

## Enhancing Marital Enrichment Through Spirituality: Efficacy Data for Prayer Focused Relationship Enhancement

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We examined 393 African American married couples assigned to (a) a culturally sensitive version of a widely disseminated relationship enhancement program (CS-PREP); (b) a similar version of the same program that also included a focus on prayer (PFP condition); or (c) an information-only control condition in which couples received a self-help version of the same program. Husbands averaged 40.5 years of age and wives averaged 38.9 years. We found a significant interaction between intervention and time of assessment, reflecting group differences in linear trends for the three conditions, with the two intervention conditions performing better than the control condition, and PFP producing superior outcomes to CS-PREP only for wives at post and marginally better results at 12-month follow-up. Results support continued exploration of the adjunctive use of prayer in the context of relationship enhancement programs where appropriate to make them more culturally sensitive.

*Keywords:* prayer, marital, intervention, spirituality, African American

As efforts to strengthen marriage attract widespread attention, identification of barriers to dissemination and ways to overcome those barriers are timely (Stanley, Amato, Johnson, & Markman, 2006). Such efforts are particularly important for African American couples, who

are underserved by typical means of health-related program delivery and who may perceive family based services to be culturally irrelevant (Murry et al., 2004). At the same time, whereas 33% of marriages among Whites end within 10 years, 47% of African American marriages end during this time frame. In addition, among those who are currently married, African American couples consistently report lower satisfaction than do White couples (Acitelli, Douvan, & Veroff, 1997; Adelman, Chadwick, & Baerger, 1996; Roebuck, & Brown, 2007), or than Black Caribbean couples (Bryant, Taylor, Lincoln, Chatters, & Jackson, 2008). Accordingly, the need for relationship enhancement targeted to African American couples is great and the need for culturally sensitive programs designed to enhance engagement is acute (Johnson et al., 2002; Karney, Garvan, & Thomas, 2003).

These considerations underscore the need for culturally sensitive programming that may enhance both engagement and retention of African American couples in community-based, marital

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enhancement efforts. Development of culturally sensitive variations of efficacious marital enrichment programs, taking into consideration racial, socioeconomic, and regional characteristics of the populations to be served, is timely and may prove essential for successful program delivery (Ooms & Wilson, 2004). For historical and cultural reasons, the spiritual and religious context is particularly pertinent for African American couples. A recent survey indicates that African Americans are markedly more religious than the general population on a variety of measures (Pew Charitable Trust [Pew], 2009; see also Chatters, Taylor, & Lincoln, 1999; Hunt & Hunt, 2001). A majority of African Americans (53%) report attending religious services once a week (or more often) and 76% report praying at least daily (or more often). On both of these indices, African Americans are more religiously active than persons from other racial and ethnic groups. African Americans who are not currently affiliated with a religious group report praying as frequently as mainline Protestants of other ethnic groups (Pew, 2009).

Further underscoring the potential importance of addressing spirituality in marital programs designed for African American couples, prayer is often a preferred way of dealing with adversity among African Americans (Chatters, Taylor, Jackson, & Lincoln, 2008; Ellison & Taylor, 1996; Fowler & Hill, 2004), and spiritual activities, such as prayer, are a more pervasive practice in daily life (Taylor, Chatters, & Leven, 2004). Likewise, among African Americans, spirituality has been associated with feelings of peace, guidance, and efforts to manage adversity (Newlin, Knafl, & Melkus, 2002). Spirituality is also an important means of finding hope in the face of social, political, and economic oppression (Mattis, 2002; Newlin et al., 2002), contributing to its association with optimism (Mattis, Fontenot, & Hatcher-Kay, 2003). This has led several authors to call for greater attention to spirituality in marital enhancement programs aimed at African American couples (Ooms & Wilson, 2004; Wolfinger & Wilcox, 2008).

Spirituality has been defined as a relationship with God or a higher power that extends beyond religious participation and is manifested through private prayer and meditation, or through seeking spiritual guidance in daily decision making (Upchurch & Mueller, 2005). Because spirituality defined in this way has substantial cultural res-

onance for African American married couples, programs that are embedded in a culturally sensitive framework compatible with prayer, may have enhanced effectiveness due to greater engagement. In addition, the church is often seen as the rightful home for efforts designed to provide marital enrichment and to strengthen families (Brown, Orbach, & Bauermeister, 2008), and among African American couples, religious participation, defined as greater church involvement, predicts greater relationship quality and other positive family outcomes (Brody, Stoneman, Flor, & McCrary, 1994; Taylor, Mattis, & Chatters, 1999). These considerations suggest potential advantages for marital enrichment programs that are disseminated within a spiritual and religious context (cf. Hurt et al., 2006; Markman et al., 2004; Stanley, Markman, St. Peters, & Leber, 1995), including the possibility that embedding enrichment programs in a spiritual and/or religious context may enhance outcomes.

Many churches are supportive of premarital preparation, making churches an excellent venue for the introduction of empirically supported marital preparation or marriage enhancement efforts that have a spiritual component (Stanley et al., 2001). One of the currently available curricula that may facilitate working with churches is Christian PREP (CPREP: Christian Prevention and Relationship Enhancement Program), developed by Stanley and colleagues (Stanley, Trathen, McCain, & Bryan, 1998). This approach influenced the development of the brief, culturally sensitive interventions used in the current investigation. CPREP uses the typical PREP model (Markman, Stanley, & Blumberg, 2001) to teach couples the PREP approach with a strong focus on communication, listening, and problem solving, but it also integrates relevant religious teachings, providing a religious context for the skills being taught. In this way, CPREP attempts to provide a broader meaning context for the couples participating in the marital enhancement program.

To address the need for a culturally sensitive intervention for African American couples that did not include prayer, that is, one that would be suitable for secular settings and for community programs supported by funding that precludes the inclusion of prayer, we developed Culturally Sensitive PREP (CS-PREP). To create this cur-

riculum, we used existing materials from the PREP program (Markman et al., 2001; Stanley et al., 1998), but the curriculum was modified in all cases to include culturally sensitive components, including a focus on language, use of African American presenters, and a discussion of the impact of racism on marriage. Because for many African American couples, inclusion of a spiritual component should further enhance the cultural relevance of the program, we next developed Prayer Focused PREP (PFP).

