THE SUPPORTING HEALTHY MARRIAGE EVALUATION

A FAMILY-STRENGTHENING PROGRAM FOR LOW-INCOME FAMILIES

Final Impacts from the Supporting Healthy Marriage Evaluation

OPRE Report 2014-09A
January 2014

Supporting Healthy Marriage

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Overview

The Supporting Healthy Marriage (SHM) evaluation was launched in 2003 to test the effectiveness of a skills-based relationship education program designed to help low- and modest-income married couples strengthen their relationships and to support more stable and more nurturing home environments and more positive outcomes for parents and their children. The evaluation was led by MDRC with Abt Associates and other partners, and it was sponsored by the Administration for Children and Families, in the U.S. Department of Health and Human Services.

SHM was a voluntary, yearlong, marriage education program for lower-income, married couples who had children or were expecting a child. The program provided group workshops based on structured curricula; supplemental activities to build on workshop themes; and family support services to address participation barriers, connect families with other services, and reinforce curricular themes. The study's random assignment design compared outcomes for families who were offered SHM's services with outcomes for a similar group of families who were not but could access other services in the community. This report presents SHM's estimated impacts about 30 months after couples entered the study.

Key Findings

- **SHM did not lead more couples to stay together.**
- **SHM produced a consistent pattern of sustained small positive effects on couples' relationships.** Compared with the control group at 30 months, the program group reported higher levels of marital happiness; lower levels of marital distress and infidelity; greater warmth, support, and positive communication; and less antagonistic and hostile behaviors in their interactions with their spouses. The program group also reported experiencing less psychological abuse than the control group. These impacts are similar to the impacts reported at 12 months. Reports of physical assault at 30 months were not prevalent and were not significantly affected by SHM.
- **SHM reduced women's feelings of sadness and anxiety, but it did not significantly affect the outcome for men at 30 months.** While the impact for women is small, the improvement is of interest because parental distress is linked with less positive parenting and with increased behavior problems for children.
- **SHM had little effect on indicators of coparenting, parenting, or child well-being.** Of the outcomes examined, only a few of the impact estimates are significant. Moreover, the magnitudes of these impacts are very small, and the results did not remain statistically significant after additional statistical tests were conducted to adjust for the number of outcomes examined.

Overall, SHM was well implemented, but it was fairly expensive to operate, and it did not achieve some of its central objectives — increasing the likelihood that parents stayed together or measurably benefiting children living in such households. As policymakers consider possible future directions for programs that support marriage and relationships, it will be important to focus on how best to target services to those most likely to benefit, which aspects of SHM should be included in future tests, and which should be altered in an effort to bolster program impacts and reduce costs.

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Acknowledgments

The Supporting Healthy Marriage (SHM) evaluation was made possible by the Administration for Children and Families (ACF) in the U.S. Department of Health and Human Services. As the SHM program officer at ACF, Nancye Campbell provided wise guidance at every step of the report process and to the project as a whole. Mark Fucello, Brendan Kelly, Susan Jekielek, and Seth Chamberlain all played critical roles in the early years of the evaluation, and they continued to provide helpful insights throughout the life of the project. The report also benefited from ongoing input from Naomi Goldstein and Lauren Supplee. We also thank Mark Greenberg and Earl Johnson for their thoughtful review.

We are grateful to the program directors and staff at the eight local SHM programs that participated in this evaluation. They worked tirelessly to deliver high-quality services that met the needs of their communities and to recruit and retain couples in program services, and they generously gave their time to help MDRC and our research partners collect the data needed for the evaluation.

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The Authors

Executive Summary

The Supporting Healthy Marriage (SHM) evaluation was launched in 2003 to test the effectiveness of an approach to improving well-being for low- and modest-income parents and children: strengthening marriages as a foundation for supporting stable, nurturing family environments and the well-being of parents and children. The U.S. Department of Health and Human Services, Administration for Children and Families (ACF), sponsored the evaluation as part of its family-strengthening research agenda. The evaluation is led by MDRC in collaboration with Abt Associates, Child Trends, Optimal Solutions Group, and Public Strategies as well as academic experts, including Thomas Bradbury, Philip Cowan, and Carolyn Pape Cowan.

SHM is motivated by two strands of research. One growing body of correlational research shows that parents and children tend to fare better on a range of outcomes when they live in low-conflict, two-parent families; that parent-child relationships are more supportive and more nurturing when parents experience less distress in their marriages; and that children are less likely to live in poverty when they grow up in two-parent families. A different strand of random assignment research points to the potential effectiveness of preventive, skills-based relationship education curricula for improving the quality of marriages. Yet, as of 2003, this research had focused primarily on middle-income couples, and policymakers were motivated to test strategies that could improve relationship stability and quality for low-income parents and, thereby, improve the outcomes for parents and their children.

Three key SHM reports were released in 2012: the final implementation report[1] and the 12-month impact report and its technical supplement.[2] The implementation report details the characteristics and participation patterns of couples enrolled in SHM and documents how eight local programs delivered SHM services. The implementation study demonstrates that the SHM model can be implemented in a variety of contexts and that a diverse group of couples can be enrolled and engaged in marriage education services over time. The 12-month impact report presents estimated effects of SHM on outcomes that were short-term targets of the intervention and is accompanied by a technical supplement that provides more detailed information about the analysis. After 12 months, the SHM program produced a consistent pattern of positive, but small, effects on several measures of marital quality and adult psychological distress. However, the program did not lead more couples to stay together; nor did it decrease spouses' reports of infidelity or improve the quality of their coparenting relationships, compared with their control group counterparts who were not offered SHM services.

[1]Miller Gaubert, Gubits, Alderson, and Knox (2012).
[2]Hsueh et al. (2012a); Hsueh et al. (2012b).

The current report examines longer-term impacts of SHM on the likelihood that couples stayed together, the quality of marital and coparenting relationships, and adult individual psychological well-being.[3] It also examines impacts on parenting and child well-being outcomes, which were not examined in earlier reports. In brief, SHM produced small but sustained improvements in program group couples' marital functioning, reductions in psychological abuse between spouses, and improvements in psychological well-being for women relative to their counterparts in the control group. These impacts, however, did not translate as hypothesized into significant impacts on the longevity of couples' marriages at the 30-month follow-up. Nor did they translate into substantial impacts on coparenting, parenting, or outcomes for children ages 2 to 17.

The SHM Program Model

In eight locations across the United States, the SHM evaluation tested a voluntary, yearlong program for low- and modest-income married couples who, at study entry, had children or were expecting a child. The program comprised the three complementary components described below.

The program's central and most intensive component was *a series of relationship and marriage education workshops for groups of couples* that was offered in the first four to five months of enrollment in the program. Longer than most marriage education services and based on structured curricula shown to be effective with middle-income couples, the workshops were designed to help couples enhance the quality of their relationships by teaching strategies for managing conflict, communicating effectively, increasing supportive behaviors, and building closeness and friendship. Workshops also wove in strategies for managing stressful circumstances commonly faced by lower-income families (such as job loss, financial stress, or housing instability), and they encouraged couples to build positive support networks in their communities. The eight local programs selected one of four curricula for their workshops, which provided a total of 24 to 30 hours of curriculum.

Complementing the workshops was a second component, offered for the year after enrollment, that consisted of *supplemental activities:* educational and social events that were intended to build on and reinforce lessons from the curricula.

[3]Like the 12-month impact report, this report also is accompanied by a technical supplement that provides more detailed information about the study design, analytic approach, construction of outcome measures, nonresponse bias analyses, sensitivity analyses, and subgroup analyses; it also includes copies of the adult and youth survey instruments. See Lowenstein et al. (2014).

The third component, *family support services*, paired couples with a specialized staff member who maintained contact with them and facilitated their participation in the other two components throughout the duration of the program. Because programs sought to keep couples engaged in services for one year, family support staff helped to meet family resource needs by connecting participants with other needed services, which also helped address participation barriers. Staff also reinforced the workshop themes and skills in their one-on-one meetings with couples.

The final implementation analysis found that the eight local programs participating in the study operated the full SHM program model in adherence with established guidelines.[4] Moreover, a substantial number of couples with diverse backgrounds were enrolled and participated in SHM services. According to program information data, on average, 83 percent of program group couples attended at least one workshop; 66 percent attended at least one supplemental activity; and 88 percent attended at least one meeting with their family support workers. Overall, program group couples participated in an average of 27 hours of services across the three components, including an average of 17 hours of curricula, nearly 6 hours of supplemental activities, and 4 hours of in-person family support meetings.

The average SHM operating cost per couple was $9,100, ranging from $7,400 to $11,500 per couple across the local programs. These calculations include the cost of program infrastructure and administration systems, facilities, staffing, and other operating costs that local programs incurred during a steady state of implementation. Costs for SHM may be somewhat higher than for a typical marriage education program for a number of reasons. First, SHM sought to test fairly intensive services over a longer period of time, and the costs reflect the intensity of these services, which were designed to be more comprehensive than most marriage education programs. Moreover, given a context in which all enrollees counted for the purposes of the impact analysis, programs devoted substantial resources and staff attention to engaging and retaining couples in services once they were enrolled in the program. Lastly, because SHM was brand new in most locations, average costs might be higher than costs of other relationship education services, which are embedded in larger organizations or delivered as add-ons to existing programs, whereby economies due to shared space or administrative systems might be possible.

[4]Miller Gaubert, Gubits, Alderson, and Knox (2012).

Intake and Characteristics of Couples and Children in the Research Sample

To be eligible for the study, couples were supposed to be low income, married, at least 18 years old, and either expecting a child or parents of a child under age 18 who was living in their home — though couples were not required to provide any documentation verifying that they met these eligibility criteria. They also had to understand one of the languages in which SHM services were offered (English or, in some locations, Spanish) and have no indication of domestic violence in the relationship.

From February 2007 to December 2009, a total of 6,298 couples meeting these eligibility criteria were recruited into the study and were randomly assigned into one of two research groups: (1) a program group, which was offered the package of SHM services, or (2) a control group, which was not provided SHM services but was not prevented from accessing other services available in the community.

Because couples applying for SHM services were allowed to self-report whether they met the study's eligibility criteria, it is important to assess the extent to which the characteristics of the study's sample reflect its targeted population. At study entry, all couples were expected to be married. But when asked about their marital status on later follow-up surveys, only 82 percent of couples reported in retrospect that they had been married when they entered the study.[5] This varied somewhat by location — in part, because some programs asked couples whether they considered themselves to be married rather than whether they were legally married, while other programs placed more emphasis on legal marriage as an eligibility criterion. As would be expected, given that SHM targeted low-income couples, the SHM sample is economically disadvantaged. At study entry, most couples had low to modest incomes: 43 percent had incomes below the federal poverty level, and 39 percent had incomes between 100 percent and 200 percent of the threshold.

To further characterize the sample, couples in the SHM evaluation are quite diverse. About 43 percent of couples are Hispanic; 21 percent are white; 11 percent are black; and 25 percent either are of another race or the spouses differ in racial or ethnic backgrounds.

Many of the couples reported marital distress and other stressors that can undermine relationships. Couples had been married or in committed relationships for about six years, and more than a quarter of couples reported that a stepchild was living in the household. Couples

[5]The impact analysis includes couples who enrolled in the study, regardless of their marital status at study entry. Couples who reported being in a committed relationship are considered "married" in tables in the report. As a sensitivity check, the impact estimates were compared for those who reported being married and those who did not report being married when they entered the study; there was not strong evidence that the effects of SHM differed for these two groups (not shown).

reported high rates of marital distress; more than half of them reported thinking that their marriage was in trouble in the year before entering the study. About one-fourth of couples had at least one spouse who was experiencing psychological distress. Similarly, about one-fifth of couples had at least one spouse who reported a substance abuse problem.

Compared with low-income married couples with children from two nationally representative samples, SHM couples were substantially less likely to be happy with their marriages and more likely to think in the past year that their marriages were in trouble. These comparisons suggest that the typical SHM couple may be more vulnerable to relationship instability than an average low-income married couple with children in the United States.[6]

Lastly, at the 30-month follow-up point, focal children in the SHM sample ranged from 2 to 17 years of age.[7] Focal children in the control group showed levels of adjustment and well-being at the 30-month follow-up that were similar to those of national samples of children and somewhat higher than those of other low-income samples.

The Impacts of SHM on Services Received

The first step in understanding the effects of the SHM program is to examine its impacts on service receipt.

- **As expected, program group couples received substantially more group relationship and marriage education services than control group couples.** As reported by study participants, about 90 percent of program group couples, compared with 23 percent of control group couples, received any relationship and marriage education services in a group setting in the year after entering the study. About 43 percent of program group couples reported attending more than 10 group sessions, compared with less than 3 percent of control group couples.

The 30-Month Impacts of SHM

Table ES.1 presents the estimated effects of SHM on core measures of the stability and quality of marital relationships, individual psychological distress, coparenting and parenting, and child

[6]Karney and Bradbury (1995).

[7]One child — who was under age 14 (or could have been in utero) — was selected for each family as the *focal child* for each of the follow-up data collection activities.

The Supporting Healthy Marriage Evaluation

Table ES.1

Estimated Impacts on Primary Outcomes at the 30-Month Follow-Up

Outcome	Program Group	Control Group	Difference (Impact)	Effect Size		Standard Error
Relationship status						
Married[a](%)	81.5	81.5	0.0	0.00		1.0
Marital quality						
Couple's average report of relationship happiness[b]	5.94	5.79	0.15	0.13	***	0.03
Either spouse reported marriage in trouble (%)	42.8	47.3	-4.5	-0.09	***	1.3
Men's report of warmth and support[c]	3.55	3.50	0.05	0.09	***	0.01
Women's report of warmth and support[c]	3.45	3.40	0.05	0.10	***	0.02
Men's report of positive communication skills[c]	3.29	3.22	0.06	0.10	***	0.02
Women's report of positive communication skills[c]	3.24	3.18	0.06	0.10	***	0.02
Men's report of negative behavior and emotions[c]	2.07	2.15	-0.08	-0.09	***	0.02
Women's report of negative behavior and emotions[c]	2.04	2.13	-0.09	-0.12	***	0.02
Neither spouse reported infidelity (%)	92.4	90.9	1.5	0.05	*	0.8
Psychological abuse and physical assault						
Men's report of psychological abuse[c]	1.26	1.30	-0.05	-0.10	***	0.01
Women's report of psychological abuse[c]	1.24	1.28	-0.04	-0.07	***	0.01
Men's report of any physical assault (%)	9.4	10.4	-1.0	-0.04		0.9
Women's report of any physical assault (%)	7.0	8.2	-1.2	-0.04		0.8
Individual psychological distress[c]						
Men's psychological distress	1.90	1.93	-0.03	-0.05		0.02
Women's psychological distress	1.98	2.04	-0.06	-0.09	***	0.02
Coparenting and parenting[a]						
Men's report of cooperative coparenting[c]	3.45	3.42	0.03	0.05	*	0.02
Women's report of cooperative coparenting[c]	3.28	3.25	0.03	0.04		0.02
Paternal supportiveness of child	—	—	—	-0.02		0.03
Maternal supportiveness of child	—	—	—	0.02		0.03
Paternal responsiveness to child	—	—	—	0.03		0.03
Maternal responsiveness to child	—	—	—	0.04		0.03
Paternal hostility toward child	—	—	—	0.00		0.03
Maternal hostility toward child	—	—	—	0.01		0.03
Paternal harsh discipline[c]	1.23	1.27	-0.04	-0.07	**	0.02
Maternal harsh discipline[c]	1.26	1.29	-0.03	-0.05	*	0.02

(continued)

Table ES.1 (continued)

Outcome	Program Group	Control Group	Difference (Impact)	Effect Size	Standard Error
Child adjustment and well-being[d]					
Self-regulation	—	—	—	0.03 *	0.02
Internalizing behavior problems	—	—	—	-0.03	0.02
Externalizing behavior problems	—	—	—	-0.04 *	0.02
Cognitive and academic performance	—	—	—	0.04	0.03
Sample size[e]					
Men	2,182	2,304			
Women	2,413	2,464			
Couples	2,497	2,537			
Children	2,263	2,285			

SOURCES: MDRC calculations based on the SHM 30-month adult and youth surveys and direct child assessments.

