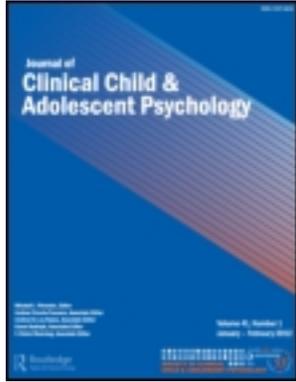


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Journal of Clinical Child & Adolescent Psychology

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/hcap20>

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Version of record first published: 14 Mar 2012.

To cite this article: Melissa J. Hagan, Jenn-Yun Tein, Irwin N. Sandler, Sharlene A. Wolchik, Tim S. Ayers & Linda J. Luecken (2012): Strengthening Effective Parenting Practices Over the Long Term: Effects of a Preventive Intervention for Parentally Bereaved Families, *Journal of Clinical Child & Adolescent Psychology*, 41:2, 177-188

To link to this article: <http://dx.doi.org/10.1080/15374416.2012.651996>

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Strengthening Effective Parenting Practices Over the Long Term: Effects of a Preventive Intervention for Parentally Bereaved Families

Melissa J. Hagan, Jenn-Yun Tein, Irwin N. Sandler,
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This study tested the effect of the Family Bereavement Program (FBP), a preventive intervention for bereaved families, on effective parenting (e.g., caregiver warmth, consistent discipline) 6 years after program completion. Families ($n = 101$; 69% female caregivers; 77% Caucasian, 11% Hispanic) with children between ages 8 and 16 who had experienced the death of one parent were randomized to the FBP ($n = 54$) or a literature control condition ($n = 47$). Multiple regression analyses conducted within a multilevel framework indicated that the FBP had a significant positive impact on a multirater, multimeasure assessment of parenting at 6-year follow-up, controlling for pretest levels of parenting and child mental health problems. Mediation analyses showed that short-term program effects on parenting, including caregiver warmth and effective discipline, significantly mediated the impact of the FBP on effective parenting 6 years later. These findings indicate that a relatively cost-effective brief intervention for families who experienced a major stressor resulted in sustained effects on caregiver warmth and consistent discipline 6 years following the program.

The provision of warmth, acceptance, and effective discipline (hereafter referred to as “effective parenting”) has been identified as a major protective factor for children encountering stressful situations and a compelling target for preventive interventions designed to promote children’s resilience (Luthar, 2006; National Research Council & Institute of Medicine, 2009). Stressors that involve a major disruption to family structure exert considerable demands on the stability of the parent–child relationship and the primary caregiver’s use of effective parenting practices in the short and long term. The death of a parent is one of the most traumatic disruptions that can happen to a family. In addition to recovering from a profound loss, both child and caregiver must negotiate the cascade of stressful changes following the death in

the context of managing daily life events. Although many families negotiate these changes with minimal dysfunction, bereaved youth experience higher rates of mental health problems, including depression (Cerel, Fristad, Verducci, Weller, & Weller, 2006), posttraumatic stress disorder (Melhem, Walker, Moritz, & Brent, 2008; Pfeffer, Altemus, Heo, & Jiang, 2007), and anxiety (Worden & Silverman, 1996). However, several empirical studies have converged on the finding that effective parenting following parental death predicts lower levels of mental health problems in children and adolescents (Kwok et al., 2005; Lin, Sandler, Ayers, Wolchik, & Luecken, 2004).

Randomized experimental trials of many preventive interventions have demonstrated program-induced improvements in parenting practices (e.g., effective communication, positive interactions, consistent discipline) among families encountering a range of stressors, including poverty and discrimination (Brody et al., 2004; Dishion, Nelson, & Kavanagh, 2003; Gardner, Shaw, Dishion, Bruton, & Supplee, 2007), parental depression

This research was supported by the following grants from the National Institute of Mental Health: P30 MH06868-01, R01 MH49155, and T32 MH018387.

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(Compas et al., 2009), and divorce or separation (Martinez & Forgatch, 2001; Wolchik, West, et al., 2000). The Family Bereavement Program (FBP) is one of the few programs for parentally bereaved families to be tested in a randomized experimental trial and the only intervention to assess families more than one year following completion of the intervention (Currier, Holland, & Neimeyer, 2007; Sandler, et al., 2008). The FBP was designed to target empirically-supported risk factors (e.g., caregiver mental health problems and negative life events following the death) and resources (e.g., effective parenting and children's coping) shown to play a role in youth's adjustment following parental death and other types of family disruption (Forgatch, Patterson, & Ray, 1996; Lutzke, Ayers, Sandler, & Barr, 1997; Sandler, Tein, Mehta, Wolchik, & Ayers, 2000; Silverman, 2000). The FBP is a group-based intervention that includes separate components for caregivers, children, and adolescents. It also includes conjoint activities for caregivers and youth to build upon individual skills taught in each component. The program has demonstrated multiple positive effects at short-term and longer term follow-up, including lower levels of mental disorder in youth, reductions in caregiver psychological distress, decreased exposure to negative life events, and increases in effective parenting (Sandler et al., 2010; Sandler et al., 2003).