Both active couple interventions used in this study were based on the PREP program, as was the information only control group. PREP typically includes a focus on themes such as communication, problem-solving, enhancement of friendship, clarification of expectations, and strengthening of commitment. These general elements are elaborated further below. To enhance the cultural relevance for African American couples, we added a component that addressed the impact of racism on marriage. In addition, we used this module to encourage potentially supportive reactions when spouses experience racism. Specifically, couples were told that African American marriages are an important bastion against the various forms of racism encountered in everyday life. They were then shown a videotape of a couple dealing with a racist experience using active listening and support to overcome the incident in a positive manner. Group exercises were constructed to be engaging and language used in the exercises, discussions, and supplementary material was reviewed. The resulting DVD-driven, brief intervention format was labeled Culturally Sensitive PREP (CS-PREP).

To enhance the spirituality component of the program, a Prayer Focused PREP (PFP) format was also developed. PFP included all the components of CS-PREP, and also incorporated a strong focus on prayer, with particular emphasis on learning how (and why) to pray for one's mate (described below). This provided a spiritual framework for marital enhancement and was designed to reinforce key processes targeted by the intervention including listening, enhancing satisfaction, and developing specific intentions to show love and care for the partner. Because the vast majority of African Americans self-identify as "Protestant" (78%; Pew, 2009), we utilized prayers reflective of African American Protestant traditions in our examples.

Nonetheless, participants were from a range of Christian denominations with potentially differing theological commitments as well as from Islamic traditions, and so efforts were made to welcome all participants regardless of their particular faiths and beliefs. To do so, the program was offered as "nonsectarian" and group leaders were trained to provide an open, accepting stance toward all religious orientations. It was explicitly stated that the program was open to those of all religious backgrounds and the prayers were offered as "examples" only. No proselytizing was allowed by group leaders and all group leaders agreed to this stipulation before beginning the program.

Why develop the prayer examples using language and components reflective of Christian content? We focused on incorporating prayer content that related to themes of "agape," a construct that has a long tradition within Christian theological circles. We adopted this focus because the theme of "agape" maps directly onto the goal of enhancing positive couple interactions (Beach, Fincham, Hurt, McNair, & Stanley, 2008a; 2008b). In preliminary stages of program development, we thought it might be useful to develop generic, abstract instructions to guide prayer activities, thereby allowing participants to craft their own specific language. However, early focus groups indicated that generic instructions were off-putting for our target audience. Subsequently, similar observations have been offered by experts who note that an overly abstract presentation of prayer instructions could be problematic for participants from a range of conservative religious traditions (Worthington, 2008). Because our target audience was African American couples in northeast Georgia and metropolitan Atlanta, it was deemed appropriate to utilize language from local traditions (see Beach et al., 2008b for an example prayer), and prayers were reviewed by local religious leaders and by focus groups before being utilized in the program.

Accordingly, although Christian imagery and language was incorporated into all prayers to create concrete examples of prayers that focused on benefiting the partner, in all cases, couples were invited and encouraged to create their own prayers using language that was most familiar and comfortable for them. It should be noted that any religious group with a strong tradition of prayer could replicate the current

approach using familiar, concrete language appropriate to their traditions.

Both PREP intervention conditions consisted of three, half-day sessions using a marital skills-training format. Consistent with the PREP framework, marital skills-training content (PREP; Markman et al., 2001) was a prominent part of both programs. A typical session involved the couples coming together in a group format beginning at 8:30 a.m. After some warm-up and icebreaking exercises, couples were presented with information on basic PREP concepts via DVD. In Day 1, the focus was on communication training and listening skills. In Day 2, the focus was on problem solving, hidden issues and expectations, and provision of support, including support in the context of dealing with experiences of racism. Day 3 focused on fun and physical oneness and a continuing review of listening skills. Basic information related to PREP was presented using DVDs drawn from three established PREP video recordings: 1) *Fighting for Your Marriage* video series; 2) a program adapted from PREP called *From This Day Forward*; and 3) *Sweetheart's Weekend*, a weekend version of PREP delivered by its founders to a group of couples in Oklahoma. Interspersed with the DVDs were opportunities to practice skills and discuss the information provided on DVDs. Trained facilitators were available at all sessions to provide feedback to the couples, help them with their practice, and guide discussion. Couples broke for lunch at which time men and women separated for gender-specific fellowship and discussion of the morning's lessons.

In the Prayer Focused PREP condition (PFP), spouses also received a focus on prayer; this was integrated with the presentation of other material. In particular, in PFP, all sessions began with prayer, providing an important opportunity to model the kind of prayer that was being taught (i.e., prayer that emphasized beneficence toward the partner and agape). Participants were also given examples of prayers and encouraged to generate their own prayers. In addition to the DVD footage about communication, problem solving, and couples' activities mentioned above, participants were also given a conceptual framework for prayer for their partner and given specific encouragement to pray for good things to happen to their partners. All prayers were introduced as being in keeping

with the higher order goal of "helping you to be a vehicle of God's love in your relationship." In addition, participants were encouraged to pray on their partner's behalf regarding their partner's needs and aspirations (Beach et al., 2008a) and not to focus on nonconstructive themes, including retribution or "praying for God to change my mate." Discussion of prayer occurred throughout the program and prayer was used to introduce and conclude all segments of the PREP instructional materials.

The control group was assigned to condition on the basis of a block randomization schedule. Couples in the control group were assessed on the same schedule as those in PFP group, thereby controlling for effects of repeated measurement, maturation, individual differences, and external social changes. In addition, couples in the control group were provided the book, "12 Hours To A Great Marriage" (Markman et al., 2004) at the conclusion of their baseline assessment. This popular guidebook provides positive reasons for enhancing marriage, guidelines, and examples of communication and problem-solving strategies, exercises that could be implemented by individuals and couples to enhance their relationship, and suggestions for enhancing positive aspects of the marital relationship. In brief, the book provided all the skills-oriented content of PFP using the same approach, and couples were given written suggestions for reading and working through the book, making this an information-only control group. At the same time, the control group cannot be considered an "attention control" because time spent with project personnel was not equivalent between control and treatment couples.

