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Improving Couples' Relationship Functioning Leads to Improved Coparenting: A Randomized Controlled Trial with Rural African American Couples

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Abstract

Family-centered prevention programs for couples with children are being increasingly disseminated, with the hope that improving couples' romantic relationships will lead to other benefits for families. To date, however, it is unclear whether these interventions do in fact yield these benefits. The current study addressed this gap by examining whether post-intervention improvements in couples' relationship functioning following family-centered prevention predicted longer-term change in coparenting, and whether post-intervention improvements in coparenting predicted longer-term change in relationship functioning. We used four waves of data collected over 2 years from 346 rural African American couples with an early adolescent child who participated in a randomized controlled trial of the Protecting Strong African American Families (ProSAAF) program, an intervention designed to promote strong couple, coparenting, and parent-child relationships in two-parent African American families. Results indicated that ProSAAF had significant short-term positive effects on both romantic relationship functioning and coparenting and that these effects did not differ in magnitude. Over time, however, only romantic relationship functioning post-intervention was positively associated with long-term changes in coparenting; coparenting post-intervention was not associated with longterm changes in relationship functioning and this association was significantly weaker than the other pathway. These findings support a key premise underlying relationship enhancement programs for parents, indicating that improving couples' romantic relationship functioning can have longer-term benefits for the coparenting relationship as well. Further research examining long-term parent, child, and family outcomes following family-centered prevention for couples and the mechanisms of change underlying these outcomes is needed.

Keywords

African American couples; coparenting; prevention; relationship functioning

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Stable, satisfying romantic relationships are associated with a range of positive outcomes for adults and their children. Relative to adults in lower-quality relationships, adults in higher-quality relationships report lower social and work impairment, lower levels of general distress, and higher perceived health (e.g., Whisman & Uebelacker, 2006) and exhibit lower morality and cardiovascular reactivity (e.g., Robles, Slatcher, Trombello, & McGinn, 2014). Similarly, children whose parents have a stable, high quality relationship have better academic, social, and psychological outcomes on average relative to other children (e.g., Brown, 2010; Cummings & Davies, 2002). Unfortunately, high rates of relationship discord in the population mean that these benefits prove elusive for many families (e.g., Whisman, Beach, & Snyder, 2008), with rates of relationship distress and dissolution particularly high among low-income and ethnic minority families (e.g., Amato, 2010; Bramlett & Mosher, 2002; Cherlin, 2005).

Given these patterns, researchers and policymakers have invested heavily in developing family-centered prevention programs to bolster couple and family well-being (for discussion, see Cowan & Cowan, 2014; Lavner, Karney, & Bradbury, 2015). In contrast to couple therapy approaches, which are designed for couples with a high level of relationship distress, these cognitive-behavioral prevention programs for couples are designed to help couples maintain satisfying relationships and prevent distress and dissolution. These programs are typically focused on skill-building in a range of domains. For example, the widely used Prevention and Relationship Enhancement Program (PREP; Markman, Stanley, & Blumberg, 2010) teaches couples communication skills, commitment, friendship, and relationship expectations. Similarly, the Couple CARE program (Halford, 2011), another widely used prevention program, focuses on areas such as communication, intimacy and caring, managing differences, and sexuality. Historically, these programs have been delivered primarily to engaged couples preparing for marriage (e.g., Markman, Floyd, Stanley, & Storaasli, 1998) or to married couples undergoing the transition to first parenthood (e.g., Schulz, Cowan, & Cowan, 2006), as these are key transitional periods during which relationship satisfaction has been shown to decline (e.g., Lavner & Bradbury, 2010; Mitnick, Heyman, & Slep, 2009). These programs have shown positive effects on average, with meta-analytic evidence indicating that they have moderate effects on relationship quality and communication skills at post-assessment and short-term follow-up (e.g., Halford & Bodenmann, 2013; Hawkins, Blanchard, Baldwin, & Fawcett, 2008; Pinquart & Teubert, 2010).

More recently, the reach of these programs has expanded to include more established couples, including those with non-infant children. For example, the Supporting Healthy Marriage (SHM) project was a large-scale evaluation of prevention programming for low-income married couples with children supported by the Administration for Children and Families' Healthy Marriage Initiative (Knox & Fein, 2008); at enrollment, 81% of couples were married (average marriage length = 6 years) and averaged 2 children (Hsueh et al., 2012). Another recent program examined the effectiveness of relationship education for married couples in which at least one spouse was in the Army (Stanley et al., 2014); couples were married an average of 4.93 years and 74% had at least one child living with them part-time. These interventions maintain a strong focus on couples' relationship functioning and also include discussion of issues relating to childrearing, including attention to matters of

coparenting (i.e., how the dyad relates around issues of parenting, including agreement on childrearing, division of child-related support, support for the coparental role, and joint management of family interactions; Feinberg, 2003; McHale & Lindahl, 2011). Coparenting is important given its significant associations with children's internalizing and externalizing problems (for meta-analysis, see Teubert & Pinquart, 2010) and is likely to be highly relevant to these couples given that they are actively involved in navigating childrearing together.

Evaluations of family-centered prevention among couples with children allow for tests of several important practical and theoretical questions. First, they can test whether the preventive model is effective at improving more established relationships, building on prior work that only included engaged couples without children and/or pregnant married couples expecting their first child. Second, they can test whether improving the couple's relationship leads to improvements in other aspects of the broader family system. That is, one of the primary justifications for the expanded reach of these programs has been that improving the couple's relationship should benefit coparenting, parenting, parents' well-being, and/or children's well-being (e.g., Knox & Fein, 2008). For example, SHM was described as "test(ing) the effectiveness of a skills-based relationship education program designed to help low-income married couples strengthen their relationships and, ***in turn***, to support more stable and more nurturing home environments and more positive outcomes for parents and their children" (Hsueh et al., 2012, p. v, emphasis added). To date, however, it remains unclear whether these types of programs actually function in this manner (McHale, Waller, & Pearson, 2012). Evaluations of family-centered prevention programs have focused on testing whether there are post-intervention improvements in different domains of functioning (e.g., Doss, Cicila, Hsueh, Morrison, & Carhart, 2014; Hsueh et al., 2012; Lundquist et al., 2014), rather than testing whether intervention-induced changes in couple functioning lead to other changes in the family. The ability to address this question has also been hindered by the lack of long-term follow-up data in most studies, providing limited opportunities to examine how these dynamics play out over time. The lack of attention to this question is a critical gap in the literature, given that testing a directional hypothesis is necessary in order to determine whether programs are operating as theorized.

The current study aimed to address these gaps using multiple waves of data from a large randomized controlled trial of a family-centered prevention program for two-parent African American families. The program, its initial post-intervention effects, and its ability to buffer the impact of external stressors have been described in detail elsewhere (Barton et al., 2017, 2018a, 2018b; Beach et al., 2016), so here we briefly review program design and implementation. The Protecting Strong African American Families (ProSAAF) program was specifically designed to meet the needs of two-parent African American families residing in the rural South. It was based on cognitive-behavioral skills-based approaches to prevent couple and family problems (e.g., Markman et al., 2010), as well as social-ecological models of family functioning (e.g., Conger & Elder Jr., 1994) that detail how stressful external circumstances impair couples' cognitive and behavioral functioning. The intervention consisted of six weekly in-home sessions, each lasting 2 hours, plus two booster sessions. Outcomes were measured at baseline and at three follow-up assessments, spanning 2 years.

Initial results using data from the first three waves indicated that ProSAAF participants reported better relationship functioning, coparenting, and parenting 11 months after program completion (4 months after the second booster session) compared to control participants (Barton et al., 2018b).

