical outpatient clinics that have been rigorously evaluated and shown to exert positive effects.

A rational strategy to assist these children and their families is to provide interventions for aggressive behavior in the community. Community-based interventions can provide greater accessibility to those seeking assistance. Some complex forms of interventions, including intensive (Burns et al., 1996; Clark et al., 1996; Evans et al., 1996), multicomponent (Henggeler et al., 1999; Schoenwald et al., 2000), and school-based interventions (Lochman et al., 1989, 1991), have been shown to be helpful for aggressive children of varying ages. To illustrate the complexity associated with these interventions, the Henggeler et al. (1999) intervention included an individualized format, mean duration of contact of 4 months, and staffing by master's degree–level clinicians, child and adolescent psychiatry residents, and crisis caseworkers 24 hours per day, 7 days per week.

In many of these community-based programs, a cognitive-behavioral therapy–based (CBT) approach has been used to good effect (Henggeler et al., 1999; Lochman et al., 1989, 1991; Schoenwald et al., 2000).

We could find no examples of simpler community-based interventions that have been evaluated and shown to be helpful. For this trial, therefore, we adapted a CBT-based intervention program used in our clinic (Mills and Evans, 1999). In an uncontrolled trial with 68 children, this program yielded significant reductions in anger, aggression, and hostility (Williams et al., 2004).

We present results of a randomized, controlled trial (RCT) of community-based aggression management groups for children 7 to 11 years of age and their families. The primary RCT objective is to evaluate whether, among children 7 to 11 years old, aggressive behaviors improve in those who are randomized to participate in community-based, family-focused anger management groups versus controls. Improvements in other child outcomes (e.g., externalizing behavior, hostility) and parent–child relationships are evaluated as secondary objectives.

METHOD

Participants

Between 2002 and 2004, families in Hamilton, an urban area of 500,000 in Ontario, Canada, were invited to participate in the RCT through notices in community bulletins and at various community locations (e.g., family doctors offices, community resource offices for children's programs). Interested families phoned the project manager to learn more about the program and study and to determine eligibility. Inclusion criteria were (1) child 7 to 11 years of age, resident in the Hamilton area, (2) identified by parent (or caregiver) as having difficulties with anger or aggressive behaviors, (3) parent(s) agreement to RCT participation (i.e., agree to participate in parent/family sessions, sign consent for randomization), and (4) adequate English to participate. Exclusion criteria were (1) significant intellectual impairment or severe psychiatric problems (e.g., current severe depressive disorder), (2) child unwilling to participate in a group, and (3) changeable home situation (e.g., child in and out of foster care).

Interested parents who met inclusion and exclusion criteria during a telephone interview were administered the Brief Child and Family Phone Interview (BCFPI; see Measures) to screen for child behavioral problems. Children scoring $\geq$1.0 SD above the population mean and $\leq$1.0 SD above the clinical mean on the externalizing scale were selected. The latter threshold was put in place because of concerns about possible negative consequences of grouping together children exhibiting severe problem behavior (Dishion et al., 1999). Families with children meeting both BCPFI criteria received pregroup home interviews for data collection and randomization. Randomization was done in blocks of four.

Children and families randomized to the intervention group participated in a 16-session program with three components: three parent/caregiver psychoeducation/skill-building group sessions, 10 weekly child group sessions, and three in-home family practice sessions. Children and families randomized to control received a standard information booklet about other community resources.

Intervention

The three parent/caregiver psychoeducation/skill-building group sessions were held before the start of the children's group and led by the same group leaders as the child group. The purpose was to learn about developmentally normal expressions of anger and aggression, to become aware of the strategies introduced in the children's group, how to encourage and reinforce the use of these, and how to implement appropriate behavior management techniques.

The child group program was adapted from a manual-based CBT-based program used in our clinic (Mills and Evans, 1999), with promising results (Williams et al., 2004).