Studies of the FBP have shown that experimentally increasing effective parenting practices in the *short-term* lowers the risk for mental health problems among parentally bereaved youth (Kwok et al., 2005). This study extends prior findings by studying whether program-induced improvements in effective parenting persist 6 years later. Studying long-term effects in this population is important because the caregiver continues to be a critical resource for youth beyond initial bereavement. Moreover, effective parenting practices may erode as children experience normative developmental changes or the family encounters new stressors. As articulated by Collins and Steinberg (2006), the parent-child relationship is a "mutually regulated system" in which parents' and children's behavior influences each other in a reciprocal fashion over time. The maintenance of effective parenting during the transitions and tumultuousness that often occurs throughout early and late adolescence may prevent downward cycles of mutually reinforcing negativity (Kim, Conger, Lorenz, & Elder, 2001). Given that the parent-child relationship continues to impact psychosocial adjustment throughout adolescence and emerging adulthood (Hair, Moore, Garrett, Ling, & Cleveland, 2008; Reitman & Asseff, 2010), interventions that lead to long-term improvements in parenting practices would contribute to the psychological well-being of youth long after the intervention is delivered.

There is a paucity of research on whether prevention programs that target families experiencing significant

distress impact parenting practices beyond 1 or 2 years after the intervention. In a review of randomized experimental trials of preventive parenting interventions (defined as "those in which at least one component of the intervention involved activities designed to promote some aspect of effective parenting," p. 302), only 17 of 46 trials reported positive changes in participants' parenting 1 year or longer after the program (Sandler, Schoenfelder, Wolchik, & MacKinnon, 2011). Seven of these trials examined interventions for families who were exposed to stressful situations (e.g., parental death, parental depression, divorce, etc.). Positive changes included increases in caregiver warmth and responsiveness, reductions in the use of coercive punishment, and improvements in family rule-setting (see Sandler et al., 2011). Several reported improvements in parenting that lasted 1 year following program completion, but only one time-limited program targeting families experiencing a stressful disruption resulted in improved parenting practices several years later. Parenting Through Change, a preventive parenting program targeting divorced mothers, resulted in decreases in coercive parenting 30 months following the program (DeGarmo, Patterson, & Forgatch, 2004).

Using a randomized, prospective design, the current study examined whether families that participated in the FBP demonstrated greater use of effective parenting compared to families in the control condition 6 years following the intervention. In addition, the current study tested plausible mediators of the intervention effect. Although there is interest in understanding the pathways through which programs may have long-term effects on parenting (Sandler et al., 2011), very little research has empirically tested pathways through which these long-term effects are achieved. As conceptualized by Belsky and others (Belsky, 1984; Belsky & Jaffee, 2006), parenting is determined by multiple factors that operate at the parent, child, and environmental level. Consistent with this model, specific caregiver-, child-, and contextual-level factors were targeted for change by the FBP and, as such, were examined as plausible mediators of the long-term effects of the FBP on effective parenting. At the parent level, the impact of the FBP on effective parenting may persist because parents have learned new skills or strengthened existing skills and continue to use these skills over time. Alternatively, long-term effects of the intervention on effective parenting may be mediated by program-induced reductions in parental mental health problems, which are a significant barrier to effective parenting (Kwok et al., 2005; Sandler et al., 2003). At the child level, it has been found that children's externalizing problems can have a negative impact on a caregiver's parenting practices (Patterson & Fisher, 2002). It is plausible that program-induced reductions in children's externalizing behaviors may reinforce

responsiveness and acceptance from the caregiver as well as increased use of positive reinforcement. At the contextual level, through participation in the FBP, caregivers may have learned ways to reduce the occurrence of stressful events, which in turn may make it easier for them to provide effective parenting over time (Belsky & Jaffee, 2006). Support for the plausibility of these variables serving as mediators is provided by the findings that the FBP had positive short-term effects on effective parenting, caregiver psychological distress, youth externalizing problems, and youth exposure to stressful life events (Sandler et al., 2003). Based on these effects and the literature previously reviewed, the current study evaluated whether short-term intervention effects on these variables accounted for the impact of the program on effective parenting 6 years later. We hypothesized that families who participated in the FBP would show higher levels of effective parenting relative to families in the control condition 6 years following the intervention. Further, we hypothesized that short-term effects on effective parenting, child externalizing problems, caregiver mental health problems, and stressful life events would mediate long-term program effects on effective parenting.

METHODS

Participants

Participants were recruited through mail solicitation, newspaper articles, and presentations to agencies that had contact with bereaved youth (e.g., schools, churches, and hospices). Referred families participated in a screening interview by telephone and those who were eligible were invited to participate in an in-home recruitment visit. Eligibility criteria included (a) death of a biological parent or parent figure between 3 and 30 months prior to the start of the intervention, (b) at least one youth in the family was between 8 and 16 years of age (however, more than one youth per family were invited to participate), (c) at least one youth and one caregiver (who was either the surviving parent or another adult taking on responsibility for the youth following parental death) were willing to be randomly assigned to a group-based program or a self-study condition, (d) neither caregiver nor youth were currently receiving mental health or bereavement services, (e) the family was not planning to move out of the area in the next 6 months, (f) the family could participate in interviews and complete questionnaires in English, and (g) youth were not in a school program for the mentally handicapped. The decision to limit eligibility to those who were bereaved between 3 and 30 months prior to the study reflects that the intervention targets recently bereaved families but is not appropriate

for those families dealing with the immediate aftermath of the death. In addition, due to concerns about compliance with group procedures, youth who were diagnosed with conduct disorder, oppositional defiant disorder, and/or attention-deficit/hyperactivity disorder were screened out of the original trial. For complete details on eligibility and recruitment, see Sandler et al. (2003).

