



An Implementation Study of Relationship Checkups as Home Visitations for Low-Income At-Risk Couples

KRISTINA COOP GORDON*

JAMES V. CORDOVA†

PATRICIA N. E. ROBERSON‡ 

MELANIE MILLER*

TATIANA GRAY†

KATHERINE A. LENGER* 

MATT HAWRILENKO†

KERRI MARTIN*

Couples with the greatest need for relationship health maintenance and intervention are often least able to afford and access it; therefore, accessible, affordable, effective, and brief interventions are needed to improve relationship health for those who need it most. Consequently, this paper examined whether a brief relationship intervention could be effectively implemented with a low-income, underserved population. All enrolled participants (N = 1,312) received the Relationship Checkup, which consists of an assessment and a feedback session delivered in their homes or at a local clinic at their request. Measures assessed relationship satisfaction, communication, psychological and physical aggression, and intimacy at baseline and 1-month follow-up, and program and relationship satisfaction at 6-month follow-up. All participants reported significant improvements on all outcomes with small effect sizes. However, moderation analyses suggested that distressed couples reported significantly larger effects across the board. Overall, participants reported that they were highly satisfied with the intervention both immediately after its delivery and 6 months later. Findings provide preliminary support for the effectiveness of this brief checkup and point to the utility of offering these kinds of low-cost brief interventions in flexible formats for those who might have the most difficulty accessing them.

Keywords: Low-Income; Relationship Satisfaction; Brief Couple Intervention

Fam Proc 58:247–265, 2019

Studies often report that the divorce rate is stabilizing or even falling. However, this decrease only appears to be among highly educated and affluent white couples. Couples with less education, lower income levels, and ethnic minority couples are marrying at

*Psychology Department, University of Tennessee, Knoxville, TN.

†Francis L. Hiatt Department of Psychology, Clark University, Worcester, MA.

‡Human Ecology Department, University of California, Davis, CA.

Correspondence concerning this article should be addressed to Kristina Coop Gordon, Psychology Department, University of Tennessee, 310B Austin Peay, Knoxville, TN 37996-0900. E-mail: kgordon1@utk.edu.

Funded by the U.S. Department of Health and Human Services, Administration of Children and Families, Office of Family Assistance Grant #90FM0022. We would also like to thank the countless facilitators and research assistants who made this project possible. Lastly, we are so grateful to the couples who opened their homes and lives to us. We are forever in your debt.

a lower rate, divorcing at a higher rate, and are more likely to engage in serial cohabitation (Blackwell, 2010; Kennedy & Ruggles, 2014). Unfortunately, this discrepancy has a host of negative physical and mental health implications for adults in these unstable relationships (e.g., Robles, Slatcher, Trombello, & McGinn, 2013; Whisman & Uebelacker, 2012). Furthermore, children in relationally discordant and unstable homes are more likely to experience poverty, child abuse and maltreatment, lower academic achievement, and poorer physical and emotional health (e.g., Blackwell, 2010; Cowan & Cowan, 2014). The effects of relationship distress and instability appear to be substantial and are likely to continue to grow, given the well-documented intergenerational transmission of relational discord (e.g., Blackwell, 2010). Relationship education programs could potentially reach these underserved couples before they are in crisis and stabilize fragile families. This paper describes findings from a large federally-funded implementation project that assessed the effectiveness of a brief relationship intervention targeting underserved couples, the Marriage Checkup (MC; Cordova et al., 2014).

Overview of Existing Relationship Programs

One of the largest projects to date to improve relationship functioning stems from the Administration for Children and Families' Healthy Marriage Initiative, which provided relationship education to primarily economically disadvantaged and minority couples. Unfortunately, the global findings from these studies have yielded mixed results (for an extensive critique, e.g., Johnson, 2012). One of the major critiques was the lack of standardization of empirically-supported relationship education programs (e.g., Johnson, 2012); however, smaller, tightly controlled relationship education programs developed in university settings have tended to be more efficacious, most notably in terms of improving relationship quality and communication skills (Markman & Rhoades, 2012). Thus, Hawkins (2014) concludes that although the totality of these programs has found modest, mixed effects for relationship education, this summation does not mean they are invalid, but rather they are still in a period of efficacy development.

Many of these programs struggle with the inevitable structural barriers to treatment that economically disadvantaged populations encounter. These problems can include logistical issues such as difficulty making time for classes, lack of transportation or unreliable transportation, lack of child-care, and cost of services, as well as social barriers such as stigma regarding professional help seeking and discomfort sharing in a group setting (e.g., Bradbury & Lavner, 2012; Busby, Larson, Holman, & Halford, 2015). Consequently, programs wishing to extend their reach into the highest-risk populations require flexible and briefer delivery (e.g., Halford, 2004). Also, many programs focus on improving communication skills, which—while helpful to some couples—may not be wholly effective for relationship education (see Owen, Manthos, & Quirk, 2013; Rogge, Cobb, Lawrence, Johnson, & Bradbury, 2013, for in-depth discussions of this issue); thus, alternative strategies targeted toward motivational and affective systems may improve these programs' effectiveness (e.g., Bradbury & Lavner, 2012). A new relationship intervention, the MC (Cordova et al., 2014), addresses many of these issues and has the potential to better meet the needs of a low-income population.

The Marriage Checkup

The Marriage Checkup is a brief intervention designed to be the relationship health equivalent of an annual physical or dental checkup. The presumption underlying the checkup healthcare model is that, similar to other health systems, intimate relationships require regular preventative care to maintain optimal health and avoid preventable deterioration. The MC is a two-session model comprised first of initial questionnaires, then an

in-person assessment session, and finally a feedback session. The therapeutic assessment session draws on principles from Integrative Behavioral Couple Therapy (IBCT; Jacobson & Christensen, 1996) and Motivational Interviewing (MI; Miller & Rollnick, 2002) to assess the couple's relationship history, reconnect them to their strengths, and address the couple's relationship concerns. The MC does not typically provide communication skills training, focusing instead on capitalizing on couples' strengths and using their perpetual issues to facilitate greater compassionate understanding and acceptance between the partners, in the service of creating a greater sense of intimacy and thus greater relationship satisfaction and health. Further, the MC format is such that the intervention can be specifically tailored to a couple's particular needs. Couples self-select the concerns that they want to address so that the intervention can quickly hone in on their most significant problems. This flexibility allows the facilitators to meet each couple "where they are" and gives the MC the potential to be a culturally responsive intervention. This flexibility also may be particularly beneficial for at-risk couples, whose needs might differ significantly from those less at risk.

The MC was designed to lower barriers to accessing relationship health care for all couples across the spectrum of relationship distress by being informative, brief, and low-pressure (Morrill et al., 2011). Findings suggest that this approach can achieve these goals: The MC program to date has attracted couples with a wide range of marital functioning, from happy to moderately and severely distressed, including at-risk couples who had never previously sought intervention (Cordova et al., 2005; Morrill et al., 2011). In a randomized controlled trial, treatment couples reported significant improvements in relationship satisfaction, intimacy, and acceptance compared to control couples (Cordova et al., 2014). Furthermore, intimate safety and acceptance appear to mediate both short- and long-term treatment response, suggesting they are actively involved in the prevention of relationship deterioration (Hawrilenko, Gray, & Cordova, 2015). However, couples in these studies have tended to be primarily White with higher income and education levels. Therefore, these findings may not be generalizable to more vulnerable, racially diverse, and low-income couples. In fact, context has not yet been examined as potential moderators of intervention effectiveness of this program.

Potential Moderators

A growing body of literature indicates that a variety of individual and relationship characteristics moderate the efficacy of relationship education (Williamson et al., 2015). First, brief relationship education with distressed couples has yielded significantly better gains in overall relationship satisfaction compared to non-distressed couples (Halford et al., 2015; Williamson et al., 2015). Second, researchers have identified economic disadvantage, more specifically low household income, as another possible moderator of couples' response to relationship education—but the direction of moderation is mixed. Some studies have found that couples with more economic disadvantage displayed greater change following relationship education than did less financially challenged couples (e.g., Adler-Baeder et al., 2010; Rauer et al., 2014). On the other hand, a meta-analysis conducted by Hawkins and Fackrell (2010) suggests the reverse relationship, as they found that relationship education programs tend to be less effective for low-income couples.