NOTES: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members.

Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

[a]This includes couples who, at the 30-month follow-up, were still married or in a committed relationship with the partner they had when they entered the study.

[b]The scale ranges from 1 to 7, where 1 = "completely unhappy" and 7 = "completely happy."

[c]The scale ranges from 1 to 4, where higher scores indicate higher levels of the outcome.

[d]Multiple measurement sources were used to measure all parenting and child outcomes except for coparenting and harsh discipline. The outcomes were standardized by measurement source using control group means and standard deviations. Standard errors were adjusted to account for nonindependence of measures at the family level. Program and control group means are not presented for these outcomes because they are less relevant to the interpretation of program impacts.

[e]The sample sizes in this table reflect the sample sizes for the outcomes with the least missing data. Some outcomes in the table have smaller sample sizes because the criteria used to determine respondent eligibility varied for different survey items.

well-being outcomes, approximately 30 months after couples enrolled in the study. (Box ES.1 provides additional details about how to read the tables showing impact estimates.) The results are summarized below.

- **SHM did not lead more couples to stay together.** In both the program group and the control group, the percentage of couples who remained married or in a committed relationship dropped from 100 percent at baseline to 90 percent and 82 percent at the 12-month and 30-month follow-up points, respectively. This points to fairly high rates of relationship instability among couples in the SHM sample, even considering that some couples were not married when they entered the study.

Box ES.1

How to Read Table ES.1

The effects, or *impacts*, of the SHM program shown in Table ES.1 are estimated by comparing outcomes for the program and control groups, adjusted for background characteristics of the sample members. This table presents a series of numbers that are helpful for interpreting the estimated impacts of the SHM program. The first two columns of numbers show the mean values of outcomes for the program and control groups. The excerpt from Table ES.1 below shows the percentage of program and control group couples who reported thinking, in the three months before the survey interview, that their marriage was in trouble. Over 47 percent of control group members reported thinking this, compared with nearly 43 percent of program group members.

Estimated Impacts on Marital Quality at the 30-Month Follow-Up (Excerpt)

Outcome	Program Group	Control Group	Difference (Impact)	Effect Size	Standard Error
Marital appraisals					
Either spouse reported marriage in trouble (%)	42.8	47.3	-4.5	-0.09 ***	1.3
Sample size					
Couples	2,249	2,291			

The number in the "Difference (Impact)" column displays the estimated impact — or the difference between the average outcomes for the program group and the control group. As shown in the table, the estimated impact on couples' reports of their marriage being in trouble is –4.5 percentage points (42.8 percent in the program group *minus* 47.3 percent in the control group).

The impact estimates are translated into standardized *effect sizes* by dividing the impact estimate by the standard deviation* of the outcome for the control group. Translating impact estimates into effect sizes can make it easier to compare the magnitude of effects across different studies. One way to interpret the substantive significance of the impact estimates is by using a rule of thumb whereby effect sizes of about 0.20 or less are considered "small," effect sizes of about 0.50 are considered "moderate," and effect sizes of about 0.80 or more are considered "large."†

The number of asterisks shown in the table indicates whether an estimated impact is *statistically significant* (or that the impact is large enough that it is unlikely to have occurred by chance). One asterisk corresponds with an estimated impact that is statistically significant at the 10 percent level; two asterisks reflect the 5 percent level; and three asterisks reflect the 1 percent level, meaning there is less than a 1 percent chance that a program with no effect would have generated such a large difference.

The *standard errors* in the table are estimates of the variability (or statistical imprecision) of the impacts of the SHM program. Larger standard errors indicate greater uncertainty in the magnitude of the impact estimates.

NOTES: *The *standard deviation* is a measure of how widely dispersed data are around their mean.
†Cohen (1988).

- **The SHM program produced a consistent pattern of small but statistically significant positive effects on the quality of couples' marital relationships that were sustained 30 months after couples entered the study**. Program group members reported higher levels of marital happiness, lower levels of marital distress, greater warmth and support, more positive communication skills, and fewer negative behaviors and emotions in their interactions with their spouses, relative to control group members. The pattern and magnitude of impacts on these outcomes are strikingly similar to those identified at the 12-month follow-up. At the 30-month follow-up, men and women in the program group also reported less infidelity in their relationships than their control group counterparts.

- **Compared with spouses in the control group, spouses in the program group reported experiencing slightly less psychological abuse, but physical assault was not significantly affected.** Men and women in the program group reported less psychological abuse in their relationships than their control group counterparts — a potentially important finding, since any abuse in the home can have important ramifications for adult and child well-being. SHM did not significantly affect men's or women's reports of physical assault at the 30-month follow-up. About 10 percent of men and less than 8 percent of women reported that their spouse had physically assaulted them in the three months before the survey.

- **Women in the program group reported slightly lower levels of psychological distress than their counterparts in the control group, but the effect on men's psychological distress is not statistically significant.** The estimated impacts on women's psychological distress (such as feelings of sadness or anxiety that interfered with daily activities) are small in magnitude but of interest, since parental depression and distress are often linked with less positive parenting practices and increased problem behaviors for children.[8]

- **SHM had little effect on coparenting, parenting, or child well-being.** Out of the 10 coparenting and parenting outcomes examined, only three impacts are statistically significant. The magnitudes of these impact estimates are very small. Out of the four child well-being outcomes examined, only two impacts are statistically significant, and the magnitude of the impact estimates is extremely small. These findings did not remain statistically signifi-

[8]Hoffman, Crnic, and Baker (2006); McLoyd (1990); Conger and Elder (1994).

cant after additional statistical tests were conducted to adjust for the number of outcomes examined.

- **SHM's estimated impacts are generally consistent across the eight local programs in the evaluation (not shown).** Although the estimated effects are larger in some programs than in others, the differences across programs are too small to conclude that they result from true differences in the programs' effectiveness rather than from chance variation.

- **Some evidence suggests that SHM's positive effects may be larger for couples who reported moderate or high levels of marital distress at study entry and for the youngest children in the sample (not shown).** Caution is needed when interpreting these results, however, as the differences across subgroups are not statistically significant once adjustments are made for the number of outcomes and subgroups examined.

Discussion

At the outset of the Supporting Healthy Marriage project, scarce information existed about the effectiveness of programs focused on strengthening marriages and improving the prospects for children in low- and modest-income families with diverse racial and ethnic backgrounds. This report provides some of the first rigorous evidence and insights into the longer-term effects of these programs on such families.

SHM adds new information to what has been learned in three recent random assignment evaluations of family strengthening interventions targeting lower-income couples: the Building Strong Families evaluation, a large-scale evaluation of a relationship skills education program for *unmarried* parents; the Supporting Father Involvement intervention, a preventive couples-focused program aimed at strengthening family functioning and fathers' involvement; and, the PREP for Strong Bonds intervention, which is a study of the Prevention and Relationship Enhancement Program (PREP) curriculum delivered by Army chaplains to married couples. SHM's findings generally align with the results of these evaluations, given that two of them also found positive effects on marital quality, but the studies collectively show inconsistent or limited effects on other domains of interest — marital stability, parenting, and child well-being.[9]

In sum, SHM was a fairly expensive program that did not consistently achieve some of its central objectives: increasing the likelihood that parents would stay together and benefiting

[9]Stanley et al. (2010); Cowan et al. (2009);Wood et al. (2012).

children living in such households. While SHM did improve marital quality for program group couples, these effects were likely too small to appreciably affect marital stability, parenting, and children's adjustment and well-being. The findings suggest that it may be challenging for family-strengthening programs, as currently designed, to sufficiently change aspects of family functioning to improve children's lives in low- and modest-income families when they are delivered on a large scale.

Looking forward, there may be ways to build on SHM's foundation and better serve low-income two-parent families. The subgroup analysis, for example, suggests that SHM's effects may be larger among couples experiencing higher levels of marital distress when they entered the study and among the youngest children in the sample. While these findings should be viewed with caution because statistical tests indicate that they could have occurred by chance, the results point to potential areas for further investigation in terms of effectively targeting services. Thus, future research could aim to better understand who is likely to benefit from more highly targeted services. Moreover, given fairly high dissolution rates among couples in the sample, the findings also draw attention to the need for tailoring services to better address the vulnerabilities of couples who are already close to dissolution. In addition, it will be important to consider which aspects of SHM should be included in future tests of relationship-strengthening services and which should be altered in an effort to bolster program impacts and reduce costs.

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Introduction to the Supporting Healthy Marriage Evaluation

This report presents the 30-month impact findings from the Supporting Healthy Marriage (SHM) evaluation, begun in 2003 as part of the U.S. Department of Health and Human Services, Administration for Children and Families (ACF), family-strengthening research agenda. SHM is a demonstration project that is rigorously testing a couples-based intervention designed for low- and modest-income married couples with children. The evaluation is motivated by two distinct but related strands of research showing that:

- Parents and children tend to fare better on a range of outcomes when they live in low-conflict, two-parent families;[1] children are less likely to live in poverty when they grow up in two-parent families;[2] and parent-child relationships are generally more supportive and more nurturing when parents experience less distress in their marriages.[3]

- Preventive, skills-based relationship education curricula have been shown to be effective for strengthening the quality of marriages in random assignment studies.[4]

Collectively, these findings have motivated policymakers to test strategies that could improve relationship stability and quality for low-income parents and, thereby, improve outcomes for parents and their children. Yet, as of 2003, virtually all prior evaluations of marriage education programs had been conducted with middle-class and predominantly white research samples and had resulted in sparse information about how low-income parents — and, importantly, their children — were ultimately affected by these interventions. This left open questions about whether such services could also be effective for low-income families with diverse racial and ethnic backgrounds. It also left open questions about the range of outcomes that were affected by these programs, since much of the prior research had focused primarily on understanding the effects of the programs on couples' short-term communication skills and marital quality.[5]

To address these questions, ACF embarked on a family-strengthening research agenda. MDRC and its partners — Abt Associates, Child Trends, Optimal Solutions Group, and Public Strategies, as well as academic experts, including Thomas Bradbury, Philip Cowan, and

[1]Beach (2001); Schulz, Cowan, and Cowan (2006); Neff and Karney (2004); Whisman (2001); Grych (2002); Cummings and Davies (2002).

[2]McLanahan and Booth (1989).

[3]Lindahl, Clements, and Markman (1997); Erel and Burman (1995).

[4]Blanchard, Hawkins, Baldwin, and Fawcett (2009); Hawkins, Blanchard, Baldwin, and Fawcett (2008); Reardon-Anderson, Stagner, Macomber, and Murray (2005).

[5]Hawkins, Blanchard, Baldwin, and Fawcett (2008).

Carolyn Pape Cowan — were selected to conduct the SHM evaluation. The project developed, implemented, and tested a voluntary yearlong relationship skills program that was designed to help low-income married couples with children strengthen their relationships. SHM offered curriculum-based group workshops that taught relationship skills, and it provided supplemental educational and social activities and family support services. The study hypothesized that building parents' relationship skills would support more positive outcomes for parents, such as improved marital quality and reduced levels of psychological distress, and more stable and more nurturing home environments that would, over time, result in more positive outcomes for their children.

Using a random assignment research design, half the couples in the study sample were assigned to the program group, which could access SHM services, and the other half were assigned to the control group, which could not access SHM services but could receive other services available in the community. The use of a random assignment research design ensures that the SHM program group and control group were similar when sample members first entered the study; therefore, any systematic differences that later emerged are most likely due to the program being studied.

The primary objectives of the SHM evaluation were (1) to determine the extent to which program services improved the quality and stability of marriages, other aspects of family functioning, and adult and child well-being; (2) to understand whether particular groups of people were more likely or less likely to benefit from the program; and (3) to document how eight local programs implemented the SHM model, the services that couples received, and how couples viewed the program. The implementation report details the characteristics and participation patterns of couples enrolled in SHM and documents how eight local programs delivered SHM services.[6] The 12-month impact report presents SHM's short-term impact findings and is accompanied by a technical supplement that provides more detailed information about the analysis.[7]

The implementation study found that agencies with diverse backgrounds and characteristics can successfully operate the SHM model. The study also found that a diverse range of couples enrolled in SHM. In addition, a fairly high percentage of couples participated in the program, and they continued participating over time. Moreover, local programs were equally successful in engaging men and women in services, likely due to the special emphasis that programs placed on designing services that were attractive to both spouses.

[6]Miller Gaubert, Gubits, Alderson, and Knox (2012); Miller Gaubert et al. (2010).
[7]Hsueh et al. (2012a); Hsueh et al. (2012b).

The 12-month impact report shows a consistent pattern of positive, but small, effects on several outcomes. Shortly after the SHM services ended, program participants reported, on average, higher levels of marital happiness and lower levels of marital distress, compared with their counterparts in the control group. In their interactions with their spouses, individuals in the program group also displayed warmer and more supportive behaviors, more positive communication skills, and fewer negative emotions and behaviors than control group members. SHM also decreased adult psychological distress, reports of psychological abuse, and the percentage of men who reported that they had been physically assaulted by their spouse. At the 12-month follow-up, however, the program did not significantly affect the likelihood that parents were still together, spouses' reports of infidelity, or the quality of coparenting relationships (or how parents work together in their shared parenting roles).

The current report examines longer-term impacts of SHM on the likelihood that couples stayed together, the quality of marital and coparenting relationships, and adult individual psychological well-being.[8] It also examines impacts on parenting and child well-being outcomes, which were not examined in earlier reports. In brief, SHM produced small but sustained improvements in program group couples' marital functioning, reductions in psychological abuse between spouses, and improvements in psychological well-being for women relative to their counterparts in the control group. These impacts, however, did not translate as hypothesized into significant impacts on the longevity of couples' marriages at the 30-month follow-up. Nor did they translate into substantial impacts on coparenting, parenting, or outcomes for children ages 2 to 17.

The SHM Program Model

The Supporting Healthy Marriage (SHM) program offered a voluntary package of services designed to serve low-income married couples with children.[9] Eight local programs in seven states participated in the evaluation. (See Table 1.) The programs were hosted by agencies diverse in their settings (including community-based multiservice organizations, large local institutions, and stand-alone for-profit organizations), diverse in their prior experience delivering marriage education services, and diverse in the populations that they served.