Participating families (156 families, 244 youth) were randomly assigned to the intervention condition, the FBP ($n = 90$ families, 135 youth), or the literature control condition ($n = 66$ families, 109 youth). Of these families, 89% participated in the 6-year follow-up assessment (140 families, 218 youth). Because measures of effective discipline (one component of effective parenting) were administered to only those families in which the youth were either younger than 18 years old or living with the caregiver at the 6-year follow-up, 36 families who participated in the 6-year follow-up were excluded from the current analyses. In addition, three families were excluded from the study because the primary caregivers at the 6-year follow-up assessment were not the original caregivers (i.e., those who participated in the FBP and completed the pretest). Thus, the current sample includes 101 families ($n = 47$ in the literature control condition; $n = 54$ in FBP) and 139 youth ($n = 67$ in the literature control condition; $n = 72$ in FBP). In this sample, 67% of families had experienced the death of the father, 25% the death of the mother, and 8% the death of a relative in the parental figure role. Of the 101 bereaved caregivers, 70 were mothers, 20 were fathers, and 11 were other relatives (aunt, uncle, grandparent, etc.). At the time of the intervention, the mean age of caregivers was 42 years old (range = 28–64) and the median family income was in the range of \$30,001 to \$35,000. Almost all caregivers had completed high school or received a GED (96%). The average time since parental death at the start of the intervention was 10 months (range = 3–28 months). The cause of death was illness (75%), accident (15%), or homicide/suicide (10%). There was an average of 1.89 youth per family (range = 1–4). Of the youth, 53% were boys and ethnicity was 71% Caucasian, 11% Hispanic, 7% African American, 3% Native American, and 8% other; mean age of youth at the 6-year follow-up assessment was 16.6 years (range = 14–22; $SD = 2.03$).

Procedure

Interviewing and Consent

The Arizona State University Institutional Review Board approved all measures and procedures. Assessment interviews were conducted with families in both study conditions (intervention and control) at four waves of data collection: prior to randomization (pretest; W1), immediately following the intervention or 3 months after

the pretest assessment (posttest; W2), 11 months after the posttest (W3), and 6 years after the posttest (W4). Prior to initial participation and at each follow-up assessment, caregivers and youth aged 18 years or older signed consent forms. Youth who were younger than 18 years old signed assent forms in addition to caregivers providing consent. Interviews were conducted in participants' homes, with youth and caregivers assessed separately by different interviewers. Interviewers were blind to condition assignment and were instructed to inform families that they should not indicate the condition to which the families were assigned. Forms completed at the end of each interview showed that 96% of interviewers were blind to group assignment.

Random Assignment and Study Conditions

As detailed in Sandler et al. (2003), a computer program randomly assigned 57.7% of families to the FBP and 42.3% of families to the control condition. A greater proportion of families (60:40 ratio) in some cohorts (depending on the total number of families that had expressed interest in participating in the study) were randomly assigned to the intervention condition than to the control condition to ensure that the FBP groups would be of adequate size to be clinically viable. The representativeness of the families that participated in both study conditions was examined by comparing gender, ethnicity, and cause of death to the distribution of these variables for all deaths of adults between ages 28 to 58 (the age range of 90% of deaths for families in the study) in the county where the study was conducted. Chi-square tests indicated no differences between the families randomized and the population of deaths in the county in this age range (for additional details, see Sandler et al., 2003).

Literature control condition. Caregivers, children, and adolescents in this condition received three books related to adult, child, or adolescent grief. The books were delivered each month over 3 months and were accompanied by a syllabus that briefly outlined the important issues covered in the book. A self-study condition was chosen as the control because it was believed that books, which are readily available to the public, best resembled a "treatment as usual" condition. In addition, given the vulnerability of the sample (recently bereaved families), the provision of books and a curriculum was felt to be a beneficial service for the control families. Process evaluation data indicated that 42% of caregivers, 38% of adolescents, and 71% of children read at least half or more of the books (Sandler et al., 2003).

Intervention condition. Although a detailed description of the FBP is presented elsewhere (Ayers et al., 2010), the program is briefly reviewed here. Caregivers,

children (ages 8–12), and adolescents (ages 12–16) participated in separate but concurrent groups that met for 2-hr sessions once per week for 12 weeks. The caregiver and youth components were designed to reinforce and complement one another, and as such, half of the group sessions included conjoint activities for youth and their caregivers. In addition, two individual sessions were held with each family during the 12-week period to offer guidance on the use of program skills. Groups (ranging from six to nine participants) were co-led by two master's-level clinicians who received 40 hr of training prior to the start of the program as well as ongoing training and weekly supervision for the duration of the program. Process evaluations indicated high fidelity of program implementation. For example, caregivers attended an average of 86% of the sessions, and youth attended an average of 88% of the sessions. In addition, two independent raters evaluated the implementation of action items on five videotaped sessions and found that, on average, group leaders completed 84% to 89% of all action items. Detailed information on implementation of the program is also available in previous publications (Ayers et al., 2010; Sandler, Ayers, & Romer, 2002; Sandler et al., 2003).

As noted in the introduction, the FBP targeted multiple factors known to play a role in the psychosocial adjustment of youth following family disruption. However, strengthening the caregiver–child relationship was a major focus of all program components. For example, nine of the 12 sessions in the caregiver component targeted improvements in parenting (e.g., caregiver warmth, responsiveness, effective discipline, and shielding children from negative events). Sessions included activities that have been demonstrated in prior research to enhance effective parenting in families experiencing stressful situations, including family time, one-on-one time with each child, praise for positive behaviors, active listening, developing and communicating clear and age-appropriate expectations for behavior, and using consistent consequences (Ayers et al., 2010). The child/adolescent curriculum also included exercises to build positive parent–child relationships, such as helping youth to communicate more effectively with their caregiver (i.e., expressing feelings and asking for support). Grounded in cognitive-behavioral theory, the FBP used behavior change methods such as modeling and role-playing to teach skills. In addition, group leaders assigned and reviewed "homework" to facilitate immediate application of the skills. For further details on intervention components and activities, including session by session content, see Ayers et al. (2010) and Sandler et al. (2002).