Third, ethnicity might also moderate response to relationship education (Adler-Baeder et al., 2010; Rauer et al., 2014; Stanley et al., 2014; Williamson et al., 2015), yet findings again suggest mixed effects. For example, previous findings indicated that White couples had slower declines in relationship satisfaction over time than Nonwhite couples after relationship education (Rauer et al., 2014; Williamson et al., 2015), while results from implementation projects with a military population suggest that minority couples were

less likely to divorce after receiving the intervention (Stanley et al., 2014). Finally, gender might also moderate relationship education effectiveness. For example, perhaps counter-intuitively, Cobb and Sullivan (2015) discovered that marital satisfaction in women who participated in relationship education decreased compared to women who did not participate. In sum, given the mounting evidence that one size does not fit all for relationship education, Halford & Bodenmann (2013) argue that analyzing moderators of relationship education outcomes and identifying “what works for whom” can help tailor relationship education and intervention to individual couples’ needs.

Current Study

In the current study, the MC was adapted to address many of the concerns regarding relationship education programs outlined above. The original MC format was already brief and targeted toward motivational and emotional components of the relational system, while simultaneously allowing for the incorporation of brief skill training when deemed necessary for the couple. However, its previous trials were conducted within university laboratory, private practice, and integrated primary care settings, which most likely presented access barriers to a wider range of couples who have difficulty accessing reliable transportation and child care. To address these access problems, we modified the Checkup so it could be delivered as a home visitation program.

The main purpose of this implementation study was to discover how effectively the program could be disseminated to the community and whether the intervention changed the targeted outcomes. Thus, based upon previous findings, we had three major hypotheses:

Hypothesis 1: The Relationship Checkup will be evaluated positively by the participants.

Hypothesis 2a: The Relationship Checkup will have a small but positive and significant effect on relationship outcomes (satisfaction, communication, and intimacy), and a significant negative effect on aggression from baseline assessment to 1-month follow-up assessment.

Hypothesis 2b: The Relationship Checkup will have a small and curvilinear effect on relationship satisfaction from baseline assessment to 6-month follow-up assessment. This curvilinear effect was expected based on previous research on this brief intervention (Cordova et al., 2014).

Hypothesis 3: Ethnicity/minority status, income level, marital status, and relationship distress at baseline will moderate relationship outcomes.

METHOD

Participants

Participants for the Relationship Checkup were recruited through flyers, community partners, community events, social media presence, and friend/family referrals. Flyers and brochures asked if individuals were in committed relationships and advertised a brief checkup to help couples improve their relationships. Individuals interested in learning more about the Relationship Checkup called or emailed the program’s office and were screened to ensure their understanding of and qualification for participation. Couples were informed that they could earn up to \$150 for participation in this project. Couples were included in the study if they were cohabitating, in a committed relationship, over age 18, and not experiencing extreme emotional/physical safety concerns (these couples were referred to a local family justice center).

All enrolled participants ($N = 1,312$) completed a baseline questionnaire packet prior to the assessment; of that number, 89% completed assessment and feedback but only 65% returned the 1-month follow-up and 60% returned the 6-month follow-up; so, overall, most couples completed intervention but were less likely to send follow-up evaluations back. This

overall drop-out rate is on the high end, but is consistent with attrition rates reported in other relationship education programs, which ranged from 35% to 15% (see Petch, Halford, Creedy, & Gamble, 2012). Furthermore, whereas the drop-out rate for the entire study sample was low for 1-month and 6-month follow-ups, we reported outcome effect sizes and drop-out rates across seven 6-month reporting periods as part of our granting agency requirements. This low drop-out rate is primarily due to drop-out problems in the first part of the study. Our drop-out rates for both 1-month and 6-month follow-ups after the first three reporting periods were all above 75%; the change is most likely because we increased our incentives, shortened our survey packets, had our facilitators make reminder calls, and hired a staff member specifically to monitor follow-up. We calculated effect sizes separately for each of these reporting periods and they remained consistent across all periods, even in the earlier periods with higher drop-out.

When presenting at baseline, 59% of couples were married and 41% were cohabitating; 58% had at least one child under the age 18 living in the home. Racially, 80% of participants identified as White, with 15% identifying as Black and <5% identifying as either Pacific Islander, Native American, or Asian; in terms of ethnicity, 8% identified as being Hispanic. This appears to appropriately reflect the Appalachian region where participants were sampled (the county 2010 census indicates that the population was 86% White/Caucasian, 2% Latino/a, 9% African American). Participants age 25–34 made up the largest age group (36%), followed by 35–44 (36%), 45–54 (16%), 18–24 (13%), and 55 and older (8%). When accounting for the number of children living in the home, 27% of couples lived at or under the poverty line.

For women, 30% worked full-time, 28% were unemployed, 18% worked part-time, 13% were disabled, 8% were students, and 2% were retired. Also for women, reporting highest level of education, 49% had a high school diploma/GED or less and, for those reporting income, 66% made less than \$20,000 annually. For men, 53% reported working full-time, 17% were unemployed, 12% worked part-time, 12% were disabled, 2% were a student, and 3% were retired. Also for men, reporting highest level of education, 53% had a high school diploma/GED or less and, for those reporting income, 50% made less than \$20,000 annually.

Measures

Relationship quality measures

Descriptive information of all measures are presented in Table 1. *Relationship satisfaction* was assessed by the Couples Satisfaction Index (CSI; Funk & Rogge, 2007), a 16-item questionnaire with higher scores indicating higher relationship satisfaction. In the current study, CSI demonstrated good internal consistency (baseline $\alpha = .97$; 1-month follow-up $\alpha = .97$; 6-month follow-up $\alpha = .97$). *Communication patterns* were measured through the short-form self-report Communications Patterns Questionnaire (CPQ; Heavey, Larson, Zumtobel, & Christensen, 1996), an 11-item questionnaire in which items were recoded so that higher scores indicated more constructive communication overall with good reliability and validity (Heavey et al., 1996). In the current study, CPQ-SF demonstrated good internal consistency (baseline $\alpha = .83$; 1-month follow-up $\alpha = .84$). *Couple intimacy* was measured by the Intimate Safety Questionnaire (ISQ; Cordova & Scott, 2001), a 28-item measure of how safe an individual feels being their authentic self with their partner. The original ISQ was shortened for the purposes of the current study, retaining 10 items from the original questionnaire (ISQ-SF). Example items of this include, “When I need to cry I go to my partner.” and “When things aren’t going well for me, it is comforting to talk to my partner.” Higher scores indicate higher couple intimacy and the measure demonstrated good internal consistency (baseline: $\alpha = .89$; 1-month follow-up: $\alpha = .86$). The ISQ was shortened primarily to reduce participant burden. When conducting a factor analysis on the full

TABLE 1
Distribution of Relationship Health Measures

	Mean (SD)		Median	
	Women	Men	Women	Men
Relationship Satisfaction Baseline	56.70 (18.81)	59.99 (16.30)	61.00	63.00
Relationship Satisfaction 1-month	63.21 (17.23)	64.79 (14.81)	69.00	68.13
Relationship Satisfaction 6-month	62.46 (19.07)	65.60 (13.81)	67.00	68.00
Constructive Communication Baseline	53.51 (17.14)	56.16 (17.02)	52.00	54.00
Constructive Communication Baseline	61.57 (16.94)	61.52 (16.48)	61.00	61.5
Couple Intimacy Baseline	2.81 (0.86)	2.86 (0.76)	3.00	3.00
Couple Intimacy 1-month	3.08 (0.76)	3.01 (0.71)	3.28	3.14
Relational Aggression Skills Baseline	26.99 (9.74)	24.84 (8.98)	26.00	24.00
Relational Aggression Skills 1-month	23.45 (9.08)	22.98 (9.40)	22.00	22

version of the ISQ, four distinct factors were identified: (1) Safety Being Vulnerable, (2) Sexual Intimacy, (3) Social Empathy, (4) Safety Disagreeing. Only items from the “Safety Being Vulnerable” factor were retained as those items were most central to the current understanding of intimate safety and intimacy (see Cordova & Scott, 2001, for more information). *Conflict tactic skills* were measured through the self-report questionnaire, Conflict Tactics Scale (CTS; Straus, 1979). Items were coded (specifically the verbal reasoning subscale) so that higher scores indicated poorer conflict tactic skills. The two response options for each item (“How often has this happened” [0 = *never* to 5 = *more than once a month*] & “Has this ever happened” [0 = *no*, 1 = *yes*]) were summed to create an index score for relational aggression. In this study, the CTS demonstrated acceptable internal consistency (baseline: $\alpha = .80$; 1-month follow-up: $\alpha = .75$).