The children's group sessions used a problem-solving process (called the kNOw Problem Pathway). This is more fully described elsewhere (Williams et al., 2004) and briefly here. The problem-solving process used helps children learn to manage their temper so that they are in charge of themselves. The first stage of the process is to increase awareness of when they are losing their temper so they can catch themselves and use alternative actions, and includes increasing self-awareness of physiology, cognitions, and behavior associated with the feelings that underlie temper. The second stage is to teach children to problem solve when they recognize their first warning signs of temper and to choose alternative strategies. The children's group sessions include role-playing, discussion, and homework assignments to apply newly acquired anger management skills. Group size was 6 to 10 children.

The three in-home family practice sessions allowed all family members to work together, plus individualization of content through identification of difficult situations specific to each child/family. Each group leader worked with half of the families in their homes. In-home sessions ran during and after the child group sessions, corresponding approximately with child group sessions 4 and 8, then 1 to 2 weeks after the completion of the child group.

Child and parent groups were led by two trained leaders (primarily child and youth workers; also social service workers, child life specialists, and psychology [completed bachelor of arts degree, graduate] students), assisted by an undergraduate university/college student when available. All leaders completed a 1½ day formal training and conducted the program according to the manual (available for both parents' and children's groups; Mills and Evans, 1999). Group sessions were videotaped, and weekly supervision was provided to leaders.

Nine intervention groups, each consisting of parents' group, children's group and in-home family practice sessions, ran August 2002 to August 2004. Groups were scheduled on early weekday evenings (any of Monday–Thursday, 6:00–7:30 PM). Bus tickets or taxi fare was available to families to assist with transportation costs. Snacks were provided for parents' and children's groups.

Data Collection

Data were collected during home visits and telephone calls (BCFPI only) pre- and postgroup. Interviewers were blind to randomization status. Gifts of appreciation (e.g., $20 retail gift certificates, children's toys/craft supplies/books) were given to parents and children at each occasion of data collection.

Measures

Demographic data collected pregroup included child age, child gender, family status (two, lone parent), income in the past year (<$10,000, $10,000–$14,999, $15,000–$19,999, then $10,000 increments to ≥$60,000), parent/caregiver education (high school completion yes/no), and parent/caregiver age.

The BCFPI was used as a screening tool and outcome instrument. The BCFPI is a 20-minute telephone interview administered by study personnel that generates behavioral scores for externalizing (attention, impulsivity, activity regulation, cooperativeness, conduct, total) and internalizing difficulties (Cunningham et al., 2004), based on a subset of the Ontario Child Health Study (OCHS)-Revised scales (Boyle et al., 1993). Individual results are scored by computer as conducted and compared with clinic and population norms, based on the revised OCHS norms by age and gender. Reliability and validity estimates for BCFPI scales are good (externalizing: internal consistency [α = .86–.87], test-retest reliability [0.74], concurrent validity with revised OCHS [0.96]; internalizing: internal consistency [α = .86], test-retest reliability [0.72], concurrent validity with revised OCHS [0.92]). The BCFPI externalizing scale was also used as an outcome measure.

This report focuses on data collected from parents and the children themselves. Children completed the Children's Inventory of Anger, a 21-item self-report measuring children's ratings of how angry they become in different situations according to a 4-point Likert scale ranging from 1 = "I don't care. It doesn't bother me" to 4 = "I can't stand that! I'm furious" (Finch and Eastman, 1983). Test-retest reliability (Pearson's product-moment correlation coefficient [r = 0.63–0.90]) and internal consistency (α = .96) are good.

Parents completed the following questionnaires: (1) Child Behavior Questionnaire, a 75-item true-false scale estimating the level of conflict and negative communication within the home with two subscales: child aggressive behavior (53 items) and parent–child interactions (22 items; Robin and Foster, 1989). Discriminative validity is established, and there is good internal consistency (α = 0.90 or above). (2) Children's Hostility Index, a 34-item true-false scale in which each item describes an aggressive behavior (Kazdin et al., 1987). Total and subscale scores (aggression [overt], hostility [covert, attitudinal]) are available. Internal consistency of the entire scale is good (α = .82). (3) Parenting Stress Index-Short Form, a 36-item scale asking parents about parent–child (dysfunctional) interactions, parental distress, and difficult child (each 12 items; Abidin, 1992). Ratings are made on a 5-point scale (1, strongly agree to 5, strongly disagree, total scale range, 12–60; higher scores reflect more dysfunction). This form was derived from and is highly correlated with a longer version. Internal consistency is 0.80, and 6-month test-retest reliability is 0.68. (4) Center for Epidemiologic Studies Depression Scale, a 20-item scale that measures psychological distress including cognitive, affective, and behavioral "state" of depression features, and their respective frequencies (higher scores indicate increased depressive symptoms; Radloff, 1977). Internal consistency (0.84–0.90) and test-retest reliability (0.48–0.67) are good (Radloff, 1977).

