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## Supporting Father Involvement: An Intervention With Community and Child Welfare–Referred Couples

**Objective:** To expand the evidence base of the Supporting Father Involvement (SFI) intervention to include child welfare families.

**Background:** Taking a preventive father-inclusive approach, SFI aims to strengthen coparenting, parent–child relationships, and child outcomes. This study replicates 4 prior iterations of the program using the same 32-hour curriculum facilitated by clinically trained staff, case managers, and onsite child care and family meals.

**Method:** Participants (N = 239) included low-income (median = \$24,000) coparenting pairs, typically mothers and fathers/father figures, half of whom were Mexican American, with toddlers (median age < 3 years). Questionnaires assessing multiple family domains were administered verbally over an 18-month period. Intervention effectiveness was tested through a randomized control trial with immediate treatment or waitlist–control groups using a moderated mediator structural equation model.

**Results:** The model explained 49% to 56% of the variance in children’s problem behaviors (intervention and autoregressive effects). The intervention reduced couple conflict, which reduced anxious and harsh parenting, leading to better child outcomes. The intervention was equally effective for community and child welfare–referred families and family dynamics pathways were similar across conditions.

**Conclusion:** With its intentional outreach and inclusion of fathers, SFI offers an effective intervention for lower risk child welfare–involved families.

**Implications:** Results argue for the utility of treating community and child welfare parents in mixed-gender prevention groups that focus on strengthening multiple levels of family relationships.

After years of focusing predominantly on mother–child relationships and children’s development, many researchers and service providers now acknowledge that father involvement and coparenting relationships play central roles in children’s well-being (Allen & Daly, 2007; Lamb & Lewis, 2013). Systematic evaluations of interventions based on these ideas, however, are still rare compared with published research on traditional mother-centered parenting programs. Supporting Father Involvement (SFI), a group

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intervention for fathers or for coparenting couples in primarily low-income families, is an exception. Designed to (a) increase the quantity and quality of fathers' involvement with their children and (b) strengthen the relationship between fathers and their coparenting partners, SFI has demonstrated efficacy (P. A. Cowan, Cowan, Kline Pruett, Pruett, & Wong, 2009) and effectiveness (P. A. Cowan, Cowan, Kline Pruett, Pruett, & Gillette, 2014; Kline Pruett, Cowan, Cowan, & Pruett, 2017; Kline Pruett, Gillette, & Pruett, 2016) in terms of its impact on parents and on their children—an outcome rarely examined in studies of couple interventions.

The conceptual model underlying SFI (C. P. Cowan & Cowan, 2000) delineates child outcomes associated with risk and protective factors in five specified aspects of family life: individual, couple, parenting, three-generational, and external stress and support domains (also see Doherty, Kouneski, & Erickson, 1998). These risk and buffering factors have proven to be amenable to intervention and lie at the heart of the SFI's structure and content.

Previously, parents identified by the child welfare system (CWS) because of child abuse, neglect, or domestic violence had been referred to other community services by design. In this article, we describe a randomized control trial (RCT) in which a low-income community sample similar to one included in past SFI studies is compared with low-income participants referred by CWS staff—in essence testing whether SFI is an appropriate intervention for higher-risk participants.

#### SFI INTERVENTION AND EVIDENCE BASE

The SFI approach combines a facilitative, therapeutically oriented focus on family relationship building, emphasizing the role of fathers as positive contributors in the family. Taking a preventive approach, father involvement and partner relationships are supported as the means to strengthen coparenting and father-child relationships. The program aims to promote positive father involvement early in child and family life trajectories before negative emotions and interactional patterns become intractable, resulting in family aggression, or paternal withdrawal or absence. The curriculum developed interweaves parenting education with reflection, communication, and parenting attitudes and skills, with a

clear emphasis on each family defining their own cultural and personal styles rather than “expert-driven” proscriptions.

SFI begins with interviews of individual couples, who are then randomly assigned to either a 32-hour fathers group or couples group, typically presented in 2-hour sessions over 16 weeks. The fathers groups tend to have 8 to 10 participants, and the couples groups tend to have 4 to 8 couples. The curricula differ only in who attends (fathers or both coparents) and how change is targeted (through one parent or through both parents). Twice in each intervention curriculum, fathers and mothers meet separately with one of the coleaders, with the father's meeting focused on time with the youngest child and the mother's meeting focusing on sharing child care with fathers.

Themes from the five risk/protective domains are woven together in the curriculum over the course of the groups. Each session includes a combination of didactic material, exercises, videos, and discussion in various formats (i.e., large group, small group, couples or coparents, individuals) to elicit maximum engagement and foster participants' growth. The groups are led by clinically trained male-female pairs. An SFI case manager refers families to other community services as needed and supports the family's retention in the program through ongoing contact. Onsite child care and family meals help support parents' consistent attendance. For a more complete discussion of SFI content and program components, see P. A. Cowan et al. (2009) and Kline Pruett, Cowan, et al. (2017).

Four studies have documented the positive impact of SFI with different populations. An RCT with 289 Mexican American and European American low-income families in four California counties compared a 16-session fathers group with a 16-session couples group while using a 1-session, 3-hour couples group as a low-dose information control condition (P. A. Cowan et al., 2009). The control group fathers and mothers showed no positive changes and some negative changes at the 18-month follow-up assessment, whereas positive changes were found for participants in both ongoing intervention conditions: increases in fathers' involvement in care of the children, reductions in parenting stress, no increase in children's behavior problems (while control condition children showed an increase), and no decline in the couple relationship—a positive finding in

the context of 50 studies worldwide that indicate marital satisfaction follows a downward trajectory in the absence of intervention (Twenge, Campbell, & Foster, 2003).

Because the couples groups had stronger positive results for parents and children than the fathers-only groups, the second study (P.A. Cowan et al., 2014) did not offer the fathers-only condition. That study of 234 low-income Mexican American, European American, and African American families used the earlier study as a benchmark comparison. A pre–post assessment showed stable relationship satisfaction, statistically significant increases in father involvement and household income, and declines in parents' reports of violent problem-solving, parenting stress, and children's aggressive behavior. Couples in most distress at baseline showed the greatest benefits. The statistically significant rise in household income was notable, but without a control group, it was not possible to determine whether increased income was attributable to program participation.