Control/context variables

We included multiple control variables in our analyses that were linked to patterns of participant attrition. Control variables also doubled as moderation variables. *Relationship distress* was computed from the clinical cutoff of the CSI scale (0 = *non-distressed* [CSI > 51.5]; 1 = *distressed* [CSI ≤ 51.5]). *Parenting status* was computed by the self-reported number of children younger than 18 living in the home (0 = *no children*; 1 = *1 or more child*). *Marital status* was a self-reported relationships status (0 = *married*, 1 = *cohabitating*). *Race/Ethnic Minority* was coded from self-reported race or ethnicity (0 = *White/Caucasian*, 1 = *African American, Latino/a, Asian, other*). *Poverty* was computed based on the total household income (sum of the two individual partners’ self-reported income), the number of individuals (children and both romantic partners) that income supports, and the 2016 poverty threshold (0 = *above the poverty line*, 1 = *at/below the poverty line*). *Gender* was self-reported as 0 = *man* or 1 = *woman*.

Procedures

Recruitment

Prior to being enrolled in the study, we screened participants separately from their partner to assess for extreme emotional or physical safety concerns using a 1 (“Very safe”) to 5 (“Very unsafe”) scale (e.g., How physically safe do you feel with your partner? How emotionally safe do you feel with your partner?). Participants who measured their safety as less than a 3 (“Somewhat safe”) or indicated physical aggression were not enrolled and were referred to appropriate community resources. Once enrolled, we mailed couples baseline surveys and informed consents to be filled out separately before the first meeting with

a facilitator. Couples then received the assessment and feedback (about a week later) sessions of the intervention.

The participants completed a program evaluation survey immediately after the feedback session, and then received a follow-up packet in the mail (with the same measures contained in the baseline packet) 1 month after the intervention. They were also asked to complete a follow-up packet which included the CSI and program evaluation survey again at 6 months. These follow-up periods were chosen to approximate the first MC study (Cordova et al., 2014). Couples were initially paid \$10 for each packet, but this incentive was raised to \$50 for each packet one year into the study.

Training

All facilitators were given the treatment manual and were asked to memorize the material. Our program manager then tested them on their knowledge of the material and for their comprehensive understanding. Dr. Cordova also conducted an intensive 2-day training on this treatment for our facilitators and conducted annual follow-up trainings. They additionally accompanied and observed senior facilitators as they delivered the intervention. Next, facilitators delivered the intervention to a mock couple (e.g., members of the study team) and then with a real volunteer couple; these sessions were videotaped and observed by the first author or a senior facilitator on the project. Once they delivered these practice interventions successfully, they were allowed to deliver the intervention by themselves and were recorded for supervision purposes if the participant agreed to the recording. They then received supervision on these tapes via weekly meetings with the PI, Dr. Cordova (who Skyped in), and the other facilitators.

Intervention

As described above, participants received an Assessment and Feedback Session with a trained Relationship Checkup Facilitator. Each session lasted approximately 90 minutes. The couple was able to choose the setting of their checkup (either in their own home, the University of Tennessee, or a local community agency).

The assessment session was comprised of three key sections: relationship history, strengths, and concerns. In order to elicit compassionate understanding, the facilitator employed one of several therapeutic techniques, including (1) uncovering the soft emotions underlying expressions of anger and other hard emotions, (2) exploring understandable reasons for each partner's negative behavior, and (3) helping partners identify the relational patterns that contribute to their "mutual trap." In the feedback session, the facilitator reviewed the information from the assessment session and then presented the couple with a variety of research-driven suggestions addressing their concerns. Finally, they worked together to develop an action plan for how they could continue to take active care of their relationship health (see Cordova et al., 2014, for more in-depth explanation of sessions). Additionally, in the Relationship Checkup version of the intervention, the couple also received a list of community resources and recommendations that were tailored to their specific needs (e.g., communication skills groups, workforce development opportunities, mental health and medical referrals). As much as possible, the study team worked to have specific and personalized contacts at area agencies to help facilitate referrals, who would reach out to the couple if necessary.

Analytic Strategy

Hypothesis 1

The Relationship Checkup will be evaluated positively by the participants. We examined the average evaluation score for all participants and proportion of participants' responses.

Hypothesis 2a

The Relationship Checkup will have a small but positive and significant effect on relationship outcomes (satisfaction, communication, and intimacy), and a significant negative effect on aggression from baseline assessment to 1-month follow-up assessment. We examined change from baseline to 1-month for relationship quality measures: relationship satisfaction, constructive communication, emotional intimacy, and relational aggression. We used a series of three-level multi-level model analyses (MLM; Miller & Rollnick, 2002) in Mplus 7 (Muthén & Muthén, 1998–2013). In the first level, the relationship quality variable of interest was regressed onto a categorical measure of ‘time’ (0 = *baseline*, 1 = *1-month follow-up*); in the second level we included the individual-level control variables; in the third level we included the couple-level control variables. The non-independence of the repeated measures was controlled for in the second level and the interdependence of romantic partners was controlled for in the third level with randomly varying intercept terms (see Kenny, Kashy, & Cook, 2006). Because many of the outcome variables are non-normally distributed (see Table 1), Maximum Likelihood Robust (MLR) estimator was used in Mplus to reduce estimation bias due to non-normal distribution of error terms. We reported the effect sizes (Cohen’s *d*) for change with dependent observations for each (Borenstein, 2009). We used Cohen’s (1988) guides for determining small (<.20), medium (<.50), and large (<.80) effects. Also, to determine clinical significance, we used Jacobson-Truax’s Reliability Change Index (RCI; Speer, 1992, <http://www.uccs.edu/lbecker/clinsig.html>) for average change, which posits that if the absolute value of the RCI is greater than 1.96, then meaningful change occurred.

Hypothesis 2b

The Relationship Checkup will have a small and curvilinear effect on relationship satisfaction from baseline assessment to 6-month follow-up assessment. We examined change in relationship satisfaction from baseline to 6-month follow-up, which was expected to accelerate then decelerate over time based on previous research on this brief intervention (Cordova et al., 2014). We estimated a 3-level MLM with fixed linear and quadratic effects to capture nonlinearity, and a random linear slope at the couple level. We also included the noted control variables and calculated effect size (Cohen’s *d*) across the three time-points for the linear and quadratic parameter.

Hypothesis 3

Ethnicity/minority status, income level, marital status, and relationship distress at baseline will moderate relationship outcomes. We examined interaction effects for each of the context variables of interest (i.e., distressed, poverty, minority status, gender, marital status) in a series of three-level MLM (described above; Little et al., 2010). In the first level, the relationship quality variable of interest was regressed onto ‘time’ (0 = *baseline*, 1 = *1-month follow-up*) and the interaction term. The control variables were included on the appropriate level of each model. For the interactions, appropriate variables were centered prior to analyses and interaction terms were created (Kenny et al., 2006; Little et al., 2010). For Hypothesis 3, we used alpha correction for multiple comparison and set the alpha-level to .01. For any statistically significant interactions we used simple slopes analyses to determine which level of the tested variable changed significantly (Aiken & West, 1991) and Cohen’s *d* for each level of the context variable was calculated.