Here we extend these initial findings using a fourth wave of data in order to examine how post-intervention functioning predicts longer-term changes in family outcomes. Our primary research question was whether post-intervention improvements in couples' relationship functioning would predict longer-term maintenance or change in coparenting, consistent with dominant models of relationship interventions for couples with children (e.g., Knox & Fein, 2008). A secondary research question was whether post-intervention improvements in coparenting would predict longer-term maintenance or change in relationship functioning. Although this pathway has been the focus of relatively less attention in an intervention context, interventions for two-parent families focused exclusively on coparenting also lead to improvements in relationship functioning (e.g., Doss et al., 2014; Feinberg, Kan, & Goslin, 2009), suggesting that there may be spillover across domains in this manner. Consistent with this idea, theoretical models of coparenting argue that the association between coparenting and relationship functioning is bidirectional (e.g., Feinberg, 2003) and there is empirical support for both pathways from basic studies (e.g., Le, McDaniel, Leavitt, & Feinberg, 2016; Morrill, Hines, Mahmood, & Córdova, 2010; Peltz, Rogge, & Sturge-Apple, 2018; Schoppe-Sullivan, Mangelsdorf, Frosch, & McHale, 2004). The current study aims to build on this basic work by testing both pathways of influence following the ProSAAF intervention and whether one pathway is significantly stronger than the other. In doing so, this work will serve to enhance theoretical understanding of mechanisms of change in long-term family outcomes following participation in family-centered prevention.

Method

Participants and Procedures

Couples with an African American youth between the ages of 9 and 14 years (age: M = 10.87, SD = .90) took part in the study. The study received approval from the Institutional Review Board at the University of Georgia (study title: "Protecting Strong African American Families"; institutional review board approval number: 2012104112). All participants lived in small towns and communities in the southern US, where poverty rates are among the highest in the nation and unemployment rates are above the national average (DeNavas-Walt & Proctor, 2014). To be eligible, couples had to be in a relationship for 2 years or more, living together, and coparenting an African American youth in the targeted age range for at least 1 year. Couples had to be willing to spend 6 weeks engaged in a family-centered prevention program and not be planning to move out of the study area during that period. Families were recruited by mail and phone via advertisements distributed in their communities as well as through lists that local schools provided. Schools in 16 counties provided information on youths in grades 4 through 6.

Participant recruitment, randomization, and progress through the study are illustrated in the CONSORT flowchart in Figure 1. A total of 1897 families were screened for eligibility. Of these families, 1145 were ineligible (e.g., household was headed by a single parent, the child

was not in the targeted age range, the child was not African American, the family was enrolled in another program). Of the 752 eligible families, 347 did not respond to the solicitation and 59 were unable to schedule an assessment. The remaining 346 families were randomized to the intervention (n = 172) or control (n = 174) condition. For women and men in the intervention condition, respective retention was 84% and 81% at Wave 2 (W2), 83% and 76% at Wave 3 (W3), and 80% and 72% at Wave 4 (W4). For women and men in the control condition, respective retention was 89% and 82% at Wave 2 (W2), 93% and 85% at Wave 3 (W3), and 95% and 82% at Wave 4 (W4). Retention did not vary by primary study variables or sociodemographic variables (i.e., marital status, children in the home, income, education, and child age). At W3 and W4, individuals assigned to the control condition were more likely to be retained in the sample than individuals assigned to the ProSAAF condition ($p < .05$).

Of the couples in the randomized sample, 63% were married, with a mean length of marriage of 9.8 years (SD = 7.48; range < 1 year to 56 years). Unmarried couples had been living together for an average of 6.7 years (SD = 5.42; range < 1 year to 24 years). Adults' mean ages were 39.9 years (SD = 9.6; range 21 to 83 years) for men and 36.6 years (SD = 7.45; range 23 to 73 years) for women. Race and ethnicity were not assessed for parents; notes from research staff indicated that two caregivers (from different families) were not African American. All participants were comfortable being identified as part of an African American family. The majority of families in the study could be classified as working poor: 51% had incomes below 100% of the federal poverty level and an additional 17% had incomes between 100% and 150% of that level. The majority of both men (74% [65% full-time]) and women (61% [45% full-time]) were employed. Median monthly income was $1,375 ($SD$ = $1,375; range $1 to $7,500) for men and $1,220 ($SD$ = $1440; range $1 to $10,000) for women. Median education levels were high school or GED (ranging from less than grade 9 to a doctorate or professional degree) for men and some college or trade school (ranging from less than grade 9 to a master's degree) for women. The total number of children residing in the home ranged from 1 to 8, with a median of 3 and a mode of 2 (M = 2.97; (SD = 1.48). Ninety-four percent of women were biological mothers and 49% of men were biological fathers (and 38% were stepfathers) for the target child. Nearly all couples were heterosexual (n = 344 [99.4%]); two families were headed by a same-sex female couple.

Project staff visited couples' homes, explained the study in greater detail, and obtained informed consent from adult participants. Each participating family member then completed the W1 assessment using audio computer-assisted self-interview software installed on laptop computers. Participants completed surveys on separate laptops and, if possible, in separate rooms. Participants did not talk to one another or see one another's responses while completing the surveys. Families were visited for W2, W3, and W4 assessments a mean of 9.4 months, 17.0 months, and 24.5 months respectively after W1. Each adult was compensated with a $50 check for completing each assessment. Randomization took place after couples completed pretest measures. Block randomization by marital status was performed within each county to facilitate group equivalence.

ProSAAF implementation.—A trained African American facilitator visited the couple in their home for six consecutive weeks to conduct the 2-hour intervention sessions. Each session focused on a specific stressor that rural African American couples experience (e.g., work, racism, finances, extended family), and couples were instructed in cognitive and behavioral techniques for handling the stressor together. In this manner, each session was designed to help couples better deal with the stressors they commonly encounter through enhancing couple, coparenting, and parenting processes, rather than explicitly focusing on these processes themselves. Two booster sessions were scheduled to reinforce material covered during the main intervention. If a couple separated or divorced, an alternative booster session was offered that focused on the coparenting relationship and protecting children from the stress of separation and divorce. The two booster sessions were scheduled approximately 3 and 9 months after completion of the six-week program (approximately 2 months before W2 and 4 months before W3). Following each intervention session, each adult was compensated for their time (Sessions 1 and 2 = $25, Sessions 3 and 4 = $30, Sessions 5 and 6 = $35, Booster Sessions 1 and 2 = $35). A total of 28 facilitators implemented the program; the total number of families with whom each facilitator worked ranged from 1 to 15.

Control group.—Couples in the control group were assessed on the same schedule as those in the intervention group, thereby controlling for effects of repeated measurements, maturation, individual differences, and external social changes. After the pretest, couples were mailed the book *12 Hours to a Great Marriage* (Markman, Stanley, Blumberg, Jenkins, & Whaley, 2004) and an accompanying workbook that presented reasons for enhancing the couple's relationship, guidelines, examples of communication and problem-solving strategies, and exercises designed to enrich relationships.

Treatment Fidelity

All sessions were audiotaped to allow implementation to be monitored. A sample of sessions (n = 220, corresponding to 25% of all project sessions) was coded using an 87- to 143- point checklist (depending on the session) for adherence to intervention guidelines. All facilitators were assessed at least once. Of the audiotapes reviewed, 10% (n = 22) were coded by more than one rater (ICC = .94). The mean fidelity score across facilitators on a scale of 0-100% was 91% (SD= 9.0%).

Measures

Relationship functioning and coparenting were assessed at all four waves in both partners.