A third SFI study of 106 low- to middle-income European American couples in Alberta, Canada (Kline Pruett et al., 2016), employed a pre–post quasi experimental design. Before the intervention, parents reported higher conflict levels and mothers were more depressed than the California couples. Twelve months later, SFI–Alberta participants had changed positively on 9 of 11 measures used in prior SFI studies, including fathers' involvement in care of the children, parenting stress, and violent problem-solving. Also, parents reported that children's behavior problems held steady over time.

A fourth study of the SFI curriculum was conducted in the United Kingdom, where the program was renamed Parents as Partners (Casey et al., 2017), reported similarly positive results for low-income couples from varied ethnic backgrounds. A pre–post design to evaluate participant ( $n = 100$  couples) changes revealed statistically significant reductions in parental reports of anxiety and depression, parenting stress, violent problem-solving, and child behavior problems. As in the second study above based on a U.S. sample, participants in the United Kingdom who were in the most distress when they entered the study showed the largest gains after participation.

## THE PRESENT STUDY

Families in the SFI studies were considered to be at risk based on their low income or distress levels. This new clinical trial of the SFI couples group intervention was implemented with couples referred from the CWS who were not currently believed to be at risk for harming their partner or child. We acknowledge the controversy that exists surrounding a couple's systems approach to treatment when intimate partner violence or child abuse has been identified (Mahraj, 2017; Stith & McCollum, 2011). However, a comprehensive review of studies indicates that working with couples conjointly is efficacious and appropriate in some situations (Karakurt, Whiting, Esch, Bolen, & Calabrese, 2016), such as when situational violence rather than coercive control is involved (Hardesty, Crossman, Khaw, & Raffaelli, 2016). With careful monitoring for safety concerns, our intervention supported couples work on communication issues, negative attributions, and self-control of aggression. It also provided opportunities to reduce harsh parenting and strengthen commitments by the coparents to curb aggressive or neglectful tendencies. The SFI group approach simultaneously draws on group leaders' expertise and creates a supportive community thought participants sharing their experiences.

On the basis of evidence that the intervention was effective in enhancing individual, couple, and parenting outcomes, we concluded that a no-treatment control group was not ethical with families previously identified as vulnerable by CWS. Thus, we employed an RCT design with random assignment to immediate treatment or waitlist-control groups to determine whether SFI could be an effective intervention for these coparenting partners. Each group in the intervention and control conditions included both CWS-identified and self-referred community parents.

We hypothesized that the immediate treatment group would show intervention benefits that the waitlist-control group did not. Moreover, the SFI intervention rests on a theory of change based on correlational studies showing that couple relationship conflict is strongly associated with negative parent–child relationships and problematic behavior in children and adolescents (Cummings & Schatz, 2012). Given this body of literature, we hypothesized that intervention participation would be associated with a reduction in parental conflict, which would

lead to intervention-induced increases in parenting quality, which, in turn, would lead to lower levels of children's externalizing and internalizing problems. We also examined an exploratory research question regarding whether the community and child welfare samples would respond differently to the intervention. The child welfare families likely would have more stressors that could undermine intervention impact, yet they could also have greater needs that responded more quickly or fully to the support and skills they received from the intervention. Therefore, group-condition differences were explored as an open question.

## METHOD

### *Participants*

The baseline assessment was completed by 239 heterosexual pairs of coparents, most of whom were romantic partners. The racial and ethnic composition of the sample was diverse: 53% of the fathers and 50% of the mothers were Hispanic (mostly Mexican American), 31% of the fathers and 36% of the mothers were European American, 9% of the fathers and 7% of the mothers were African American, and 1% of both mothers and fathers were Asian American or Pacific Islander; 4% of the fathers and 3% of the mothers described themselves as "a combination" of races or ethnicities and 2% of the fathers and 3% of the mothers did not self-identify with any of these races or ethnicities (i.e., they placed themselves in an "other" category).

Almost half (49%) of the coparenting pairs participating in the trial were married, 3% were separated, 1% were divorced, 43% were romantic partners who were not married, and 4% were nonromantic pairs (father-grandmother, father-sister, father-friend). Six percent of the separated or divorced couples were living apart while raising their child together and 11% of the never-married partners were living apart.

Median age for fathers and father figures was 31.5 (range: 18–71); median age for mothers and mother figures was 29.2 (range: 17–66). The median age of the youngest child (i.e., the focal child) was 2 years 11 months (range: 1 month–12 years). Median annual household income was \$24,000; in California, for a family of four during the years of the study, \$40,000 was twice the poverty line (a common estimate of poverty).

### *Procedure*

As in earlier U.S. trials, SFI staff for the present study were located within existing Family Resource Centers in five California counties—one largely African American, and the other four primarily agricultural, low-income communities with a high proportion of Mexican American residents. Staff at each site included a project director, two group leaders, case managers, a data coordinator, and a county health and human services liaison. Project staff recruited about half the participants (community couples) through direct referrals from within the Family Resource Centers and various community outreach strategies. Unlike previous SFI studies, counties appointed a liaison to SFI from CWS, who referred couples previously reported to the CWS who were not currently engaging in child abuse, neglect, or domestic violence.

A phone screening by case managers determined couples' participation eligibility. Inclusion criteria included (a) raising a child together regardless of marital or cohabiting status, (b) both parents or coparent partners willing to participate, (c) a youngest child under 12 years of age, and (d) neither partner with mental illness severe enough to interfere with daily functioning at home or at work. For prospective participants who had already been involved with CWS, their participation as a couple was considered safe and appropriate by referring CWS staff, corroborated by SFI staff during the screening and subsequent intake interview procedures. As described previously, the sample consisted mostly of current or past romantic partners raising a child but also included some father-grandmother, father-sister, and father-friend pairs of coparents who were raising the target child together.

After determining eligibility, interested couples were interviewed by the group leaders, with most sites offering Spanish or English options. The group leaders explained the intervention program and the research, including random assignment to a couples group that would begin immediately, or to a waitlist for a group that would begin in 6 months. The group leaders then read the informed consent papers aloud and obtained signed consent from both partners. Next, the partners were invited into separate rooms, fathers/father figures with the male coleader and mothers/mother figures with the female coleader. For the CWS-referred



couples, this was a second assessment of any current issues pertaining to intimate partner violence, child abuse, or child neglect that would raise safety concerns. We administered the same interview procedure to the non-CWS-referred couples to establish comparable experimental conditions. Questions focused on violent behavior toward partner or child, actual physical harm requiring treatment, attempts by one partner to limit and control the other, and fear about what would happen on the way home after discussing these questions in the interview. In three of 305 cases, the group leaders contacted CWS with concerns that led to referring families outside of SFI for help with the identified problem.