There were three opportunities for drop-out: feedback session (10.1%), 1-month follow-up assessment (34.7%), and 6-month follow-up assessment (40.2%). The majority of our participants persisted through the intervention (89.9%), however fewer persisted through the feedback surveys. We conducted a series of chi-square analyses to determine which

dichotomous context variables were linked to participants' persist or drop-out. Significant context variables were included as control variables in all of the statistical models testing the study Hypothesis 2a, 2b, and 3. These missing data due to drop-out were handled within Mplus using full information maximum likelihood (FIML; Muthén & Muthén, 1998–2013). FIML assumes that data are missing at random which means patterns of missing data are associated with specific variables. By including identified variables in the statistical model, FIML reduces the biased parameter bias estimate that results from participant drop-out.

RESULTS

In the preliminary analyses, we identified which context variables were associated with drop-out at each stage of the intervention and data collection (see Table 2); context variables which were significantly related to drop-out were included in subsequent analyses as control variables to inform FIML and reduce biased parameter estimation. Results indicate that a higher drop-out rate at one or more time points was linked to a couple (1) being clinically distressed, (2) living at or below the poverty line, (3) being a racial or ethnic minority, (4) living in a cohabiting relationship, (5) being a parent. Gender was not linked to drop-out across any of the time points. We also examined correlations among these context variables (Table 3).

Hypothesis 1

The Relationship Checkup will be evaluated positively by the participants. We examined the average evaluation score for all participants and proportion of participants' responses. We examined the evaluation scores participants provided at the end of the

TABLE 2

Chi-Square Results for Participant Context Variables and Drop-Out Rates for Participants in the Relationship Checkup

	Feedback drop-out (%)	χ^2 (df)	1-Month drop-out (%)	χ^2 (df)	6-Month drop-out (%)	χ^2 (df)
All Participants	10.1	–	34.8	–	40.3	–
Non- Distressed Couple	8.5	9.16 (1)**	30.9	15.82 (1)**	36.6	15.49 (1)**
Distressed Couple	14.2		42.5		48.5	
At/Below Poverty	14.7	12.12 (1)**	35.2	0.28 (1)	42.2	1.85 (1)
Above Poverty	8.1		33.6		38.0	
Race/Ethnic Minority	13.7	6.32 (1)*	42.7	11.95 (1)**	48.2	11.21 (1)**
Race/Ethnic Majority	8.9		32.2		37.7	
Men	10.5	0.25 (1)	35.6	0.39 (1)	41.2	0.44 (1)
Women	9.7		34.0		39.4	
Cohabiting	15.1	24.58 (1)**	36.2	0.77 (1)	45.9	11.62 (1)**
Married	6.6		33.9		36.5	
0 Children	11.9	3.26 (1)	30.3	8.53 (1)**	40.9	0.20 (1)
1 + Children	8.9		38.1		39.7	

Note. ** $p < .001$; * $p < .05$.

TABLE 3
Correlations Among Context Variables

	Clinical distress	Poverty	Race/ethnic minority	Gender	Marital status	Parenting status
Clinical Distress	–					
Poverty	–.04*	–				
Race/Ethnic Minority	–.02	–.13**	–			
Gender	.07**	.00	.06**	–		
Marital Status	.05*	–.30**	.12**	–.02	–	
Parenting Status	.04*	.005	–.06**	–.008	.11**	–

Note. ** $p < .001$, * $p < .05$.

feedback session and at the 6-month follow-up. For the most part, these scores were very positive at feedback ($M = 4.29$, $SD = 0.42$, possible range 1–5) though this score was lower at the 6-month follow-up ($M = 3.85$, $SD = 1.08$, possible range 1–5). When looking at the individual questions, 98% of participants at feedback reported being highly satisfied with the program and 91% at 6-month follow-up; 95% at feedback agreed that the program helped them learn strategies to improve their relationship and 82% at 6-month follow-up; 94% at feedback agreed that the program helped them understand their relationship strengths and 86% at 6-month follow-up; and 95% at feedback agreed that the program helped them to understand their relationship concerns and 84% at 6-month follow-up. The vast majority of participants at feedback (98%) said they would recommend this program to others (93% at 6-month follow-up).

Hypothesis 2a

The Relationship Checkup will have a small but positive and significant effect on relationship outcomes (satisfaction, communication, and intimacy), and a significant negative effect on aggression from baseline assessment to 1-month follow-up assessment. We examined how change from baseline to 1-month follow-up occurred for the relationship outcomes of interest: relationship satisfaction, constructive communication, emotional intimacy, and relational aggression. In order to provide the most unbiased estimate of treatment impact, all context variables related to drop-out at feedback and 1-month follow-up were included in the models regardless of their relationship to outcome (i.e., poverty, marital status, parenting status, minority status, relationship distress). Each of the relationship quality variables changed in an expected direction. Relationship satisfaction increased ($\chi^2(6) = 741.04$, $p < .001$), constructive communication increased ($\chi^2(6) = 334.69$, $p < .001$); emotional intimacy increased ($\chi^2(6) = 435.13$, $p < .001$), and relational aggression decreased ($\chi^2(6) = 112.09$, $p < .001$). Except for emotional intimacy, RCI scores were above 1.96 indicating that change in these measures occurred at a greater rate than what would have been expected without an intervention.

We also examined the percentage change in level of clinical distress (CSI < 51.5, Funk & Rogge, 2007) from baseline to 1-month follow-up. At baseline 31.5% of participants were clinically distressed (27.1% of the participants who completed 1-month follow-up were clinically distressed); after the intervention (1-month follow-up) 18.8% of participants were coded as clinically distressed. This change was statistically significant: $X^2(1) = 2123.48$, $p < .001$. Forty six percent of participants who were clinically distressed at baseline (and completed 1-month follow-up assessment) moved into the non-distressed range

at 1-month follow-up. In other words, almost half of participants who reported being clinically distressed at baseline were no longer clinically distressed at the 1-month follow-up after the intervention.

Hypothesis 2b

The Relationship Checkup will have a small and curvilinear effect on relationship satisfaction from baseline assessment to 6-month follow-up assessment. We examined a quadratic model to determine change in relationship satisfaction across the three time points while controlling for marital status, parenting status, poverty, relationship distress, and minority status. The constant ($B = 43.74$, $SE = 6.87$, $p < .05$), the linear parameter ($B = 6.57$, $SE = 2.57$, $p = .01$, Cohen's $d = .10$), and the quadratic parameter ($B = -2.95$, $SE = 1.24$, $p = .02$, Cohen's $d = .09$) were all significant, which indicated that over time relationship satisfaction increased but the rate of increases decelerated during the 6-month follow-up period. This model indicates that relationship satisfaction increased from baseline to 1-month follow-up and declined from 1-month follow-up to 6-month follow-up (Figure 1).

Hypothesis 3

Ethnicity/minority status, income level, marital status, and relationship distress at baseline will moderate relationship outcomes. We examined how each context variable of interest (i.e., distressed, poverty, minority, gender, marital status) moderated change for each relationship quality variable (Table 4). First, we examined relationship satisfaction. Only relationship distress significantly moderated change (see Tables 2, 3, and 5). Simple slopes analyses revealed that significant positive change occurred for both non-distressed individuals ($B = 1.12$, $t = 2.30$, $p < 0.05$, Cohen's $d = .09$) and distressed individuals ($B = 11.68$, $t = 17.28$, $p < 0.001$; Cohen's $d = .68$), but distressed couples showed greater gains in relationship satisfaction over time as the effect size was larger.