Measures

For the constructs assessed with multiple reporters and multiple methods (effective parenting and youth mental

health problems), composite scores were constructed on the basis of confirmatory factor analysis (CFA). The CFAs were conducted using Mplus (Muthén & Muthén, 1998–2010), which incorporates data dependency of children nested in families. For the constructs that were assessed with two highly correlated measures, composites were developed using the mean of the standardized scores.

Effective Parenting

This construct was measured as a composite of standardized scores on multiple indicators of caregiver warmth and effective discipline. Caregivers and youth rated caregiver acceptance (e.g., “Your parent/guardian almost always spoke to you in a warm and friendly tone of voice”; at pretest, youth $\alpha = .92$ and caregiver $\alpha = .91$) and rejection (e.g., “Your parent/guardian said you were a big problem”; at pretest, youth and caregiver $\alpha = .87$) on two 16-item subscales from the Child Report of Parenting Behavior Inventory (CRPBI; Schaefer, 1965a, 1965b; Teleki, Powell, & Dodder, 1982). High scores indicated high acceptance and low rejection, respectively. Several studies have confirmed the internal consistency reliability and convergent validity of the CRPBI for the assessment of parental behavior by adults as well as children and adolescents in single-family and two-parent households (Furman & Buhrmeister, 1985; Schaefer, 1965b; Schludermann & Schludermann, 1970; Teleki et al., 1982). Youth and caregivers also completed the caregiver–child Dyadic Routines Scale (seven items; e.g., “Your caregiver had some time each day for just talking to you”; at pretest, youth $\alpha = .74$ and caregiver $\alpha = .76$), which was adapted from the Family Routines Inventory (Jensen, James, Boyce, & Hartnett, 1983). Research with divorced families revealed adequate internal consistency reliability and convergent validity (Cohen, Taborga, Dawson, & Wolchik, 2000). In addition, youth completed the Sharing of Feelings Scale (10 items; e.g., “Your caregiver knows just how to comfort you when you share your sad feelings”; Ayers, Sandler, Twohey, & Haine, 1998; at pretest, $\alpha = .85$), which assesses perceptions that one’s caregiver understands and has empathy for one’s feelings. High scores on this scale have been associated with significantly fewer mental health problems in parentally bereaved youth, suggesting adequate convergent validity (Ayers et al., 1998). Effective discipline was measured by caregiver and youth report of the caregiver’s reinforcement of desirable child behavior using an adaptation of the Parent Perception Inventory (eight items; e.g., “How often did your caregiver tell you when s/he liked what you did”; Hazzard, Christensen, & Margolin, 1983; at pretest, youth $\alpha = .91$ and caregiver $\alpha = .92$) and caregiver and youth report of the caregiver’s use of inconsistent

discipline using the Inconsistency of Discipline subscale of the CRPBI (eight items; e.g., “Your caregiver only kept rules when it suited him/her”; Schaefer, 1965b; Teleki et al., 1982; at pretest, youth $\alpha = .80$ and caregiver $\alpha = .86$). Adequate internal consistency reliability and convergent validity have been reported for the Parent Perception Inventory and the CRPBI (Hazzard et al., 1983; Schaefer, 1965b; Teleki et al., 1982).

All questionnaires reflect ratings based on behaviors in the past month. Studies have shown that composites of these measures of effective parenting predicted lower levels of problem outcomes in parentally bereaved youth (Kwok et al., 2005; Lin et al., 2004). For the current study, a composite score was computed for the effective parenting construct at each wave on the basis of CFAs of the aforementioned measures. According to Hu and Bentler (1999), a model with comparative fit index (CFI) $> .95$, root mean square error of approximation (RMSEA) $< .06$, and standardized root mean square residual (SRMR) $< .08$ is considered to be a good fit of the data. After accounting for shared method variance (i.e., correlations between the residuals of the measures from the same reporter), the fit of the one-dimension model was adequate for each wave: pretest: $\chi^2(19, N = 139) = 28.07, p = .08, CFI = .98, RMSEA = .06, SRMR = .04$; posttest: $\chi^2(19, N = 139) = 28.23, p = .08, CFI = .98, RMSEA = .06, SRMR = .04$; 11-month follow up: $\chi^2(19, N = 138) = 33.45, p = .02, CFI = .97, RMSEA = .08, SRMR = .04$; and 6-year follow up: $\chi^2(19, N = 139) = 20.29, p = .38, CFI = .99, RMSEA = .02, SRMR = .04$. The weighted internal consistency coefficients (Lord & Novick, 1968) of this composite were .85, .84, .85, and .87, respectively, for pretest, posttest, 11-month, and 6-year follow-up.

Negative Events

Experiences of negative events were assessed by youth report using the 51-item Negative Life Events Scale, derived from the General Life Events Schedule for Children (e.g., “Your caregiver talked about having serious money troubles”; Sandler, Ramirez, & Reynolds, 1986) and the Parent Death Events List (e.g., “Your caregiver changed the way the house looks”; Sandler et al., 1992). Scores were calculated by summing the number of negative events experienced during the month prior to the assessment. The scale has shown evidence of validity as a predictor of child mental health problems in prior research (Sandler et al., 1992). In addition, higher scores on this measure have been associated with lower levels of effective parenting (Tein, Sandler, Ayers, & Wolchik, 2006). Internal consistency reliability is not appropriate for life events measures (Sandler & Guenther, 1985).