[8]Like the 12-month impact report, this report also is accompanied by a technical supplement that provides more detailed information about the study design, analytic approach, construction of outcome measures, nonresponse bias analyses, sensitivity analyses, and subgroup analyses; it also includes copies of the adult and youth survey instruments. See Lowenstein et al. (2014).

[9]This section draws on Knox and Fein (2009) and Miller Gaubert et al. (2010). For details about the SHM program model and implementation, see Miller Gaubert, Gubits, Alderson, and Knox (2012).

The Supporting Healthy Marriage Evaluation

Table 1

Selected Characteristics of Local SHM Programs

Program Characteristic	Program Location							
	Bronx	Oklahoma City	Orlando	Pennsylvania[a]	Seattle	Shoreline[b]	Texas[a]	Wichita
Host agency	University Behavioral Associates (UBA)	Public Strategies, Inc.	University of Central Florida (UCF)	Community Prevention Partnership of Berks County	Becoming Parents Program, Inc.	Center for Human Services (CHS)	Texas Department of Health and Human Services	Catholic Charities
Organizational setting	Hospital	For profit	University	Community-based nonprofit	For profit	Community-based nonprofit	Community-based nonprofit	Community-based nonprofit
Languages used in program	English	English, Spanish	English	English, Spanish[c]	English	English, Spanish	English, Spanish	English
Target group within SHM population	None	Expectant and new parents[d]	None	None	Expectant and new parents[d]	None	None	None
Relationship and marriage education curriculum[e]	LCLC	BPP	FOF	WOR	BPP	LCLC	WOR	WOR
Length[f] (hours)	24	30	30	28	30	24	28	28
Length of weekday workshops (weeks)	10	10	12	15	9	12	15	11
Length of Saturday workshops (weeks)	1[g]	6	6	7 or 15	6	12	Not offered	1[g]

NOTES: [a]The Pennsylvania program offered services in Bethlehem and Reading; the Texas program offered services in El Paso and San Antonio.

[b]The Shoreline program was located in a suburb of Seattle.

[c]Reading offered its program exclusively in Spanish, and Bethlehem offered its program in English and Spanish.

[d]Couples were eligible for the program if they were expecting a baby or had an infant younger than 3 months old.

[e]The relationship and marriage education curricula are as follows: LCLC = Loving Couples, Loving Children; BPP = Becoming Parents Program; FOF = For Our Future, For Our Family; WOR = Within Our Reach.

[f]Curriculum length is as stated by curriculum developers.

[g]All relationship and marriage education workshops in these sites began with a six-hour session held on a Saturday; the remaining sessions were held on weeknights for two hours.

To be eligible for the study, couples were supposed to be low income, married, at least 18 years old, and either expecting a child or parents of a child under age 18 who was living in their home — though couples were allowed to self-report whether they met the study's eligibility criteria.[10] Couples had to understand one of the languages in which services were offered (English or, in some locations, Spanish). In addition, couples were excluded from the program, and were referred to appropriate services, if there was an indication of domestic violence in the relationship that suggested that a member of the couple might be harmed by participating in SHM.[11] Programs were required to work with local domestic violence service agencies to develop enrollment screening tools and response protocols.

Three Components of the Program Model

In designing the program model, input was sought from academic scholars and experts from the field of relationship and marriage education — including scholars who had produced seminal work with respect to relationships of middle-class couples and those with experience working with lower-income families. The three recurring themes of these discussions were that (1) the program should include research-based group relationship skills workshops focused on the building blocks of marital quality and stability; (2) existing multiple-session marriage education curricula for middle-class couples should be adapted to speak to the needs of lower-income couples; and (3) the program should include supports for challenges that, if unaddressed, could undermine couples' capacity to benefit from the program. The result is shown in Figure 1: a program model that consists of three main components delivered over a 12-month period, with the most intensive services occurring in the first four to five months. The three main components of the model are curriculum-based relationship and marriage education skills workshops in small groups, supplemental activities, and family support services.

Curriculum-Based Relationship and Marriage Education Skills Workshops for Groups of Couples

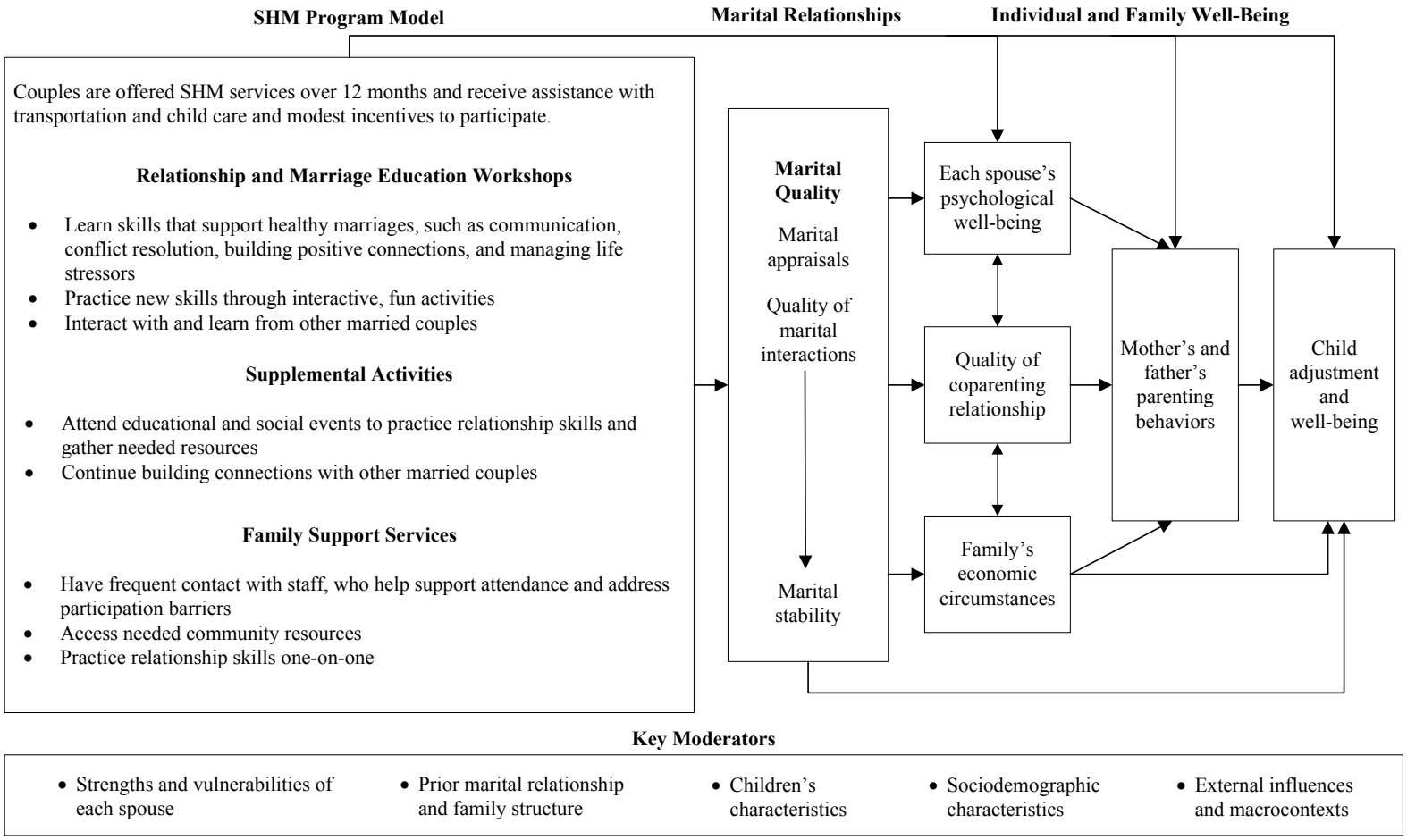
Workshops constitute the central service component of the program. Local programs selected one of four curricula that had been used with middle-class couples and were adapted for low-income couples specifically for this study. (See Box 1.) Each curriculum incorporated multiple themes and activities designed to help couples decrease negative interactions (by

[10]Local programs sought to recruit families with annual income of less than $50,000 — slightly more than 200 percent of the federal poverty level for a family of four. Three programs located in urban areas — the Bronx and two programs in the Seattle area (referred to as "Seattle" and "Shoreline" throughout this report) — were allowed to recruit families with up to $60,000 in income. This change took place early in the evaluation.

[11]The SHM model was not designed to resolve domestic violence, so the decision was made that couples facing these issues would be more appropriately served by a local domestic violence agency. When there was an indication of domestic violence, couples were excluded from the SHM program and the evaluation and were referred to other services.

Figure 1

The SHM Program Model and Theory of Change



Box 1

Marriage Education Curricula Used in Local SHM Programs

Four curricula were used by local SHM programs:*

- *Within Our Reach* (adapted from the Prevention and Relationship Enhancement Program, or PREP) is the curriculum used by the SHM programs in Pennsylvania, Texas, and Wichita. See Stanley and Markman (2008).
- *For Our Future, For Our Family* (adapted from Practical Application of Intimate Relationship Skills, or PAIRS) is the curriculum used by the SHM program in Orlando. See Gordon, DeMaria, Haggerty, and Hayes (2007).
- *Loving Couples, Loving Children* (adapted from Bringing Baby Home) is the curriculum used in the Bronx and Shoreline SHM programs. See Loving Couples Loving Children, Inc. (2009).
- *Becoming Parents Program* (based on PREP and adapted from an earlier version of Becoming Parents) is the curriculum used by SHM providers in Oklahoma City and Seattle. See Jordan, Stanley, and Markman (1999).

NOTE: *For more information on how curricula were selected and adapted, see Knox and Fein (2009).

emphasizing communication skills and conflict management) and increase supportive interactions (by encouraging supportive behaviors, shared goal setting, working as a team, and spending time together as a couple and a family in order to build closeness and positive connections), as well as to build a greater understanding of marriage. The curricula vary, however, in the emphasis placed on each of these skills. Workshops also wove in strategies for managing stressful circumstances commonly faced by lower-income families (such as job loss, financial stress, or housing instability), and they encouraged couples to build positive support networks in their communities. Parenting was not a major theme in any of the curricula, although most included a few parenting topics in the workshops.[12] The curricula used a mix of teaching styles, combining presentations and lecturing styles with discussions, group and couple activities, time for individual reflection, and videos or other ways to demonstrate skills. Longer than many

[12]The Becoming Parents Program curriculum devoted the most workshop time (17 percent) to parenting topics (child development, discipline, and coparenting). Other curricula devoted less than 10 percent of time to parenting and coparenting.

relationship education workshops, SHM offered between 24 and 30 hours of curriculum in small-group settings over a period of 6 to 15 weeks starting soon after program enrollment.

Supplemental Activities

Under the SHM program model (Figure 1), supplemental activities offered couples additional opportunities to attend educational and social events, to continue practicing skills from the workshops, and to build supportive networks with other married couples in the program. These activities reinforced curriculum themes through a range of events from seminars on financial management and parenting issues to date nights and family outings. After the workshops ended, supplemental activities were the primary SHM service component and were offered until a couple's one-year anniversary of enrollment in the program.

Family Support Services

Pairing couples with specialized staff members, family support services (Figure 1) had three goals: to maintain contact with couples in order to facilitate their participation in the other two program components, to help couples reduce family stressors and address family needs by linking them to community resources, and to reinforce key workshop themes in one-on-one meetings with couples. Each couple was paired with a staff person who was responsible for maintaining contact between the couple and the program throughout the duration of the program. Staff also arranged child care and transportation assistance when the couple was attending SHM services, and they provided limited emergency assistance payments, which also helped to address participation barriers.

Conceptual Framework of the SHM Project

In designing the evaluation, the research team considered the basic conceptual model illustrated in Figure 1. The model draws on a wealth of prior marital and family process research and developmental theory. While much of this research and theory focuses on middle-class families, the hypothesized factors and pathways are expected to be equally relevant for lower-income couples. As such, this prior work is used to provide a framework for linking SHM to various outcomes that are important for adult well-being and for child development and well-being.

As the figure illustrates, the core SHM services were designed to help low-income married couples learn relationship skills to directly improve the quality of their marital relationships. Couples' relationships could also be affected by outside services that couples were referred to in an attempt to reduce individual or family challenges that could place stress on families. Overall quality of marital relationships is conceptualized as consisting of two key dimensions, each of which has been linked with marital stability in prior marital and family process research: (1) the

emotional and behavioral aspects of marital interactions (quality of marital interactions) and (2) spouses' appraisals of their marital relationships and functioning (that is, couples' satisfaction and marital happiness and distress).[13] As such, improvements in marital relationships would be evidenced by the following:

- **More positive emotions and behaviors in interactions,** such as clearer and more empathetic communication; more effective conflict resolution skills; and higher levels of warmth, support, and emotional and physical intimacy
- **Fewer negative emotions and behaviors in interactions,** such as fewer antagonistic, hostile, or abusive behaviors during disagreements and lower levels of sexual and emotional infidelity and domestic abuse, including psychological and physical abuse
- **More positive appraisals of marital quality,** such as higher levels of marital satisfaction and lower levels of marital distress

Program-driven improvements in marital quality could lead to increased marital stability (or lower rates of separation and divorce). SHM could also directly affect marital stability through the curricula's emphasis on the value of marriage and the importance of parents staying together. But given the stronger curriculum emphasis on marital quality, it was hypothesized that marital stability was most likely to be affected by improving the quality of couples' relationships.

Figure 1 also delineates multiple pathways through which SHM might influence other aspects of family functioning, such as the quality of the coparenting relationship, spouses' mental health, families' economic security (primarily due to reduced rates of family disruption), parenting behaviors, and child well-being.

For example, one important potential path to effects on child well-being is that program-driven improvements in marital quality or parents' psychological well-being could lead to increases in healthy parenting behaviors and reductions in harsh and hostile parenting, like hitting, grabbing, threatening, or yelling at the child.[14] In particular, the literature points to parental involvement, warmth, and responsiveness — such as being affectionate with the child and attuned to his or her needs[15] — as being positively associated with supportive marital

[13]Bradbury, Fincham, and Beach (2000); Fincham, Stanley, and Beach (2007); Karney and Bradbury (1995).

[14]Schoppe-Sullivan, Schermerhorn, and Cummings (2007); Hoffman, Crnic, and Baker (2006); McLoyd (1990); Conger and Elder (1994).

[15]Descriptions of these constructs can be found below, in the results section of the report; see "Estimated Impacts on Coparenting and Parenting."

interactions and negatively associated with marital conflict,[16] whereas parental hostility and harsh discipline are positively associated with conflict and hostility in the marital relationship and are negatively associated with marital supportiveness.[17] In addition, dimensions of coparenting and parenting have been found to be linked to children's self-regulatory skills and behavior problems and to mediate the relations between marital quality and these dimensions of child adjustment.[18]

Improvements in marital quality could also directly affect child adjustment and well-being. Children who grow up in households with high levels of marital conflict, for example, have been found to show increased internalizing behavior problems (such as feelings of anxiety and depression) and externalizing behavior problems (such as aggression and hyperactivity), poorer self-regulatory skills (skills needed to appropriately manage emotions, behaviors, and attention), and poorer school performance.[19] In addition, as shown in Figure 1, children could be directly affected by SHM through referrals to outside services specifically aimed at addressing their needs.