The parent pairs were then reunited with both group leaders and randomly assigned to an immediate or waitlist-control condition (6-month delay). The assignment was determined by handing couples a sealed envelope with a label inside that read "group now" or "waitlist." Couples in both conditions were administered the baseline assessment in the form of an English or Spanish interview with the case manager to accommodate participants for whom English was their second language (about half of the Mexican American participants).

Questionnaire assessments occurred at three time periods: baseline (before the group meetings began), Post 1 (2 months after the intervention ended for immediate groups; 6 months postbaseline for the waitlist-controls), and Post 2 (18 months after couples in either condition entered the study). The Child Abuse Potential Inventory and family income measures were administered twice, at baseline and at the Post 2 follow-up.

As a result of strong community collaboration in recruitment, 292 (96%) of the 305 couples screened met eligibility criteria (see Figure 1), and 284 (97%) of eligible couples (152 community and 132 CWS-referred couples) enrolled in the study. Because approximately half of the couples had previous involvement in CWS and were at relatively high risk, we offered 70% of the participants immediate groups and 30% the waitlist-control condition. Random assignment determined that 101 community and 99 CWS-referred couples were invited into the immediate condition; 51 community couples and 33 CWS-referred couples were invited into the waitlist-control group.

Of these potential participants, 239 (84%) initiated the intervention and 49 couples

dropped out, unevenly distributed across conditions,  $\chi^2(7) = 32.88$ ;  $p < .001$ ; being in the waitlist-control was less was of a draw for potential participants, especially among community couples. Specifically, stayers included 96% of the immediate community couples condition; 87% of the immediate CWS-referred immediate couples condition; 61% of the waitlist-control community couples; and 76% of the waitlist-control CWS-referred couples. Further attrition occurred at the Post 1 (2 months after intervention) and Post 2 (almost a year after Post 1) assessments, although attrition differences at Posts 1 and 2 were not statistically different from one another across the four conditions,  $\chi^2(7) = 2.10$ ;  $p = .954$ .

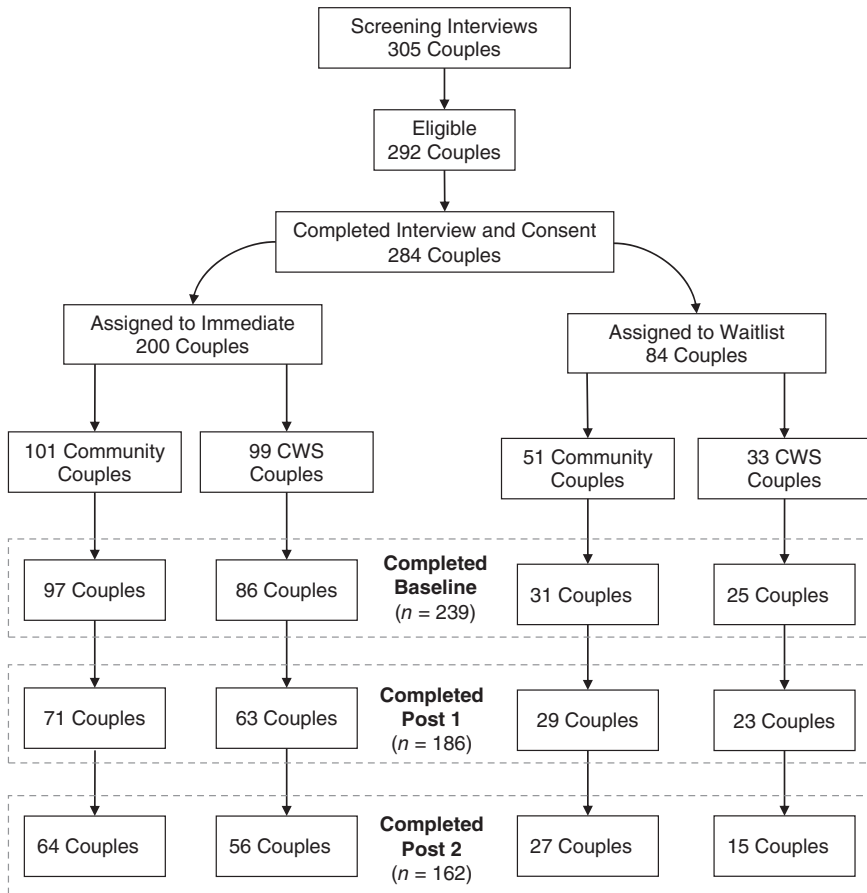
Overall, the retention rate for those who completed the baseline assessment, Post 1, and Post 2 was 68%, which is about 10% lower than that of the initial SFI study with lower risk participants (P. A. Cowan et al., 2009). There were no statistically significant differences in the retention of fathers or mothers in the community or CWS-referred samples as a function of age, marital status, ethnicity, being born in the United States, having a high school diploma, or involvement in paid work during the previous 2 weeks. Using G\*Power (Faul, Erdfelder, Lang, & Buchner, 2007), we calculated that a sample of 136 pairs were needed to detect a medium effect size with a power of .90; in this study, 162 pairs completed all three assessments (see Figure 1).

### Measures

The study measures served as indicators of latent variable constructs in couple, parent-child, and child domains. Each latent variable, containing measures from both fathers' and mothers' self-reports, is included in our structural equation models. Because an earlier SFI finding had shown that intervention couples' household income increased over time but was not studied against a control group, we analyzed this variable as a separate outcome, despite the fact that it was not part of our relationship-based theoretical model.

*Couple conflict.* Indicators included in the latent variable assessing couple conflict were his and her descriptions of total amount of conflict in the couple relationship, parenting conflict, and violent problem-solving. Composite reliabilities for the measures included in this latent

FIGURE 1. FLOW OF PARTICIPANTS THROUGH EACH STAGE OF THE EXPERIMENT. CWS = CHILD WELFARE SERVICES.



variable at baseline, Post 1, and Post 2 were .85, .83, and .86, respectively.

*Relationship conflict.* From the Couple Communication Questionnaire (C. P. Cowan & Cowan, 1990a), we used a 13-item scale that asks about how much conflict each topic elicits between partners. Example items include “the way we communicate with one another” and “the division of workload in the family.” Response options for each item range from *none* (scored as 0) to *a lot* (6), and response scores were summed so higher scores correspond with more conflict. Baseline interitem reliabilities were .91 for fathers and .90 for mothers.