Caregiver Mental Health Problems

Caregiver mental health problems were measured using the Psychiatric Epidemiology Research Interview (27 items; e.g., "How often have you felt lonely"; Dohrenwend, Shrout, Ergi, & Mendelsohn, 1980; at pretest, $\alpha = .93$) and the Beck Depression Inventory (21 items; e.g., "I cry all the time now"; Beck, Steer, & Brown, 1996; at pretest, $\alpha = .89$). Both measures have demonstrated adequate reliability and concurrent validity in numerous studies (e.g., Beck, Steer, & Garbin, 1988; Dohrenwend et al., 1980; Steer, Beck, Riskind, & Brown, 1986). For the current study, the standardized scores on these measures, which were highly correlated, $r(124) = .71$, $p < .0001$, were averaged to form a composite score. The weighted internal consistency coefficients (Lord & Novick, 1968) of this composite were .92, .88, and .91, respectively, for pretest, posttest, and 11-month follow-up.

Youth Externalizing Problems

Externalizing problems were measured by youth and caregiver report on the externalizing subscales of the Youth Self-Report Form (30 items; Achenbach, 1991b; at pretest, $\alpha = .86$) and the Child Behavior Checklist (33 items; Achenbach, 1991a; at pretest, $\alpha = .90$). Although caregiver and youth report of externalizing symptoms were moderately correlated, $r(130) = .30$, $p < .0001$, the current study examined caregiver and youth-rated externalizing symptoms separately to remain consistent with methods used in the original evaluation of the FBP (Sandler et al., 2003).

Pretest Mental Health Problems

Youth internalizing and externalizing symptoms at pretest were included as a covariate in the analyses (see Results section). Externalizing symptoms were measured at pretest as described above. Internalizing symptoms were measured at pretest by caregiver report on the Internalizing subscale of the Child Behavior Checklist (31 items; Achenbach, 1991a; at pretest, $\alpha = .87$), youth report on the Children's Depression Inventory (27 items; Kovacs, 1992; at pretest, $\alpha = .87$) and youth report on the Children's Manifest Anxiety Scale-Revised (28 items; Reynolds & Richmond, 1978; at pretest, $\alpha = .90$). Standardized scores on all measures of internalizing and externalizing problems at W1 were averaged to create a composite of pretest youth mental health problems. The weighted internal consistency coefficient (Lord & Novick, 1968) of the composite was .93. The CFA showed that after accounting for shared method variance for caregiver variables the fit of the one-dimension risk factor was adequate, $\chi^2(4, N = 139) = 8.43$, $p = .08$, CFI = .98, RMSEA = .08, SRMR = .03.

Data Analyses

All of the primary analyses were conducted with the SAS MIXED procedure to account for the multilevel nature of the data (e.g., children nested in families). We excluded families and youths who had missing data because we did not have a logical method of identifying whether the youths who did not participate in the 6-year follow-up assessment were still living with their caregivers. Prior to the main analyses, attrition analyses (Jurs & Glass, 1971) and baseline equivalence of conditions were conducted using multilevel analysis of variance (for continuous variables) or logistic regression (for categorical variables). Multilevel multiple regression was then conducted to test the effect of the intervention on effective parenting 6 years later (W4). We then examined four pathways by which this effect may have occurred (short-term changes in effective parenting, caregiver mental health problems, negative life events, and youth externalizing problems). A significant program effect on the mediator is a necessary condition for mediation (Cole & Maxwell, 2003; MacKinnon, 2008); thus, in the current study, only the assessments of variables that were affected by the program at posttest or 11-month follow-up were tested as mediators. As reported in Sandler et al. (2003), the original evaluation of the FBP found significant or marginally significant program effects on effective parenting and caregiver mental health problems at posttest (W2) and 11-month follow up (W3), negative life events at W2 only, and externalizing behaviors (assessed by youth and caregiver-report separately) at W3 only. To reduce the number of analyses, for effective parenting and caregiver mental health problems, we averaged the standardized W2 and W3 scores. In sum, the five mediational models that were tested in the present study included W2/3 effective parenting, W2/3 caregiver mental health problems, W2 negative life events, W3 youth-rated externalizing problems, and W3 youth externalizing problems based on caregiver report.

RESULTS

Preliminary Analyses

First, we conducted attrition analyses (Jurs & Glass, 1971) and baseline equivalence of the two conditions on the study variables and relevant demographic variables (youth gender, caregiver gender, youth age, pretest youth mental health problems, the time between parental death and randomization to condition, and cause of death). Only one significant difference was found in the attrition analyses. Specifically, youth in the current sample were younger on average than those who were not included in the current study (M age at pretest: 10.29 vs. 12.92 years old, $t = -9.55$, $p < .0001$). This was expected

because the current study included only the families in which the youth were either younger than 18 years old or living with the caregiver at the 6-year follow-up assessment. Baseline equivalence between the two conditions held for each of the variables tested. Second, we examined the need to control for the covariates that might have reasonably affected either the mediator or outcome variables. Specifically, we examined correlations of the demographic variables previously noted with each mediator and effective parenting at the 6-year follow-up. Only youth pretest mental health problems correlated significantly with proposed mediators and the outcome. We also examined whether there were differences between the study groups in terms of additional mental health services received between posttest and the 6-year follow-up assessment. Of the 101 caregivers included in the current study, 97 provided us with this information at the 6-year follow-up. Of these 97 caregivers, 24% reported receiving outpatient mental health services in the previous 6 years ($n = 23$). Fourteen caregivers in the control group and nine caregivers in the intervention group received additional mental health services, but this difference was not statistically significant ($\chi^2 = 2.93, p = .09$). Thus, only pretest youth mental health problems were included as a covariate in the main and mediation effect analyses.