Lastly, Figure 1 highlights that a combination of strengths and constraints within individuals, families, and contexts is capable of shaping both marital and family relationships and adult and child well-being.[20] Among these factors are sociodemographic characteristics, couples' initial relationship quality, strengths and vulnerabilities of each spouse, stressors and supports available in the community, and child characteristics — all of which could increase or decrease the effects of SHM. The subgroup analysis presented near the end of the report examines a subset of these characteristics that the literature suggests are policy relevant; see "30-Month Impacts of SHM, Analyzed by Subgroup."

Overview of Program Implementation and Costs

In the implementation study, three of the primary questions were whether the SHM model could be delivered in a variety of contexts and settings, whether lower-income couples would be interested enough in this type of program to enroll, and whether services would be attractive enough to keep them coming over time. The answer to these questions was yes. The implementation study found that agencies with diverse backgrounds and characteristics can successfully operate the SHM model. Throughout the implementation process, local programs

[16]Buehler and Gerard (2002); Carlson and McLanahan (2006); Easterbrooks, Barrett, Brady, and Davis (2007); Miller et al. (1993).

[17]Conger et al. (1994); Buehler and Gerard (2002); Carlson and McLanahan (2006).

[18]Brody and Ge (2001); Brody et al. (1994); Katz and Low (2004); Schoppe-Sullivan, Schermerhorn, and Cummings (2007).

[19]Cummings, Goeke-Morey, and Papp (2004); Feldman, Wentzel, Weinberger, and Munson (1990).

[20]Bradbury and Karney (2004); Cowan and Cowan (2000).

received numerous supports — including written curricula, service delivery protocols, and performance benchmarks — all of which established expectations for the content, frequency, and quality of SHM services. Technical assistance teams held programs accountable for working toward their goals, and they offered coaching on marketing and recruitment, engaging couples in services, and staff supervision and management techniques that emphasized achieving the program's goals for performance.

With effective strategies for recruitment and engagement, a substantial number and diverse range of couples were interested both in enrolling and in continuing to attend. The eight local programs succeeded in enrolling over 6,000 couples in the study and in engaging both men and women in program services, in keeping with the SHM model's guidelines to serve couples rather than individuals. According to the program management information system, 83 percent of program group couples attended at least one workshop; 66 percent attended at least one supplemental activity; and 88 percent attended at least one meeting with their family support worker. Overall, program group couples participated in an average of 27 hours of services across the three components, including an average of 17 hours of curricula, nearly 6 hours of supplemental activities, and 4 hours of in-person family support meetings. Among all program group members, couples completed roughly 60 percent of the workshop hours offered. Among couples who ever participated in SHM workshops, this number increases to 71 percent. These results fall roughly between what was achieved by two similar evaluations of relationship education programs: Building Strong Families and Supporting Father Involvement.[21] Moreover, the programs were able to operate the full SHM program model in a variety of contexts with diverse populations. A more detailed analysis of the implementation of SHM is presented in the study's final implementation report.[22]

The average cost of operating local SHM programs was $9,100 per couple. The calculations are approximations based on costs that the programs incurred while providing SHM services to couples during a mature state of implementation. The calculations include the cost of program infrastructure and administration systems, facilities, staffing, and other operating costs that local programs incurred during a steady state of implementation. However, an attempt was made to exclude program costs associated with participating in the evaluation, such as the cost of ensuring that programs were compliant with the research tasks required by the study.[23] The costs ranged from $7,400 per couple in Wichita to $11,500 per couple in Oklahoma City. The

[21]Miller Gaubert, Gubits, Alderson, and Knox (2012); see Dion, Avellar, and Clary (2010) and Cowan et al. (2009). Data for Supporting Father Involvement were provided by Philip Cowan and Carolyn Pape Cowan.

[22]Miller Gaubert, Gubits, Alderson, and Knox (2012).

[23]For more information on how the estimates of program operating costs per couple were calculated, see Miller Gaubert, Gubits, Alderson, and Knox (2012).

costs differed across programs for a number of reasons, including program location, intensity of services offered, the number of program offices, and the number of staff and their backgrounds.

Costs for SHM may be somewhat higher than for a typical marriage education program for a number of reasons. First, SHM sought to test fairly intensive services over a longer period of time, and the costs reflect the intensity of these services, which were designed to be more comprehensive than most marriage education programs. Moreover, given that SHM was delivered in the context of an evaluation in which all enrollees counted for the purposes of the impact analysis, programs devoted substantial resources and staff attention to engaging and retaining couples in services once they were enrolled in the program. These costs, however, might be similar in a program that makes substantial efforts to recruit and retain participants. Lastly, because SHM was brand new in most locations, average costs might be higher than costs of other relationship education services, which might be embedded in larger organizations or delivered as add-ons to existing programs, whereby economies due to shared space or administrative systems might be possible.

The SHM Evaluation Design

To estimate the effect, or impact, of the Supporting Healthy Marriage (SHM) program, a random assignment research design was used. Couples meeting the program's eligibility criteria were randomly assigned to one of two groups:

- **The program group.** These couples were offered the package of SHM program services and were able to receive curriculum-based relationship and marriage education workshops, family support services, and supplemental activities.

- **The control group.** These couples were not provided SHM services, but they were not prevented from accessing other services available in the community.[24]

The use of a random assignment research design means that the SHM program and control groups were expected to be similar when they entered the study.[25] Hence, any subsequent systematic differences in outcomes between the two groups can be reliably attributed to SHM. Because control group members could receive any other relationship education services that

[24]When recruiting local programs for the evaluation, an effort was made to select programs in communities where no other major initiatives to provide free group marriage education services for low-income families were in effect.

[25]For comparisons of the baseline characteristics of program group and control group couples among the full SHM sample, see Lowenstein et al. (2014), Appendix C.

were available in the community, this study's impact estimates represent the added value of offering couples the package of SHM program services, above and beyond the services that couples and families might normally receive.

In total, 6,298 couples were randomly assigned across all eight local programs in the evaluation.[26] With a sample of this size, the evaluation has sufficient power to detect small program impacts. Random assignment occurred after couples were recruited, after eligibility for the program was determined, and after both members of the couple consented to undergo random assignment and to participate in the evaluation.[27]

Study enrollment began in February 2007, in Oklahoma City, and it ended in the last five programs in December 2009. The initial goal of each local program was to enroll 800 couples in the study; the Oklahoma City program used supplemental state funds to enroll 1,000 couples by the end of the recruitment period. As is reported in the study's first implementation report, the local programs used several methods to recruit sample members into the study.[28] Local programs established networks of referral partners and sent staff into the community to do face-to-face outreach, in addition to using more traditional outreach methods like flyers, brochures, and mass media advertisements. Despite the wide variety of recruitment strategies used, the research sample — as in other studies of voluntary programs — comprises couples who were motivated to volunteer for program services and who, therefore, may be a select group among lower-income married couples.

Data Sources Used in This Report

This report is based on data collected from four key sources:[29]

- **Baseline instruments, including a self-administered questionnaire and baseline and child information forms,** were completed by all husbands and wives prior to random assignment, when couples applied for SHM. The self-administered questionnaire was completed separately and in private by each spouse, while both spouses generally completed the remaining baseline

[26]In Oklahoma, on the initiative of the program, 200 additional couples were enrolled in the SHM study beyond the original enrollment target number. The Oklahoma program funded these 200 couples' enrollment, program participation, and 12-month follow-up activities. The 30-month follow-up activities were not funded by the Oklahoma program for these couples. Therefore, while these couples are part of the SHM study, they were not included in the fielded 30-month follow-up sample.

[27]For details about the intake periods and sample sizes, by local program, see Lowenstein et al. (2014), Appendix Table A.1.

[28]For more information on the recruitment of sample members, see Miller Gaubert et al. (2010).

[29]Detailed descriptions of these data collection components, samples, response rates, and available measures are presented in Lowenstein et al. (2014), Appendix B.

forms together with the help of program staff. This information is used to describe the research sample, to improve the precision of the estimated program impacts, and to form subgroups. Based on the information collected at study entry, one child — who was under age 14 (or could have been in utero) — was selected for each family as the *focal child* for each of the follow-up data collection activities described below.[30] Focal children were ages 2 to 17 at the 30-month follow-up.

- **A follow-up survey with adults** was conducted separately with husbands and wives about 30 months after couples first applied for the program, regardless of whether their marriages were intact. The 30-month follow-up interviews aimed to capture study participants' reports on the main outcomes of interest, including marital status, how husbands and wives viewed the quality of their marital interactions and relationships, and adult psychological well-being. Study participants were also asked about their parenting relationship with their focal child and about their focal child's well-being. The response rates for the follow-up interview were 74 percent for husbands and 80 percent for wives.[31]

- **A follow-up survey with older children** was administered to SHM focal children ages 8 and a half to 17 at follow-up. The youth survey asks children to report on their own adjustment and well-being, their relationships with their parents, and their parents' relationship. This information complements the parent-reported information on parenting and child adjustment and well-being that was gathered from the adult survey. Together, the two data sources enhance the study's ability to measure parenting and child outcomes of interest because parents and children may have different perspectives on their own functioning versus that of their family members. There was a 69 percent response rate among focal children ages 8 and a half to 17.

- **Direct assessments of younger children** were conducted with focal children ages 2 to 8 and a half at follow-up, who were too young to be eligible to complete the youth survey. These assessments were used to measure children's abilities to appropriately manage their attention skills and behavior (indicators of self-regulatory skills) and children's receptive vocabulary skills

[30]In the Oklahoma City and Seattle programs, because couples were eligible for SHM only if they were expecting a baby or had a baby younger than 3 months old at study entry, this infant was selected as the focal child.

[31]For the results of a nonresponse bias analysis for the adult survey, youth survey, and direct child assessment samples, see Lowenstein et al. (2014), Appendix F.

(an indicator of cognitive performance). Direct child assessments constitute an independent source of information about child outcomes at the 30-month follow-up. Four different direct child assessments were administered to SHM focal children in the appropriate age range: the Peabody Picture Vocabulary Test (PPVT) / Test de Vocabulario en Imágenes Peabody (TVIP), the Walk-A-Line task, the Head-Toes-Knees-Shoulders task, and the Bierman assessor report.[32] There was a 64 percent response rate among focal children ages 2 to 8 and a half.

Characteristics of Couples in the SHM Evaluation

Couples' characteristics both within and across the local programs provide important context for the impact results presented in this report. Given that couples with different demographic characteristics have varied patterns of marriage and marital stability, it was thought that members of different groups might respond differently to the SHM intervention. Thus, one goal of SHM was to learn whether this type of program model would attract, and work well for, different subgroups of low- and modest-income couples. To learn about the effectiveness of SHM for a broad population, the curricula were designed and intended for couples with diverse racial and ethnic backgrounds rather than for narrowly defined populations. In addition, the diversity of a local program's target population was one consideration in selecting programs. (For information on how the background characteristics described below are defined, see Appendix Table B.1.)

- **Couples who participated in the SHM evaluation are racially and ethnically diverse, and most were low-income when they entered the study.**

As shown in Table 2, about 43 percent of couples in the evaluation are Hispanic (and, at study entry, at least 40 percent of these couples had a spouse who was an immigrant to the United States); 21 percent are white; and 11 percent are African-American. Of the remaining 25 percent, 17 percent are couples who differ in racial or ethnic background; 6 percent are couples in which at least one spouse reported more than one race/ethnicity; and 2 percent self-identified as another race/ethnicity (not shown).[33]

Because couples applying for SHM services were allowed to self-report whether they met the study's eligibility criteria, it is important to assess the extent to which the characteristics

[32]For more information about these assessments, see Appendix Box A.1.

[33]Couples are categorized as Hispanic, white, or African-American if both spouses self-selected that race/ethnicity.

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Table 2

Demographic and Socioeconomic Characteristics of Couples in the Full SHM Sample at Study Entry

Characteristic[a]	Program Location								
	Bronx	Oklahoma City[b]	Orlando	Pennsylvania	Seattle	Shoreline	Texas	Wichita	Overall[b]
Socioeconomic and family characteristics									
Race/ethnicity (%)									
Both spouses Hispanic	41.7	23.7	40.2	88.3	9.2	50.6	92.0	6.6	43.4
Both spouses African-American, non-Hispanic	36.0	8.5	13.6	1.9	14.0	3.2	0.6	11.5	11.2
Both spouses white, non-Hispanic	0.9	40.4	17.7	1.9	27.0	22.4	1.5	46.4	20.5
Other/multiracial	21.3	27.0	28.4	7.9	49.7	23.8	6.0	35.6	24.8
Both spouses have at least a high school diploma (%)	39.9	60.9	72.0	30.5	49.4	40.8	46.5	56.4	50.3
Income 100% to less than 200% of federal poverty level(%)	29.8	40.2	58.9	37.1	33.9	40.8	37.8	34.7	39.4
Income less than 100% of federal poverty level (%)	42.0	24.9	30.3	51.9	51.8	41.4	49.2	55.5	42.8
Either spouse currently employed (%)	67.8	92.8	87.5	83.3	68.0	83.1	91.3	72.5	81.4
Receiving public assistance (%)	61.5	69.3	75.7	68.8	86.9	76.8	64.8	72.6	71.7
Married at the time of random assignment (%)	68.3	98.6	98.5	74.6	52.0	73.3	90.0	89.7	81.8
Average number of years married	7.4	3.9	5.6	9.1	2.8	6.9	9.0	5.1	6.2
Expecting a child (%)	8.6	79.0	8.5	7.7	98.1	12.9	7.9	14.0	30.4
Stepfamily (%)	40.2	13.9	25.2	30.8	16.5	20.6	25.5	42.8	26.4
Average age (years)	35.6	27.5	31.5	33.2	27.0	32.4	33.5	31.2	31.4
Marital appraisals (%)									
Men report happy or very happy in marriage	74.9	90.9	82.2	77.7	88.9	76.1	77.2	74.2	80.5
Women report happy or very happy in marriage	70.5	88.1	78.9	70.1	91.2	70.0	65.4	65.0	75.1
Men report marriage in trouble	62.9	35.0	57.7	51.3	44.4	56.9	66.3	69.0	55.2
Women report marriage in trouble	64.4	33.4	58.5	52.5	46.8	58.7	70.7	74.4	57.1
Adult well-being (%)									
Either spouse has psychological distress	23.8	10.6	18.9	30.3	17.0	26.2	32.5	32.6	23.5
Either spouse reports substance abuse problem	28.1	13.7	12.3	18.5	24.2	24.2	25.7	21.9	20.8
Sample size (couples)	799	1,001	801	677	678	782	800	760	6,298

SOURCES: MDRC calculations based on the SHM baseline information forms and 12-month and 30-month adult surveys.

NOTES: [a]Appendix Table B.1 explains how the demographic and socioeconomic characteristics are defined.