*Parenting conflict.* We used three items from the Couple Communication Questionnaire (C. P. Cowan & Cowan, 1990a) about typical child-focused disagreements to assess

the amount of parenting conflict the couple experienced. Specifically, the items addressed were “ideas about raising children,” the “children’s schooling,” and “how to discipline” the child(ren). Each partner indicated the amount of disagreement or conflict about each item on a scale from *none* (0) to *a lot* (6), and response scores were summed so higher scores correspond with more conflict. Baseline interitem reliabilities were .83 for fathers and .77 for mothers.

*Violent problem-solving.* The Couple Communication Questionnaire (C. Cowan & Cowan, 1990a) also includes a 16-item scale derived from the Conflict Tactics Scale (CTS; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Respondents are prompted with “When you and [partner] attempt to solve a marital or family

problem, which of the following strategies do you tend to use?" Each partner identified all of the eight items that apply, such as "I yell or insult my partner," "I push grab, or shove my partner," and "I slap or try to hit my partner." In contrast with the CTS, respondents are also asked to describe the partner's behavior toward them on each item. The score for violent problem-solving was the total number of endorsed items. Baseline inter-item reliabilities were .84 for fathers and .78 for mothers.

*Parenting quality.* Four measures of parent-child relationship were measured for the latent variable assessing parenting: father involvement, parenting anxiety/stress, harsh parenting, or potential for child abuse. However, as described later, father involvement was ultimately not included. Composite reliabilities for the three remaining measures of this latent variable at baseline, Post 1, and Post 2 were .77, .78, .77, respectively.

*Father involvement.* Who Does What? (C. P. Cowan & Cowan, 1990b) is an 11-item questionnaire administered to both parents to assess fathers' involvement relative to mothers' in the care of their youngest (the focal) child (e.g., feeding, getting up with the child at night), with response options ranging from *she does it all* (1) to *he does it all* (9), with *we do it about equally* (5) at the midpoint. Response scores were summed so that higher scores correspond with more father involvement. Baseline interitem reliabilities were .78 for fathers and .83 for mothers. Correlations between fathers' and mothers' descriptions at the three assessment points ranged from .62 to .74, suggesting that both partners described their division of family labor similarly, although not identically.

*Parenting stress.* Each parent's level of stress associated with parenting the youngest child was assessed with a 38-item version of the Parenting Stress Index (Abidin, 1997). Parents indicated the extent of their agreement or disagreement with 38 statements describing themselves as anxious, their child as difficult to manage, a lack of fit between the child they envisioned and the child they had, and so on. The scale was validated by comparing parents who do with those who do not have known childrearing stressors (i.e., parents of children with developmental delays, oppositional defiance, or difficult temperaments). Response options to each

statement range from 1 to 5, and response scores were summed so higher scores correspond with more parenting stress. In our sample both mothers' and fathers' interitem reliability for the scale was .92. We refer to this variable as anxiety/stress in our analyses.

*Harsh parenting.* The Alabama Parenting Questionnaire measures parenting practices that are related to maladaptive child behaviors (Frick, 1991). Its 32 items are scored in five domains: positive parenting, poor monitoring, inconsistent discipline, involvement, and corporal punishment. In this study, we used only the seven corporal punishment items, which we refer to as *harsh parenting*. Example items include "A good spanking lets children know parents mean business" and "Strict discipline is the best way to raise children." Response options range from *never* (1) to *always* (5), and response scores were summed so higher scores correspond with harsher parenting. Baseline interitem reliability was .82 for fathers and .80 for mothers.

*Risks for child abuse.* The Child Abuse Potential Inventory is a screening tool for the detection of potential physical child abuse, used by protective services workers in their investigations of reported child abuse cases (Milner, 1994). The primary clinical scale used here was the abuse scale containing 78 items. Test-retest estimates for the abuse scale are strong (.91 and .75 for 1-day and 3-month intervals, respectively), with demonstrated ability to discriminate between abusing and nonabusing parents (Milner, 1994). Example items include "I am often angry inside," "my family fights a lot," and "I have a child who is bad." Responses are *Agree* or *Disagree*, but items are weighted differently according to the manual; response scores were summed so that higher scores correspond with a higher risk for perpetrating child abuse. Baseline interitem reliability was .92 for fathers and .94 for mothers. Unlike the other measures, we did not administer the Child Abuse Potential Inventory at Post 1.

*Child outcome (behavior problems).* Each parent completed a 54-item adaptation of the 106-item Child Adaptive Behavior Inventory (P. A. Cowan, Cowan, & Heming, 1995). We composited the scale scores into four dimensions based on a factor analysis, which included two externalizing (aggression and hyperactivity) and two internalizing (shy/withdrawn and

anxiety/depression) dimensions. In a previous study (Gottman & Katz, 1989), the interitem consistencies of these composite dimensions filled out by teachers were high ( $\alpha$ s in the .80s and .90s), and those filled out by parents were moderate ( $\alpha$ s in the .60s and .70s). Alphas for parents' descriptions in the present study ranged between .75 (hyperactivity) and .88 (aggression) for mothers and fathers. Correlations between mothers' and fathers' descriptions were moderate to high at each assessment period on three of the four dimensions: aggression ( $.46 < r < .50$ ), hyperactivity ( $.39 < r < .40$ ), and anxiety/depression ( $.40 < r < .48$ ). Parents did not see their child's shy/withdrawn behavior similarly ( $.17 < r < .26$ ). Nevertheless, this variable was included in the study because of its fit within a latent variable, as explained subsequently.

Two latent variables described children's internalizing and externalizing behavior problems in the measurement model. Indicators included in the externalizing latent variable were fathers' and mothers' scales describing their youngest child's aggression and hyperactivity. The internalizing latent variable was his and her scales describing anxiety/depression and shy/withdrawn behavior. Composite externalizing reliabilities at baseline, Post 1, and Post 2 were .87, .86, and .86, respectively. Despite low correlation between parents' ratings of shy/withdrawn behavior, reliabilities for the manifest variables included in the internalizing latent variable were .77, .76, and .77, respectively.

*Household income.* Each participant provided the yearly total income for themselves and for their partner. Estimates of the other partner's income often diverged from that partner's report, so our measure of household income was the sum of each partner's self-reported yearly income pre- and postintervention.