Descriptive analyses revealed that the skewness and kurtosis of all study variables fell within the acceptable range (skewness < 2.0 and kurtosis < 7.0 ; West, Finch, & Curren, 1995). Table 1 presents the means and standard deviations as well as the zero-order correlations. Effective parenting at the 6-year follow-up was significantly correlated with all predicted mediators, W2/3 effective parenting ($r = .52, p < .001$), W2/3 caregiver mental health ($r = -.23, p = .015$), W2 negative life events ($r = -.24, p = .005$), W3 caregiver report of

TABLE 2
Multilevel Multiple Regression Analysis: Intervention Effect on Effective Parenting Six Years Later

Variable	B	SE	df ^a	t	p
Intercept	.21	.07	88	2.84	.006
Pretest Effective Parenting	.39	.09	132	4.22	<.001
Pretest Youth Mental Health	-.23	.07	133	-3.10	.002
Intervention vs. Control	.22	.11	85	2.04	.044

^aDegrees of freedom computed according to a general Satterthwaite approximation (see Little, Milliken, Stroup, & Wolfinger, 1996).

externalizing problems ($r = -.24, p = .006$), and W3 youth report of externalizing problems ($r = -.29, p < .001$).

Main Effects of the FBP on Effective Parenting at 6-Year Follow-Up

Effective parenting at the 6-year follow-up was regressed on pretest levels of effective parenting, pretest youth mental health problems, and group assignment. As shown in Table 2, the intervention had a significant positive effect on effective parenting 6 years following the intervention over and above pretest levels of effective parenting and youth mental health problems: unstandardized regression coefficient $B = .22, SE = .11, t(85) = 2.04, p = .04$. Calculation of Cohen's d suggested a small to moderate effect size ($d = .33$) of the program effect.

Mediation of 6-year Follow-Up Program Effects on Effective Parenting

As previously noted, five potential mediating variables of the program effect on effective parenting at the 6-year follow-up were tested: short-term effects on parenting,

TABLE 1
Zero-Order Correlations, Means, and Standard Deviations for all Study Variables

Measure ^a (Wave, Reporter)	1	2	3	4	5	6	7	8	9	10	11	12
1. Pretest youth mental health	1.00											
2. Effective parenting (W1)	-0.43	1.00										
3. Effective parenting (W2/3)	-0.45	0.79	1.00									
4. Effective parenting (W4)	-0.41	0.51	0.52	1.00								
5. Caregiver mental health (W1)	0.29	-0.37	-0.28	-0.25	1.00							
6. Caregiver mental health (W2/3)	0.29	-0.26	-0.26	-0.20	0.70	1.00						
7. Negative life events (W1)	0.44	-0.21	-0.18	-0.15	0.19	0.19	1.00					
8. Negative life events (W2)	0.34	-0.28	-0.38	-0.24	0.15	0.23	0.51	1.00				
9. Externalizing problems (W1, YR)	0.64	-0.30	-0.30	-0.29	0.06	0.13	0.42	0.40	1.00			
10. Externalizing problems (W3, YR)	0.42	-0.28	-0.49	-0.32	0.06	0.12	0.27	0.34	0.45	1.00		
11. Externalizing problems (W1, CGR)	0.69	-0.39	-0.37	-0.40	0.28	0.25	0.09	0.03	0.17	0.19	1.00	
12. Externalizing problems (W3, CGR)	0.52	-0.26	-0.33	-0.24	0.26	0.23	0.11	0.04	0.17	0.34	0.66	1.00
M	.02	.09	.20	.14	-.01	-.50	-.02	-.62	-.02	-.32	.06	-.37
Range	3.83	2.99	2.77	3.19	4.40	3.35	4.22	4.22	5.34	5.09	5.14	5.02
SD	.71	.59	.54	.67	.97	.76	1.01	.80	1.04	1.03	1.05	.10

Note: $p \leq .05$ for $r_s \geq .16$, $p \leq .01$ for $r_s \geq .27$. YR = youth-report; CGR = caregiver-report.

^aAll of the variables were standardized using the W1 mean and standard deviation.

TABLE 3
Mediation of the Effect of the FBP on Effective Parenting Six Years Later: Testing Five Plausible Mediating Variables

Putative Mediator ^b	Mediation Parameters ^a								
	a			b			c		
	B (SE)	T	p	B (SE)	t	p	B (SE)	t	p
Effective Parenting (W2/3)	-.20 (.06)	3.34	.001	.46 (.11)	4.17	.001	.12 (.11)	1.12	ns
Caregiver Mental Health (W2/3)	-.15 (.11)	-1.41	ns	-.05 (.08)	-.65	ns	.23 (.12)	2.21	.03
Negative Life Events (W2)	-.25 (.12)	-2.08	.04	-.05 (.06)	-.73	ns	.22 (.11)	2.12	.04
Externalizing Problems (W3, Youth-report)	-.38 (.17)	-2.27	.03	-.05 (.05)	-.98	ns	.21 (.11)	1.92	.06
Externalizing Problems (W3, Caregiver-report)	-.06 (.17)	.34	ns	.01 (.06)	.18	ns	.22 (.11)	2.02	.05

^aThe "a" path represents the effect of the intervention on the mediator, controlling for pretest youth mental health, pretest assessment of the mediator and group assignment; the "b" path reflects the effect of the mediator on effective parenting at six years controlling for pretest youth mental health, pretest effective parenting, and group assignment; the "c" path represents the effect of the intervention on effective parenting at six years controlling for pretest youth mental health, pretest effective parenting, and the mediator.