Parents were asked to report whether the following changes had occurred between pre- and postgroup evaluations (yes/no): use of child mental health service, use of support worker, use of social worker other than child welfare, and medication.

Sample Collection

Participant recruitment is shown in Figure 1. Ineligibility accounted for most exclusions between parental interest and randomization (i.e., child outside age range: 63; child intellectual/psychiatric problems: 8; parent unwilling to be randomized: 19; nonresidents: 12; unstable living situation: 6; child unwilling to participate: 11; BCFPI too high: 18 or too low: 10).

One hundred twenty-three (123) families provided pregroup demographic information and preprogram measures. This sample size was selected to provide adequate power ($1 - \beta = 0.80$) to detect medium-size standard effects ($\delta \sim 0.50$; Cohen, 1992), as obtained in preliminary work (Williams et al., 2004).

Postgroup data were collected from 99 (80.5%) of families (52/62 [83.9%] intervention, 47/61 [77.0%] control). Pre-/postattrition was selective for caregiver age only, with children of younger mothers significantly more likely to be missing follow-up data ($p < .05$). Postgroup data collection was done a mean of 159 days after pregroup collection (SD = 48 days).

Analyses

Data were analyzed using SPSS version 12 (SPSS, 2003) with an intent-to-treat approach. Descriptive statistics and baseline comparisons between intervention and control groups were done using two-sample *t* tests for continuous measures, and χ^2 analyses for categorical measures. Changes in parent-report outcomes (pre-/postgroup) were analyzed using repeated-measures analyses of variance (ANOVA).

Age, gender, and time between pre- and postgroup assessments (days) were included in the models as covariates. Age and gender were included as standard control variables. Time between pre- and postgroup assessments was included because all evaluations were not precisely on time so as to detect any impact of the timing of measurement on outcomes. Caregiver age was initially included in the repeated-measures ANOVA models (because pre-/postattrition was selective for caregiver age), but was dropped because it was not significantly associated with change in outcome. Effect sizes for outcome measures were computed per Cohen (1992).

RESULTS

Baseline Characteristics

Table 1 shows baseline characteristics of the 123 children and families initially randomized. Most participants were male, and at least one third lived in single-parent families. Income was varied. There were no significant differences between intervention and control families at baseline.

Baseline characteristics of 99 children and families who participated in both pre- and postevaluations were similar to those in Table 1 (results not shown). There were no significant baseline differences between intervention and control families within this sample.

At baseline, in comparison with population means, participant scores on attention-deficit/hyperactivity were 65.8 (9.5) for intervention and 65.6 (8.9) for control. Scores on the internalizing scale were 68.6 (11.6) for intervention and 66.0 (13.3) for controls. There were no significant differences between intervention and controls on these variables.