[b]The Oklahoma program funded 200 additional couples beyond the original target enrollment number, but 30-month follow-up activities were not funded for these couples. In addition, three couples withdrew from the study, bringing the total fielded 30-month follow-up sample to 6,095 couples.

of the study's sample reflect its targeted population. As would be expected, given that SHM targeted low-income couples, the SHM sample was economically disadvantaged (Table 2). In about half of couples, both spouses had at least a high school diploma. Moreover, the majority of couples in the SHM evaluation had low or modest incomes at study entry: about 43 percent had incomes below the federal poverty level, and 39 percent had incomes between 100 percent and 200 percent of the poverty level. In addition, 72 percent of families received public assistance of some kind in the year prior to entering the study. In 81 percent of couples, at least one spouse was employed. But this percentage varied greatly for men and women; 72 percent of men and 41 percent of women were employed (not shown). Based on these socioeconomic and demographic indicators, the SHM sample could be characterized as largely "working poor" — economically disadvantaged, despite showing fairly high levels of employment.

- **Most couples (82 percent) were married at study entry.**

Though SHM was designed for and targeted to married couples, some couples (18 percent) reported on follow-up surveys that they had not been married when they enrolled in the evaluation (Table 2).[34] These couple are included in the impact analysis, regardless of their marital status at study entry, and are considered "married" in tables in the report as long as they were still together at follow-up. As a test for how sensitive the impact estimates are to variability in the marital status of couples at study entry, impact estimates were compared for those who reported being married and those who did not report being married at study entry. There is not strong evidence that the effects of SHM differ for these two groups (not shown).

While many marriage education efforts target couples before they are married or when they are newlyweds, SHM targeted couples who were expecting a child or who were already parents. Couples in the study had been married or in committed relationships for about six years, on average. About 30 percent of couples were expectant parents, and couples who enrolled as parents had an average of two children living in the household. The average age of individuals in the sample at study entry was 31.

- **Many couples reported concerns that their marriages were in trouble and reported experiencing stressors that can undermine marital relationships.**

[34]Information about marital status at enrollment comes from retrospective questions asked at the 12-month and 30-month follow-ups. (The question was a late addition to the SHM 12-month survey and, therefore, was also asked to a subset of couples on the 30-month survey.) In total, 90 percent of couples were retrospectively asked whether they were married at the time of enrollment in the SHM study, and the percentages in Table 2 reflect the responses of all these couples.

Close to 80 percent of men and women in the evaluation reported that they were happy in their marriages (Table 2). At the same time, more than half the couples also reported thinking that their marriage was in trouble in the year before entering the study, suggesting that a fair number of couples in the SHM sample experienced marital distress. Moreover, they often experienced other stressors that can destabilize marital relationships and could affect their response to a marriage education program. More than a quarter of couples reported that a stepchild was living in the household. About one-fourth of couples had at least one spouse who was experiencing psychological distress, and about one-fifth of couples had at least one spouse who reported having a substance abuse problem.

- **The characteristics of couples in the SHM evaluation varied substantially across local programs.**

While couples had diverse characteristics across the programs and in most individual programs, there are important distinctions between the couples who were served in different local programs. The Texas and Pennsylvania programs enrolled primarily Hispanic couples (92 percent and 88 percent, respectively), but there was more racial and ethnic diversity in other programs. The percentage of couples in which both spouses had at least a high school diploma ranged widely, from 31 percent in Pennsylvania to 72 percent in Orlando. Couples' incomes ranged from low to modest but varied across programs; Pennsylvania, Seattle, and Wichita had the highest percentages of couples with incomes below 100 percent of the federal poverty level.

None of the local programs verified that couples were married at study entry, but local programs varied in how much they emphasized formal marriage when determining eligibility. As such, the percentage of couples who were married varied considerably by program, ranging from 52 percent in Seattle to 99 percent in Orlando.[35] The samples in Oklahoma City and Seattle consist exclusively of couples who were either expecting a child or who had just had an infant, because those two programs targeted such families. Couples in these programs were also younger and had been married for fewer years, on average, than couples in the other programs. Couples' characterizations of their marital relationships also varied. For example, compared with the other local programs, more men and women in Oklahoma City and Seattle reported that they were happy in their relationships.

[35]SHM programs asked couples whether they were married but asked this question in somewhat different ways. Some programs, such as Seattle's, asked couples whether they considered themselves to be married, rather than whether they were legally married, while other programs placed more emphasis on legal marriage as an eligibility requirement.

Comparison of Couples in the SHM Sample and Couples in Nationally Representative Samples

- **As one would expect in a program targeted to couples with incomes less than $50,000, SHM couples were substantially more likely to be low-income than all married couples with children in the United States.**

According to the American Community Survey (ACS), 7 percent of all married couples with children in the United States in 2008 lived in poverty, and 15 percent were considered to be low-income.[36] In contrast, 43 percent of SHM couples lived in poverty, and 82 percent of couples were low-income.

- **Compared with low-income married couples with children from two nationally representative survey samples, more couples in the SHM evaluation reported concerns that their marriages were in trouble.**

Comparisons of couples in the SHM sample and low-income married couples with children from the Survey of Marriage and Family Life (SMFL)[37] and the National Survey of Families and Households (NSFH)[38] — two nationally representative surveys that include low-income married respondents — show that SHM couples reported being less happy with their marriages at study entry than the low-income couples in these national samples, and a higher percentage of SHM couples reported thinking that their marriage was in trouble during the past year. Only 29 percent of SHM men reported being very happy with their marriages, compared with 48 percent of low-income men in the SMFL and 47 percent of low-income men in the

[36]The sample used for this comparison includes married couples in the 2008 American Community Survey (ACS) who had one child or more under age 18 living in the household.

[37]Data in the SMFL were collected by Paul Amato, Alan Booth, David Johnson, and Stacy Rogers; see Booth, Amato, Johnson, and Rogers (2002). The SMFL sample consists of 2,100 individuals who were married, living with their spouse, and age 55 or younger; one individual per household was interviewed. The sample is weighted to represent the 2000 U.S. population of married individuals under 55. Descriptive characteristics of low-income married couples with children in the SMFL (defined as all married couples in the SMFL who had a child under age 18 and who had family incomes that were less than 200 percent of the federal poverty level) are shown in Appendix Table B.2. This information was drawn from unpublished calculations conducted by Paul Amato solely for the purposes of this report.

[38]The NSFH is a longitudinal data set collected by the University of Wisconsin; for more information, see http://www.ssc.wisc.edu/nsfh/. The NSFH sample includes 13,007 households; of these, 9,637 are part of the main cross-section, and the rest are an oversampling of African-Americans, Puerto Ricans, Mexican Americans, single-parent families, families with stepchildren, and cohabiting or recently married couples. The NSFH includes three waves of surveys, with the first wave taking place in 1987 and 1988. Interviews were attempted with both spouses, and the sample is weighted to represent the U.S. population. Appendix Table B.2 shows descriptive characteristics of low-income married couples with children in the NSFH. This information is drawn from unpublished calculations conducted by the authors of this report. The sample for these calculations included all married (spouse-present) couples in Wave 1 who had a child under age 18 and who had family incomes of less than 200 percent of the federal poverty level in the NSFH.

NSFH. Approximately 55 percent of men in the SHM sample reported thinking during the past year that their marriages were in trouble, compared with 32 percent of low-income men in the SMFL and 24 percent in the NSFH. Results for women are similar (Appendix Table B.2). In line with previous findings indicating that couples who are unhappier in their relationships are at greater risk of marital disruption,[39] the characteristics presented here suggest that the typical SHM couple may have been more vulnerable to relationship instability than the average low-income couple in the nation.

Why did SHM couples report more marital distress than other low-income couples? It may well be that couples who volunteered for a relationship-strengthening program like SHM tended to be experiencing marital difficulties. It could also be the case that demographic differences between the SHM sample and the national samples account for differences in marital quality. But some of these differences (such as being earlier in their marriages) should have led the typical SHM couple to have less marital distress than national samples of low-income couples rather than more, since marital satisfaction tends to decrease over time.[40] Therefore, it seems likely that the program attracted couples who were concerned about their relationships.

Characteristics of Children in the SHM Evaluation at the 30-Month Follow-Up

At the time of the 30-month survey, focal children in the SHM sample ranged from age 2 to 17, with an average age of 7.[41] As is shown in Table 3, about half the children were under age 5; 21 percent were ages 5 to 8 and a half; and 30 percent were 8 and a half or older.[42] Since all couples in Oklahoma City and Seattle were either expecting a baby or had just had one when they entered the study, all the focal children in these local programs were under age 5 at follow-up. Thirteen percent of focal children were a stepchild of one of the baseline spouses in the household, but this percentage varied substantially across local programs.

- **Focal children in the control group showed levels of adjustment and well-being at the 30-month follow-up that were similar to those of national samples of children and somewhat higher than those of other low-income samples.**

[39]Karney and Bradbury (1995).

[40]Karney and Bradbury (1995).

[41]Although the vast majority of focal children in the sample were ages 2 to 17 at the 30-month follow-up, 2 percent were outside this range.

[42]Table 3 is limited to focal children who had at least one parent who responded to the 30-month adult survey because the information on child adjustment and well-being discussed below is available only for this sample of children.

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Table 3

Demographic Characteristics of Focal Children at the 30-Month Follow-Up

Characteristic[a]	Program Location								
	Bronx	Oklahoma City	Orlando	Pennsylvania	Seattle	Shoreline	Texas	Wichita	Overall
Child age[b] (%)									
2 to 4 years	29.3	100.0	43.9	21.7	99.8	37.7	24.1	33.7	48.8
5 to 8.5 years	26.3	0.0	28.7	27.9	0.0	31.4	27.6	28.0	21.4
8.5 to 17 years	44.4	0.0	27.4	50.4	0.2	30.9	48.3	38.3	29.8
Child is female (%)	48.6	49.0	45.8	50.4	51.1	46.4	48.8	47.8	48.4
Child is a stepchild (%)	22.3	0.0	12.5	21.1	1.4	9.9	11.8	26.4	13.0
Sample size[c] (children)									
Program group	255	318	320	276	239	301	293	305	2,307
Control group	263	317	329	230	262	298	309	321	2,329

SOURCES: MDRC calculations based on the SHM baseline information forms, 30-month adult and youth surveys, and direct child assessments.

NOTES: [a]Appendix Table B.3 explains how these characteristics are defined.

[b]The first age group included children between the ages of 2 years and 4 years, 11 months. The second age group included children between the ages of 5 years and 8 years, 5 months. The third age group included children between the ages of 8 years, 6 months, and 17 years, 11 months. Although the vast majority of focal children in the sample were between the ages of 2 and 17 years, 2 percent were outside this range.

[c]This table shows demographic characteristics for all focal children who had at least one parent who responded to the 30-month adult survey, regardless of whether child outcome data is available for them.

Young children in the SHM control group showed levels of adjustment at the 30-month follow-up that were similar to the levels of a nationally representative sample of kindergarten-age children from the Early Childhood Longitudinal Study, Kindergarten Class of 1998-99 (ECLS-K).[43] For example, most parents in both the SHM control group and the ECLS-K sample reported that their 5-year-olds did not often display externalizing behavior problems (such as aggression and acting out). About 92 percent of parents of 5-year-old children in the SHM control group gave ratings of "somewhat true" or "not true" when asked whether their child had a very strong temper and lost it easily, and 99 percent of parents gave ratings of "somewhat true" or "not true" when asked whether their child had trouble getting along with other children. On a similar parent-reported measure, between 67 percent and 85 percent of parents of kindergartners (most of whom were 5 years old) in the ECLS-K said that their children got angry easily, argued with others, and fought with others either "sometimes" or "never."

Older children in the SHM control group also appear to have performed in school as well as adolescent-age children from the National Longitudinal Study of Adolescent Health (Add Health). For example, when asked what grades they had received in their last full year of school, 70 percent of 12- to 17-year-old children in the SHM control group reported that they had received mostly Bs or higher. Consistent with this, between 56 percent and 65 percent of children in grades 7 to 12 in Add Health reported that, in the most recent grading period, they had received a B or better in English or language arts, mathematics, history or social studies, or science.[44]

At the same time, SHM children in the control group appear to have fared slightly better than those in other low-income samples. For instance, young children in the SHM control group who were ages 3 to 4 showed slightly higher scores (average score of 98) on a standardized measure of vocabulary skills than a nationally representative sample of low-income 3- and 4-year-olds who were enrolled in Head Start (Head Start Family and Child Experiences Survey [FACES]; average score of 87 in fall of the Head Start year).[45] It is important to note, however, that children in the FACES sample were slightly more disadvantaged than those in the SHM sample on such indicators as the percentages who lived with a single mother and in households where the total income was at or below the federal poverty level. Research has shown that economic and social disadvantage are associated with young children's cognitive development.[46] Therefore, these differences may help to explain why SHM children performed better on this test of vocabulary skills.

[43]Zill and West (2001).

[44]These percentages are based on calculations made using frequencies from the Add Health Adolescent Interview Codebook, Section on Academics and Education (Udry, 2003).

[45]Moiduddin et al. (2012).

[46]Acs (2007); Korenman, Miller, and Sjaastad (1995); Yeung, Linver, and Brooks-Gunn (2002).

Taken together, these comparisons suggest that SHM children were not doing particularly poorly, even though their families tended to experience adverse circumstances, such as economic disadvantage and distressed marital relationships, which can place children at increased developmental risk.

Impacts on Services Received by Couples

As with any voluntary program, couples in the Supporting Healthy Marriage (SHM) program group may not actually have used all the services that were offered. At the same time, couples in the control group may have found services similar to those offered by SHM from other community resources. If this were the case, the difference in services received by couples in the program group and those in the control group could be small, making it difficult to draw conclusions about the effectiveness of SHM.

As a first step in understanding the effects of SHM on various outcomes of interest, estimated impacts on service receipt for the overall sample as reported by study participants were examined. (See Table 4. Box 2 explains how to read the tables showing the impact estimates.) Because SHM services were offered to program group members in their first year after enrolling in the study, the best way to assess the differences in services received by program and control group members is by looking at the services that they reported receiving in the 12 months following study entry.[47] This section discusses sample members' responses to the 12-month survey — results that were first discussed in the 12-month impact report — as well as their responses to the 30-month survey.[48]

- **At the 12-month follow-up, the SHM program group received substantially more relationship skills education in group settings than the control group. The majority of control group couples reported never receiving any relationship-related services.**

Program group couples participated in relationship services in a group setting at a much higher rate than control group couples in the 12 months following study entry (Table 4). About 90 percent of program group couples reported receiving any group-based relationship services,

[47]This information is available only from the 12-month survey. The 30-month survey asks about services received in the 12 months prior to the survey, a time frame that would not include the year that program group couples were eligible for SHM services.

[48]While the 12-month survey results presented in this report are very similar to the results presented in the SHM 12-month impact report, they are slightly different because they show receipt of services within the 30-month survey respondent sample rather than the 12-month survey respondent sample. (While there is considerable overlap between the 12-month and 30-month respondent samples, some people responded to the 12-month survey but not the 30-month survey and vice versa.)