Relationship functioning.—Individuals' reports of relationship functioning were measured using a latent variable (described below) that included effective communication, partner support, relationship satisfaction, and relationship confidence.

Effective communication was assessed using a seven-item version of the Communication Skills Test (Jenkins & Saiz, 1995). This measure has been used in prior studies with evidence for its internal consistency and validity (e.g., Stanley et al., 2001). The items, rated on a scale ranging from 1 (*almost never*) to 7 (*almost always*), were summed and used to

assess the frequency of effective communication patterns between partners. Sample items included “When discussing an issue, my mate and I both take responsibility to keep us on track” and “When [partner name] and I discuss relationship issues, I show that I am listening by repeating what I heard” (men: $\alpha \geq .84$; women: $\alpha \geq .86$).

Relationship confidence was rated using the sum of four items from the Relationship Confidence Scale (RCS; Stanley, Hoyer, & Trathen, 1994). The RCS assesses partners’ confidence in the future of their relationship. Similar versions of the current scale have demonstrated good reliability and predictive validity (e.g., Whitton, Rhoades, & Whisman, 2014). In the current study, items were rated on a Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample items included “I am very confident when I think of my future with [partner name]” and “I believe [partner name] and I can handle whatever conflicts arise in the future” (men: $\alpha \geq .87$; women: $\alpha \geq .91$).

Relationship satisfaction was assessed using the Quality of Marriage Index (QMI; Norton, 1983), one of the most widely-used measures of relationship satisfaction (Funk & Rogge, 2007). This six-item scale measures global perceptions of relationship satisfaction (sample question: “[Partner name] and I have a good relationship”) using a Likert scale ranging from 1 (*strongly disagree* [questions 1-5] and *very unhappy* [question 6]) to 5 (*strongly agree* [questions 1-5] and *perfectly happy* [question 6]) (men: $\alpha \geq .92$; women: $\alpha \geq .93$).

Perceived partner support was assessed using items from the Spouse Specific Social Support Scale (Culp & Beach, 1998). This scale was previously shown to be a reliable and valid measure of perceived spousal support among couples, showing associations with relationship and individual well-being (Culp & Beach, 1998). Five items were summed and used to assess partners’ perceptions of their ability to confide in and receive support from one another; the response set ranged from 1 (*almost never*) to 5 (*almost always*). Sample items included “[Partner’s name] is someone I can confide in,” “I feel I can share my most private worries and fears with [partner’s name],” and “I can tell [partner’s name] about both good things and bad things that happen to me” (men: á ≥ .82; women: á ≥ .87).

All scales were scored such that higher scores indicated more positive romantic relationship functioning.

Coparenting.—Positive coparenting was measured using a 24-item version of the Coparenting Relationship Scale (Feinberg, Brown, & Kan, 2012). This multidimensional self-report measure of coparenting assesses key coparenting processes, including coparenting agreement, coparenting closeness, coparenting support, coparenting undermining, and endorsement of the partner’s parenting; the response set ranged from 1 (*strongly disagree*) to 4 (*strongly agree*). Sample items included “We often discuss the best way to meet our child's needs” and “[Partner’s name] and I have different standards for our child's behavior” [reverse scored] (men: á ≥ .86; women: á ≥ .90). Responses were summed such that higher scores indicated more positive coparenting.

Analytic Plan

Analyses were conducted using structural equation modeling in Mplus version 7.4 (Muthén & Muthén, 1998-2015). Given our interest in understanding whether short-term effects of the intervention predicted long-term changes in relationship functioning and coparenting, we conceptualized Waves 2 and 3 as representing short-term post-intervention effects (including both waves of data was necessary to capture the post-intervention period because families participated in booster sessions approximately 2 months before W2 and 4 months before W3) and thus averaged scores across W2 and W3 to create a single post-intervention variable to use in the mediation analyses as a predictor of longer-term functioning at W4. The pattern of results described below was generally similar in supplemental analyses in which we used only W2 or only W3 as the predictor of W4 functioning (see Supplemental Figures S1 and S2).

To examine intervention effects, we ran a single model that examined: (1) the effects of ProSAAF participation on changes in relationship functioning and in coparenting postintervention, controlling for W1 levels, as well as (2) the effects of post-intervention relationship functioning and coparenting on changes in the other outcome from post-intervention to long-term follow-up (i.e., post-intervention relationship functioning predicting changes in long-term coparenting, and vice versa). In addition to modeling the aforementioned direct effects, model specification included correlating contemporaneous associations of relationship functioning and coparenting. We also included structural paths from W1 relationship functioning to post-intervention coparenting and from W1 coparenting to post-intervention relationship functioning. Additional analyses were also conducted to investigate potential differences (or the lack thereof) in the magnitude of effect for certain model pathways (e.g., the coparenting to relationship functioning path versus the relationship functioning to coparenting path). To do so, we compared the model fit of nested models with specific pathways constrained to be equal to the model fit of the unconstrained model.

All analyses were conducted according to an intent-to-treat (ITT) approach in which all couples assigned to the ProSAAF condition (regardless of program attendance) were compared to all couples assigned to the control condition. The ITT approach is recommended because it preserves randomization, provides a conservative estimate of program effects, and reflects practical community scenarios of noncompliance (Gupta, 2011). Analyses were executed at the individual level, with individuals nested within dyads to account for the interdependence between partners. Missing data were handled using full information maximum likelihood estimation. Overall model fit followed criteria by Marsh, Hau, and Wen (2004).

Results

Preliminary Analyses

Descriptive statistics and correlations among study variables are depicted in Table 1. Equivalence analyses testing whether experimental groups differed at W1 are shown in Table 2 and revealed no differences between conditions at W1 for family characteristics (i.e.,

marital status, children in the home, income, education, and child age), indicators of relationship functioning, or coparenting.

Measurement Model

We first conducted a measurement model to assess the latent construct of relationship functioning at W1, post-intervention (average of W2 and W3), and W4. Factor loadings for each indicator on the latent construct were constrained to be equal over time, and covariances were included between indicators of the same observed variable over time (e.g., W1, W2/W3, and W4 relationship satisfaction). Results indicated an acceptable level of overall fit: $\chi^2(45) = 205.75$, $p < .01$; CFI = 0.96; TLI = 0.94; RMSEA = 0.08. After inspection of modification fit indices, relationship satisfaction appeared to have common error variance with relationship confidence that was not accounted for in the latent construct over time. Three covariances were added between these indicators (e.g., W1 satisfaction with W1 confidence) and the resulting measurement model demonstrated good fit: $\chi^2(42) = 102.36$, $p < .01$; CFI = .99, TLI = .98, RMSEA = .05. All factor loadings were significant and contained standardized loadings at or above acceptable levels (i.e., $.66 < \lambda < .93$).

Structural Equation Model

Figure 2 summarizes results from the central model. The overall model indicated good model fit [$\chi^2(86) = 188.332$, $p < .01$; CFI = .98, TLI = .97, RMSEA = .04] and there were no significant sex differences for the main pathways under investigation (see Supplemental Table S1). Constructs demonstrated strong stability, with earlier levels significantly predicting subsequent levels for all measures. Below we describe short-term intervention effects on relationship functioning and coparenting, as well as links between post-intervention functioning and long-term outcomes.

Short-term intervention effects on relationship functioning and coparenting.— Results indicated significant intervention effects on post-intervention levels of relationship functioning (standardized $\beta = .15$; $p < .01$) and coparenting (standardized $\beta = .11$; $p < .01$), controlling for baseline levels. The positive coefficients indicate that ProSAAF participants reported more positive change in relationship functioning and coparenting compared to control participants.