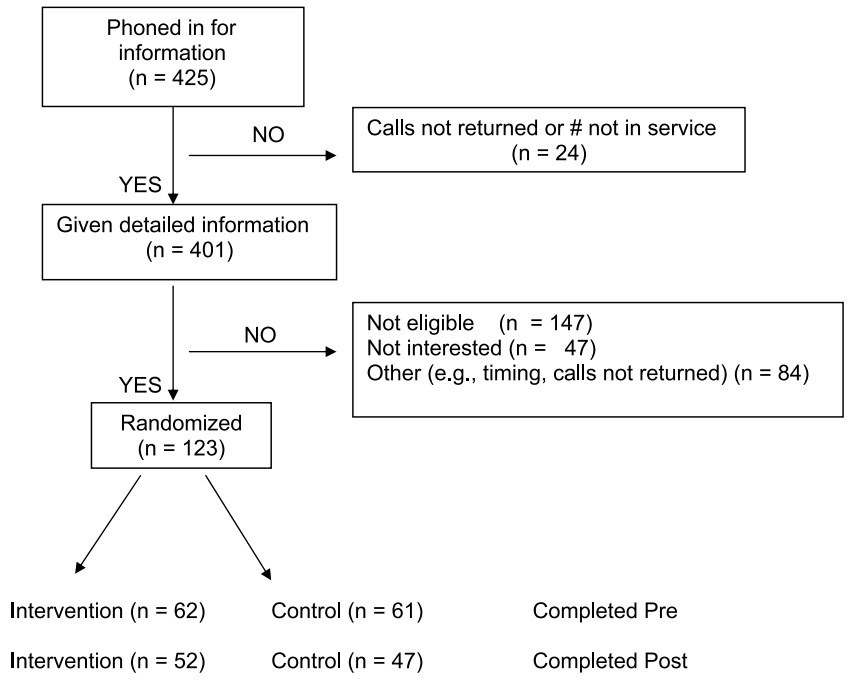

Fig. 1 Participant flow.

TABLE 1
Baseline Characteristics of Children and Families (N = 123)

	Intervention (n = 62)		Control (n = 61)	
Sociodemographics/ Family	$\bar{\chi}$ (SD)	% (No.)	$\bar{\chi}$ (SD)	% (No.)
Child age	9.3 (1.5)		9.0 (1.3)	
Gender				
Male		80.6 (50)		85.2 (52)
Female		19.4 (12)		14.8 (9)
Single parent		37.1 (23)		42.6 (39)
Income[a]				
<$10,000		1.6 (1)		1.7 (1)
$10,000–14,999		6.6 (4)		10.2 (6)
$15,000–19,999		8.2 (5)		15.3 (9)
$20,000–29,999		1.6 (1)		10.2 (6)
$30,000–39,999		18.0 (11)		11.9 (7)
$40,000–49,999		11.5 (7)		6.8 (4)
$50,000–59,999		13.1 (8)		5.1 (3)
>$60,000		39.3 (24)		39.0 (23)
Caregiver education less than high school		8.1 (5)		9.8 (6)
Caregiver age, yr[b]	38.6 (6.2)		36.8 (6.1)	
Maternal mood	14.4 (11.0)		14.2 (9.1)	
Outcomes				
Child anger[c]	52.1 (12.6)		55.2 (10.8)	
Child hostility	23.4 (4.1)		23.7 (5.1)	
Child aggressive behavior	26.4 (9.4)		27.4 (9.4)	
Parent–child relationship	7.6 (4.3)		7.6 (3.6)	
Parenting stress	101.4 (19.7)		98.8 (18.9)	
Externalizing behavior (BCFPI)	70.6 (6.4)		71.3 (5.9)	

Note: BCFPI = Brief Child and Family Phone Interview.
[a] N = 120 (61 intervention, 59 control).
[b] N = 121 (62 intervention, 59 control).
[c] N = 122 (61 intervention, 61 control).

Treatment Effects

Table 2 presents the means and SDs for child- and parent-rated outcome variables at pre- and posttest. Unpaired t tests of change scores for intervention and control participants demonstrated no significantly different improvements between intervention and control groups (all $p > 0.05$). Pre-/postgroup changes on all measures, irrespective of informant, showed improvement over time. Greater magnitude of improvement (difference scores) was found for intervention versus control children on each of the parent-rated measures, but not for child-rated anger, although differences were not significant.

Pre/post comparisons of outcome variables using repeated-measures ANOVAs, including the covariates age, gender, and days between pre- and postassessment, indicated no significant intervention effects (Table 3). Effect sizes for intervention were generally small for most outcomes. None of age, gender, or time was significantly associated with any outcome, with the exception of a significant time effect for parent–child relationship ($p < .03$).

Changes between pre- and postgroup evaluations for intervention and control participants were child mental health service use (13% I, 7% C); support worker (13% I, 11% C); social worker other than child welfare (11% I, 15% C); and medication use (26% I, 20% C). These were not significantly different between groups (all comparisons $p > .05$).