Next, we examined how each context variable of interest moderated change in constructive communication. No context variables reached statistical significance.

For emotional intimacy, we also examined how the context variables individually moderated change from baseline to 1-month follow-up. Only relationship distress significantly moderated change. However, despite this significant moderation, simple slopes analyses for relationship distress suggested that neither non-distressed individuals ($B = 0.06$, $t = 0.12$, $p = 0.90$; Cohen's $d = .005$) nor distressed individuals ($B = .33$, $t = 0.49$, $p = .63$; Cohen's $d = .02$) changed significantly over time.

Finally, we examined how each context variable moderated change in relational aggression. Only gender significantly moderated change in relationship aggression (Tables 2, 3,



FIGURE 1. Quadratic Graph for Relationship Satisfaction Change from Baseline to 6-Month Follow-Up.

TABLE 4
Unstandardized Slopes (B) and Standard Errors (SE) for Relationship Satisfaction and the Moderation of Context Variables in a Multi-Level Model

	Relationship Satisfaction			Constructive Communications			Emotional Intimacy			Relational Aggression		
	B (SE)	χ^2 (df) ^a	R ²	B (SE)	χ^2 (df) ^a	R ²	B (SE)	χ^2 (df) ^a	R ²	B (SE)	χ^2 (df) ^a	R ²
Model 1												
Time	1.12 (.49)*	791.89 (7)**	16.1% (L1)	5.00 (.72)**	335.06 (7)**	7.5% (L1)	0.06 (.02)*	445.23 (7)**	5.4% (L1)	-2.11 (.41)**	115.79 (7)**	4.4% (L1)
Distress	-29.80 (.84)**		60.2% (L2)	-15.51 (.94)**		61.8% (L2)	-1.02 (.05)**		58.7% (L2)	4.52 (.68)**		20.8% (L2)
Time × Distress	10.56 (1.30)**		1.5% (L3)	2.66 (1.20)		0.7% (L3)	0.17 (.01)**		0.2% (L3)	-1.32 (.79)		8.6% (L3)
Model 2												
Time	3.89 (.61)**	715.51 (7)**	5.1% (L1)	5.330 (.64)**	307.89 (7)**	7.2% (L1)	0.13 (.03)**	426.38 (7)**	2.4% (L1)	-2.54 (.36)**	103.84 (7)**	4.1% (L1)
Poverty	1.13 (.78)		89.1% (L2)	-0.81 (1.30)		59.0% (L2)	-0.02 (.05)		54.9% (L2)	3.26 (.88)**		17.6% (L2)
Time × Poverty	0.68 (1.29)		1.2% (L3)	1.58 (1.58)		0.7% (L3)	0.03 (.06)		0.3% (L3)	0.20 (1.02)		8.2% (L3)
Model 3												
Time	4.76 (1.28)**	718.19 (7)**	5.1% (L1)	6.34 (1.54)**	309.08 (7)**	7.1% (L1)	0.16 (.06)*	419.18 (7)**	2.3% (L1)	-1.57 (.99)	108.22 (7)**	4.3% (L1)
Minority	0.38 (.82)		89.1% (L2)	0.94 (1.14)		58.9% (L2)	0.11 (.05)*		55.0% (L2)	0.03 (.72)		17.5% (L2)
Time × minority	-0.87 (1.37)		1.6% (L3)	-0.75 (1.66)		0.7% (L3)	-0.02 (.06)		0.2% (L3)	-1.14 (1.05)		8.6% (L3)
Model 4												
Time	3.62 (.62)**	819.02 (8)**	5.2% (L1)	4.73 (.76)**	354.28 (8)**	7.3% (L1)	0.09 (.03)*	450.80 (8)**	2.6% (L1)	-1.49 (.47)**	133.74 (8)**	4.9% (L1)
Gender	-1.76 (.45)**		89.8% (L2)	-2.00 (.69)*		59.9% (L2)	0.01 (.03)		55.1% (L2)	1.98 (.47)**		21.5% (L2)
Time × Gender	.87 (.77)		1.6% (L3)	1.91 (.87)		0.6% (L3)	0.08 (.04)		0.2% (L3)	-1.83 (.58)		8.4% (L3)
Model 5												
Time	3.55 (1.01)**	712.77 (7)**	5.1% (L1)	4.84 (1.13)**	317.28 (7)**	7.2% (L1)	0.08 (.04)*	430.08 (7)**	2.7% (L1)	-2.55 (.69)**	109.36 (7)**	4.1% (L1)
Marital Status	-0.74 (.73)		89.1% (L2)	-1.07 (1.15)		58.8% (L2)	-0.05 (.05)		54.8% (L2)	-0.75 (.73)		17.6% (L2)
Time × Marital Status	0.86 (1.16)		2.0% (L3)	1.51 (1.31)		0.9% (L3)	0.09 (.05)		0.8% (L3)	0.12 (.79)*		8.6% (L3)

Notes. ^aChi-square test of model fit for the baseline model. ***p* < .001; **p* < .01.

TABLE 5

Results From Hypothesis 2a to Examine Change From Baseline to 1-Month Follow-Up Assessment for all of the Relationship Quality Variables

	B (SE)	p value	R² level 1	R² level 2	R² level 3	Cohen's d	RCI
Relationship Satisfaction	4.06 (.54)	<.001	.054	.901	.045	.29	8.50
Constructive Communication	5.75 (.61)	<.001	.070	.589	.006	.37	19.56
Emotional Intimacy	0.14 (.05)	<.001	.023	.549	.002	.11	0.75
Relational Aggression	-2.48 (.36)	<.001	.041	.176	.085	.27	11.71

Notes. RCI = Reliability Change.

Control variables were included in each of these statistical models but not included in this table to ease interpretation.

and 5). For gender, women ($B = -3.20$, $t = -4.08$, $p < 0.001$, Cohen's $d = .16$) reported greater decreases in relational aggression than men ($B = -1.49$, $t = -3.03$, $p < 0.05$; Cohen's $d = .12$).

DISCUSSION

Overall, this study demonstrates promising results from implementing an adapted version of the MC with low-income, traditionally underserved couples. First, as proposed in Hypothesis 1, there was high overall program satisfaction and low *intervention* attrition for couples who attended the MC. Eighty-nine percent of couples completed both sessions, which is noteworthy given that the feedback session was the only step in the process that did not involve monetary incentives. We believe that this intervention successfully overcame many common intervention barriers for vulnerable groups by giving them the choice for home visitation versus the usual clinic or laboratory visit. The majority of our couples opted for the home visitation, which reduced both childcare and transportation barriers, and it provided a great deal of flexibility on timing, as meetings could occur on evenings and weekends. We think that this convenience helped many lower-income couples access our services; and the convenience, brevity, and effectiveness of the services made them more likely to complete the intervention.

Those couples who were most likely to drop-out of the intervention still tended to be among the most vulnerable and underserved groups—distressed, poor, members of a minority racial and ethnic group, not legally married, and parents. Given the inflated drop-out rate for these underserved groups, it is necessary for future research to examine additional barriers that might prevent these couples from completing interventions, such as irregular work schedules, inconsistent home environment, transient contact information (e.g., phone, address, etc.), addiction/mental health concerns, or disillusionment with services. At the same time, given that the intervention was meant to increase healthy relationships, the higher drop-out rates for distressed couples could also be interpreted more favorably as these couples may have “broken up” as a result of realizing they were in an unhealthy relationship. More research is needed to better understand the benefits and harms of participant drop-out in these types of interventions.

Given the high satisfaction with the program, it appears that the program was successful in engaging a variety of couples and providing them with enough value in the first session that they were willing to return. Anecdotally, several individuals began the assessment sessions stating that they were only engaging in the Checkup for the money;

however, by the end of the assessment, they were eager to have the facilitator return despite the fact that the feedback did not provide any financial incentive. Along these lines, many participants asked the facilitators to return to their neighborhood to deliver the intervention to friends and family members. This high satisfaction with the intervention remained relatively stable when assessed 1 month and 6 months later, and our referral rates for friends and family steadily grew over the course of the study. Clearly, this format and this adaptation of the Checkup was highly acceptable to an economically diverse community population.