To examine the relative strength of intervention effects on post-intervention relationship functioning and coparenting, we ran an additional model in which we constrained the effect of the intervention on relationship functioning and coparenting to be equal (paths a_1 and a_2 in Figure 2, respectively). The nested, constrained model did not significantly worsen the overall fit of the model, $\Delta\chi^2(1) = 2.92$, $p > .05$, indicating that the short-term, post-intervention effects of ProSAAF on relationship functioning and on coparenting were equivalent. Additional results from the model indicated that W1 relationship functioning predicted post-intervention coparenting (standardized $\beta = .11$, $p = .02$) and that W1 coparenting predicted post-intervention relationship functioning ($\beta = .15$, $p < .01$).

Post-intervention functioning and long-term outcomes.— With short-term post-intervention effects on both relationship functioning and coparenting established, we next

investigated whether post-intervention levels of relationship functioning would predict changes in long-term coparenting and, conversely, whether post-intervention levels of coparenting would predict changes in long-term relationship functioning. Figure 2 summarizes these main findings as well. Results indicated that relationship functioning post-intervention predicted long-term changes in coparenting (standardized $\beta = .15$; $p < .01$), with higher relationship functioning post-intervention predicting long-term positive change in coparenting. In contrast, coparenting post-intervention did not significantly predict long-term changes in relationship functioning (standardized $\beta = .05$; $p > .05$).

To investigate differences in the magnitude of the effect of the two intervening variables on long-term outcomes, we tested an additional model in which we constrained the effect of post-intervention relationship functioning on changes in long-term coparenting (path b_1 in Figure 2) to be equivalent to the effect of post-intervention coparenting on changes in long-term relationship functioning (path b_2 in Figure 2). The nested constrained model resulted in significantly worse fit compared to the unconstrained model, $\Delta\chi^2(1) = 6.927$; $p < .01$. This finding, as well as coefficient direction and magnitudes, indicates that the effect of post-intervention relationship functioning on long-term changes in coparenting was greater than the effect of post-intervention coparenting on long-term changes in relationship functioning.

Lastly, we examined indirect effects (IEs) from intervention to long-term relationship and coparenting outcomes using bias-corrected bootstrapped sampling with 95% confidence intervals (CIs) involving unstandardized parameter estimates (e.g., path $a_i \times$ path b_i) (Hayes, 2009). Results indicated a significant IE for ProSAAF on long-term coparenting through post-intervention relationship functioning (IE = 0.560; 95% CI: [0.152, 1.231]). The IE for ProSAAF on long-term relationship functioning through post-intervention coparenting was not significant (IE = 0.051; 95% CI: [−0.052, 0.199]). These analyses extend the main analyses by confirming that the intervention has significant long-term effects on coparenting through its effect on relationship functioning, and that the intervention does not have significant long-term effects on relationship functioning through coparenting.

Discussion

Family-centered prevention programs for couples have been widely disseminated over the last decade, particularly among low-income, ethnic minority couples with children (e.g., Hsueh et al., 2012; for discussion, see Lavner et al., 2015). In addition to recognizing increased levels of relationship instability among these populations and the potential for these programs to offset these trends, these initiatives were developed with the hope that improved relationship functioning would lead to other benefits for parents and their children (Knox & Fein, 2008). Nonetheless, important questions remain about whether these benefits are indeed realized in this manner (e.g., McHale et al., 2012), due in part to a lack of long-term follow-up data in many studies as well as a failure to consider these types of lagged associations. To address this gap and provide additional clarity regarding mechanisms of change in long-term family functioning following family-centered prevention, the current study used four waves of data from a large randomized controlled trial of a family-centered prevention program for two-parent African American families (ProSAAF) to examine (1) whether post-intervention improvements in couples' relationship functioning would predict

longer-term maintenance or change in coparenting, and (2) whether post-intervention improvements in coparenting would predict longer-term maintenance or change in relationship functioning.

Results indicated that ProSAAF couples reported better relationship and coparenting functioning post-intervention compared with control couples, as we have reported previously (Barton et al., 2018b). These significant effects did not differ in magnitude, consistent with the intervention's intended focus on enhancing both couple and coparenting processes. We then examined whether these post-intervention improvements predicted changes in subsequent family functioning, finding that relationship functioning post-intervention predicted long-term changes in coparenting, but coparenting post-intervention did not predict long-term changes in relationship functioning. Importantly, these effects also differed significantly in magnitude, such that the effect of post-intervention relationship functioning on long-term changes in coparenting was stronger than the effect of post-intervention coparenting on long-term changes in relationship functioning. Similarly, there was a significant indirect effect on long-term coparenting through post-intervention relationship functioning, but there was not a significant indirect effect on long-term relationship functioning through post-intervention coparenting.

These findings have important implications for our understanding of key mechanisms of change in long-term family outcomes following family-centered prevention. Our finding that post-intervention relationship functioning was a stronger predictor of long-term change in coparenting than the reverse speaks directly to theoretical debates regarding whether the marital/romantic subsystem is a stronger influence on coparenting (e.g., Margolin, Gordis, & John, 2001) or whether coparenting is a stronger influence on the romantic relationship (e.g., Feinberg, Kan, & Hetherington, 2007; for additional discussion, see Morrill et al., 2010 and Peltz et al., 2018). In showing stronger support for the relationship functioning to coparenting pathway, these results indicate that relationship functioning is the stronger driver following family-centered prevention. This pattern is in line with traditional family systems conceptualizations of the romantic relationship as the primary or executive couple subsystem influencing other subsystems (like coparenting; e.g., Bonds & Gondoli, 2007). It may also be the case that coparenting is less predictive of relationship functioning among parents of older children, as was the case here, as opposed to earlier studies of coparenting and relationship functioning among parents of infants and toddlers (e.g., Schoppe-Sullivan et al., 2004). At a practical level, these patterns suggest that including strategies to improve couples' romantic relationship functioning as part of relationship enhancement programs for parents may have more substantial long-term benefits for partners' relationship as a couple *and* as coparents than would an exclusive focus on coparenting.

More generally, these findings provide empirical support for a critical assumption underlying couple-focused prevention: that improving couples' relationship functioning will promote positive changes in other aspects of family functioning (e.g., Knox & Fein, 2008). This type of predictive pathway is often discussed but rarely tested, resulting in a critical gap between how these interventions are thought to operate (i.e., improved relationship functioning following intervention goes on to benefit the family more broadly) and how they have actually been shown to operate (i.e., relationship functioning and family functioning

both improve following intervention; e.g., Doss et al., 2014; Lundquist et al., 2014). By examining lagged effects of post-intervention relationship functioning on long-term changes in coparenting, our study provides a more rigorous test of the idea that enhancements in couples' relationship functioning following family-centered prevention can in fact lead to other benefits for the family system and highlights another way that these interventions may prove valuable beyond their direct effects on the couple relationship.

Although these findings provide cause for optimism about the potential downstream benefits of enhancing couples' relationships, we must also acknowledge some limitations. First, this study examined the effectiveness of a family-centered prevention program for rural two-parent African American families raising a 9-14 year old child, many of whom were living with low incomes. Although this study design allowed us to work with an understudied population whose characteristics resembled those of families included in recent federal initiatives (Hsueh et al., 2012), it cannot address whether the results would replicate for samples with other demographic profiles, including low SES White or Hispanic couples, couples with more economic means, and couples with older or younger children. Future research examining these associations in other populations is particularly important given emerging findings indicating that the effects of relationship enhancement programs may be stronger for populations with more sociodemographic risk factors (e.g., Amato, 2014; Williamson, Altman, Hsueh, & Bradbury, 2016). Second, although we included several well-established measures of relationship functioning and coparenting, all measures were self-report. Observational data would offer another valuable lens into these processes. Third, we examined these associations using four waves of data spanning 25 months. This follow-up window represents a significant strength compared to most studies of relationship programs, the majority of which include follow-up periods of only 3-6 months (for review, see Hawkins, Stanley, Blanchard, & Albright, 2012). Even so, continuing to follow these families beyond 25 months could allow for a more nuanced examination of intervention effects over time.