#### *Data Analyses*

Although we attempted to include father involvement in the latent variable assessing parenting, it was not statistically correlated with the other three measures of parenting (i.e., parenting anxiety/stress, harsh parenting, or potential for child abuse). That is, the amount of father involvement with his youngest child was not related to the quality of his involvement. We therefore did not include father involvement

in the latent variable assessing parenting quality. However, given that SFI is an intervention designed to promote father involvement, we maintained the variable and analyzed it separately.

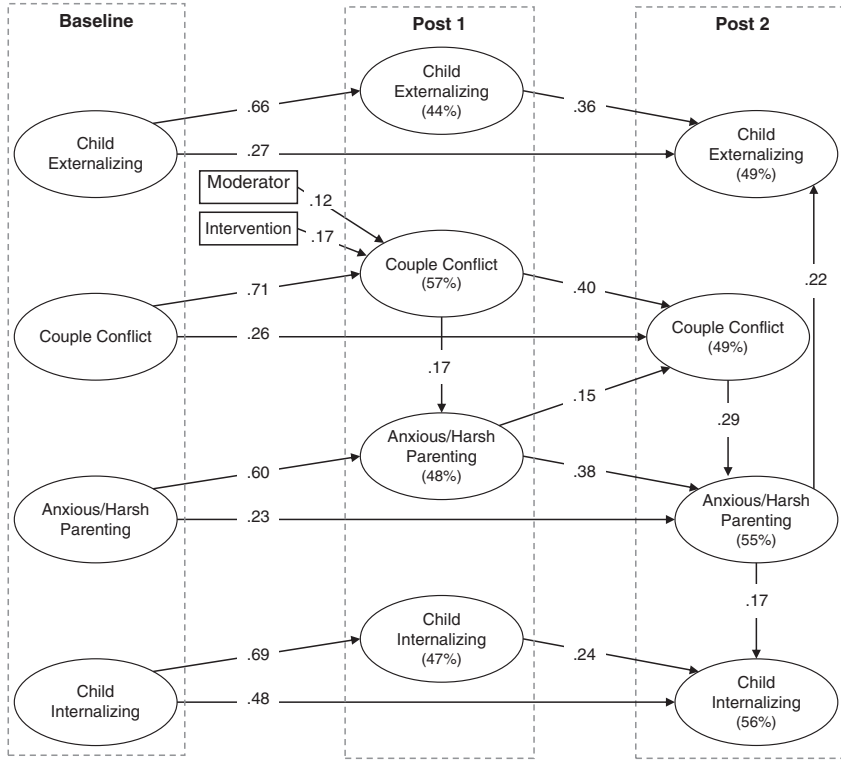
We used a moderated mediator structural equation model (SEM) to examine whether contrast between the intervention and waitlist-control groups (the moderator variable) would affect the pathways linking couple and parenting quality (the mediators) with the children's externalizing and internalizing behavioral outcomes. The SEM model contains 58 manifest variables associated with 12 latent predictor variables and two dependent variables (child outcomes). Figure 2 shows latent variable constructs for couple conflict, anxious/harsh parenting, and child internalizing and externalizing behavior at baseline, Post 1 (2 months after intervention), and Post 2 (18 months after Baseline) arranged according to our theoretical model. At baseline and Post 2, there were six measures of couple conflict (his and her violent problem-solving, relationship conflict, and parenting conflict), six measures of parenting quality (child abuse potential, harsh parenting, and parenting anxiety/stress), and eight measures of child behavior problems (two measures of internalizing behavior and 2 measures of externalizing from each parent).

It was our expectation that all four latent variables would show consistency over time. Consistent with multiple regression logic, each latent variable obtained at Post 1 or Post 2 represents change from preceding periods (e.g., Post 1 couple conflict controls for baseline couple conflict).

All analyses were conducted with SmartPLS (Hair, Hult, Ringle, & Sarstedt, 2017). Theoretically driven tests of intervention effects were constructed by including a dummy moderator variable (immediate vs. waitlist-control) to test whether participation in the intervention affected changes in couple conflict from baseline to Post 1. To model the hypothesized moderator effects, we used the SmartPLS approach espoused by Goodhue, Lewis, and Thompson (2007): The moderator effect was included in the SEM model as a latent variable with a single indicator that is the product of the summed indicators of the constructs underlying the hypothesized moderator effect. We tested whether the intervention-induced change in couple conflict differed for couples who began the study at low or high conflict levels. We also



FIGURE 2. PATH MODEL CONNECTING COUPLE CONFLICT, ANXIOUS/HARSH PARENTING, AND CHILD BEHAVIOR OVER TIME. ALL PARAMETER ESTIMATES ARE STANDARDIZED BETAS ( $\beta$ ). FOR CLARITY OF VISUAL PRESENTATION, WE HAVE OMITTED THE THREE LATENT VARIABLE CONNECTOR PATHS AND THE SEVEN DIRECT PATHS FROM THE INTERVENTION DUMMY VARIABLE TO THE LATENT VARIABLES THAT WERE NOT STATISTICALLY SIGNIFICANT ( $P > .05$ ). THE PERCENTAGES INSIDE EACH LATENT VARIABLE REPRESENT THE PROPORTION OF ITS VARIANCE EXPLAINED BY THE LATENT VARIABLES WITH ARROWS LEADING TO IT.



conducted an exploratory multigroup analysis, using the SmartPLS program’s bootstrapping operation, to compare the path weights and intervention effects for CWS-referred and community couples to assess whether the path trajectories differed for the two sets of parents.

Finally, father involvement and family income were analyzed separately from the structural equation model. We tested direct effects on these manifest variables with four-way general linear model (GLM) analyses, with the dependent variable examined as a function of time  $\times$  immediate versus waitlist-control  $\times$  CWS-referred versus community couples  $\times$  sex.

## RESULTS

### Descriptive Statistics

Descriptive statistics are reported in supporting information (Table S1 and S2) for mother and

father variables at each assessment period. Using these statistics, after considering the adequacy of the measurement and structural SEM, we describe the direct effects of the intervention on couple conflict, father involvement, and family income.

### Retention and the Issue of Missing Data

In the Method section we noted that a smaller proportion of community couples agreed to accept a waitlist-control invitation. However, among those who did complete the baseline assessment, there were no statistically significant group differences in retention rate from baseline to Post 2. Our examination of participant characteristics measured at baseline showed that Hispanic couples were more likely to complete the Post 2 questionnaires

(88%) than were European American (57%) or African American (48%) couples,  $\chi^2(5) = 15.51, p < .001$ ; further, married couples were more likely to complete the study (82%) than cohabiting (62%) or nonintimate-partner (71%) couples,  $\chi^2(20) = 8.52, p = .014$ . There were no statistically significant retention differences between fathers and mothers, CWS-referred and community couples, or immediate and waitlist-control conditions.