Next, we sought to examine the effectiveness of the intervention. Originally, in Hypothesis 2a, we predicted that the Relationship Checkup would have a small, positive effect on a range of relationship health outcomes (e.g., satisfaction, communication, and intimacy) and a negative effect on relationship aggression at the 1-month follow-up. Consistent with this Hypothesis, controlling for variables related to drop-out, participants reported small but significant improvement across all relationship variables measured. Furthermore, as predicted in Hypothesis 2b, at the 6-month follow-up satisfaction remained at approximately the same level as it was 1 month after the intervention, suggesting that it remained relatively stable. Thus, there is some indication that the effects of this brief intervention might be enduring. However, the effect size is smaller at 6 months, which is consistent with the findings from previous studies of the MC (Cordova et al., 2014) and also supports the argument that *regular* “checkups” over time might be necessary to help couples maintain and improve relationship health. In fact, data regarding the MC indicate that as couples repeat the Checkup over time, their overall levels of satisfaction increase significantly relative to baseline, demonstrating a progressive pattern of improvement over time.

Our final Hypothesis (H3) proposed that ethnicity/minority status, income level, marital status, and relationship distress at baseline would moderate relationship outcomes. Interestingly, the program appeared to be equally effective with both Whites and other races/ethnicities, which perhaps might be due to the fact that the program could be tailored specifically to the couple, thus addressing the particular challenges that these couples are facing. However, this possibility needs to be investigated in future studies. Additionally, consistent with previous findings on moderators of relationship education programs as described above (e.g., Halford et al., 2015; Williamson et al., 2015), couples who presented with clinical levels of distress reported much larger pre-post effects from baseline to 1-month follow-up. Distressed couples reported large positive effects on relationship satisfaction compared to non-distressed couples. Together with the previous findings, these results again indicate that these programs might work best for the individuals who need it the most; although, even individuals who are not in distress experience some benefit. The only exception might be for emotional intimacy. While distress also appeared to significantly moderate emotional intimacy outcomes, the simple slopes indicated that change in emotional intimacy for both distressed or non-distressed participants was not significantly different from zero. Nevertheless, we would argue that these findings support the further development of secondary interventions for couples who do not self-identify as needing therapy, but who are experiencing significant relationship problems. These couples might benefit most from targeted interventions to address areas of concern in their relationships before they become intractable and irreconcilable.

Although we did not make a priori hypotheses for gender in the present investigation, we found it was also a moderator for change over time; however, the effects depended upon the outcome examined. In particular, women’s relational aggression decreased more over time. The better outcomes for women in this study might be due to less emphasis on skills, which has been hypothesized to inadvertently encourage women to edit their concerns. Instead, this program focused more on helping both partners increase their insight into

their relationship patterns in a format that allowed them to have a face-to-face relationship with a facilitator and did not resemble a classroom setting. These modifications might allow partners to explore their relationship on a deeper, personalized level. Finally, in contrast to meta-analytic findings (Hawkins & Fackrell, 2010), poverty was not a consistent moderator of effects, which is an encouraging finding. Despite the numerous stressors that economically disadvantaged couples encounter, they reaped equal benefit from this intervention.

Although significant and positive, the effect sizes for the current sample are smaller than the effect sizes reported in the original MC report (Cordova et al., 2014); however, the couples treated in this study are more heterogeneous in terms of income, education, and race/ethnicity than in the original study, and effect sizes tend to be lower in one-group/prepost studies (Hawkins & Erickson, 2015). Further, these effect sizes are lower than those found in longer relationship interventions reported in a meta-analysis of other one-group/prepost relationship education programs with lower-income couples, in which the overall Cohen's d for satisfaction is .35 (Hawkins & Erickson, 2015); however, the majority of the programs reviewed in this study are double to triple the dosage in terms of length, which can impact effect size (Hawkins, Blanchard, Baldwin, & Fawcett, 2008). Additionally, overall effect sizes for large-scale, non-university based relationship education programs tend to be small regardless of rigor or dosage, as evidenced in the Building Strong Families (BSF) and Healthy Marriage Initiative projects (e.g., Johnson, 2012; Wood, McConnell, Moore, Clarkwest, & Hsueh, 2012). As to why effect sizes are typically small among prevention programs in general, some researchers posit that prevention/relationship education programs are able to reach a large percentage of non-distressed couples who may be less likely to use tools learned in these interventions and also report more satisfaction at baseline, which creates a ceiling effect in assessing change over time (Doss et al., 2016; Quirk, Strokoff, Owen, France, & Bergen, 2014). Thus, specifically targeting moderately distressed couples in future research may aid in improving overall effect sizes as these couples might be more motivated to apply the skills learned and have greater opportunity to evince change in relationship satisfaction. Consistent with this suggestion and with previous research (Halford et al., 2015; Hawkins & Erickson, 2015; Quirk et al., 2014), in the present study distressed couples evidenced the greatest treatment gains, whereas non-distressed couples reported small effects. However, although the effects for non-distressed couples overall were small, even small reductions in negativity can have substantial long-term impacts on couple functioning (Rauer, Williams, & Jensen, 2015).

The fact that this study was able to achieve significant positive and clinically reliable effects across a number of relationship health outcomes in two sessions with a large range of distress, income, education, and presenting problems is noteworthy. These findings might be even more surprising given that all couples, even those with more severe individual psychopathology (e.g., substance abuse disorders; Axis II disorders), were accepted into the program. Furthermore, one of the most encouraging aspects of this intervention is that it had a small but significant effect on relational aggression, which is not a common finding in *brief* relationship intervention research, but is consistent with similar promising results from a computerized relationship education (Braithwaite & Fincham, 2014). Additional replication is needed to establish these effects and determine potential mechanisms of change for these positive outcomes. One potential mechanism worth following might be the intervention's focus on increasing insight into relational patterns and emotional acceptance. Furthermore, the tailored nature of the intervention also might have increased its effectiveness with aggressive couples, allowing the facilitators to take more time both developing an alliance with difficult individuals and creating a more nuanced understanding of the particular vulnerabilities that underpin their recurring conflicts. In addition, when appropriate, the facilitators had the option to provide information about

time-out techniques, speaker-listener skills, and referrals to longer-term therapies in the feedback session. Thus, the couple could develop greater couple-specific insight and empathy with each other during the assessment session and could gain exposure to communication skills if needed during this brief intervention. This study also provided consistent, ongoing supervision and case consultation throughout the entire length of the study. It is possible that providing these regular meetings between supervisors and peers helped the intervention maintain its potency in comparison to “train and release” styles of delivery.

Limitations

The most obvious limitation is the lack of a control group, which was precluded by the nature of the funding mechanism as it was an implementation grant and specifically prohibited random assignment to waitlists or other control groups. This program would benefit from a replication that included a comparison condition to more clearly define its effectiveness with this particular kind of community population; however, most studies of waitlist controls indicate that individuals presenting for interventions do not tend to spontaneously improve, particularly if they are experiencing distress (Baucom, Hahlweg, Atkins, Engl, & Thurmaier, 2006).

Another limitation is the substantial drop-out from the study’s research component in the first year. Although few individuals dropped out from the two-session *intervention*, in the first year almost 50% of the couples did not complete the follow-up surveys. However, the program’s drop-out rate improved substantially over time as the study team learned better strategies to reach and retain transient and stressed participants; in the final reporting period, the drop-out rate was 83% for 1-month and 79% for 6-month follow-up. Yet another limitation was that the data were primarily self-report survey data and thus it was not possible to fully assess whether communication and other behaviors actually changed as a result of the intervention. However, the fact that couples were reporting a significant reduction in aggressive behaviors on the CTS is encouraging. Additionally, given that outcome measures were printed materials, literacy also could have been an issue in data collection, and potentially with drop-out rates. Long measures are particularly burdensome to individuals who are not comfortable with the written word. We would suggest future studies look into using other technologies to collect data. Finally, while we were able to reach individuals with a range of income and education, we still had relatively low levels of minority participation compared with national numbers; however, when compared to local census data, minority participation was higher than would be expected for this area of the country.