## Method

### Design and Plan of Analyses

To examine whether change attributable to the treatment conditions differed from change in the control condition we utilized a 3 (Treatment Type: Culturally Sensitive PREP (CS-PREP) vs. Prayer-Focused PREP (PFP) versus Information-Only Control)  $\times$  2 (Sex: Husband vs. Wife)  $\times$  4 (Time of Measurement: Baseline, Post-Intervention, 6-Month Follow-up, and 12-Month Follow-up) mixed-model repeated-factors analysis of variance (ANOVA), exam-



ining change across the three measurement domains: communication, satisfaction, and positive intentions. The three measurement domains were treated as correlated dimensions of overall marital outcome. Accordingly, each measure was converted to a z-score and then summed within assessment time and spouse to create a single overall index of each spouses' marital outcome at each point in time.<sup>1</sup> Treatment type was analyzed as a between-subjects factor. The couple was the primary unit of analysis, and so degrees of freedom are based on the number of couples in the analysis rather than the number of individuals. Time of measurement was treated as repeated within individual.

Random assignment to CS-PREP, PFP, and Control was designed to oversample the intervention conditions on a 2:1 ratio, allowing more sensitive comparisons of response to the different intervention formats while maintaining adequate power to detect medium or greater effect sizes between the control group and the active treatment conditions. According to Kazdin and Bass (1989), an average sample size of  $N = 71$  participants per group is required to retain power of .80 to detect differences between active treatment conditions assuming a medium effect size of the sort characteristic of published outcome reports. Since our smallest group (the control group) exceeded this number ( $N = 79$ ) we were adequately powered to detect medium effect sizes or greater involving the control group, and small to medium effect sizes between the two active conditions.

For all significant effects, we reported partial Eta-squared ( $\eta_p^2$ ), that is, the proportion of variance in outcomes accounted for by the effect relative to the error variance. Eta-squared provides an index of effect size comparable to  $R^2$  in regression analyses. However, because unequal group sizes decreases Eta-squared, and because it does not provide an index of pairwise comparisons between cells, we also reported mean difference effect sizes for key comparisons using Cohen's  $d$ .

To explicate the overall Group  $\times$  Time effect, we plotted marital quality over time for each treatment group, and we examined linear, quadratic, and cubic trends in the data. We also examined within-group contrasts between baseline and means at every other assessment point to explicate significant change over time in each

group. To explicate moderation of the Group  $\times$  Time effect by Gender, we examined and reported different patterns of Group  $\times$  Time interaction within gender, and described in greater detail the significant differences between active treatments for wives.

### Plan of Assessment and Treatment of Missing Values

The present study reports results from 393 married couples randomly assigned to either Culturally Sensitive PREP (CS-PREP), Prayer-Focused PREP (PFP), or Control (C). Seventy-nine couples were assigned to the control condition and 157 couples were assigned to both the CS-PREP and the PFP conditions. Data were collected from husbands and wives at baseline assessment prior to the start of intervention, again following the completion of the intervention program, at 6-month follow-up, and at 12-month follow-up. At all assessments after baseline, there were significant amounts of missing data due to attrition, data from only one spouse, or missing data for that particular assessment. Fifteen percent of couples provided data only at baseline, and for the remaining couples there was an 11.5% rate of missingness. Rates of missing data did not differ across conditions (all chi-squared comparisons nonsignificant) and missingness was not correlated with baseline scores (average correlation  $-.055$ ). In part the missing data reflect the community-based focus of the study and difficulty in tracking some couples after initiation of the study. Accordingly, missing data values were imputed using the Markov Chain Monte Carlo (MCMC) framework for all couples to maintain an intent to treat framework for the analyses. The average time between baseline assessment and posttreatment assessment was approximately 10 weeks for both intervention and control couples. Follow-up assessment data were collected at 6 months and 12 months following baseline.

<sup>1</sup> Results using raw scale values in a MANOVA framework yielded an identical pattern of significant effects. However, the results using the summed z-scores lent themselves to easier characterization. Accordingly, we used summed z-scores throughout.

## Recruitment

Based on preliminary focus group results (Hurt et al., 2006), we recruited couples through direct advertising, participating in community-based recruitment events, distributing brochures to businesses, appearing on local radio shows, obtaining local press coverage, and involving local pastors in attracting couples to the program. Pastors were engaged by allowing them to evaluate the program and then endorse it from the pulpit. Couples were told by their pastors that there was a study of ways to enhance the marital relationships of African American couples and that recruiters for the study were available. The recruiters were then identified by the pastor and couples were encouraged to talk to the recruiters and to consider volunteering for the study. This approach led to opportunities to recruit in a variety of settings including church meetings, Bible studies, worship services, and other church events.

## Participants

Participation in the study was open to all married couples in which both partners were over 21, one or both partners were 60 years of age or younger, and in which both partners (89.3%) or one of the partners (10.7%) self-identified as African American. The number of couples with only one partner who self-identified as African American is consistent with national norms indicating that African American couples are more likely than couples of other ethnic groups to be comprised of individuals with different racial identification (U.S. Census Bureau, 2005). Participants who indicated marital crisis or a need for immediate services at the time of recruitment were given referrals for community services and were not randomized. On average, husbands entering the study were 40.5 years of age and wives entering the study were 38.85 years of age. In all cases, the couples were comfortable describing themselves as "African American" couples. Couples had been married an average of 9.7 years, and reported an average of 1.65 children at home. It was a first marriage for 293 of the husbands and wives. Educational attainment was somewhat higher in this sample than national census comparison data, with 40.2% of husbands reporting a bachelor's degree or more compared to 23.3%

of all married African American adults nationally and 29.1% of married adults in the 35–44 year age range (U.S. Census, 2006). In terms of religious involvement, a large percentage of couples in the sample reported praying for their partner nearly every week or more often (husbands 86.7%; wives 91.1%). Comparison of groups on demographic variables produced nonsignificant multivariate analyses of variance (MANOVAs) for age, education, and number of children for both husbands and wives, and a nonsignificant mean difference on baseline frequency of prayer for the spouse for both husbands and wives. Spouses also did not differ by group at baseline assessment on any of the study outcome variables described below.

## Group Leaders

Sixteen group leaders, all of whom were of African ancestry, were involved in leading group sessions and providing feedback to couples. Group leaders were selected for their enthusiasm for marriage education and their comfort with leading an educational program for couples. Race of group leaders may be important in the context of programs targeting a particular ethnic group, and so this potential source of variability in response was controlled in the current investigation. In addition to having African American group leaders, a majority of the material in the DVD portion of the program was presented by African American presenters. To facilitate couples' access, group meetings were held in a range of settings with most being held in community centers like Boys and Girls Clubs. Churches were not used as meeting areas because of the potential to dissuade attendance of couples uncomfortable with a particular denomination.