We also caution that these findings should not be interpreted as indicating that all couple-focused interventions will necessarily yield long-term benefits for coparenting or for other aspects of family functioning. Strengthening couples' relationships through family-centered prevention has proven to be difficult, particularly in the disadvantaged communities that may have the most to gain from these interventions (for discussion, see Lavner et al., 2015). This means that family-centered prevention programs for couples that ultimately hope to benefit the overall family system must first ensure that they can, in fact, enhance couple functioning. Here we did so with an intervention that was specifically tailored in content and delivery to maximize recruitment, retention, and relevance for the rural, low-income, two-parent African American families for whom it was designed. This was accomplished in a variety of ways, including addressing common stressors such as racism, finances, and extended family (Bryant et al., 2010), focusing on both couple and parenting/coparenting processes given that all couples were parents, and delivering the intervention in families' homes. These types of adaptations are likely necessary in order for family-centered prevention for underserved, disadvantaged couples to be effective. Thus, although the results of the current study do warrant greater confidence that couple-focused interventions are able to promote family well-being through enhanced couple well-being, we must also recognize that this ability is

still predicated on their ability to improve couple well-being. Because special efforts may be needed to achieve this initial aim, it will be important for future research to examine methods to enhance the effectiveness of these types of interventions so that all of their potential benefits can be fully realized.

We also hope that these results will encourage further research examining how enhanced couple and family functioning following preventive interventions leads to enhanced functioning in other domains. In particular, questions about whether enhancing couple functioning enhances children's well-being are of great interest to policymakers (e.g., U.S. Department of Health and Human Services, 2018). However, research addressing this issue is surprisingly limited: a recent review of more than 150 couple and relationship education programs found that only 9 included measures of how participants' children fared post-intervention and of these, only 2 examined whether improvements in couples' functioning were linked to improvements in children's functioning (Cowan & Cowan, 2014). Although an examination of ProSAAF's effects on children's outcomes (including the degree to which improvements in relationship functioning and/or coparenting drive these effects) was beyond the scope of the current paper, future research that specifically tests whether improvements in couple and family functioning lead to improvements in children's functioning following family-centered prevention could more rigorously test these hypothesized associations and ultimately provide greater justification to support the dissemination of these types of programs.

In sum, the results of the current study indicate that a family-centered prevention program for rural two-parent African American families significantly improved relationship functioning and coparenting, and that improvements in relationship functioning led to significant long-term changes in coparenting (but not vice versa). These findings provide critical support for the notion that improving couples' relationships through relationship enhancement programs can lead to other significant benefits for the family. Further research examining long-term parent, child, and family outcomes following family-centered prevention for couples with children, the mechanisms of change underlying these outcomes, and factors promoting interventions' ability to achieve these outcomes would be valuable.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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References

Amato PR (2010). Research on divorce: Continuing trends and new developments. Journal of Marriage and Family, 72, 650–666. doi: 10.1111/j.1741-3737.2010.00723.x.

Amato PR (2014). Does social and economic disadvantage moderate the effects of relation education on unwed couples? An analysis of data from the 15-month Building Strong Families evaluation. Family Relations, 63, 343–355. doi: 10.1111/fare.12069

Barton AW, Beach SRH, Lavner JA, Bryant CM, Kogan SM, & Brody GH (2017). Is communication a mechanism of relationship education effects among rural African Americans? Journal of Marriage and Family, 79, 1450–1461. doi: 10.1111/jomf.12416. [PubMed: 28890574]

Barton AW, Beach SRH, Bryant CM, Lavner JA, & Brody GH (2018a). Stress spillover, African Americans' couple and health outcomes, and the stress-buffering effect of family-centered prevention. Journal of Family Psychology, 32, 186–196. doi. 10.1037/fam0000376 [PubMed: 29658756]

Barton AW, Beach SRH, Wells AC, Ingels JB, Corso PS, Sperr MC, & Brody GH (2018b). The Protecting Strong African American Families Program: A randomized controlled trial with rural African American couples. Prevention Science. Advance online publication. doi: 10.1007/s11121-018-0895-4

Beach SRH, Barton AW, Lei MK, Mandara J, Wells AC, Kogan SM, & Brody GH (2016). Decreasing substance use risk among African American youth: Parent-based mechanisms of change. Prevention Science, 17, 572–583. doi: 10.1007/s11121-016-0651-6 [PubMed: 27129477]

Bonds DD, & Gondoli DM (2007). Examining the process by which marital adjustment affects maternal warmth: The role of coparenting support as a mediator. Journal of Family Psychology, 21, 288–296. doi: 10.1037/0893-3200.21.2.288 [PubMed: 17605551]

Bramlett MD, & Mosher WD (2002). Cohabitation, marriage, divorce, and remarriage in the United States. Retrieved from National Center for Health Statistics website: http://www.cdc.gov/nchs/data/series/sr_23/sr23_022.pdf

Brown SL (2010). Marriage and child well-being: Research and policy perspectives. Journal of Marriage and Family, 72, 1059–1077. doi:10.1111/j.1741-3737.2010.00750.x [PubMed: 21566730]

Bryant CM, Wickrama KAS, Bolland J, Bryant BM, Cutrona CE, & Stanik CE (2010). Race matters, even in marriage: Identifying factors linked to marital outcomes for African Americans. Journal of Family Theory & Review, 2, 157–174. doi: 10.1111/j.1756-2589.2010.00051.x

Cherlin AJ (2005). American marriage in the early twenty-first century. The Future of Children, 15, 33–55. [PubMed: 16158729]

Conger RD, & Elder GH Jr. (1994). Families in troubled times. New York: Aldine De Grutyer.

Cowan PA, & Cowan CP (2014). Controversies in couple relationship education (CRE): Overlooked evidence and implications for research and policy. Psychology, Public Policy, and Law, 20, 361–383. doi:10.1037/law0000025

Culp LN, & Beach SRH (1998). Marriage and depressive symptoms. Psychology of Women Quarterly, 22, 647–663. doi:10.1111/j.1471-6402.1998.tb00183.x

Cummings EM, & Davies PT (2002). Effects of marital conflict on children: Recent advances and emerging themes in process-oriented research. Journal of Child Psychology and Psychiatry, 43, 31–63. doi: 10.1111/1469-7610.00003 [PubMed: 11848336]

DeNavas-Walt C, & Proctor BD (2014). Income and poverty in the United States: 2013 (Current'Population Reports P60-249). Washington, DC: U.S. Census Bureau.