We also examined whether several process variables influenced outcomes. Attendance (attendance: percentage of parent group, percentage of child group) and group leadership (number of group leaders [two trained leaders plus student versus two trained leaders without student]) were examined by including them in models as covariates. Detailed attendance records available for the first five groups demonstrated good attendance rates for both the parents' group (21 of 34 attended 100%, 30 of 34 attended at least 50%, 2 of 34 attended 0%) and children's group (8 of 34 attended 100%, 29 of 34 attended at least 50%, 0 of 34 attended 0%). In separate ANOVAs, with age, gender, time, and intervention (data not shown), we found no significant attendance or group leadership effect on outcomes at $p < .05$.

DISCUSSION

Study results indicate that there was no differential impact of participating in a community-based, family-focused anger management group versus control on parent report of child aggression. Nonsignificant differences between intervention and control participants were also found for other parent-report measures, including child behavior (hostility, externalizing behavior), parent–child relationships, and parenting stress. Child ratings of their own anger also demonstrated nonsignificant differences between intervention and control. Overall effect sizes were smaller than expected (i.e., standard effects, 0.27–0.29). Pre-/postgroup

TABLE 2
Pre-/Postoutcome Measures (n = 99)

Outcome (range)		No.	Pre- (SD)	Post- (SD)	Mean Difference
Child anger[a](21–84)	I	46	51.5 (13.6)	48.0 (13.4)	3.5
	C	47	55.4 (10.3)	50.4 (9.8)	4.9
Child hostility[b](0–34)	I	51	23.2 (4.2)	20.8 (4.8)	2.4
	C	47	23.9 (4.4)	22.6 (5.9)	1.3
Child aggressive behavior[b](0–53)	I	50	26.6 (9.6)	20.6 (10.2)	6.0
	C	47	26.8 (8.9)	23.1 (10.6)	3.7
Child externalizing behavior[b](35–114[c])	I	48	71.1 (6.5)	65.6 (9.0)	5.5
	C	48	70.8 (6.0)	66.8 (9.6)	4.0
Parent–child relationship[b](0–22)	I	50	7.9 (4.5)	6.2 (4.7)	1.7
	C	47	7.7 (3.5)	6.8 (3.7)	0.9
Parenting stress[b](36–180)	I	51	102.4 (20.4)	93.4 (20.8)	9.0
	C	47	99.1 (19.6)	95.0 (18.3)	4.2

Note: I = intervention; C = control.
[a] Child rated.
[b] Parent rated.
[c] Male, 35.4–101.8; female, 37.2–114.2.

changes on all measures, irrespective of informant, showed improvement over time. Though not significant, the magnitude of improvement favored intervention families compared with controls on all parent-rated measures (child behavior, parent–child relationship, parenting stress). Children's self-rated anger did not improve with intervention participation.

The intervention program was planned to be applicable to "real life" in communities. First, in real-life community programs, parents decide whether their children participate for the most part. We used this method of entry into our program and were able to decrease some barriers to service access and utilization for these families. This also has the potential to reduce the stigma associated with involvement in mental health clinical services.

Second, we included children with a range of difficulties, both from a diagnostic perspective and in terms of magnitude, as is likely to happen in real-life community programs. Some RCT children were followed clinically at the same time as being part of our study, although this was not the entry mechanism for the trial. There is some evidence that mixing children exhibiting a range of problem severity may correspond with better treatment group outcomes than groups of more severe children only (Feldman, 1992), although this remains controversial (Mager et al., 2005).

Third, we included children 7 to 11 years of age, anticipating that others implementing such a program would want to provide programs to a broader rather than narrower age range. There is a degree of developmental similarity across this age range.

Fourth, we included both boys and girls. Intervention and control groups did not differ significantly by gender. Each had more boys than girls, consistent with prevalence estimates for externalizing behaviors in this age group (Offord et al., 1989).