^bMediation analyses conducted separately.

caregiver mental health problems, stressful events, and youth externalizing problems as reported by caregivers and youth. Mediation analyses were conducted following steps outlined by MacKinnon (2008). Specifically, the method requires separate significance tests of the effect from the independent variable to the mediator (i.e., *a* path, from group assignment to the mediator) and the effect from the mediator to the outcome (i.e., *b* path, from mediator to effective parenting 6 years later) adjusted for the independent variable. The significance of the mediation effect, *a*b*, is then tested by constructing the confidence limit of *a*b* (see MacKinnon, 2008). The mediation effect is significant if zero does not fall within the confidence limit. Lower and upper confidence limits were computed if *a*b* was significant. Due to the complexity of the models and the limited size of the current sample, separate tests were conducted for each mediator. Taking the multilevel structure of the data into account, there was sufficient power to detect the medium effects of *a* and *b* jointly (i.e., .39 for both *a* and *b*; see Fritz & MacKinnon, 2007; Krull & MacKinnon, 2001). Multilevel multiple regression analysis was conducted to examine the *a* and *b* paths, respectively.

All mediation models controlled for pretest levels of the dependent variable and pretest levels of youth mental health problems. As shown in Table 3, the program had significant short-term effects on three of the five putative mediating variables. The program significantly improved W2/3 effective parenting, $B = .20$, $SE = .06$, $t(92) = 3.34$, $p = .001$; significantly decreased W2 negative events, $B = -.25$, $SE = .12$, $t(73) = -2.08$, $p = .04$; and significantly reduced W3 youth-rated externalizing problems, $B = -.38$, $SE = .17$, $t(85) = -2.27$, $p = .03$.¹ Also shown

in Table 3, only one mediator had a significant effect on parenting 6 years later: program-induced improvements in effective parenting at W2/3 predicted significantly higher effective parenting six years after the program, $B = .46$, $SE = .11$, $t(126) = 4.17$, $p < .0001$. The significant test of the mediation effect of W2/3 effective (*a*b*) indicated that short-term changes in effective parenting significantly mediated the program effects on effective parenting at the 6-year follow-up, 99% CI [0.20478, .20473].

DISCUSSION

Children and adolescents who have experienced the death of a parent are at a higher risk of developing psychosocial problems, including clinical levels of depression and anxiety, social withdrawal and lower academic success (Dowdney, 2000). The provision of warmth and consistent discipline plays an important role in preventing the development of psychosocial problems following parental loss (Kwok et al., 2005; Lin et al., 2004). The current study found that a dual-component, group-based preventive intervention for parentally bereaved families increased effective parenting 6 years following program completion. Although multiple randomized trials of preventive interventions have demonstrated measurable improvements in effective parenting at short-term follow-up (for reviews, see Kaminski, Valle, Filene, & Boyle, 2008; Sandler et al., 2011), very few programs targeting families experiencing stressful situations, such as parental death, have been shown to impact parenting in the long term. The current finding is noteworthy given that the FBP is a relatively brief intervention conducted over a 12-week period with no booster sessions. Most preventive interventions that have demonstrated long-term improvements in parenting spanned multiple years (e.g., Bernat, August, Hektner, & Bloomquist, 2007;

¹The findings differed somewhat from those of Sandler et al. (2003). The current study sample includes data from only those families with youth who were living at home and who participated in the 6-year follow-up, which may partially account for the different findings.

Dishion et al., 2003; Fergusson, Grant, Horwood, & Ridder, 2005; Olds et al., 2004). The only prior brief preventive intervention to show long-term effects (i.e., 30 months postintervention) on parenting among families experiencing disruption reported a different pattern of program effects from the current finding. A brief intervention for divorced mothers had a nonsignificant effect on parenting immediately after the program and a significant effect on coercive parenting practices 30 months later, an effect that was accounted for by program-induced reductions in maternal depression earlier on (DeGarmo et al., 2004).

Although there is considerable interest in understanding the pathways through which prevention programs for at risk children and families have their long-term effects (Zhou, Sandler, Millsap, Wolchik, & Dawson-McClure, 2008), very little research has empirically tested pathways by which programs lead to long-term effects on parenting. The current study made a significant contribution by testing plausible mediators of the long-term program effect on effective parenting. We found that program-induced improvements in effective parenting at posttest and 11-month follow-up mediated the impact of the intervention on effective parenting 6 years later. Short-term changes in parenting may mediate longer term changes in parenting because the skills caregivers learn in the program (e.g., increasing positive activities with the child, using active listening, and being more consistent in discipline practices) are reinforced by positive responses from children, which lead caregivers to continue these skills and apply them at later developmental stages. It may also be that the initial improvement in parenting skills enhances the caregivers' sense of parental efficacy and competence, which helps maintain the use of the skills over time (Ardelt & Eccles, 2001).

The effect of the FBP on effective parenting over a 6-year period is especially notable given the targeted population. Following the death of a parent, youth are at an increased risk for a range of mental and physical health problems, and this risk increases when the surviving caregiver's psychological distress negatively impacts their parenting practices (Kwok et al., 2005; Lutzke et al., 1997). The provision of warmth/acceptance and effective discipline by the surviving caregiver is a particularly powerful source of protection for youth who experience family disruption or loss (Lin et al., 2004; Wolchik, Wilcox, Tein, & Sandler, 2000). Experimentally increasing effective parenting practices in parentally bereaved families has been found to lower the risk for mental health problems among youth in the short and long term (Kwok et al., 2005). As such, program-induced improvements in parenting that are sustained over multiple years are likely to benefit bereaved youth long after the intervention.