Doss BD, Cicila LN, Hsueh AC, Morrison KR, & Carhart K (2014). A randomized controlled trial of brief coparenting and relationship interventions during the transition to parenthood. Journal of Family Psychology, 28, 483–494. doi:10.1037/a0037311 [PubMed: 25090255]

Feinberg ME (2003). The internal structure and ecological context of coparenting: A framework for research and intervention. Parenting, Science and Practice, 3, 95–131. doi:10.1207/S15327922PAR0302_01

Feinberg ME, Brown LD, & Kan ML (2012). A multi-domain self-report measure of coparenting. Parenting, 12, 1–21. doi:10.1080/15295192.2012.638870 [PubMed: 23166477]

Feinberg ME, Kan ML, & Goslin MC (2009). Enhancing coparenting, parenting, and child self-regulation: Effects of family foundations 1 year after birth. Prevention Science, 10, 276–285. doi: 10.1007/s11121-009-0130-4 [PubMed: 19381809]

Feinberg ME, Kan ML, & Hetherington EM (2007). The longitudinal influence of coparenting conflict on parental negativity and adolescent maladjustment. Journal of Marriage and Family, 69, 687–702. doi:10.1111/j.1741-3737.2007.00400.x [PubMed: 21874069]

Funk JL, & Rogge RD (2007). Testing the ruler with item response theory: increasing precision of measurement for relationship satisfaction with the Couples Satisfaction Index. Journal of Family Psychology, 21, 572–583. doi:10.1037/0893-3200.21.4.572 [PubMed: 18179329]

Gupta SK (2011). Intention-to-treat concept: A review. Perspectives in Clinical Research, 2, 109–112. doi: 10.4103/2229-3485.83221 [PubMed: 21897887]

Halford WK (2011). Marriage and relationship education: What works and how to provide it. New York: Guilford.

Halford WK, & Bodenmann G (2013). Effects of relationship education on maintenance of couple relationship satisfaction. Clinical Psychology Review, 33, 512–525. doi: 10.1016/j.cpr.2013.02.001 [PubMed: 23500155]

Hawkins AJ, Blanchard VL, Baldwin SA, & Fawcett EB (2008). Does marriage and relationship education work? A meta-analytic study. Journal of Consulting and Clinical Psychology, 76, 723–734. doi:10.1037/a0012584 [PubMed: 18837590]

Hawkins AJ, Stanley SM, Blanchard VL, & Albright M (2012). Exploring programmatic moderators of the effectiveness of marriage and relationship education programs: A meta-analytic study. Behavior Therapy, 43, 77–87. doi: 10.1016/j.beth.2010.12.006 [PubMed: 22304880]

Hayes AF (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. Communication Monographs, 76, 408–420. doi: 10.1080/03637750903310360

Hsueh J, Alderson DP, Lundquist E, Michalopoulos C, Gubits D, Fein D, & Knox V (2012). The Supporting Healthy Marriage Evaluation: Early impacts on low-income families. OPRE Report 2012-11. Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

Jenkins NH, & Saiz CC (1995). The Communication Skills Test. Unpublished manuscript, University of Denver Denver, CO.

Knox V, & Fein D (2008). Designing a marriage education demonstration and evaluation for low-income married couples. Retrieved from https://www.mdrc.org/publication/designing-marriage-education-demonstration-and-evaluation-low-income-married-couples

Lavner JA, & Bradbury TN (2010). Patterns of change in marital satisfaction over the newlywed years. Journal of Marriage and Family, 72, 1171–1187. doi: 10.1111/j.1741-3737.2010.00757.x [PubMed: 21116452]

Lavner JA, Karney BR, & Bradbury TN (2015). New directions for policies aimed at strengthening low-income couples. Behavioral Science and Policy, 1, 13–24.

Le Y, McDaniel BT, Leavitt CE, & Feinberg ME (2016). Longitudinal associations between relationship quality and coparenting across the transition to parenthood: A dyadic perspective. Journal of Family Psychology, 30, 918–926. doi: 10.1037/fam0000217 [PubMed: 27183188]

Lundquist E, Hsueh J, Lowenstein AE Faucetta K, Gubits D, Michalopoulos C, & Knox V (2014). A family-strengthening program for low-income families: Final impacts from the Supporting Healthy Marriage Evaluation. OPRE Report 2014-09A. Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

Margolin G, Gordis EB, & John RS (2001). Coparenting: A link between marital conflict and parenting in two-parent families. Journal of Family Psychology, 15, 3–21. doi: 10.1037/0893-3200.15.1.3 [PubMed: 11322083]

Markman HJ, Floyd FJ, Stanley SM, & Storaasli RD (1988). Prevention of marital distress: A longitudinal investigation. Journal of Consulting and Clinical Psychology, 56, 210–217. doi: 10.1037/0022-006X.56.2.210 [PubMed: 3372828]

Markman HJ, Stanley SM, & Blumberg SL (2010). Fighting for your marriage (3rd Edition). San Francisco: Jossey-Bass, Inc.

Markman HJ, Stanley SM, Blumberg S, Jenkins NH, & Whaley C (2004). Twelve Hours to a Great Marriage. San Francisco: Jossey-Bass.

Marsh HW, Hau K-T, & Wen Z (2004). In search of golden rules: Comment on hypothesis-testing approaches to setting cutoff values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. Structural Equation Modeling: A Multidisciplinary Journal, 11, 320–341. doi: 10.1207/s15328007sem1103_2

McHale JP, & Lindahl KM (2011). Coparenting: A conceptual and clinical examination of family systems (1st ed.). Washington, DC: American Psychological Association.

McHale J, Waller MR, & Pearson J (2012). Coparenting interventions for fragile families: What do we know and where do we need to go next? Family Process, 51, 284–306. doi: 10.1111/j.1545-5300.2012.01402.X [PubMed: 22984970]

Mitnick DM, Heyman RE, & Smith Slep AM (2009). Changes in relationship satisfaction across the transition to parenthood: A meta-analysis. Journal of Family Psychology, 23, 848–852. doi: 10.1037/a0017004 [PubMed: 20001143]

Morrill MI, Hines DA, Mahmood S, & Cordova JV (2010). Pathways between marriage and parenting for wives and husbands: The role of coparenting. Family Process, 49, 59–73. doi: 10.1111/j.1545-5300.2010.01308.x [PubMed: 20377635]

Muthén LK, & Muthén BO (1998–2015). Mplus User's Guide (7th ed.). Los Angeles, CA: Muthén & Muthén.

Norton R (1983). Measuring marital quality: A critical look at the dependent variable. Journal of Marriage and Family, 45, 141–151. doi:10.2307/351302

Peltz JS, Rogge RD, & Sturge-Apple ML (2018). Transactions within the family: Coparenting mediates associations between parents' relationship satisfaction and the parent-child relationship. Journal of Family Psychology, 32, 553–564. doi:10.1037/fam0000413 [PubMed: 29927285]

Pinquart M, & Teubert D (2010). A meta-analytic study of couple interventions during the transition to parenthood. Family Relations, 59, 221–231. doi: 10.1111/j.1741-3729.2010.00597.x

Robles TF, Slatcher RB, Trombello JM, & McGinn MM (2014). Marital quality and health: A meta-analytic review. Psychological Bulletin, 140, 140–187. doi:10.1037/a0031859 [PubMed: 23527470]

Schoppe-Sullivan SJ, Mangelsdorf SC, Frosch CA, & McHale JL (2004). Associations between coparenting and marital behavior from infancy to the preschool years. Journal of Family Psychology, 18, 194–207. doi:10.1037/0893-3200.18.1.194 [PubMed: 14992621]

Schulz MS, Cowan C, & Cowan PA (2006). Promoting healthy beginnings: A randomized controlled trial of a preventive intervention to preserve marital quality during the transition to parenthood. Journal of Consulting and Clinical Psychology, 74, 20–31. doi: 10.1037/0022-006X.74.1.20 [PubMed: 16551140]

Stanley SM, Hoyer L, & Trathen DW (1994). The Confidence Scale. Unpublished manuscript. University of Denver Denver, CO.