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Table 4

Estimated Impacts on Couples' Participation in Relationship Services 12 Months After Study Entry and 12 Months Before the 30-Month Survey

Outcome[a]	Program Group	Control Group	Difference (Impact)	
12 months after study entry				
Receipt of group relationship services[b] (%)				***
Number of times attended				
0	10.2	76.7	-66.5	
1-5	15.2	15.5	-0.2	
6-10	31.8	5.2	26.6	
More than 10	42.8	2.6	40.2	
Receipt of one-on-one relationship services[c] (%)				
Number of times attended				
0	79.6	81.3	-1.7	
1-5	12.5	11.9	0.6	
6-10	5.8	4.9	0.9	
More than 10	2.2	2.0	0.2	
12 months before the 30-month survey				
Receipt of group relationship services[b] (%)				
Number of times attended				
0	89.6	89.5	0.1	
1-5	5.9	6.2	-0.2	
6-10	3.2	3.4	-0.1	
More than 10	1.2	1.0	0.2	
Receipt of one-on-one relationship services[c] (%)				
Number of times attended				
0	90.0	88.2	1.8	
1-5	5.8	6.8	-1.0	
6-10	3.1	3.7	-0.6	
More than 10	1.1	1.3	-0.2	
Sample size[d] (couples)	2,497	2,537		

SOURCES: MDRC calculations based on the SHM 12-month and 30-month adult surveys.

NOTES: To assess differences across research groups, chi-square tests were used for categorical outcomes. Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Rounding may cause slight discrepancies in sums and differences.

[a]For detailed notes about the construction of these outcomes, see Lowenstein et al. (2014), Appendix E.

[b]"Group relationship services" includes marriage or relationship skills education services that are conducted in a group session and received with a spouse.

[c]"One-on-one relationship services" includes services received outside SHM with or without a spouse.

[d]The numbers in this table are calculated for the 30-month adult survey respondent sample. The information about participation in services in the 12 months after study entry comes from the 12-month adult survey. The sample size reflects couples who responded to both the 12-month and the 30-month adult survey.

Box 2

How to Read the Estimated Impact Tables in This Report

The effects, or *impacts*, of the SHM program are estimated by comparing outcomes for the program and control groups, adjusted for background characteristics of the sample members. The impact tables in this report present a series of numbers that are helpful for interpreting the estimated impacts of the SHM program. The first two columns of numbers show the mean values of outcomes for the program and control groups. The excerpt from Table 4 below shows the percentage of program and control group couples who reported thinking, in the three months before the survey interview, that their marriage was in trouble. Over 47 percent of control group members reported thinking this, compared with nearly 43 percent of program group members.

Estimated Impacts on Marital Quality at the 30-Month Follow-Up (Excerpt)

Outcome	Program Group	Control Group	Difference (Impact)	Effect Size	Standard Error
Marital appraisals					
Either spouse reported marriage in trouble (%)	42.8	47.3	-4.5	-0.09 ***	1.3
Sample size					
Couples	2,249	2,291			

The number in the "Difference (Impact)" column displays the estimated impact — or the difference between the average outcomes for the program group and the control group. As shown in the table, the estimated impact on couples' reports of their marriage being in trouble is –4.5 percentage points (42.8 percent in the program group *minus* 47.3 percent in the control group).

The impact estimates are translated into standardized *effect sizes* by dividing the impact estimate by the standard deviation* of the outcome for the control group. Translating impact estimates into effect sizes can make it easier to compare the magnitude of effects across different studies. One way to interpret the substantive significance of the impact estimates is by using a rule of thumb whereby effect sizes of about 0.20 or less are considered "small," effect sizes of about 0.50 are considered "moderate," and effect sizes of about 0.80 or more are considered "large."†

The number of asterisks shown in the tables indicates whether an estimated impact is *statistically significant* (or that the impact is large enough that it is unlikely to have occurred by chance). One asterisk corresponds with an estimated impact that is statistically significant at the 10 percent level; two asterisks reflect the 5 percent level; and three asterisks reflect the 1 percent level, meaning there is less than a 1 percent chance that a program with no effect would have generated such a large difference.

The *standard errors* in the tables are estimates of the variability (or statistical imprecision) of the impacts of the SHM program. Larger standard errors indicate greater uncertainty in the magnitude of the impact estimates.

NOTES: *The *standard deviation* is a measure of how widely dispersed data are around their mean.
†Cohen (1988).

compared with 23 percent of control group couples. This is not surprising, given that group-based workshops in relationship skills education were the primary component of SHM and that such services often were not available for low-income couples from other providers at the time of the study. Furthermore, program group couples reported attending more group sessions; about 43 percent of program group couples reported attending more than 10 sessions, compared with less than 3 percent of control group couples. Control group couples were more likely than program group couples to report that they did not participate in any sessions.[49]

It was also possible that control group members — who volunteered to participate in a study about marriage education services — would seek out alternative relationship services, such as one-on-one marriage or relationship counseling, because they could not participate in SHM. To explore this possibility, the SHM survey interviewers asked couples to report on one-on-one marriage or relationship services received outside SHM. At the 12-month follow-up point, there were no statistically significant differences in the number of times that program and control group couples attended one-on-one relationship services (Table 4). Furthermore, approximately 81 percent of the control group did not receive any one-on-one relationship services, suggesting that control group members did not attend services that were an alternative to SHM.

- **In the year before the 30-month survey, there was no difference in program and control group members' participation in relationship skills education in group settings or receipt of any other relationship-related services.**

As discussed above, SHM program services were available only to program group couples for one year after they entered the study. Once these services ended, program and control group couples could have found their way to alternative relationship services, which could influence the differential in services received by couples in the two groups. To explore this possibility, the 30-month survey asked about relationship education services received in the year prior to the survey. As it turns out, in the year before the 30-month survey, there was no difference in the services received by program and control group couples. In both groups, only about 10 percent of couples participated in relationship skills education in a group setting. Similarly, only 10 percent of program group couples and 12 percent of control group couples participated in one-on-one relationship services in that year.

[49] An analysis of data from the SHM management information system (MIS data) shows that most spouses attended SHM sessions together (Miller Gaubert, Gubits, Alderson, and Knox, 2012). For impacts on participation outcomes analyzed by local program, see Lowenstein et al. (2014), Appendix H.

30-Month Impacts on Marital Stability, Marital Relationships, Adult Psychological Distress, Parenting, and Child Outcomes

At the 30-month follow-up, the impact analysis focused on 30 prespecified outcomes that are central to understanding how SHM affected couples, families, and, ultimately, children. This section presents the estimated effects on those outcomes. Unless otherwise noted, all findings discussed below are statistically significant before any adjustments were made for the number of outcomes examined. (Box 3 provides more information on the approach used to interpret impact results.) Impacts on a set of exploratory, or "secondary," outcomes are also presented in Appendix D, but these findings are not discussed in the report.

Estimated Impacts on Adult Outcomes

As discussed above, a central aim of SHM was to improve the quality of marital relationships and, in turn, increase the likelihood that couples would stay together. Accordingly, the SHM curricula focused on communication and conflict resolution skills and on building positive connections between spouses, including a deeper understanding of each other's perspectives, as a means of improving not only the way in which couples interacted with each other but also their appraisals of their marital relationships. Improvements in these areas, in turn, were expected to translate into effects on marital stability and spouses' psychological well-being. This section presents the estimated effects of SHM in these areas. (Appendix Box C.1 describes how these adult outcomes are defined.)

Estimated Impacts on Marital Stability

- **SHM did not have an impact on couples' relationship status.**

Results in Table 5 show that SHM did not lead more couples to stay together. In both the program and the control group, the percentage of couples who remained married or in a committed relationship dropped from 100 percent at study entry to 90 percent and 82 percent at the 12-month and 30-month follow-up points, respectively.[50] This points to fairly high rates of

[50]As discussed in footnotes 34 and 35, of couples who were asked at either the 12- or the 30-month follow-up about their relationship status at baseline, a percentage retrospectively reported that they were not married at study entry (Table 2). This group was given the option of reporting their current relationship status at the 30-month follow-up as being in a committed relationship with the same partner as when they entered the study. At the 30-month follow-up, 71 percent of all SHM couples reported being married; 10 percent reported being in a committed relationship or romantically involved; 13 percent reported being separated; and 6 percent reported being divorced or having had their marriage annulled. Couples' current relationship status at the 30-month follow-up varies with whether they retrospectively reported that they were married when they entered the study. Of couples who reported that they were married at study entry, 88 percent reported being married to their baseline partner at the 30-month follow-up, and 12 percent reported being separated or divorced or having had their marriage annulled. Of couples who reported that they were not married at study entry, 33 percent reported being married to their baseline partner at the 30-month follow-up; 41 percent reported being in a committed relationship or romantically involved; and 26 percent reported having split up.

Box 3

The Multiple Comparisons Problem

Results in this report are characterized in terms of statistical significance. A statistically significant impact estimate is one that is unlikely to have been the result of a truly ineffective program. When an impact estimate is statistically significant at the 10 percent level, for example, it means that there is only a 10 percent chance that a completely ineffective program would have generated such a large impact estimate.

Although this logic applies when looking at one impact estimate, it is also relevant when multiple outcomes are examined. Increasing the number of impact estimates examined increases the likelihood that at least one estimate will be statistically significant by chance, even if the program had no true effect. If 10 independent outcomes are examined, there is a good chance that one of them will be statistically significant at the 10 percent level purely by chance, even if the program is truly ineffective. Likewise, if 30 independent impact estimates are examined, one is almost sure to be significant at the 10 percent level even if the program is truly ineffective.

To guard against the possibility of drawing incorrect conclusions about the effectiveness of SHM and for whom the program is more effective or less effective, several strategies were used. First, the impact analysis focused on a limited number of prespecified core outcomes that are hypothesized to be critical for assessing the effectiveness of the SHM program. Specifically, 30 outcomes were examined. Focusing the impact analysis in this way, rather than examining a broader array of outcomes, reduces the chance of a spurious finding of statistical significance.

Second, the prespecified set of subgroups examined in the impact analysis was also intentionally kept small. In particular, most results are examined across only three sets of subgroups of families and across the eight SHM programs.[*]

Finally, additional statistical procedures — including formal adjustments for multiple comparisons[†] — were performed to help guide interpretation and discussion of the results. In brief, after the impacts were estimated, statistical methods were used to determine how likely the results would have been, given the number of outcomes tested and the relatedness of the outcomes to each other, if the program were truly ineffective. The results of these procedures helped to inform the report's conclusions about which domains of outcomes were affected by SHM. For example, of the 10 impacts estimated for parenting outcomes, three were statistically significant. The additional procedures suggest that the likelihood of finding this pattern of results is greater than 10 percent even if the program actually has no true effect on parenting. Thus, the multiple comparisons procedures weaken the evidence that SHM affected parenting behaviors. The results of these additional statistical tests are shown in the 30-month technical supplement.

NOTES: [*]Estimated impacts on child outcomes were also examined by child age.

[†]Methods for these formal adjustments are described in detail in this report's technical supplement. See Lowenstein et al. (2014), Appendix D.

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Table 5

Estimated Impacts on Marital Stability at the 30-Month Follow-Up

Outcome[a]	Program Group	Control Group	Difference (Impact)	Effect Size[b]	Standard Error
Relationship status					
Married[c] (%)	81.5	81.5	0.0	0.00	1.0
Sample size (couples)	2,497	2,537			

SOURCE: MDRC calculations based on the SHM 30-month adult survey.

NOTES: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members.

Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

[a]Appendix Box C.1 describes how this outcome is defined.

[b]Effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the standard deviation for the control group.

[c]This includes couples who, at the 30-month follow-up, were still married or in a committed relationship with the same partner they had when they entered the study.

relationship instability among couples in the SHM sample, even considering that some couples were not married when they entered the study. By comparison, projections among married and cohabiting couples who look similar to the SHM sample but who were not necessarily applying for a family-strengthening program suggest that closer to 90 percent of couples should still be together after 30 months.[51]

At the 30-month follow-up, dissolution rates of couples in the SHM sample also varied with their relationship status at study entry. Dissolution rates were lower among couples who reported that they were married at study entry; 88 percent of these couples reported that they were still together at the 30-month follow-up. In contrast, only 74 percent of couples who reported that they were not married at study entry were still together at the 30-month follow-up. Interestingly, of the couples who reported that they were not married at baseline, 33 percent reported being married to their baseline partner at the 30-month follow-up.

[51]These projections were made by calculating the expected relationship survival rate for the 30-month follow-up sample by matching each SHM couple to an appropriate rate from the detailed survival tables in Bramlett and Mosher (2002) (based on data from the 1995 wave of the National Survey of Family Growth). This matching was done on the basis of (1) whether the couple was married or cohabiting at study entry, (2) the wife's race and ethnicity, (3) the family income, and (4) the length of marriage or relationship at study entry.

Estimated Impacts on Marital Quality

- **SHM caused small, but statistically significant, improvements in marital quality.**

As seen in the first panel of Table 6, SHM improved two measures of couples' appraisals of the quality of their marital relationships. Both outcomes were measured only for couples who were still together at the 30-month follow-up.[52] First, SHM increased program group couples' reports of relationship happiness relative to their counterparts in the control group. Marital appraisals such as this are important both because they are indicators of how satisfied each spouse currently is with the relationship and because they are predictive of future relationship quality and stability.[53] On a scale where 1 is "completely unhappy" and 7 is "completely happy," the average responses in the program group and control group were 5.94 and 5.79, respectively, which translates to a difference of 0.15 point and an effect size of 0.13 standard deviation. An impact of this magnitude could theoretically occur, for example, if the program changed the reported marital happiness of 305 couples (about 15 percent of couples in the program group) from 5 to 6 on the 7-point scale.

As discussed in Box 2 above, there are many ways to interpret the substantive significance of these impact estimates. A rule of thumb from prior social science research suggests that effect sizes of 0.20 or less are small or modest.[54] Although the effect is small by this standard, it is notable because it was sustained for two and a half years after couples entered the study.

In addition to improving marital happiness, SHM decreased the percentage of couples who reported thinking, in the three months before the survey, that their marriage was in trouble. This measure is commonly used to characterize marital distress, which can be predictive of later divorce or separation among married couples.[55] Fewer program group couples reported thinking that their marriage was in trouble than control group couples; over 47 percent of control group members reported thinking this at the 30-month follow-up, compared with 43 percent of program group members.

[52]Several marital-quality outcomes were available only for respondents who were still with their baseline spouse at the 30-month follow-up. If SHM affected which couples were still together, this could lead to biased impact estimates for these outcomes. Before impacts were estimated for these outcomes, tests were performed to see whether there was evidence that SHM affected which couples were still together at 30 months. No evidence of this was found. For more details, see Lowenstein et al. (2014), Appendix G.

[53]Karney and Bradbury (1995).

[54]Cohen (1988).

[55]Karney and Bradbury (1995); Conger, Reuter, and Elder (1999).

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Table 6

Estimated Impacts on Marital Quality at the 30-Month Follow-Up

Outcome[a]	Program Group	Control Group	Difference (Impact)	Effect Size[b]		Standard Error
Marital appraisals						
Couple's average report of relationship happiness[c]	5.94	5.79	0.15	0.13	***	0.03
Either spouse reported marriage in trouble (%)	42.8	47.3	-4.5	-0.09	***	1.3
Warmth and support in relationship[d]						
Men's report of warmth and support	3.55	3.50	0.05	0.09	***	0.01
Women's report of warmth and support	3.45	3.40	0.05	0.10	***	0.02
Positive communication skills in relationship[d]						
Men's report of positive communication skills	3.29	3.22	0.06	0.10	***	0.02
Women's report of positive communication skills	3.24	3.18	0.06	0.10	***	0.02
Negative interactions in relationship[d]						
Men's report of negative behavior and emotions	2.07	2.15	-0.08	-0.09	***	0.02
Women's report of negative behavior and emotions	2.04	2.13	-0.09	-0.12	***	0.02
Fidelity						
Neither spouse reported infidelity (%)	92.4	90.9	1.5	0.05	*	0.8
Sample size[e]						
Couples	2,249	2,291				
Men	2,120	2,233				
Women	2,287	2,358				

SOURCE: MDRC calculations based on the SHM 30-month adult survey.