Implications and conclusions

Overall, results of this study indicate that this version of the MC, the Relationship Checkup, was successful in improving low-income, traditionally underserved couples’ relationships, particularly with couples who scored in the clinically distressed range at baseline. The effects were generally small, but were notably larger when examined in more relationally distressed populations. The Checkup was adapted for this study to apply to cohabitating couples and to be delivered via home visitation if the couples so desired. When these outcomes are added to previous findings (e.g., Cordova et al., 2014), the pattern suggests that the Checkup is a potentially innovative and effective addition to the relationship health canon, although the pattern of drop-out suggests that additional modifications might be needed.

There are several potential benefits to the Checkup. First, it can be tailored to each couple, which allows the facilitator to “get underneath” recurring conflicts in an individualized fashion and use the couples’ own experiences, idioms, and terms to understand their

particular behavioral choices in their interactions. Furthermore, many couples reported in qualitative sections of the assessment that the opportunity to celebrate their strengths and revisit their early relationship history was a positive experience that served to reaffirm their original connection and strengthen their bond. Additionally, they were given the opportunity to listen in as each partner described their strengths and also were interviewed about concerns, which allowed them to hear information that they normally did not fully hear when engaged in more emotional discussions on their own. It is highly likely that this experience increased their sense of empathy for each other and acceptance of their differences. Recent results from the original MC indicated that changes in acceptance is a potential explanatory factor for the intervention's successful outcomes (Hawri- lenko et al., 2015). Along these lines, it has been suggested that the prevalent emphasis on communication skills might be less effective than previously thought and reviews have called for the development of relationship education programs that are less skills-based (Bradbury & Lavner, 2012; Owen et al., 2013). The Relationship Checkup might be a good intervention to answer that call, given that its focus is primarily on changing the couples' emotional acceptance of each other and developing insight into their recurring conflicts.

The Checkup has a motivational component that empowers couples to make their own changes. Anecdotally, it was striking how many couples made changes before the feedback session, even before the facilitators provided them with a menu of suggested behaviors to try. The new information gained from the assessment and perhaps the increase in empathy and understanding seems to activate many couples' own natural processes of change and adaptation. It is possible that the majority of the impact is in the assessment session; additional examination is needed to assess this possibility and, if it is supported, the necessary intervention time could be reduced or the feedback session could be used for other material.

Public health statement

Finally, the home visitation delivery format for this version of the Checkup is potentially effective for delivering a relationship intervention to economically challenged populations, which could have significant public health implications given the importance of family stability for a number of mental and physical health outcomes (e.g., Blackwell, 2010). This individualized format is admittedly more costly than groups but it could also be potentially more effective in reaching highly economically challenged populations. First, its brevity helps reduce time burden on couples and may have contributed to its high completion rate. Second, the home delivery format has potential to overcome transportation obstacles and child care issues, both of which are potential barriers for lower income couples in receiving assistance (Halford, 2004; Hawkins & Erickson, 2015). We are not the first program to recognize these benefits. The Nurse-Family Partnership and Parents and Children Together are examples of highly effective parenting programs that are delivered in a home visitation format (e.g., Olds, 2006). These programs are a national model of how to intervene with a challenged population and make a positive impact. Given the huge implications of family instability, conflict, and divorce, and the encouraging findings from this study, we suggest that public policymakers consider the potential benefit of adding relationship education to these existing home visitation programs. The findings reported here suggest that the Relationship Checkup might be a potential and viable starting point for these efforts, particularly for high-risk couples experiencing distress.

REFERENCES

- Adler-Baeder, F., Bradford, A., Skuban, E., Lucier-Greer, M., Ketring, S., & Smith, T. (2010). Demographic predictors of relationship and marriage education participants' pre- and post-program relational and individual

- functioning. *Journal of Couple & Relationship Therapy*, 9(2), 113–132. <https://doi.org/10.1080/15332691003694885>.
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Baucom, D. H., Hahlweg, K., Atkins, D. C., Engl, J., & Thurmaier, F. (2006). Long-term prediction of marital quality following a relationship education program: Being positive in a constructive way. *Journal of Family Psychology*, 20(3), 448. <https://doi.org/10.1037/0893-3200.20.3.448>.
- Blackwell, D. L. (2010). Family structure and children's health in the United States: Findings from the National Health Interview Survey, 2001–2007. *Vital and Health Statistics*, 10(246).
- Borenstein, M., Hedges, L. V., Higgins, J. P. T., & Rothstein, H. R. (2009). *Introduction to Meta-Analysis*. John Wiley & Sons, Ltd. doi: 10.1002/9780470743386
- Bradbury, T. N., & Lavner, J. A. (2012). How can we improve preventive and educational interventions for intimate relationships? *Behavior Therapy*, 43, 113–122. <https://doi.org/10.1016/j.beth.2011.02.008>.
- Braithwaite, S. R., & Fincham, F. D. (2014). Computer-based prevention of intimate partner violence in marriage. *Behaviour Research and Therapy*, 54, 12–21. <https://doi.org/10.1016/j.brat.2013.12.006>
- Busby, D. M., Larson, J. H., Holman, T. B., & Halford, W. K. (2015). Flexible delivery approaches to couple relationship education: Predictors of initial engagement and retention of couples. *Child and Family Studies*, 24, 3018–3029. <https://doi.org/10.1007/s10826-014-0105-3>.
- Cobb, R. J., & Sullivan, K. T. (2015). Relationship education and marital satisfaction in newlywed couples: A propensity score analysis. *Journal of Family Psychology*, 29, 667. <https://doi.org/10.1037/a0039580>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.
- Cordova, J. V., Eubanks Fleming, C. J., Ippolito Morrill, M., Hawrilenko, M., Sollenberger, J. W., Harp, A. G. et al. (2014). The Marriage Checkup: A randomized controlled trial of annual relationship health checkups. *Journal of Consulting and Clinical Psychology*, 82(4), 592–604. <https://doi.org/10.1037/a0037097>.
- Cordova, J. V., & Scott, R. (2001). Intimacy: A behavioral interpretation. *The Behavior Analyst*, 24, 75–86. <https://doi.org/10.1007/BF03392020>
- Cordova, J. V., Scott, R. L., Dorian, M., Mirgain, S., Yaeger, D., & Groot, A. (2005). The Marriage Checkup: An indicated preventive intervention for treatment-avoidant couples at risk for marital deterioration. *Behavior Therapy*, 36(4), 301–309. [https://doi.org/10.1016/S0005-7894\(05\)80112-1](https://doi.org/10.1016/S0005-7894(05)80112-1).
- Cowan, P. A., & Cowan, C. P. (2014). Controversies in couple relationship education (CRE): Overlooked evidence and implications for research and policy. *Psychology Public Policy and Law*, 20(4), 361–383. <https://doi.org/10.1037/law0000025>.
- Doss, B. D., Cicila, L. N., Georgia, E. J., Roddy, M. K., Nowlan, K. M., Benson, L. A. et al. (2016). A randomized controlled trial of the web-based OurRelationship program: Effects on relationship and individual functioning. *Journal of Consulting and Clinical Psychology*, 84(4), 285–296. <https://doi.org/10.1037/ccp0000063>
- Funk, J. L., & Rogge, R. D. (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. <https://doi.org/10.1037/0893-3200.21.4.572>.
- Halford, W. K. (2004). The future of relationship education: Suggestions on how it can make a difference. *Family Relations*, 53, 559–566. <https://doi.org/10.1111/j.01976664.2004.00065.x>.
- Halford, W. K., & Bodenmann, G. (2013). Effects of relationship education on maintenance of couple relationship satisfaction. *Clinical Psychology Review*, 33(4), 512–525. <https://doi.org/10.1016/j.cpr.2013.02.001>.
- Halford, W. K., Pepping, C. A., Hilpert, P., Bodenmann, G., Wilson, K. L., Busby, D. et al. (2015). Immediate effect of couple relationship education on low-satisfaction couples: A randomized clinical trial plus an uncontrolled trial replication. *Behavior therapy*, 46(3), 409–421. <https://doi.org/10.1016/j.beth.2015.02.001>
- Hawkins, A., & Fackrell, T. (2010). Does relationship and marriage education for lower-income couples work? A meta-analytic study of emerging research. *Journal of Couple and Relationship Therapy*, 9(2), 181–191. <https://doi.org/10.1080/15332691003694927>.
- Hawkins, A. J. (2014). Continuing the important debate on government-supported healthy marriages and relationships initiatives: A brief response to Johnson's (2014) comment. *Family Relations*, 63, 305–308. <https://doi.org/10.1111/fare.12059>.
- Hawkins, A. J., Blanchard, V. L., Baldwin, S. A., & Fawcett, E. B. (2008). Does marriage and relationship education work? A meta-analytic study. *Journal of Consulting and Clinical Psychology*, 76(5), 723–734. <https://doi.org/10.1037/a0012584>.
- Hawkins, A. J., & Erickson, S. E. (2015). Is couple and relationship education effective for lower income participants? A meta-analytic study. *Journal of Family Psychology*, 29, 59. <https://doi.org/10.1037/fam0000045>
- Hawrilenko, M., Gray, T. D., & Cordova, J. V. (2015). The heart of change: Acceptance and intimacy mediate treatment response in a brief couples intervention. *Journal of Family Psychology*, 1–11. <https://doi.org/10.1037/fam0000160>.