Fifth, the availability of a training program and manual make mounting the program feasible beyond our site. These aspects of the program, recruitment, behavioral, gender, and age characteristics of the sample, and the intervention itself, were designed to be like real-world programs and support the potential

TABLE 3
Repeated-Measures Analysis of Variance[a] Results (Pre-/Postoutcome Measures) (n = 99)

Outcome (range)	df	F	p	Effect Size
Child anger[b]	1,88	0.07	0.79	−0.06
Child hostility[c]	1,93	1.55	0.22	0.29
Child aggressive behavior[c]	1,92	1.84	0.18	0.27
Child externalizing behavior[c]	1,90	1.01	0.32	0.28
Parent–child relationship[c]	1,92	1.80	0.18	0.27
Parenting stress[c]	1,93	3.34	0.07	0.28

[a] Variables included in ANOVA: age, gender, intervention, days between pre- and postassessment.
[b] Child rated.
[c] Parent rated.

for programs with these characteristics to be useful community-based interventions.

Design and execution parameters of this study may have contributed to our null findings. First, we limited severity of behavioral problems in eligible participants by excluding children with high levels of externalizing behavior (i.e., BCFPI scores ≥1 SD above clinical mean, n = 18) because of concerns about deviant peer training arising from grouping externalizing youths (Dishion et al., 1999). This phenomenon is less clear among younger children (Dishion et al., 1999). Our approach may have made estimates of program impact more conservative by constraining the magnitude of change that could be detected and thereby limiting the likelihood of detecting noticeable change with treatment.

Second, this evaluation focuses on results of a single postgroup assessment. One could propose that use of a single follow-up soon after the intervention ended may not provide sufficient time for the training to produce the greatest change. As there are natural fluctuations in aggression, this single postgroup assessment may miss findings that would apparent with multiple follow-ups.

Third, we used an effectiveness framework for the study to assess the real-world impact of this community-based anger management program (versus efficacy research that looks at how interventions work under more controlled conditions). Within this framework, we did not limit study inclusion based on comorbidity. Mean levels of symptoms of attention-deficit/hyperactivity and internalizing difficulties, based on BCFPI scores, were elevated in the study sample at about 1.5 SDs above the population means. These comorbid conditions could have an impact on intervention effect. For example, although there is existing literature to support the use of CBT-based programs for child aggression (Henggeler et al., 1999; Kazdin et al., 1989, 1992; Lochman et al., 1989, 1991; Schoenwald et al., 2000; van Manen et al., 2004), some studies do not support the effectiveness of CBT with impulsive/hyperactive children (Abikoff and Gittelman, 1985; Abikoff et al., 1988; Braswell et al., 1997; Kendall, 1993; Shelton et al., 2000). For these children with aggression and impulsivity/hyperactivity, supportive prompting by parents and teachers may mediate child behavioral improvements (Braswell, 1993; Braswell and Bloomquist, 1991). Individual tailoring of the intervention may improve outcomes for children with specific constellations of difficulties, although this would need to be specifically evaluated.

Fourth, again related to the effectiveness framework, no specific attempt was made to control co-intervention (receipt of additional interventions other than those in the study that affect outcomes of interest) or contamination (receipt by control subjects of study or similar intervention). Our simple tracking of changes among participants pre- to postevaluation identified some small nonsignificant differences between intervention and control families and do not explain the null findings.

Other factors may also influence our findings. First, regression to the mean may be occurring. Families may call about their child in times of crisis, and the passage of time alone contributes to improvement in initial scores for both groups. Control group improvement on the dependent measures we employed is consistent with this phenomenon. Screening children twice would help with identification of children with "stable" aggression. However, this is not practical for community-based interventions generally. Second, it may be that we incorrectly projected a medium effect size in terms of improvement, and thus were underpowered for the small effect sizes observed in this program. Clinical populations, like our preliminary work (Williams et al., 2004), generally have higher levels of morbidity than general population samples and have more room for improvement. Although medium effect–sized improvements would be more desirable to achieve than small, it may be that reliable small effects, made available through a replicable low-cost community-based program that has good coverage of the population at risk and under conditions of demand, represent socially important effects. The issue of what represents socially important effects in community-based trials that provide broad coverage is not clear and requires further debate in the literature. In our trial, a larger replication would be required to demonstrate reliable small effects (n = 343/group according to Cohen, 1992).