Training for the group leaders was provided by Dr. Scott Stanley, one of the founders of PREP and Christian PREP, and by the first author. All group leaders received over 20 hours of instruction and became proficient in the use of the speaker-listener technique, delivery of the structured intervention format, and presentation of information about prayer. Treatment fidelity was monitored on an ongoing basis using videotaped recordings of all leader interactions with groups. Training emphasized the importance of focusing on enhancing marital interac-

tion and of being accepting of all participant denominations and religious orientations.

### Treatment Fidelity

Treatment plans were highly structured, with information presented using a prerecorded DVD format, ensuring high treatment fidelity. In addition, the major foci of discussion and practice were outlined in advance, and all sessions were video-recorded for fidelity monitoring purposes. For each session, two independent raters listened to all sessions, noting major points of discussion and activity. In all cases group leaders played the appropriate DVD content that supplied the bulk of the intervention informational content. In addition, fidelity coders rated the group leaders as covering, on average, more than 90% of the targeted supplementary discussion topics in each session, with agreement between raters of  $r = .81, p < .001$ .

### Outcome Measures

**Communication.** An eight-item measure reflecting the specific communication targets of training was adapted from the Communication Skills Test (Jenkins & Saiz, 1995). Variations of this measure have been used in a number of similar studies, with evidence of both reliability and validity (e.g., Stanley et al., 2005; Stanley et al., 2001). The measure asked questions about four areas: 1) summarizing, 2) taking time outs, 3) staying focused on the problem, and 4) feeling understood. A sample question is "My partner tries to understand my feelings and concerns." Response options ranged from 1 = *Almost Never* to 7 = *Almost Always*. Total scores potentially ranged from 8 to 56, with higher scores reflecting greater use of communication skills. The internal consistency was high (coefficient  $\alpha = .91$  for husbands and  $.90$  for wives). Accordingly, this measure provided an assessment of an important behavioral domain in marriage.

**Marital satisfaction.** The six-item, Quality of Marriage Index (QMI) is a unidimensional index that measures global perceptions of marital satisfaction (Norton, 1983) and has been widely recommended for use with community samples. Consistent with our use of the QMI in the current study, it has been noted that longer measures of marital adjustment, such as the MAT and DAS have serious conceptual prob-

lems that limit their interpretation (Fincham, Beach, & Kemp-Fincham, 1997). These limitations may be particularly problematic for studies of community couples for whom measures of clinical dysfunction may be less appropriate and/or insensitive to change (Fincham et al., 1997). In addition, couple evaluations of their relationship have long been held to be the final common pathway for marital intervention effects (Jacobson, 1985), making direct assessment of evaluation of the relationship an important assessment domain. On the QMI, low scores indicate a more negative evaluation. A sample item is, "Our relationship is strong." Response options ranged from 1 = *Strongly Disagree* to 5 = *Strongly Agree*. Total scores potentially ranged from 6 to 30, with higher scores reflecting a more positive evaluation of the relationship. Internal consistency was high (coefficient alpha for husbands =  $.95$ ; for wives =  $.96$ ). Accordingly, this measure assessed an important evaluative domain in marriage.

**Positive intentions.** The Positive Marital Intentions (PMI) scale was developed based on Fincham and Beach's (1999) conceptualization of relationship conflict within a "goal framework." The five-item measure was designed to assess intentions to engage in positive behavior toward the spouse. The measure assessed both general intentions as well as implemental intentions to engage in specific positive behavior toward the partner. A sample item is "I look for opportunities to do things that will show love to my mate." Response options ranged from 1 = *I almost never do this* to 5 = *I do this every day or more than once a day*. Total scores potentially ranged from 5 to 25, with higher scores reflecting greater time spent thinking about positive activities and outcomes for one's mate and planning or looking for opportunities to implement plans. Internal consistency was high in the current sample (coefficient alpha for husbands =  $.87$ ; for wives =  $.87$ ). Accordingly, this measure provided an assessment of an important cognitive/motivational domain in marriage.

For all analyses reported below, each of the measures was converted to a z-score reflecting the respondent's relative position within the overall distribution of scores. After rendering all scores commensurable, they were summed across the three measures, within each point in time, to create an overall index of marital outcomes for that participant at that point in time.<sup>1</sup>

## Results

Data were analyzed using a mixed-design ANOVA with a between-subjects factor of group and within-subjects factors for time and sex of spouse, yielding a  $3(\text{Group}) \times 4(\text{Time of assessment}) \times 2(\text{Sex})$  design. Missing data was common and so to avoid loss of couples with partial data and maintain our intent to treat sample, all missing data was imputed using MCMC (Schafer, 1997), a Markov Chain estimation procedure with high efficiency. Means and standard deviations for overall outcome at each time point are provided separately by gender and treatment group for each assessment time in Table 1. The correlations between the marital outcome measures at premarital assessment were  $r(393) = .61, p < .001$  for QMI and Communication;  $r(393) = .51, p < .001$  for QMI and Positive Intentions; and  $r(393) = .46, p < .001$  for Communication and Positive Intentions.

### Overall Intervention Effects

Mauchly's test indicated that the assumption of sphericity had been violated,  $\chi^2(5) = 21.2, p < .001$ , therefore degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ( $\epsilon = .96$ ). There was a main effect of time  $F(2.89, 1127) = 8.17, p < .001$ , partial Eta squared ( $\eta_p^2$ ) = .021, indicating improvement in marital outcomes over time. In addition, there was a significant effect of sex  $F(1, 390) = 6.58, p < .05, \eta_p^2 = .017$ , indicating that husbands scored higher on measures of marital outcome on average. The anticipated group by time interaction was also significant  $F(5.78, 2254) = 2.16, p < .05, \eta_p^2 = .011$ , reflecting significantly greater change, for the intervention groups than the control group. These patterns are explicated in Figure 1, which provides a comparison of change across time for couples in each group.