Several features of the FBP may have contributed to its long-term effects on parenting. The program included

components that a recent meta-analysis of parenting training programs found to be associated with stronger effects (Kaminski et al., 2008), such as activities that focus on parent-child relationship quality, emotional communication skills, and consistency in the use of effective discipline. In addition, the program included not only a didactic segment on the benefits of using each parenting skill but also modeling and role-playing of each skill during the sessions. Further, caregivers were expected to practice the skills with their children at home, and in each session, they received feedback and coaching on their use of the skills with their children. Another aspect that may have contributed to long-term effects is that the program taught complementary skills in the child/adolescent sessions, such as seeking emotional and problem-focused support from the caregivers and giving positive messages to caregivers. Further, youth and caregivers would then practice together in conjoint group sessions and group leaders would give constructive feedback. The long-term effects on parenting may also be in part due to the population targeted by the FBP: parentally bereaved families who recently experienced significant changes in their family structure. On average, families who participated in the current study had experienced the death of a parent within the last year. These families may have been particularly amenable to sustainable changes in parenting given that new roles, routines, and patterns of family interaction were likely being developed following this restructuring of the family.

There are several limitations to the current study that should be noted. First, the intervention targeted only parentally bereaved families, and the study did not include a nonbereaved population. Results from the current study may not generalize to other at-risk populations. Second, the FBP was a dual component program delivered to youth and their caregivers concurrently; the child/adolescent component likely contributed to the maintenance of effective parenting over the long term. Therefore, findings cannot be generalized to programs that work only with caregivers. Third, the study excluded families whose participating youth were older than age 18 and not living with the surviving caregiver so the findings cannot be generalized to bereaved families with older youth no longer living in the caregiver's home. Fourth, the reduced sample size prevented us from examining more complicated relations between variables, such as examining the unique or additive mediation effects across all mediators and examining whether mediation differed by age or gender of the youth or caregiver. Fifth, multiple mediation tests were conducted, thus increasing the risk of inflated Type 1 error. Finally, the 5-year time lag between the last assessment of the mediators and the long-term parenting outcome may have been too long to observe effects that have previously been reported, such as the effects of

negative life events, child externalizing problems, or parental mental health problems on parenting practices (Belsky & Jaffe, 2006).

Despite these limitations, the study has multiple strengths. The use of a multirater, multimeasure assessment of effective parenting allowed us to examine intervention effects on a broad construct of effective parenting. The randomized experimental design allows for a strong inference that a program designed to strengthen parenting was successful in doing so and that the short-term effects on parenting lead to significant improvements in effective parenting 6 years later. This is particularly impressive, given the many challenges parents and youth undergo over the intervening period and the lack of any booster sessions to reinforce program effects over time.

Implications for Research, Policy, and Practice

Time-limited, selective preventive interventions (i.e., delivered to subpopulations identified as being at elevated risk for problems) that target school-aged children and caregivers experiencing family disruption (e.g., parental death, divorce, separation, incarceration) offer a potentially cost-effective method for improving long-term outcomes of vulnerable youth and families. The death of a parent is a traumatic event that elevates children's exposure to subsequent negative life events and the development of mental health problems. Low-quality parenting following the death can reinforce a "continuation of adversity" by increasing vulnerability to the negative effects of subsequent stressful life events (Bifulco, Brown, & Harris, 1987). The findings from the current study show that a relatively brief, dual-component preventive intervention for parentally bereaved families increased the use of effective parenting practices long after the intervention was completed. There is a need for further research to assess whether other parenting-focused prevention programs for families experiencing significant distress have long-term effects on effective parenting across developmental levels. Although few of the 46 randomized trials that included parenting-focused components (see Sandler et al., 2011) reported long-term program effects on effective parenting, it may be that some of these studies have already collected the appropriate data. As such, analyses of existing data on family-based interventions may address this issue.

The current finding that short-term, program-induced improvements in parenting mediated the long-term impact of the intervention on effective parenting provides support for the importance of achieving significant improvement in parenting skills during the program. Thus, preventive interventions for bereaved families and families experiencing other significant disruptions should focus on teaching, practicing, and reinforcing

use of effective parenting skills. Monitoring of the effectiveness of brief preventive interventions should focus on assessing short-term changes in parenting using multiple method and multireporter approaches. Further, evaluations of parenting-focused preventive interventions should assess whether particular aspects of implementation and program design (i.e., program fidelity, homework completion, parent-only vs. parent-child conjoint sessions) are differentially related to program-induced changes in effective parenting over the long term. Such investigations would help identify the mechanisms by which an intervention results in long-term improvements in parenting.

The current study did not find support for mediation by other parent-, child-, and contextual-level factors (e.g., program-induced reductions in negative life events, caregiver mental health problems, or youth externalizing problems). Given the theoretical and empirical evidence implicating multilevel determinants of parenting (Belsky, 1984), more research is needed on whether factors other than program-induced short-term changes in parenting practices mediate longer term effects on effective parenting. It may be that the long-term effects of prevention programs on parenting can be explained by progressive associations between program-induced changes in multiple risk factors. For example, an evaluation of a brief intervention for divorced and separating families found that the program increased parent-child relationship quality, which was related to subsequent decreases in child internalizing problems, which then led to subsequent decreases in externalizing problems (Bonds-McLain et al., 2010). It may be that increases in effective parenting following parental death decreases exposure to subsequent negative life events, which predicts decreases in externalizing symptoms, which then relates to maintenance of effective parenting practices. Given the critical role that effective parenting plays in the prevention of child mental health problems and the mastering of developmental competencies across childhood and adolescence (National Research Council & Institute of Medicine, 2009), such research has positive implications for public health.

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