- Heavey, C. L., Larson, B. M., Zumtobel, D. C., & Christensen, A. (1996). The Communication Patterns Questionnaire: The reliability and validity of a constructive communication subscale. *Journal of Marriage and the Family*, 58, 796–800. <https://doi.org/10.2307/353737>.
- Jacobson, N. S., & Christensen, A. (1996). *Acceptance and change in couple therapy: A therapist's guide to transforming relationships*. New York: Norton.
- Johnson, M. D. (2012). Healthy marriage initiatives: On the need for empiricism in policy implementation. *American Psychologist*, 67(4), 296–308. <https://doi.org/10.1037/a0027743>.
- Kennedy, S., & Ruggles, S. (2014). Breaking up is hard to count: The rise of divorce in the United States, 1980–2010. *Demography*, 51, 587–598. <https://doi.org/10.1007/s13524-013-0270-9>.
- Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic data analysis*. New York: Cambridge University Press.
- Little, G., Chilton, L. B., Goldman, M., & Miller, R. C. (2010). TurKit: Human computation algorithms on Mechanical Turk. In *Proceedings of the 23rd Annual ACM Symposium on User Interface Software and Technology (UIST '10)* (pp. 57–66). New York, NY: ACM. DOI: <http://dx.doi.org/10.1145/1866029.1866040>
- Markman, H. J., & Rhoades, G. K. (2012). Relationship education research: Current status and future directions. *Journal of Marital and Family Therapy*, 38, 169–200. <https://doi.org/10.1111/j.1752-0606.2011.00247.x>
- Miller, W. R., & Rollnick, S. (2002). *Motivational interviewing: Preparing people for change* (2nd ed.). New York: Guilford Press.
- Morrill, M. I., Fleming, C. E., Harp, A. G., Sollenberger, J. W., Darling, E. V., & Cordova, J. V. (2011). The Marriage Checkup: Increasing access to marital health care. *Family Process*, 50, 471–485. <https://doi.org/10.1111/j.1545-5300.2011.01372.x>.
- Muthén, L. K., & Muthén, B. O. (1998-2013). *Mplus user's guide* (7th ed.). Los Angeles, CA: Muthén & Muthén.
- Olds, D. L. (2006). The nurse–family partnership: An evidence-based preventive intervention. *Infant Mental Health Journal*, 27, 5–25. <https://doi.org/10.1002/imhj.20077>.
- Owen, K., Manthos, M., & Quirk, K. (2013). Dismantling study of prevention and relationship education program: The effects of a structured communication intervention. *Journal of Family Psychology*, 27, 336. <https://doi.org/10.1037/a0031597>.
- Petch, J., Halford, W. K., Creedy, D. K., & Gamble, J. (2012). Couple relationship education at the transition to parenthood: A window of opportunity to reach high-risk couples. *Family Process*, 51(4), 498–511. <https://doi.org/10.1111/j.1545-5300.2012.01420.x>.
- Quirk, K., Strokoff, J., Owen, J. J., France, T., & Bergen, C. (2014). Relationship education in community settings: Effectiveness with distressed and non-distressed low-income racial minority couples. *Journal of Marital and Family Therapy*, 40(4), 442–453. <https://doi.org/10.1111/jmft.12080>.
- Rauer, A. J., Adler-Baeder, F., Lucier-Greer, M., Skuban, E., Ketring, S. A., & Smith, T. (2014). Exploring processes of change in couple relationship education: Predictors of change in relationship quality. *Journal of Family Psychology*, 28, 65. <https://doi.org/10.1037/a0035502>.
- Rauer, A. J., Williams, L., & Jensen, J. (2015). Finer distinctions: Variability in satisfied older couples' problem-solving behaviors. *Family Process*, 56, 501–517. <https://doi.org/10.1111/famp.12198>.
- Robles, T. F., Slatcher, R. B., Trombello, J. M., & McGinn, M. M. (2013). Marital quality and health: A meta-analytic review. *Psychological Bulletin*, 140(1), 140–187. <https://doi.org/10.1037/a0031859>.
- Rogge, R. D., Cobb, R. J., Lawrence, E., Johnson, M. D., & Bradbury, T. N. (2013). Is skills training necessary for the primary prevention of marital distress and dissolution? A 3-year experimental study of three interventions. *Journal of Consulting and Clinical Psychology*, 81(6), 949–961. <https://doi.org/10.1037/a0034209>
- Speer, D. C. (1992). Clinically significant change: Jacobson and Truax (1991) revisited. *Journal of Consulting and Clinical Psychology*, 60, 402–408.
- Stanley, S. M., Rhoades, G. K., Loew, B. A., Allen, E. S., Carter, S., Osborne, L. J. et al. (2014). A randomized controlled trial of relationship education in the U.S. army: 2-year outcomes. *Family Relations: An Interdisciplinary Journal of Applied Family Studies*, 63(4), 482–495. <https://doi.org/10.1111/fare.12083>
- Straus, M. A. (1979). Measuring intrafamily conflict and violence: The conflict tactics (CT) Scales. *Journal of Marriage and the Family*, 41, 75–88. <https://doi.org/10.2307/351733>.
- Whisman, M. A., & Uebelacker, L. A. (2012). A longitudinal investigation of marital adjustment as a risk factor for metabolic syndrome. *Health Psychology*, 31, 80–86. <https://doi.org/10.1037/a0025671>.
- Williamson, H. C., Rogge, R. D., Cobb, R. J., Johnson, M. D., Lawrence, E., & Bradbury, T. N. (2015). Risk moderates the outcome of relationship education: A randomized controlled trial. *Journal of Consulting and Clinical Psychology*, 83, 617. <https://doi.org/10.1037/a0038621>.
- Wood, R. G., McConnell, S., Moore, Q., Clarkwest, A., & Hsueh, J. (2012). The effects of Building Strong Families: A healthy marriage and relationship skills education program for unmarried parents. *Journal of Policy Analysis and Management*, 31(2), 228–252. <https://doi.org/10.1002/pam.21608>.