As can be seen in Figure 1, there was no change overall for those in the control condition, but a comparable level of overall change for those couples assigned to the two treatment conditions. These observations were confirmed by within-Group ANOVAs which showed a significant effect of time for those in the two active treatment conditions:  $F(2.85, 445) = 5.81, p < .001$  and  $F(2.88, 448) = 4.55, p < .005$  for husbands in PFP and CS-PREP respectively,

and  $F(2.82, 439) = 11.39, p < .001$  and  $F(2.85, 445) = 3.46, p < .05$  for wives in PFP and CS-PREP respectively. Conversely, there was a nonsignificant effect of Time for both husbands and wives in the control condition  $F(2.88, 224.9) = .34, ns$  and  $F(2.5, 195) = .19, ns$  for husbands and wives respectively.<sup>2</sup>

To better characterize the reliable components of change reflected in the overall significant Group  $\times$  Time interaction, we also examined linear, quadratic, and cubic trends. Only differences in the linear component of the Group  $\times$  Time interaction were found to be reliable  $F(2, 780) = 2.99, p = .05$ . Accordingly, we plotted only the linear component of change in Figure 1.

### Interaction With Sex

The significant group by time interaction was qualified by a marginal interaction with sex, resulting in a marginally significant three-way interaction  $F(5.85, 1140) = 2.09, .05 < p < .06, \eta_p^2 = .011$ , reflecting no significant improvement for husbands or wives in the control condition, but somewhat different patterns of improvement over time for husbands and wives in response to active intervention. Because there was no reliable change as a function of time in the control group, we removed the control group to better examine sex differences in re-

<sup>2</sup> For husbands in both treatment conditions only the linear component of change was significant. For wives in PFP, linear, quadratic, and cubic components were all significant, but for wives in CS-PREP only the linear component of change was significant. Paired *t* tests between each assessment and baseline assessment indicated no significantly different means in the control group for either husbands or wives for any assessment time. Conversely, for husbands and wives in PFP, all comparisons were significant, husbands pretreatment versus posttreatment,  $t(156) = 2.29, p < .05$ ; pretreatment versus 6-month follow-up,  $t(156) = 3.18, p < .005$ ; pretreatment versus 12-month follow-up,  $t(156) = 3.43, p < .001$ ; wives pretreatment versus posttreatment  $t(156) = 5.48, p < .001$ ; pretreatment versus 6-month follow-up,  $t(156) = 3.48, p < .001$ ; pretreatment versus 12-month follow-up,  $t(156) = 4.90, p < .001$ . For husbands and wives in CS-PREP all contrasts were significant except for pretreatment versus posttreatment for wives. Husbands pretreatment versus posttreatment,  $t(156) = 1.98, p < .05$ ; pretreatment versus 6-month follow-up,  $t(156) = 2.09, p < .05$ ; pretreatment versus 12-month follow-up,  $t(156) = 3.67, p < .001$ ; wives pretreatment versus posttreatment  $t(156) = 1.03, NS$ , pretreatment versus 6-month follow-up,  $t(156) = 2.99, p < .01$ ; pretreatment versus 12-month follow-up,  $t(156) = 1.97, p = .05$ .



Table 1  
Standardized Outcome Scores by Condition for Husbands and Wives at All Assessment Periods

Condition	Control		PFP		CS-PREP	
	Husband <sup>a</sup>	Wife <sup>b</sup>	Husband <sup>c</sup>	Wife <sup>d</sup>	Husband <sup>e</sup>	Wife <sup>f</sup>
Time of Assessment						
Baseline	-.145 (.255)	-.120 (.271)	-.195 (.207)	-.552 (.262)	-.052 (.200)	-.471 (.208)
Postintervention	-.115 (.252)	-.258 (.273)	.158 <sub>b</sub> (.184)	.199 <sub>b</sub> (.188)	.246 <sub>b</sub> (.196)	-.325 (.190)
Six-month	-.009 (.266)	-.259 (.296)	.356 <sub>b</sub> (.203)	.021 <sub>b</sub> (.197)	.277 <sub>b</sub> (.185)	-.013 <sub>b</sub> (.190)
Twelve-month	.017 (.262)	-.201 (.309)	.368 <sub>b</sub> (.179)	.205 <sub>b</sub> (.188)	.473 <sub>b</sub> (.185)	-.148 <sub>b</sub> (.214)

Note. Standard errors for each cell are in parentheses. Cells within column with a subscript <sub>b</sub> are significantly different from the baseline mean using paired *t*-tests.

<sup>a</sup> Effect of time for husbands in the control group is not significant. <sup>b</sup> Effect of time for wives in the control group is not significant. <sup>c</sup> Effect of time for husband in PFP is significant, as is the linear trend. <sup>d</sup> Effect of time for wife in PFP is significant, as is the linear trend. <sup>e</sup> Effect of time for husband in CS-PREP is significant, as is the linear trend. <sup>f</sup> Effect of time for wives in CS-PREP is significant, as is the linear trend.

response to the two active treatments. This resulted in a significant three-way interaction of sex, condition, and time  $F(2.93, 915) = 3.59$ ,  $p < .05$ , indicating significant gender differences in response to the two treatments. However, examination of linear, quadratic, and cubic trends indicated that only the cubic component

of this effect was significant  $F(1, 312) = 11.98$ ,  $p < .001$ .

To further explicate the interaction of Group  $\times$  Time  $\times$  Sex, we compared response to CS-PREP and PFP separately for husbands and wives. We used two, 2(Group: CS-PREP vs. PFP)  $\times$  4 (Time) repeated-measures