We also examined whether retention was associated with participants' level of income or psychological adaptation (couple, parenting, child behavior) at baseline. A mixed-model GLM analysis (gender of parent  $\times$  baseline measures  $\times$  retention) of differences between those who completed or failed to complete the Post 2 assessment revealed no statistically significant interactions among the independent variables. None of the measures indicated baseline differences in level of risk or distress between those who dropped out and those who completed the 18-month follow-ups.

Although we believe an overall retention rate of 68% over an 18-month period is acceptable for this high-risk, low-income sample, there remains the problem of missing data from the 32% of participants who began the study but did not complete it. We considered multiple imputation but were wary of having the SmartPLS program, rather than participants, provide almost a third of the data. Cheema (2014) demonstrated that in multiple regressions with small sample size and a high proportion of missing data, the gain in accuracy between multiple imputation and listwise deletion is about 1%. Given that we demonstrated baseline attrition was randomly distributed across participants' income and initial levels of distress, we chose the listwise deletion function of SmartPLS while running the SEM model.

### *The Structural Equation Model*

*Assessing the measurement model.* The adequacy of the measurement model was tested by establishing whether the manifest variables were statistically associated with their designated constructs (couple conflict, anxious/harsh parenting, child externalizing, and child internalizing). All 58 manifest variables that were associated with the latent variables at the three time periods showed statistically significant connections with their latent constructs, with  $t$

values ranging from 3.05 ( $p < .001, d = 0.48$ ) to 28.41 ( $p < .001, d = 4.46$ ). As noted in the method, composite reliability estimates for each latent variable at each assessment period ranged between .75 and .87. The overall goodness of fit index, standardized root mean square residual, was .04, where .00 represents a perfect fit, and an estimate of .08 or less represents a well-fitting model (Hair et al., 2017). The measurement model, then, was strongly supported by the data.

*Assessing the structural model.* In the initial computation of the SEM, we created 20 paths connecting latent variables. Seventeen of the 20 paths linking latent variables to each other were statistically significant, with  $t$  values ranging between 2.48 ( $p = .007, d = 0.32$ ) and 17.29 ( $p < .001, d = 2.75$ ). The intervention dummy variable in the equation was scored so that the immediate intervention condition was coded 1 and the waitlist-control was coded 2 to be consistent with the other latent variables in the model in which high scores were negative. We had predicted a direct intervention effect on Post 1 conflict, and we also explored possible direct effects on the other latent variables at Post 1 and Post 2, but none of these was statistically significant. For clarity of visual presentation, in Figure 2 we have omitted the three latent variable connector paths and the seven direct paths from the intervention dummy variable to the latent variables that were not statistically significant.

The percentages inside each latent variable in Figure 2 represent the proportion of its variance explained by the latent variables with arrows leading to it. The proportions of variance in Post 1 latent variables explained by baseline measures ( $.44 < R^2 < .56$ ) and in Post 2 latent variables explained by baseline and Post 1 measures ( $.49 < R^2 < .56$ ), presented inside the latent variable circles, are all statistically significant. Most importantly, the entire model explained 49% of the variance in children's externalizing behavior and 56% of children's internalizing behavior, as rated by both parents 18 months after they entered the study. Note that it is a combination of intervention effects and autoregressive associations, not the intervention alone, that explains this high proportion of the variance in the child outcomes.

*Evaluating the conceptual model.* Figure 2 shows that the conceptual model linking couple

conflict, parenting, and child behaviors was empirically supported. Couple conflict was associated, both contemporaneously and over time, with anxious/harsh parenting, which was associated with children's externalizing and internalizing problem behaviors at 18 months postintervention. The only statistically significant direct association with the intervention latent variable was Post 1 (2 months after the groups ended) couple conflict (which has a positive path weight because the waitlist participants were given a higher code than the immediate intervention participants). Intervention participants showed a greater decline in couple conflict than the waitlist-control participants ( $t = 2.97$ ,  $p = .007$ ,  $d = 0.39$ ).

In an exploratory analysis, we found a statistically significant moderator effect of the intervention on couple conflict; that is, the intervention produced different effects on couples who entered the study with lower versus higher levels of conflict at baseline ( $t = 2.17$ ,  $p = .036$ ). A post hoc analysis revealed that couples who entered the study low in conflict did not make statistically significant changes in conflict over the next 6 months, regardless of whether they were in the immediate intervention or waitlist-control condition. When couples began the study high in conflict, waitlist-controls did not statistically change, but immediate intervention participants showed a reduction in conflict and violent problem solving ( $d = 0.34$ ). This is a true contrast between intervention and control participants because at Post 1 the waitlist-control couples had not yet begun the intervention. Also, intervention-induced reductions in couple conflict from baseline to Post 1 were associated with concurrent reductions in anxious/harsh parenting ( $\beta = .17$ ;  $t = 2.46$ ,  $p = .015$ ).

We explored the possibility that the intervention also might have had indirect effects. SEM analyses revealed a statistically significant indirect path from Post 1 couple conflict to Post 2 anxious/harsh parenting via Post 2 couple conflict ( $t = 3.68$ ;  $p < .001$ ). Couples whose conflict was lower after the groups ended were more likely to describe lower conflict almost a year later and to describe themselves as using less anxious/harsh parenting almost a year later.

Figure 2 shows statistically significant associations between anxious/harsh parenting and concurrent child behavior problems at Post 2. To determine whether this connection was linked to earlier intervention effects, we examined

indirect paths from Post 1 couple conflict to the latent variables measuring externalizing and internalizing behavior at Post 2; both were statistically significant (indirect link to externalizing,  $t = 2.33$ ,  $p = .020$ ; indirect link to internalizing,  $t = 2.21$ ,  $p = .028$ ).

To tease apart a confound between intervention effects (setting some of the changes in motion) and the autoregressive effects resulting from participants being administered the same measures over time, we calculated separate path models for intervention and waitlist-control participants. The SEM model using data only from intervention participants had a set of statistically significant path links identical to the full model. By contrast, the same model calculated for waitlist-control participants had no statistically significant links between Post 2 parenting and child behavior; furthermore, the waitlist-control SEM accounted for 63% of the variance in internalizing behavior (similar to the intervention model), but it accounted for only 11% of the variance in externalizing behavior (vs. 49% in the intervention model). Given that the intervention and control conditions were constituted by random assignment, we think it is fair to interpret the large discrepancy between explained variance in intervention and waitlist-control children's externalizing behavior as an intervention effect, and the explained variance in internalizing behavior as attributable to autoregression.