Strengths and Limitations

Strengths include a carefully manual-based CBT-type program, leader training, use of a program with proven results in an open trial, and measurement of a range of different parent and child outcomes using multiple informants. Study limitations must be noted. The participants in the study accounted for only one

fourth of those who expressed interest in the study. This limits our inferences to similar families who would agree to participate in such a trial. The measures selected to evaluate program effects may have been insensitive to change. However, all of the measures exhibited change over time. The selection of some of measures or methods of data collection may also have been flawed, and alternate measures or methods may be superior to detect program effects. Use of independent observer-rated measures would have strengthened the study, but were not possible within the available project budget. Poor compliance or attendance may have influenced the results. However, at least over the first five groups, there was good attendance. Although we do not have as detailed attendance records for the latter four groups and attendance did not seem to differ from that of earlier groups, without actual assessments, we cannot rule out this bias. There may have been variation in the fidelity of program delivery by the group leaders, although all group leaders were trained, and variation in program delivery was not seen to be a problem during weekly group supervision sessions.

Program delivery issues must be also considered. Even with stronger intervention findings, these could limit community-based, real-life utility of the study intervention. The intervention program included three in-home family practice sessions for each intervention family to allow for individualization of content. This level of in-home involvement with families is not practical in many communities. Modifications (e.g., replacing some of children's group sessions with family group sessions and eliminating in-home sessions) would likely be needed for wider use. Also, a substantial research infrastructure was used to recruit, retain, and evaluate the study sample. Home visits for multiple evaluations, transportation fares as required for families attending intervention groups, funds for gifts of appreciation for all of the families participating in the trial, and tracking families who moved or had their telephone numbers disconnected or changed were done. Although these activities contribute toward the research strengths of the study, they move the study further toward the efficacy or nonreal world of the research spectrum.

Clinical Implications

In this RCT, pre/post comparisons of intervention versus control participant outcomes indicated no significant differences in aggression and associated variables among children and families participating in this community-based aggression management program, with small effect sizes for most outcomes (0.27–0.29). Although not significant, the magnitude of improvement favored intervention families compared with controls on all parent-rated measures of child behavior, parent–child relationship, and parenting stress. Effects fall short of the medium-effect sizes anticipated, and other factors related to design and execution of this study may have influenced our null findings. Within populations of children with more severe behavioral problems (e.g., clinic populations or community children selected without an upper threshold of behavioral problems), larger effects and significant improvements may take place. Furthermore, if small effects are deemed socially important, future program evaluations will require much larger samples to test their effectiveness. Program modifications, such as changes to the in-home sessions and promotion of additional adult prompting, may also be required to improve program generalizability and effectiveness among children with aggression and impulsivity/hyperactivity.

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Effects of South African Men's Having Witnessed Abuse of Their Mothers During Childhood on Their Levels of Violence in Adulthood Naeemah Abrahams, PhD, RN, RM, MPH, Rachel Jewkes, MD, MBBS, MSc, MFPHM

Objectives: We sought to assess the effects of witnessing violence against their mothers in childhood on men's use of violence in a range of settings in adulthood. *Methods:* We conducted a cross-sectional questionnaire survey of 1368 randomly selected male municipal workers in Cape Town, South Africa. *Results:* Almost a quarter (23.5%; 95% confidence interval [CI] = 21.2, 25.7) of the men reported witnessing abuse of their mother, and having witnessed such events was associated with men's later involvement in physical conflicts in their community (odds ratio [OR] = 1.72; 95% CI = 1.29, 2.30) and at their place of work (OR = 1.83; 95% CI = 1.30, 2.58), use of physical violence against their partners (OR = 2.61; 95% CI = 1.94,3.54), and arrest for possession of illegal firearms (OR = 2.86; 95% CI = 1.29, 6.32). *Conclusions:* Our results show strong links between "publicly" violent behavior among men and childhood experiences of "private" violence against their mothers. Prevention of domestic violence is essential both in its own right and as part of efforts to reduce broader violence and crime in society. **American Journal of Public Health** 2005;95(10):1811–1816.