NOTES: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members.

Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

[a]Appendix Box C.1 describes how these outcomes are defined.

[b]Effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the standard deviation for the control group.

[c]The scale ranges from 1 to 7, where 1 = "completely unhappy" and 7 = "completely happy."

[d]The scale ranges from 1 to 4, where higher scores indicate higher levels of the outcome.

[e]Some outcomes in this table were available for all respondents, and some were only available for couples who were still together at the 30-month follow-up. The sample sizes in this table reflect the sample sizes for the outcomes with the least missing data, although the sample sizes were similar across outcomes. See Lowenstein et al. (2014), Appendix E, for more information on the criteria used to determine respondent eligibility for each outcome.

Examining trajectories of marital distress over time provides further insight into how SHM might have shaped couples' lives. Figure 2 shows the percentage of program and control group couples who reported thinking in the past three months that their marriage was in trouble at three different time points. The sample here includes only couples who were intact at study entry and at the 12- and 30-month follow-up points. At study entry, a fairly high percentage (66 percent) of both program and control group couples said that they had recently thought their marriage was in trouble. This percentage dropped across both research groups over time. This finding is contrary to much of the literature in the area, which generally suggests that marital distress tends to increase and that marital quality tends to decline over time.[56] The decline in marital distress was initially steeper for program group members, and the difference between the program and control groups was sustained over time. This suggests that couples may have entered the program at low points in their relationships. The quality of their marriages may have improved over time on their own, but SHM allowed couples to do a little better than they otherwise would have in the absence of the program.

In addition to asking survey respondents about their overall appraisals of their marital relationships, interviewers asked each spouse about the extent to which positive and negative emotions and behaviors and effective communication skills were expressed in their relationship.[57] Research suggests that positive interactions, on the one hand, and negative interactions, on the other, are separate qualities of the marital relationship, rather than being two ends of a spectrum, and that they have different implications for other aspects of marital functioning.[58] Table 6 shows that SHM had small, positive impacts on all these measures of the quality of marital interactions for program group respondents relative to their control group counterparts. Across all these measures of marital quality, the pattern and magnitude of impacts were very similar at the 12- and 30-month follow-up points. There is little evidence of differences in these impacts between men and women.[59]

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[56]Karney and Bradbury (1995).

[57]While all respondents who had contact with their baseline partner were asked about positive communication skills and negative behaviors and emotions expressed in the relationship with their baseline partner, respondents were asked about warm and supportive behaviors and emotions only if they were still in a married or committed relationship with this partner at the 30-month follow-up. Even though the criteria to determine respondent eligibility varied for the survey items used to construct the marital-quality outcomes in Table 6, the sample sizes for the different outcomes are similar; therefore, only one set of sample sizes is shown in the table.

[58]Fincham and Linfield (1997).

[59]To test for differences between men and women, the regression model used the following items to predict the outcomes in the pooled sample with men and women: a program group dummy (E), a dummy indicating that the respondent is a female (female), an interaction between E and female, the covariates, and a set of interactions between the covariates and female. Standard errors were adjusted to account for the fact that men and women were clustered in couples. For estimated impacts on marital-quality measures pooled across men and women and for estimated impacts on individual-level versions of the couple-level marital stability and marital-quality measures, see Lowenstein et al. (2014), Appendix I.

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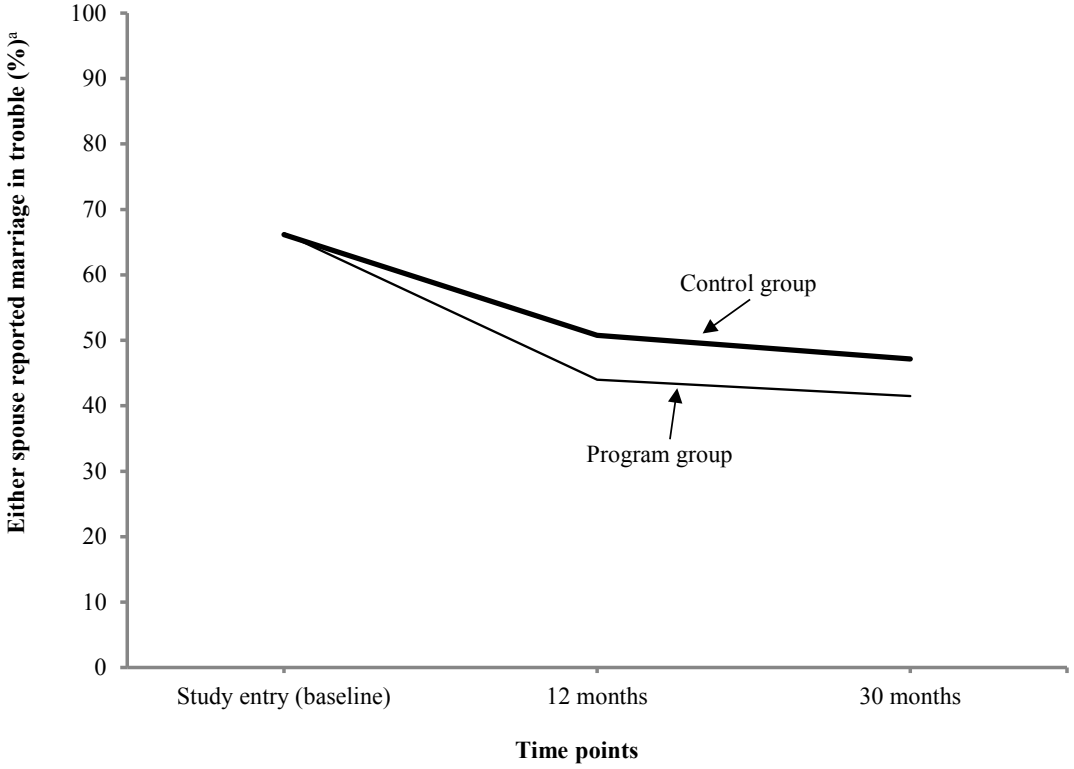
Figure 2

Levels of Marital Distress Over Time



SOURCES: MDRC calculations based on the SHM baseline information forms and 12-month and 30-month adult surveys.

NOTES: The sample used for these calculations includes only couples who were intact at study entry and at the 12- and 30-month follow-up points. The sample sizes are 2,106 for the control group and 2,032 for the program group.

[a]Appendix Box C.1 describes how this outcome is defined.

Finally, respondents were also asked whether they had cheated on their spouse or whether they thought that their spouse had definitely cheated on them in the three months prior to the survey. SHM significantly decreased the percentage of individuals in the program group who reported that they or their spouse had definitely committed infidelity, relative to individuals in the control group. While 90.9 percent of control group members reported fidelity in their

relationships, 92.4 percent of program group members reported fidelity.[60] SHM did not affect reports of infidelity at the 12-month follow-up.

Estimated Impacts on Psychological Abuse and Physical Assault

The 30-month follow-up survey also asked respondents about the extent to which they experienced psychological abuse and physical assault in their relationships with their baseline partner, regardless of whether they were still in a relationship with that partner. *Psychological abuse* is characterized by such experiences as feeling afraid of being hurt by one's spouse and being prevented by one's spouse from seeing or talking with friends. *Physical assault* captures such experiences as being pushed, hit, or choked or being threatened or being forced to have sex by one's spouse. These outcomes are important to examine, given that the presence of any abuse in the home can have important ramifications for adult and child well-being.

These results are of interest because marriage education programs, like SHM, are generally not intended for couples who have abusive relationships; their content and approaches are not specifically designed to address abuse. To reduce the possibility of inadvertently exacerbating intimate partner violence, the decision was made when designing SHM not to serve couples in abusive relationships and, instead, to refer them to other services designed specifically to address domestic violence. To that end, SHM programs screened women for domestic violence when the couples applied to the program. Women who reported abuse were referred to appropriate services, and those couples did not enter the SHM program. Despite these efforts, it was expected that some couples who participated in the program might nevertheless be in abusive relationships. Therefore, in addition to screening couples at study entry, staff were trained with protocols for how to respond safely if a couple exhibited or disclosed domestic violence during the program, and couples were referred to other services at that point. If any such couples entered the program, the hope was that SHM would reduce the level of violence among these couples and that it would reduce the likelihood that violence would begin in relationships that had no prior history of violence.

- **Men and women in the program group reported less psychological abuse in their relationships, on average, than their control group counterparts.**

As shown in Table 7, men in the program group reported an average score of 1.26 out of 4 (with a higher score representing more abuse), which is 0.05 point lower than the score reported by control group men, for an effect size of –0.10. Program group women reported an average score of 1.24, which is 0.04 point lower than the score reported by control group

[60]For estimated impacts on additional measures of marital quality, see Appendix Table D.1.

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Table 7

Estimated Impacts on Psychological Abuse and Physical Assault at the 30-Month Follow-Up

Outcome[a]	Program Group	Control Group	Difference (Impact)	Effect Size[b]	Standard Error
Psychological abuse[c]					
Men's report of psychological abuse	1.26	1.30	-0.05	-0.10 ***	0.01
Women's report of psychological abuse	1.24	1.28	-0.04	-0.07 ***	0.01
Physical assault					
Men's report of any physical assault (%)	9.4	10.4	-1.0	-0.04	0.9
Women's report of any physical assault (%)	7.0	8.2	-1.2	-0.04	0.8
Sample size					
Men	2,154	2,261			
Women	2,353	2,401			

SOURCE: MDRC calculations based on the SHM 30-month adult survey.

NOTES: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members.

Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

[a]Appendix Box C.1 describes how these outcomes are defined.

[b]Effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the standard deviation for the control group.

[c]The scale ranges from 1 to 4, where higher scores indicate higher levels of psychological abuse.

women, for an effect size of –0.07. The magnitude of impacts at the 12-month follow-up was very similar. An impact of this magnitude could theoretically occur if the program led 597 men (about 28 percent of men in the program group) to report "never" for every item in the psychological abuse scale, rather than reporting "hardly ever" on at least one item. These effects are small but noteworthy, given the importance of the outcome and the fact that the effects were sustained for two and a half years after couples entered the study. These findings also demonstrate that an intervention that is aimed at improving couples' marital quality can change very serious negative behaviors in relationships, which could have important implications for the safety of the victim and the children in the household.

- **SHM did not significantly affect men's or women's reports of physical assault at the 30-month follow-up.**

SHM significantly reduced men's reports of being physically assaulted at 12 months, but the impact at 30 months was smaller and no longer statistically significant. SHM did not

affect women's reports of physical assault at either follow-up point. About 10 percent of men and less than 8 percent of women reported that their spouse had physically assaulted them in the three months before the 30-month survey (Table 7). About 1.4 percent of men and 1.7 percent of women in both groups reported experiencing severe physical assault in those months (Appendix Table D.2).[61] Given some concerns that marriage education programs could exacerbate domestic violence, it is encouraging that SHM did not do that.

In both the program and the control group, fewer men and women reported experiencing physical assault on the 30-month survey than on the 12-month survey. This appears to have been driven partially by higher rates of breakup among sample members experiencing physical assault at the 12-month follow-up.[62] Among individuals who reported experiencing physical assault at 12 months, 84 percent reported that they were still married 30 months after entering the study, compared with 91 percent of individuals who did not report assault at the 12-month follow-up.[63] But since the data on physical assault come from the 12-month survey rather than from the baseline survey, it is not easy to determine whether SHM led more program group members than control group members to break up after experiencing assault.

Estimated Impacts on Adult Psychological Distress

The measure of psychological distress that is examined in this report captures such feelings as nervousness, hopelessness, and worthlessness. While this measure does not diagnose depression or anxiety, it does identify individuals who are at higher risk of these mood disorders. Psychological distress was not a direct target of SHM, but it was hypothesized that improvements in marital quality could lead to improvements in adults' mental health and well-being. In addition to the benefits of this for affected adults, decreasing psychological distress is important because parental depression and distress are often linked with less positive parenting practices and increased problem behaviors for children.[64]

- **Women in the program group reported less psychological distress than their counterparts in the control group, but the effect on men's psychological distress is not statistically significant.**

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[61]"Severe physical assault" is defined as whether the spouse used a knife, gun, or weapon or choked, slammed, kicked, burned, or beat the respondent in the past three months. As shown in Appendix Table D.2, SHM did not have a statistically significant effect on severe physical assault.

[62]Individuals reporting physical assault at the 12-month follow-up were also slightly less likely to respond to the 30-month survey than individuals who did not report assault; 82 percent of those who reported assault at the 12-month follow-up responded, compared with 84 percent of those who did not report assault.

[63]These individual-level percentages cannot be compared directly with the percentages of couples who reported that they were married in Table 5; in the percentages in the table, couples were no longer considered married if either spouse reported that they were not married.

[64]Hoffman, Crnic, and Baker (2006); McLoyd (1990); Conger and Elder (1994).

As shown in Table 8, program group women reported an average psychological distress score that is 0.06 point lower on a 4-point scale than the score for control group women. This translates to an effect size of –0.09. SHM significantly reduced men's reports of psychological distress at 12 months, but the impact at the 30-month follow-up was smaller and no longer statistically significant.[65]

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Table 8

Estimated Impacts on Psychological Distress at the 30-Month Follow-Up

Outcome[a,b]	Program Group	Control Group	Difference (Impact)	Effect Size[c]	Standard Error
Individual psychological distress					
Men's psychological distress	1.90	1.93	-0.03	-0.05	0.02
Women's psychological distress	1.98	2.04	-0.06	-0.09 ***	0.02
Sample size					
Men	2,182	2,304			
Women	2,413	2,464			

SOURCE: MDRC calculations based on the SHM 30-month adult survey.

NOTES: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members.

Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

[a]Appendix Box C.1 describes how this outcome is defined.

[b]The scale ranges from 1 to 4, where higher scores indicate higher levels of psychological distress.

[c]Effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the standard deviation for the control group.

Estimated Impacts on Coparenting and Parenting

The next set of results describes whether SHM had effects on other aspects of family functioning, namely, the quality of the coparenting relationship and parenting.