In sum, participation in the SFI couples group intervention resulted in a statistically greater decline in parents' conflict than it did in randomly assigned waitlist-control parents. This effect spilled over to both the couple relationship and parenting quality at Post 2, with benefits for the child in terms of externalizing behaviors.

*CWS-referred versus community sample.* It was particularly notable that CWS-referred couples did not have higher levels of conflict or maladaptive parenting upon entering the study. Of the 12 constructs measured at baseline, only father involvement was different between the groups. Surprisingly to us, CWS-referred fathers and mothers described the men as *more* involved in the daily care of their children. Equally surprising, there were no differences on parents' scores on child abuse potential: The low-income community sample entered the study endorsing as many of the warning signal items as those who had been referred from CWS.

Using the multigroup analysis function of SmartPLS, we compared the path weights in Figure 2 separately for CWS-referred and community samples. The paths connecting couple conflict with parenting quality at Post 1, and with child behavior problems at Post 2 unfolded similarly across time, indicating that the CWS-referred clients obtained as much benefit from participating in SFI as did the community couples.

#### *Nonmodel Measures: Father Involvement and Household Income*

A four-way GLM analysis of variance (ANOVA; Time<sub>Baseline, Post 1, Post 2</sub> × Intervention Immediate vs. Waitlist-control × CWS vs. Community × Sex) yielded a statistically significant four-way interaction,  $F(2, 225) = 3.62$ ;  $p = .050$ . Post hoc analyses with Bonferroni corrections determined that whereas fathers in the waitlist-control did not change their level of involvement with the child according to their own or their partners' reports, community mothers ( $d = .38$ ) and both CWS mothers ( $d = .45$ ) and fathers ( $d = .51$ ) in the immediate intervention described fathers as statistically increasing their involvement in the care of their child over 18 months.

Household income was measured by partners' combined income at baseline and again 18 months later. A three-way GLM ANOVA (Time<sub>Baseline, Post 2</sub> × Intervention Immediate vs. Waitlist-control) × CWS vs. Community) revealed a statistically significant Time × Intervention interaction,  $F(1, 225) = 3.92$ ;  $p = .043$ . Intervention participants' reported household income rose by a mean of \$5,241 per year, whereas waitlist-control participants' income remained virtually unchanged. Subsequent post hoc analyses revealed that although fathers earned more than mothers at baseline and Post 2, there were no sex differences in the intervention effect on changes in income over time.

#### *Discussion*

SFI is one of the few couples group intervention programs that has evaluated its impact on the children. The present study builds on previous assessments of SFI's effectiveness (P. A. Cowan et al., 2009, 2014) with three additional program and evaluation enhancements. First, a sophisticated measurement analysis allowed for

testing direct and indirect effects of the intervention. It provided a test of the theory of change underlying the intervention, which in previous analyses captured mean group differences over 18 months but not pathways of change. Second, this study includes low-income families assumed to be at higher risk because in addition to being poor, they had come to the attention of county child welfare services for concerns about domestic violence, child abuse, or neglect. Third, we examined effects of the intervention for two variables that did not fit into latent structural equations but are central to our theory of systems change and family well-being: father involvement and family income.

#### *Model Fit and Theory of Change*

Results showed that the data were a good fit for the latent variable SEM, explaining 49% and 56% of the variance in young children's externalizing and internalizing behaviors, respectively. The manifest variables fit well into latent variables that captured couple conflict, anxious and harsh parenting, and problematic child behaviors. As expected, higher conflict couples were more likely to engage in anxious/harsh parenting and more likely to report their children as having both externalizing and internalizing problems (Cummings & Davies, 2010). These variables constitute family-related risk factors for child abuse and intimate partner violence (e.g., Belsky, 1993; Krug, Mercy, Dahlberg, & Zwi, 2002).

The results correspond with our proposed theory of change. Conflict in couples participating in the group intervention statistically declined over the course of the 32-hour intervention. This decline was associated with decreases in anxious and harsh parenting, both soon after the intervention and almost a year later. In turn, the decreases in couple conflict and anxious/harsh parenting were associated with fewer parent-reported child problems more than a year after the intervention ended. An important caveat to these findings, however, is that because the data are all parent report, we do not know whether the intervention is raising participants' awareness about these connections or actually facilitating systemic change in family processes.

The major intervention effect was the decrease in couple conflict. The intervention effect size ( $d = .42$ ) is higher than that found in most couple relationship education

interventions (approximately .25) described in meta-analyses (Hawkins & Fackrell, 2010). This decrease in couple conflict was associated with other risk factors being reduced and protective factors strengthened. Consistent with family systems theory generally (Watzlawick, Bavelas, & Jackson, 1967) and structural family systems theory (Minuchin, 1974), the couple alliance has a cascading impact on individuals and relationships throughout the family. The lynchpin for the cascade of family change is the couple relationship, particularly the partners' ability to negotiate conflict in a prosocial manner toward the goal of supportive coparenting (Kline Pruett, Cowan, et al., 2017; Kline Pruett, Pruett, K., Cowan, C. P., & Cowan, 2017).

Further support for our theory of change is evident in the fact that we ran the models separately for immediate and delay groups and found that for immediate participants, changes in couple conflict were linked to decreases in negative parenting and child problems. For waitlist control participants, changes in couple conflict were *not* linked to parenting or child outcomes. When parents benefitted from participation in the intervention, as evidenced through decreased conflict, that improvement was connected to parenting behavior and child benefits, whereas among the controls, positive changes in the couple did not become linked with parenting and child outcomes. It appears, then, that the intervention helps parents systemically by linking their behavior toward each other to their behavior toward the child.