Stanley SM, Markman HJ, Prado LM, Olmos-Gallo PA, Tonelli L, St. Peters M, et al. (2001). Community-based premarital prevention: Clergy and lay leaders on the front lines. Family Relations, 50, 67–76. doi: 10.1111/j.1741-3729.2001.00067.x

Stanley SM, Rhoades GK, Loew BA, Allen ES, Carter S, Osborne LJ, Prentice D, & Markman HJ (2014). A randomized controlled trial of relationship education in the U.S. Army: 2-Year outcomes. Family Relations, 63, 482–495. doi: 10.1111/fare.12083

Teubert D, & Pinquart M (2010). The association between coparenting and child adjustment: A meta-analysis. Parenting: Science and Practice, 10, 286–307. doi:10.1080/15295192.2010.492040

U.S. Department of Health and Human Services. (2018). Healthy marriage. Retrieved from https://www.acf.hhs.gov/ofa/programs/healthy-marriage/healthy-marriage

Whisman MA, Beach SRH, & Snyder DK (2008). Is marital discord taxonic and can taxonic status be assessed reliably? Results from a national, representative sample of married couples. Journal of Consulting and Clinical Psychology, 76, 745–755. doi: 10.1037/0022-006X.76.5.745 [PubMed: 18837592]

Whisman MA, & Uebelacker LA (2006). Impairment and distress associated with relationship discord in a national sample of married or cohabiting adults. Journal of Family Psychology, 20, 369–377. doi:10.1037/0893-3200.20.3.369 [PubMed: 16937993]

Whitton SW, Rhoades GK, & Whisman MA (2014). Fluctuation in relationship quality over time and individual well-being: Main, mediated, and moderated effects. Personality and Social Psychology Bulletin, 40, 858–871. doi:10.1177/0146167214528988 [PubMed: 24727811]

Williamson HC, Altman N, Hsueh J, & Bradbury TN (2016). Effects of relationship education on couple communication and satisfaction: A randomized controlled trial with low-income couples. Journal of Consulting and Clinical Psychology, 84, 156–166. doi: 10.1037/ccp0000056 [PubMed: 26501497]

Highlights

- Family-centered prevention benefits couples' relationship functioning and coparenting
- Improved relationship functioning predicts longer-term coparenting
- Improved coparenting does not predict longer-term relationship functioning
- Enhancing couples' relationships can benefit the coparenting relationship