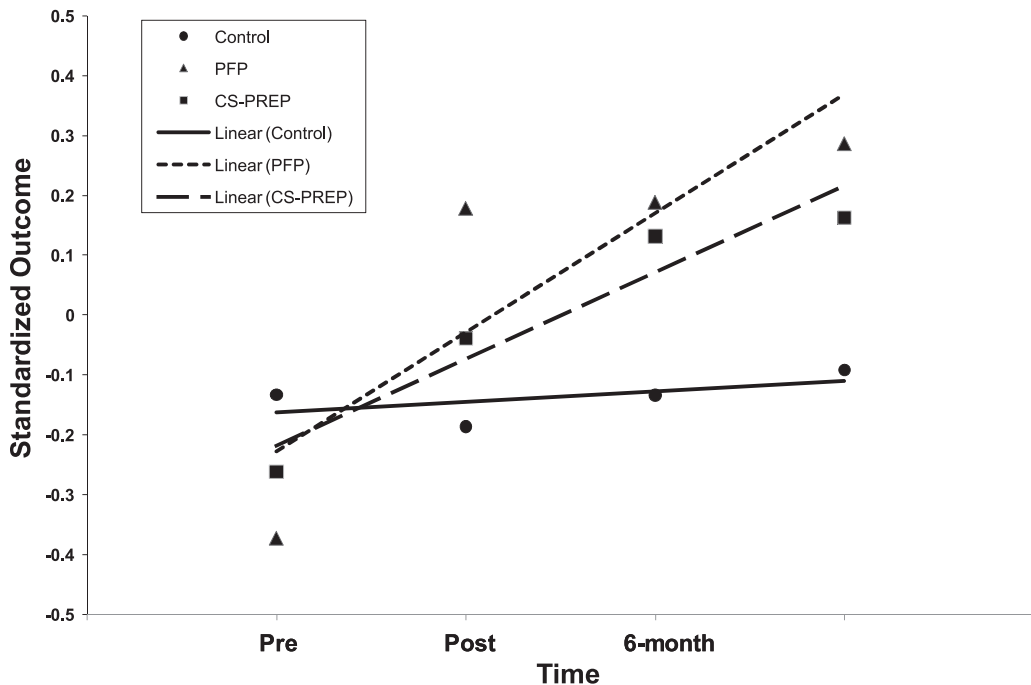


Figure 1. Level of standardized outcome at baseline, postintervention, 6-month and 12-month follow-up averaged across husbands and wives for PFP, CS PREP, and Control group.

ANOVAs to explicate the different patterns of change in response to intervention displayed by husbands and wives. For husbands, there was a significant effect of time  $F(2.88, 898) = 10.01$ ,  $p < .001$ ,  $\eta_p^2 = .031$ , indicating a positive response to intervention across conditions, and only the linear component of change was significant,  $F(1, 312) = 25.3$ ,  $p < .001$ . There was no significant interaction of group with time for husbands  $F(2.88, 898) = .435$ , *ns*, suggesting that husbands experienced very similar patterns of change in response to both intervention formats over the time period studied. For wives, there was also a significant effect of time  $F(2.86, 894) = 11.28$ ,  $p < .001$ ,  $\eta_p^2 = .035$ , indicating a positive response to intervention across conditions. However, there was also a significant interaction of group with time  $F(2.86, 894) = 3.42$ ,  $p < .05$ ,  $\eta_p^2 = .011$ .

The interaction of group with time for wives is plotted in Figure 2. The figure shows similar starting points but differing patterns in outcomes over time for wives assigned to each intervention. Linear and quadratic components of the effect of time were significant for both intervention groups but did not differ between groups. Only the cubic component of the effect was significantly different for wives in the two treatment groups. The significant cubic effect is the result of significantly greater change from

baseline to posttest in PFP than in CS-PREP for wives,  $F(1, 312) = 9.44$ ,  $p < .005$ ,  $\eta_p^2 = .029$ ; no difference in change from baseline to 6-month follow-up,  $F(1, 312) = .261$ , *ns*; and a marginally significant difference in change from baseline to 12-month follow-up for wives in the two active treatment conditions  $F(1, 312) = 3.72$ ,  $p = .055$ ,  $\eta_p^2 = .012$ . The significantly greater change for wives in PFP compared to those in CS-PREP from baseline to post is illustrated in Figure 2. For comparison purposes, overall outcome is also plotted for 6-month and 12-month follow-ups for wives in both treatment groups.

### End Point Comparisons

Finally, to characterize difference in group means at the 12-month follow-up assessment we computed Cohen's  $d$ , comparing active treatment conditions to the control condition. As would be expected given the patterns of change, Cohen's  $d$  for the two husband comparisons were similar in magnitude. For husbands in PFP, Cohen's  $d$  was 1.43 and for husbands in CS-PREP, Cohen's  $d$  was 2.01. Using conventional terminology (Cohen, 1969), both effects would be considered "large." Conversely, for wives in PFP compared to the control group, Cohen's  $d$  was also large,  $d = 1.58$ , whereas for

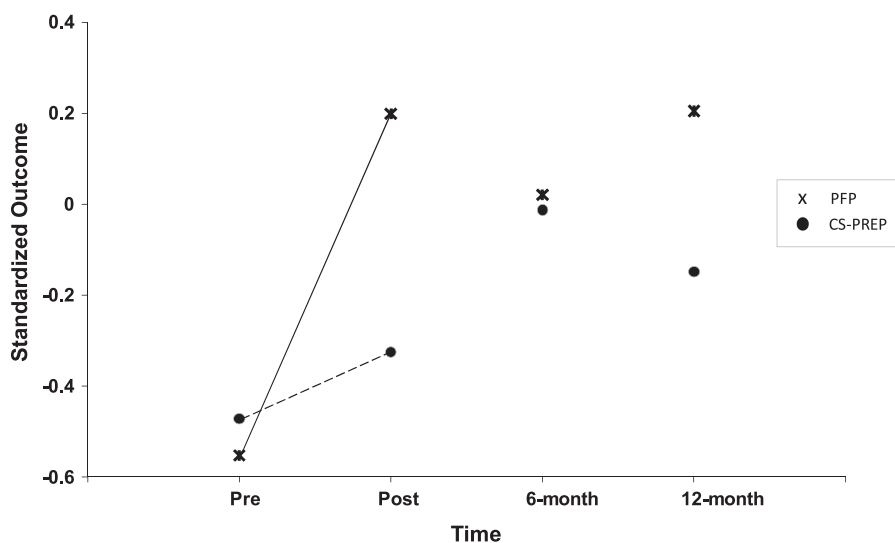


Figure 2. Differential change for pretreatment to posttreatment assessment for wives assigned to either PFP or CS-PREP.