#### *Two Nonmodel Variables: Father Involvement and Income*

Father involvement, the first of two variables examined outside of the latent structural equation modeling, increased among immediate intervention participants according to reports of community mothers and CWS-referred mothers and fathers. Previous studies in California (e.g., P. A. Cowan et al., 2009, 2014), Canada (Kline Pruett et al., 2016), and the United Kingdom (Casey et al., 2017) also showed an increase in fathers' positive involvement with the children and their mothers. We noted that the amount of father involvement was unrelated to measures of father-child relationship quality and was therefore not included in our SEM model. This finding reinforces the conclusion from a robust literature on father involvement

that testifies to the link between *positive* father involvement and positive child outcomes (Lamb & Lewis, 2013), as well as benefits accrued for the entire family (Cabrera, Fitzgerald, Bradley, & Roggman, 2014). Moreover, a meta-analysis of interventions supports the benefit of including fathers in programs designed to affect children's behavior (Lundahl, Tollefson, Risser, & Lovejoy, 2008). The pathways through which these links occur remain to be specified through further studies.

The second nonmodel variable we studied was income because our earlier work suggested an increase in income associated with the intervention. Participants in the present study's immediate intervention group reported *household* income increases more than \$5,000, compared with no changes reported by the waitlist-control parents. This finding suggests that the relationship between improving relationships and higher incomes might be reciprocal or causal in a direction that supports the importance of relationship intervention for multiple aspects of family well-being. Improved relationships between the parents may enable them to be more focused and productive while at work (Fellows, Chiu, Hill, & Hawkins, 2016). We also tested an alternative interpretation of the data—that income change was an antecedent, not a consequence, of family and child change. However, income change from baseline to Post 2 did not account for variation in children's externalizing and internalizing behaviors. Although this finding is preliminary subject to further research and must be considered with caution, for a low-income population living near the poverty level, this change and its genesis could be noteworthy.

#### *Implications for Practice*

Results of this study contradict the idea that families identified by CWS are necessarily and substantively more troubled than their community counterparts. Baseline analyses showed no differences between the groups in rates of entering or completing services. However, the CWS-referred sample may have experienced a more urgent need for services, given that they had been identified by the state authorities. Community parents assigned to the waitlist-control condition dropped out in greater numbers than those invited into the immediate



intervention, possibly because their need for services was not felt strongly enough to overcome their disappointment at being placed in the waitlist condition. CWS-referred families showed no such differences.

The one difference found in family dynamics measures at baseline was counterintuitive: father involvement was higher in CWS-referred families than in the community sample. This is surprising given that the child welfare literature is replete with discussions about how difficult it is to engage fathers in interventions and how infrequently it is attempted (Campbell, Howard, Rayford, & Gordon, 2015; Panter-Brick et al., 2014). SFI, with its intentional outreach and inclusion of fathers, may have tapped into a different subsample of CWS families. It is also possible that fathers, if studied more often, would prove to be more involved in their children's lives than expected, as demonstrated among the large sample of parents in the 20-city Fragile Families study (Wilde & Doherty, 2013).

The most important *nondifference* we found was that the community and CWS-referred samples did not differ statistically in terms of their self-reported child abuse potential (Milner, 1994) at baseline. Nor were they different in terms of the risks and problems they reported in their couple relationships or parenting quality. Furthermore, the pathways connecting couple conflict to parenting quality and child problems were similar in both groups. These similarities underlie our belief that it is fundamentally a good idea to mix the two populations in family-based interventions. SFI staff reports over 3 years of groups indicated that mixing the families did not create difficulties for group leaders or clients. To the contrary, we observed that a mix of more and less effective models of parent and partner relationships led to parents feeling less stigmatized, and engaging in more self-reflection and attempts to try new strategies. Preventive intervention groups thus appear to be useful and appropriate for families in less serious current difficulty, and we believe they are more cost-effective than providing individual intensive family case services that include child removal and family reunification. Testing this belief requires follow-up studies with attention to cost-benefit analyses of both parenting and coparenting interventions.

It is possible that the careful screening by both CWS and the SFI staff limited the CWS families to a less high-risk subsample. Nevertheless, our study joins an expanding literature demonstrating that it is possible to include at least some couples referred to CWS for domestic violence (Hardesty et al., 2016), child abuse, or neglect in a couples group intervention once those problems have been addressed and that a coparenting intervention has the potential for positive benefits for parents and their children, in contrast with single-sex programs that have shown limited success (Babcock, Green, & Robie, 2004; Stith, McCollum, Amanor-Boadu, & Smith, 2012).

#### *Limitations and Future Research*

Issues related to attrition plague many interventions, perhaps especially those that span months, and this one was no exception. Notably, however, the participants in our study were more likely to remain involved if they were offered the intervention immediately rather than 6 months later. Because there were no differences in retention once the baseline assessment was completed, and no meaningful differences associated with initial levels of distress, we conclude that the present sample provides a reasonable database from which to generalize, especially given that the results replicate the overall trends in four previous tests of SFI.

One problem in interpreting intervention effects results inevitably from the comparison of participants engaging in the SFI program immediately with those in the waitlist-control condition. The waitlist-control did not provide an optimal randomized test of the intervention effect at Post 2 because 44% of the parents in that condition went on to participate in the intervention when it was offered 6 months after baseline. The fact that so many waitlist-controls ultimately participated in the intervention may have had two opposing effects. First, it could have interfered with their function as a control group at the later assessment period. But second, their Post 2 data were obtained only a short time post-intervention, and the intervention effects of SFI increase over time (Schulz, Cowan, & Cowan, 2006). Thus, the indirect intervention effects obtained from the waitlist-control families may represent a conservative estimate of the intervention impact.

Another limitation of the present study is that the high level of explained variance in the

child outcomes may be due to the fact that both the relationship and child data come from parent reports. There were no direct observations of the parents or children in the present study. Although intervention effects were found on both parent-report and observational data of both parents and children in an earlier study of low-risk families (P. A. Cowan, Cowan, Ablow, Johnson, & Measelle, 2005), further research that includes multimethod, multisource data is needed.

We also look forward to additional data with sufficient diversity that we can move beyond testing for family structural and ethnic differences to elucidate the contributions of fathering and mothering figures versus parents and gender differences that might emerge in those analyses. In our view, success of the intervention approach lies in its inclusion of fathers and its focus on couples as partners and coparents. Our experience leads us to suggest that harnessing the full range of positive family relationships across various subsystems is a strong agent for breaking the cycle of family violence and abuse and replacing it with promise of a higher, more sustainable level of well-being for parents and their children.

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#### SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

**Table S1.** Means and Standard Deviations for Community Fathers ( $n = 128$ ) and Mothers ( $n = 128$ )

**Table S2.** Means and Standard Deviations for Child Welfare System Fathers ( $n = 111$ ) and Mothers ( $n = 111$ )