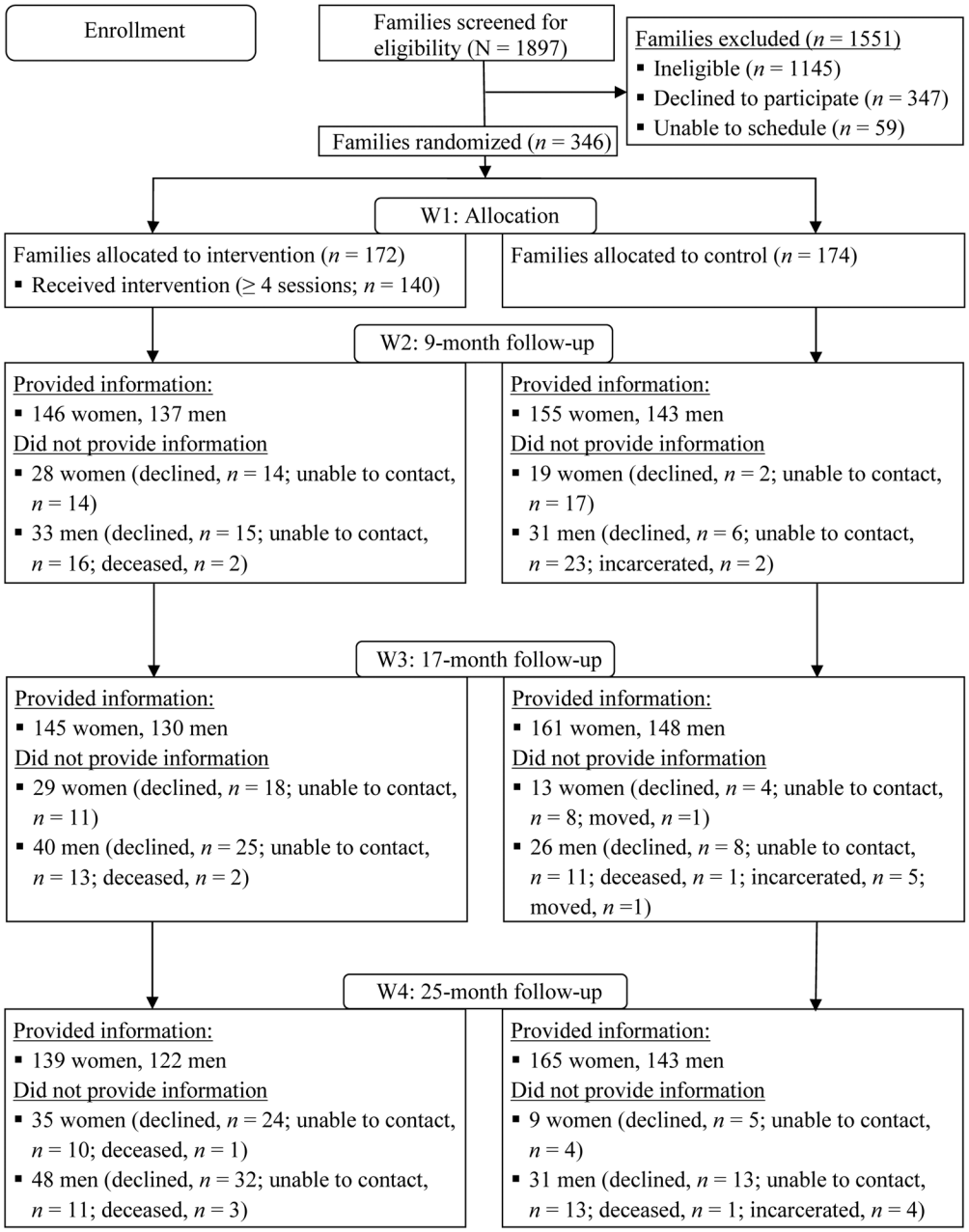

Figure 1.
Participant flow chart following CONSORT guidelines

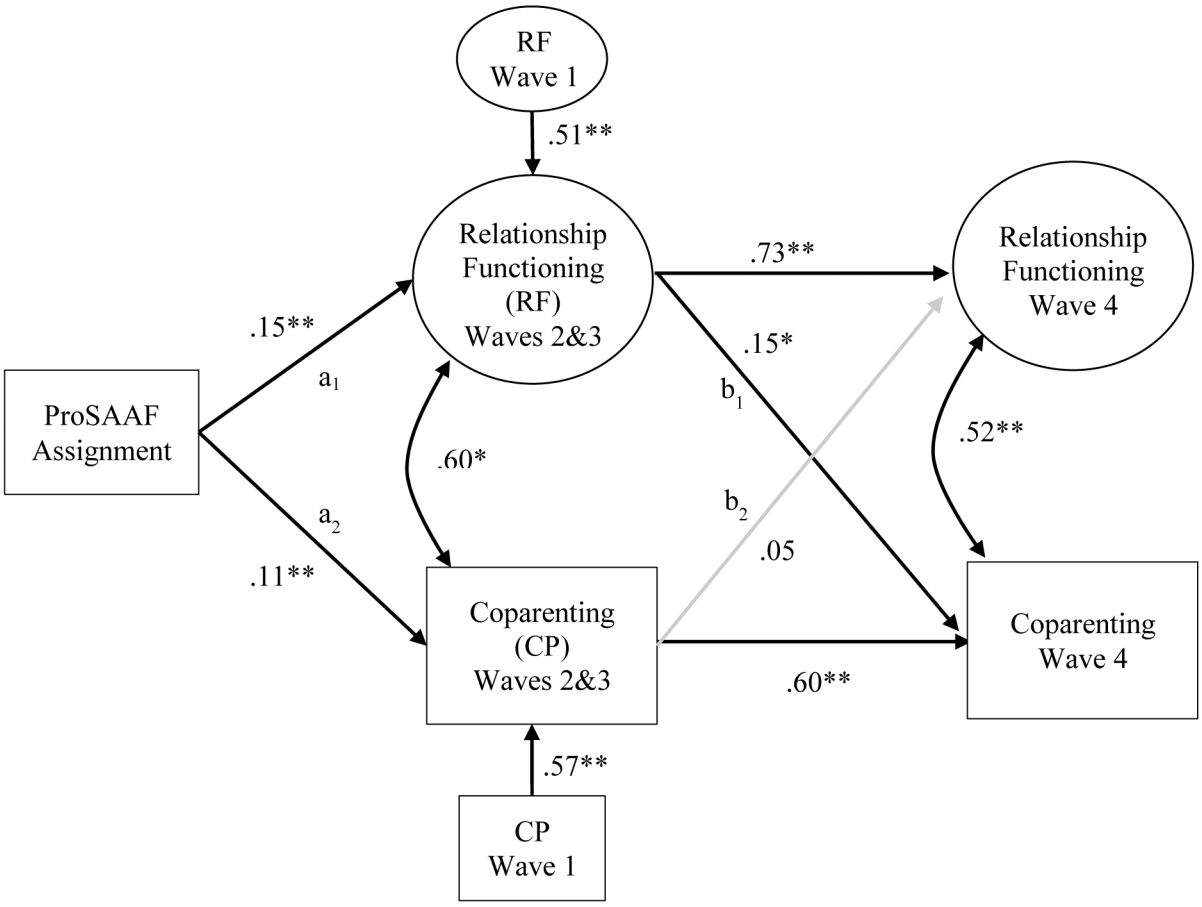

Figure 2.

Effects of ProSAAF on relationship functioning (RF) and coparenting (CP) post-intervention and at long-term follow-up (standardized coefficients shown). This figure depicts significant effects of ProSAAF on relationship functioning and coparenting post-intervention, and significant effects of relationship functioning post-intervention on long-term changes in coparenting. Model constraint analyses indicated significant differences in the magnitude of effect for paths b_1 and b_2, with the significant effect of post-intervention relationship functioning on long-term changes in coparenting being significantly stronger than the non-significant effect of post-intervention coparenting on long-term changes in relationship functioning. Structural paths for W1 relationship functioning predicting post-intervention coparenting ($\beta = .11$, $p = .02$), W1 coparenting predicting post-intervention relationship functioning ($\beta = .15$, $p < .01$), and covariance between Wave 1 relationship functioning and Wave 1 coparenting ($r = .56$, $p < .01$) were also included in the model but are not shown in the figure for clarity purposes. Covariances between endogenous variable are residual covariances (error terms not shown). Including direct effects of ProSAAF assignment on the Wave 4 variables did not improve model fit in exploratory analyses ($\Delta\chi^2(2) = 1.99$, $p = .37$), indicating that the long-term effects of the intervention stem from post-intervention changes rather than emerging gradually over time.*$p \leq .05$, two-tailed. **$p \leq .01$, two-tailed.

Table 1

Descriptive Statistics and Correlations of Study Variables (N = 692 individuals)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Intervention	---															
2. Relationship Satisfaction (W1)	−0.07	---														
3. Relationship Confidence (W1)	−0.05	.76	---													
4. Communication (W1)	−0.01	.57	.45	---												
5. Spousal Support (W1)	−0.06	.67	.52	.63	---											
6. Coparenting (W1)	−0.04	.46	.35	.44	.45	---										
7. Relationship Satisfaction (W2&W3)	0.09	.53	.37	.37	.43	.38	---									
8. Relationship Confidence (W2&W3)	0.10	.44	.38	.30	.36	.35	.86	---								
9. Communication (W2&W3)	0.14	.41	.30	.55	.42	.40	.69	.60	---							
10. Spousal Support (W2&W3)	0.08	.44	.33	.39	.50	.38	.81	.75	.70	---						
11. Coparenting (W2&W3)	0.08	.34	.26	.30	.36	.62	.60	.59	.58	.61	---					
12.. Relationship Satisfaction (W4)	0.02	.38	.26	.23	.28	.31	.66	.62	.45	.58	.48	---				
13. Relationship Confidence (W4)	0.05	.29	.25	.13	.22	.27	.62	.64	.41	.56	.45	.87	---			
14. Communication (W4)	0.11	.27	.20	.41	.31	.34	.56	.49	.67	.56	.44	.61	.55	---		
15. Spousal Support (W4)	0.03	.28	.20	.21	.34	.31	.62	.57	.50	.07	.50	.80	.77	.64	---	
16. Coparenting (W4)	0.06	.26	.18	.24	.31	.52	.50	.46	.47	.52	.70	.59	.56	.55	.62	---
M	.05	24.81	17.46	.08	20.99	83.92	24.31	17.07	0.02	20.13	82.99	24.31	16.83	0.00	19.51	81.86
SD	---	4.5	3.15	5.49	3.80	10.63	21.43	9.41	32.01	18.17	113.44	21.43	12.75	39.61	26.07	155.76

Note. W1 = Wave 1. W2 = Wave 2. W3 = Wave 3. W4 = Wave 4. | r | > .105 significant at p = .05 level (two-tailed). | r | > .138 significant at p = .01 level (two-tailed). Correlations computed using TYPE=COMPLEX design with cluster by couple in Mplus to account for dependence between dyad partners.

Table 2

Equivalence of Treatment and Control Groups at Wave 1 (N = 692 individuals)

Variables	Treatment (*n* = 344)		Control (*n* =348)		Test Statistic[e]	*p* value
	Mean	*SD*	Mean	*SD*		
Demographics characteristics						
Marital status [a,b]	65%	N/A	61%	N/A	0.22	.66
Children in home[a]	3.07	1.50	2.87	1.45	1.22	.22
Income[c]	2.89	2.11	2.77	2.13	0.52	.60
Education[d]	5.48	1.84	5.46	1.66	1.88	.17
Age	38.12	8.64	38.25	8.87	1.63	.20
Relationship variables						
Relationship communication	0.01	5.71	0.14	5.28	0.13	.72
Relationship confidence	17.30	3.34	17.61	2.94	0.02	.88
Relationship satisfaction	24.48	4.92	25.14	4.03	0.61	.43
Partner support	20.75	3.95	21.23	3.63	0.01	.91
Coparenting	83.53	10.45	84.31	10.20	0.04	.83

Note.

[a]Based on female/main caregiver report. 0 = Unmarried, cohabiting. 1 = Married

[b]0 = Unmarried, cohabiting. 1 = Married.

[c]Gross family monthly income divided by 1,000.

[d]1 = *Below grade 9*; 11= *Doctorate or professional degree*.

[e]*t*-test for continuous and ordinal variables; chi-square cross-tab statistic for binary variables. All comparisons not significant $p > .05$. Comparisons involving responses from men and women calculated using repeated-measures ANOVA with members of couple treated as “repeated measures” and ProSAAF/control assignment as a between-groups factor, to account for non-independence.