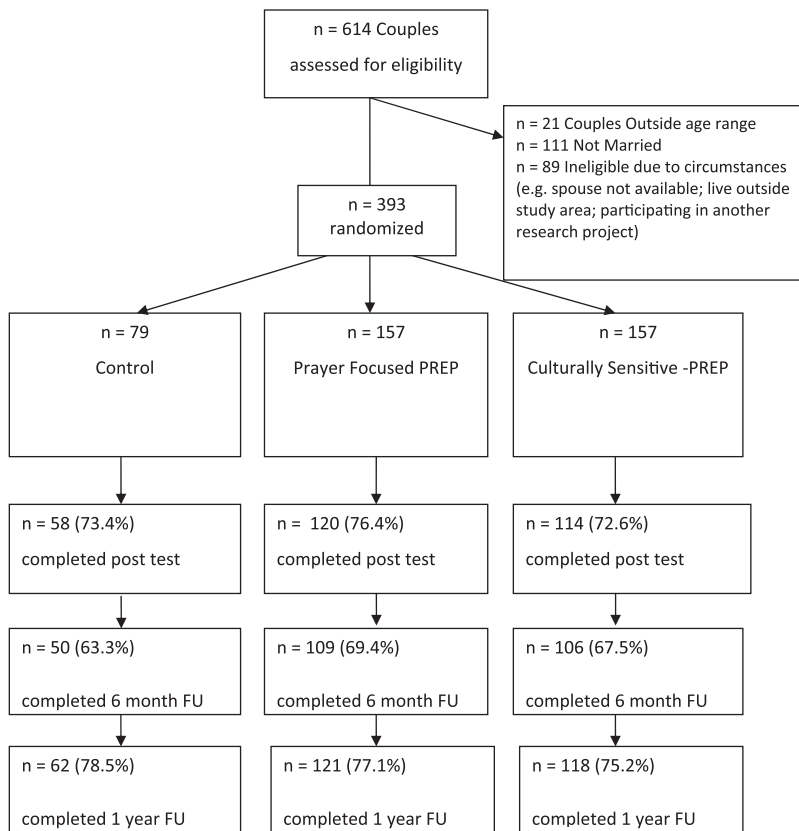


Figure 3. Consort flow chart.

wives in CS-PREP compared to the control group, Cohen's  $d$  was small,  $d = .20$ .

### Discussion

The current study is the first to examine the efficacy of brief PREP formats, modified to be culturally sensitive for African American couples. The results suggest that the PREP program, delivered in a spiritual context with a focus on prayer, is as efficacious as a program focused on traditional PREP material, presented in a culturally sensitive framework, and may be more efficacious for wives, particularly in terms of its immediate effects from baseline to post-test. In addition, both culturally sensitive versions were more efficacious than the control condition in producing positive change from baseline to postintervention and to 1-year follow-up. Participants indicated a high level of satisfaction with both formats and with the in-

clusion of a focus on spirituality and prayer. Likewise, the response of community leaders to the overall ProSAAM program has been positive (Hurt et al., 2006). In addition, because the program is an extension of PREP, and is provided in a highly structured, self-contained program format, it has the potential to be disseminated widely with high fidelity either through commercially supported programming or by charitable organizations and churches, and the program has the potential to be implemented in groups of various sizes depending on local needs. It should be noted, however, that the current results do not indicate that culturally sensitive PREP is superior to standard format PREP in terms of impact on couple functioning of African American couples because standard format PREP was not one of the comparison conditions. However, as suggested in earlier writing (Beach et al., 2008a), even when out-

comes are similar it may be useful to have alternative approaches that can be utilized with appropriate populations and this may have benefits in terms of community participation in marital enrichment efforts.

The effect size of the intervention was characterized in several ways. However, the most easily interpretable metric is provided by Cohen's *d* at 12-month follow-up. Cohen's *d* is the most widely used measure of standardized mean difference between two groups, and because Cohen's *d* takes into account the variance of the dependent variable, it provides information about effects that are comparable between different indices of change. Typically, an effect size of 0.2 is considered "small" whereas an effect size greater than .8 is considered "large." For comparison purposes, a large effect would be comparable to the average difference in heights of 13-year-old versus 18-year-old girls (Cohen, 1969, p. 23). At 12-month assessment, both husbands and wives in both active intervention conditions showed significant improvement from baseline scores, and this was not true for those in the control condition. Effect sizes for husbands and wives in PFP were large and comparable (Cohen's *d* = 1.43 and 1.58 for husbands and wives respectively), but were divergent for husbands and wives in CS-PREP (Cohen's *d* = 2.01 and .20 for husbands and wives respectively). This result suggests that whereas more than 90% of husbands and wives in the control group at 12-month follow-up scored below those in PFP, and below husbands in CS-PREP, only 58% of wives in the control group would score below wives in CS-PREP at 12-month follow-up.

The differential pattern of response of wives to the two intervention formats is of interest and suggests the potential value of future work explicating the role that spirituality may play in the process of change in marital enrichment programs, particularly for women. Whereas husbands showed similar response to intervention regardless of format, wives showed enhanced early response to the inclusion of prayer and spiritual themes. To the extent that this difference affects long-term couple outcomes, it may have implications for maintenance of gains for men as well as women at longer-term follow-ups. In addition, if the two formats are comparable in effect for men, but have different effects for women, couple-based formats may

need to attend to the characteristics that forecast better response among wives.

The presence of different patterns of response over time to PFP and CS-PREP for wives suggests the possibility of somewhat different active ingredients or processes of change in the two conditions. In particular, it is noteworthy that the PFP condition compared to the CS-PREP condition produced significantly greater initial change (i.e., baseline to post), with variability across the follow-up, but relatively little net additional improvement across the remainder of the follow-up period. Conversely, the CS-PREP condition showed relatively modest initial change, and then continuing modest improvements across the follow-up period. This interesting difference in pattern of change for wives suggests the possibility of underlying differences in process of change between the two conditions.

Several possibilities are consistent with the observed patterns and are worthy of continued exploration. First, PFP might have produced an initial additive effect on early response to intervention. This could result, for example, if PFP and CS-PREP had similar effects on change in marital skills, but PFP had a greater impact on the extent to which couples saw their relationship as having a spiritual and church-based foundation. In this case, PFP might have an extra source of impact on satisfaction that could exert its effect rapidly. Alternatively, the PFP condition might provide added benefits primarily by enhancing initial positive expectations for change or mobilization of hope, particularly for wives. If so, this would also be expected to lead to a pattern of rapid initial gains, although one would expect such effects to diminish over time with eventual convergence with changes produced in CS-PREP. Both these conjectures are consistent in broad brush with the observed outcomes. Accordingly, more detailed processes analyses are in order to help further refine the use of these programs in the future.

It will also be useful to examine other processes that have been shown to be influenced by prayer and that may be relevant to long-term relationship functioning such as changes in forgiveness (Lambert, Fincham, Stillman, Graham, & Beach, 2010), infidelity (Fincham, Lambert, & Beach, 2010), and gratitude (Lambert, Fincham, Braithwaite, Graham, & Beach, 2009). Such changes may or may not be related to initial changes in satisfaction and marital



interaction, but may nonetheless exert an influence on outcomes over time, or influence resilience in response to relationship problems or external stressors. Accordingly, these potential facets of marital change also deserve attention at longer-term follow-ups.

### Are Effects Limited to PREP Derivatives?

It should not be assumed that the addition of prayer and spirituality or other culturally sensitive adaptations can only work in combination with PREP or similar skills-based programs. The current results suggest the addition of spirituality and prayer for the partner may be suitable for a range of marital enhancement programs and allow these programs to be more culturally sensitive for religiously committed couples without loss of program effectiveness. Because the prayers are presented by the group facilitators as being suggestions only, participants were given strong encouragement to make the prayers their own and to incorporate the content in their own way. This allowed individuals with a range of religious commitments to participate in the program without feeling pressured or proselytized. This is likely to be another important consideration for community-based intervention that incorporates a spiritual dimension (see Beach et al., 2008b; Marks, 2008; Sullivan & Karney, 2008; Worthington, 2008). In addition, the PFP format should allow a wide range of African American religious groups to endorse the program, potentially increasing community engagement (Hurt et al., 2006).

### Limitations

There are several limitations to the current study. In particular, it will be important to directly compare CS-PREP and PFP to PREP in its usual format in order to identify whether they are best thought of as alternative, equivalent, formats for marital enrichment, or whether elements of these programs, particularly the inclusion of spirituality, should be considered "additive" in its impact on some dimensions. Further, the current report provides only self-reported change across a range of facets of the marital relationship, and in future work it will be important to examine impact on observational measures to confirm that change occurs in areas

not dependent on self-report. Similarly, the current study focused on change in three areas, overall positive evaluation of the relationship, communication and listening, and positive intentions toward the partner and relationship, all reflecting a positive focus on relationship outcomes. This positive focus is quite appropriate in the context of relationship enhancement with community couples. However, over longer time frames, a broader measurement strategy will be important, including measures that may better capture the emergence of dysfunction, and assessments of negative outcomes such as divorce/separation and problems of intimate partner violence. Finally, because the study focused on African American couples only, it is not yet possible to tell whether similar modifications would provide similarly positive outcomes for equally religiously committed couples of other ethnic groups.

There were also several strengths and several possible limitations related to our decision to use only African American group leaders. Most notably, because all group leaders were of African ancestry, we were not able to directly examine our assumption that ethnicity of the group leader is an important consideration in providing culturally sensitive adaptations of marital enrichment programs. Likewise we were not able to assess directly the impact of knowledge regarding culturally specific patterns of communication and interaction. It is possible that behavioral characteristics such as warmth, humor, and positive engagement with couples are more important than shared ethnicity in predicting positive response. Likewise, we do not have detailed coding of group leader feedback to particular participants, limiting our ability to examine the dynamics of interactions between couples and group leaders. In addition, participants reported valuing the informal interaction that occurred around shared meals. Again, this may be an important focus for future work on the process of effective dissemination of marital enrichment programs.

### Practical and Ethical Issues in the Use of Prayer

It is important to consider ethical issues regarding the incorporation of prayer into relationship enhancement programs. One potential concern is that some people may incorporate problematic styles of relating into their prayers, raising the question of how one might address such problems

without inappropriately infringing on the religious belief systems of spouses. Another question is how one might respond to and be inclusive of participants whose beliefs or prayer practices are very different from others in the group. We have addressed a range of similar issues more abstractly elsewhere (Beach et al., 2008a; 2008b). However, it is instructive to examine these issues in the context of the current study.

With regard to issues of style and content of prayers, we found it useful to highlight the value of prayers for the spouse that included a focus on themes of beneficence and agape and that avoided themes of retribution and change. This was not viewed as intrusive with regard to religious belief because it was narrowly focused on the expectation that some types of prayers (and not others) were most strongly related to positive couple outcomes (see Fincham et al., 2010; Lambert et al., 2009). Accordingly, group leaders were encouraged to function only in their role as providers of advice regarding marital enhancement, and not to adopt the role of religious leader.

Although we had no reported instances of people with beliefs so different than others in the group that they were viewed with suspicion or concern, given the open group structure, this is a possibility we anticipated. In part, our success in this regard may have resulted from our approach of having group leaders present themselves as experts on marital enhancement, not on matters of religious belief. Accordingly, group leaders modeled an accepting, open attitude toward all participants' religious beliefs for the purposes of the group meetings, and no proselytizing or effort to influence the religious beliefs of others in the group was allowed. This may have limited opportunity for theological disputes, particularly given the relatively brief format we utilized. Although it did not prove necessary, we had anticipated consulting with pastors of the same denomination if we encountered rituals or patterns of prayer that seemed incompatible with the marital enhancement focus of the program. At least within the brief framework of the current program, couples readily accepted the suggested focus on beneficence and agape, and the utility of prayer directed to the spouse's welfare and benefit. Consequently, doctrinal disputes did not pose a problem for participants or group leaders, and it

did not prove necessary to consult with pastors on issues of doctrine or religious ritual.

## Conclusions

Despite the widespread use of prayer (McCullough & Larson, 1999) and its professed influence in people's lives (McCaffrey & Eisenberg, 2004), prayer has received remarkably little attention from marital researchers. This relative lack of attention may be a particularly important obstacle when marital and family therapists attempt to work with some currently underserved populations. In our sample, the vast majority of participants were already praying regularly for their spouse in some form, suggesting that the spiritual dimension of their relationship was already salient to them. Our work conducting marital enrichment programs for African American couples in Georgia, and the reactions we have received from the communities we serve, suggest that inclusion of prayer may be helpful in enhancing community engagement in some areas and with some groups (Hurt et al., 2006), and this is clearly a topic that deserves continued attention in the context of marital enhancement programs more generally (Wolfinger & Wilcox, 2008).

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