The research team chose a core set of outcomes that are identified in the literature as being linked to marital quality and adult psychological well-being and as being associated with more positive outcomes for children. *Cooperative coparenting* measures how parents work together to raise their children. *Parental supportiveness* encompasses parental involvement (the time that individual parents spend with their children and their interest in their children's

[65]For estimated impacts on additional measures of adult well-being, see Appendix Table D.3.

activities) and parental warmth (expressions of positive affect, love, affection, acceptance, and admiration for their child). *Parental responsiveness* behaviors range from hostile or dismissive responses to comforting and sensitive reactions to a child's initiations, distress, and needs. *Parental hostility* is measured by the extent to which parents exhibit coercive, angry, criticizing, and negative emotions toward their child. *Harsh discipline* is a measure of whether parents use physical punishment with or hit, spank, or grab their child. (Appendix Box C.2 describes how the primary parenting outcomes are defined using maternal, paternal, and child self-reports.) Information on the quality of the coparenting relationship was collected from couples who were either together or in contact at the 30-month follow-up. Information on parenting was collected from men and women who had contact with a focal child at the 30-month follow-up.[66]

Multiple data sources (maternal-, paternal-, and child-reported measures and/or direct child assessments)[67] were used to measure many of the parenting and child outcomes in the impact analysis at the 30-month follow-up. Rather than examine effects of SHM on outcomes defined by each data source separately or on separate age groups of children, the primary impact analysis combined information about focal children of different ages (children ages 2 to 17) and included different data sources for children of different ages. That is, each data source was used as a separate indicator of the parenting or child outcome of interest, such that each parenting outcome had up to two measures and each child outcome had up to four measures in the impact analysis. Combining information across data sources and children of different ages is appropriate because all the measures were intended to represent comparable constructs across children at different developmental stages.[68] Before the analysis was conducted, the outcomes were standardized by measurement source, using control group means and standard deviations. Because these outcomes are standardized, the means for the program and control groups do not provide meaningful information about the outcome levels for these groups; therefore, the program and control group means are not shown in the tables.

The approach described above has been successfully used in prior studies and was employed by the research team for several reasons.[69] Using multiple measurement sources for a given outcome can both reduce measurement error in the outcome and improve its validity by providing a more comprehensive picture of an individual's behavior.[70] In addition, this ap-

[66]Even though the criteria used to determine respondent eligibility varied for the survey items used to construct the coparenting and parenting outcomes, the sample sizes for the different outcomes are similar; therefore, Table 9 shows only one set of sample sizes.

[67]Maternal and paternal reports were drawn from the 30-month adult survey, and child reports were drawn from the 30-month youth survey.

[68]For further information about the data sources used to measure 30-month parenting and child outcomes, see Lowenstein et al. (2014), Appendix B.

[69]See Morris, Duncan, and Clark-Kauffman (2005) and Duncan, Morris, and Rodrigues (2011).

[70]Kraemer et al. (2003); Kuo, Mohler, Raudenbush, and Earls (2000).

proach maximizes statistical power and was used because there was not strong prior evidence that the effects of marital quality (or those of a marriage education program) vary across children of different ages. As discussed below, a supplemental set of analyses explores whether SHM impacts varied by child age.

- **SHM had little effect on the coparenting relationship or parenting.**

Table 9 shows that, of the 10 outcomes examined, only three impacts are statistically significant. The magnitudes of these impact estimates are also very small, with the largest one having an effect size of 0.07. These findings did not remain statistically significant after additional statistical tests were conducted to adjust for the number of outcomes examined (discussed in Box 3).[71] In essence, the findings suggest that there is a greater than 10 percent chance that this pattern of findings could have occurred if SHM had no effect on coparenting and parenting.[72]

Because the impact analysis for most parenting outcomes included multiple measurement sources, supplemental analyses were conducted to explore whether impacts on parenting outcomes varied by measurement source. The results suggest that the magnitudes of the impacts are generally consistent across measurement sources.[73]

Estimated Impacts on Child Well-Being

It was hypothesized that the SHM program might affect child well-being through multiple pathways, including marital quality, the quality of the coparenting relationship and parenting, and parents' mental health — though this spillover is unlikely, given SHM's overall modest effects on adult outcomes. This section presents the estimated effects of SHM on child outcomes.

Based on substantial evidence linking them to marital quality, and their policy relevance, four child outcomes were selected for examination in the impact analysis at the 30-month follow-up: (1) *self-regulation* refers to the ability to manage one's behaviors, emotions, and attention in response to a given situation; (2) *internalizing behavior problems* include feelings of anxiety and depression; (3) *externalizing behavior problems* include aggression, acting out, and hyperactivity; and (4) *cognitive and academic performance* is measured by younger children's vocabulary skills and older children's performance in school.

[71]For the unadjusted and adjusted p-values for the coparenting and parenting outcome domain, see Lowenstein et al. (2014), Appendix Table D.4.

[72]For estimated impacts on additional measures of coparenting and parenting, see Appendix Table D.4.

[73]For more information on the analyses of impacts on parenting outcomes by measurement source, see Lowenstein et al. (2014), Appendix K and Appendix Table K.7.

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Table 9

Estimated Impacts on Coparenting and Parenting at the 30-Month Follow-Up

Outcome[a]	Program Group	Control Group	Difference (Impact)	Effect Size[b]	Standard Error
Coparenting[c]					
Men's report of cooperative coparenting	3.45	3.42	0.03 *	0.05	0.02
Women's report of cooperative coparenting	3.28	3.25	0.03	0.04	0.02
Parenting[d,e]					
Paternal supportiveness of child	—	—	—	-0.02	0.03
Maternal supportiveness of child	—	—	—	0.02	0.03
Paternal responsiveness to child	—	—	—	0.03	0.03
Maternal responsiveness to child	—	—	—	0.04	0.03
Paternal hostility toward child	—	—	—	0.00	0.03
Maternal hostility toward child	—	—	—	0.01	0.03
Paternal harsh discipline[c]	1.23	1.27	-0.04 **	-0.07	0.02
Maternal harsh discipline[c]	1.26	1.29	-0.03 *	-0.05	0.02
Sample size[f]					
Men	2,072	2,163			
Women	2,227	2,290			

SOURCES: MDRC calculations based on the SHM 30-month adult and youth surveys.

NOTES: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members.

Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * =10 percent.

Rounding may cause slight discrepancies in sums and differences.

[a]Appendix Box C.2 describes how the coparenting and parenting outcomes are defined.

[b]For unstandardized outcomes, effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the standard deviation for the control group. For standardized outcomes, the impact estimate is already an effect size.

[c]The scale ranges from 1 to 4, where higher scores indicate higher levels of the outcome.

[d]Multiple measurement sources (adult and child reports) were used to measure the supportiveness, responsiveness, and hostility outcomes. These outcomes were standardized by measurement source, using control group means and standard deviations. Standard errors were adjusted to account for nonindependence of measures at the family level. Program and control group means are not presented for these outcomes because they are less relevant to the interpretation of program impacts.

[e]Although the vast majority of focal children in the sample were between the ages of 2 and 17 years, 2 percent were outside this range.

[f]Information on the quality of the coparenting relationship was only collected from couples who were either together or in contact at the 30-month follow-up. Information on parenting was only collected from men and women who had a focal child at the 30-month follow-up. The sample sizes in this table reflect the sample sizes for the outcomes with the least missing data, although the sample sizes were similar across outcomes. See Lowenstein et al. (2014), Appendix E, for more information on the criteria used to determine respondent eligibility for each outcome.

Appendix Box C.3 describes how these four indicators of child adjustment and well-being were defined, using maternal, paternal, and child reports and direct child assessments. Information on child adjustment and well-being was collected only from families with a focal child at the 30-month follow-up.

- **SHM had little effect on child outcomes.**

Table 10 shows that the SHM program had statistically significant impacts on two out of four child outcomes, but the impacts are extremely small. SHM improved children's self-regulatory skills by 0.03 standard deviation, and it reduced children's externalizing behavior problems by 0.04 standard deviation. To place these effect sizes in context, the Head-Toes-Knees-Shoulders task — one of the direct assessments of young children's self-regulatory skills (Appendix Box A.1) — can serve as an example. On a scale of 0 to 40, where higher scores indicate better self-regulatory skills, an impact of the magnitude found for children's self-regulatory skills (an effect size of 0.03) could theoretically occur if the program changed the scores of 61 out of 634 children (about 10 percent of the children in the program group who were administered this assessment) from 28 to 33, an improvement that reflects moving from the median score to the 60th percentile in the SHM sample.

SHM had no statistically significant effects on children's internalizing behavior problems or their cognitive and academic performance.[74]

The evidence of impacts on child outcomes is further weakened by the results of subsequent analyses that were conducted to adjust for the number of outcomes examined.[75] These findings suggest that there is a greater than 10 percent chance that this pattern could have occurred if SHM had no effect on child outcomes.

Because the analysis of impacts on child adjustment and well-being in the pooled sample includes a wide age range of children (ages 2 to 17), subsequent analyses were conducted to explore whether there was variation in program impacts by child age. To test this, the sample was split into three age groups.[76] The results of this analysis (Appendix Table E.1) suggest that the effects of SHM were somewhat stronger for the youngest children in the sample (ages 2 to 4). Statistically significant differences in impacts across the three age groups were found for children's internalizing behavior problems and self-regulatory skills. In addition, statistically significant impacts on externalizing behavior problems, internalizing behavior problems, and

[74]For estimated impacts on additional child outcomes, see Appendix Table D.5.

[75]For more information on the multiple comparisons problem, see Box 3. For the unadjusted and adjusted p-values for the child outcome domain, see Lowenstein et al. (2014), Appendix Table D.4.

[76]These groups are ages 2 to 4, ages 5 to 8 and a half, and ages 8 and a half to 17.

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Table 10

Estimated Impacts on Child Adjustment and Well-Being at the 30-Month Follow-Up

Outcome[a,b] (Ages 2-17 Years)[c]	Impact (Effect Size)	Standard Error
Self-regulation	0.03 *	0.02
Internalizing behavior problems	-0.03	0.02
Externalizing behavior problems	-0.04 *	0.02
Cognitive and academic performance	0.04	0.03
Sample size (children)		
Program group	2,263	
Control group	2,285	

SOURCES: MDRC calculations based on the SHM 30-month adult and youth surveys and direct child assessments.

NOTES: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members.

Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

[a]Appendix Box C.3 describes how the child outcomes are defined.

[b]Multiple measurement sources (maternal reports, paternal reports, child reports and/or direct child assessments) were used to measure the outcomes in this table. The outcomes were standardized by measurement source, using control group means and standard deviations. Standard errors were adjusted to account for nonindependence of measures at the family level. Program and control group means are not presented for these outcomes because they are less relevant to the interpretation of program impacts. The impact estimates presented are effect sizes.

[c]Although the vast majority of focal children in the sample were between the ages of 2 and 17 years, 1 percent were outside this range.

self-regulatory skills are larger for the youngest children in the sample than for the pooled sample of children. While the findings for the youngest children are promising, there is some uncertainty because the pattern of results is not strong enough to remain statistically significant once adjustments are made to account for the number of outcomes examined.[77]

One explanation for the larger effects on younger children could be that the effects on couples' marital quality, psychological well-being, and/or parenting skills were larger for parents of the youngest children. However, subsequent analyses suggest that this is not the case;

[77]For the unadjusted and adjusted p-values for estimated impacts on child outcomes by child age, see Lowenstein et al. (2014), Appendix Table D.6.

impacts on adult and parenting outcomes do not differ by child age in this way.[78] Nevertheless, effects may have been stronger for younger children because parents' relationships improved very early in the children's lives.

Child gender is another individual characteristic that might be considered important to understanding SHM's impacts on children. This report, however, does not explore differences by child gender because the literature does not provide a clear basis for why gender differences in impacts should emerge and because of an effort to limit the number of statistical tests conducted in the primary impact analysis.

Lastly, because the impact analysis for child outcomes includes multiple measurement sources, supplemental analyses were conducted to explore impacts on child outcomes analyzed by measurement source. The results suggest that the magnitudes of the impacts are generally consistent across measurement sources for the pooled sample of focal children.[79]

30-Month Impacts of SHM, Analyzed by Local Program

All the local SHM programs implemented the full program model in adherence with program guidelines, although there were differences in the hours of couples' participation, in the local host agencies, in the characteristics of the couples who enrolled, in the characteristics of the local program staff, in the curricula that were used, and in program operations.[80] This section explores the extent to which there are differences in impacts across local programs.

- **SHM's estimated impacts are generally consistent across the eight local programs in the evaluation.**

As was found at 12 months, SHM's impacts at 30 months are generally consistent across local programs, despite some variation in participation, implementation features, and characteristics of couples and programs. Only two out of 30 impact estimates that were examined — men's reports of any physical assault and maternal responsiveness to the focal child —

[78]For more information on the analyses of impacts on parenting and adult outcomes by child age, see Lowenstein et al. (2014), Appendix K and Appendix Tables K.2 and K.3.

[79]An analysis of impacts on child outcomes by measurement source (for example, impacts on maternal-reported externalizing behavior problems, paternal-reported externalizing behavior problems, and child-reported externalizing behavior problems examined separately) in the full sample suggests that the effects found in the pooled analysis are not being driven by one or more measurement source. Few of these impacts on individual measures are statistically significant. The sample sizes in these analyses, however, are quite variable, ranging from 171 to 4,367. For more information on the analyses of impacts on child outcomes by measurement source, see Lowenstein et al. (2014), Appendix K and Appendix Tables K.4 to K.6.

[80]For more details about the SHM local programs, see Miller Gaubert et al. (2010) and Miller Gaubert, Gubits, Alderson, and Knox (2012).

varied significantly across the local programs. (See Appendix Tables F.1 and F.2; daggers in the rightmost columns of the tables indicate whether the differences in impacts across local programs are statistically significant.)[81] Given the number of outcomes examined, two significant differences in impacts could have occurred by chance if the local programs all had the same true effects. In other words, differences in impacts across the local programs are small enough that they may simply reflect the natural variation that occurs in different samples.[82]

At the 12-month follow-up point, there was some evidence that impacts were slightly larger for programs that used the Within Our Reach curriculum and smaller for programs that used the Becoming Parents Program. (The curricula are described in Box 1 above.) At the 30-month follow-up, these patterns no longer hold up.

30-Month Impacts of SHM, Analyzed by Subgroup

The pooled impacts of the SHM program that are presented in sections above are the average effects across all families for whom follow-up data were collected. The effects of SHM may differ for subgroups of sample members defined by their characteristics when they entered the study. This section explores that possibility.

The subgroup analysis was limited to the same three sets of characteristics that are examined in the 12-month impact report. This limited number of characteristics had been chosen in advance with the intention of reducing the likelihood that a result would be statistically significant by chance.[83] (See Box 3, above.) These characteristics — identified on the basis of theory, prior research, and policy relevance — include:[84]

- **Level of marital distress.** It was hypothesized that SHM might have different effects on couples experiencing different levels of marital distress when

[81]When interpreting SHM's impacts by local program (or by subgroup), the emphasis is on whether there are statistically significant differences in estimated impacts across the local programs. Less emphasis is placed on whether the impacts in any one location are statistically significant. If SHM were equally effective for different local programs, some differences in impacts across the programs would still occur by chance. Finding statistically significant differences in impacts across local programs would show that the variation in impacts is greater than what would be expected by chance, indicating that SHM likely had different effects for different local programs. For more detail on impacts at the level of the local program, including estimated impacts on participation by local program, see Lowenstein et al. (2014), Appendix H.

[82]For the unadjusted and adjusted p-values for estimated differences in impacts by local program, see Lowenstein et al. (2014), Appendix Table D.5.

[83]For descriptions of the analytic approaches used to test the SHM subgroup impacts that are discussed in this section, see Lowenstein et al. (2014), Appendix D.

[84]For details about how the subgroups were defined, see Lowenstein et al. (2014), Appendix J. For tables showing how the impacts of SHM on participation outcomes varied for different groups of families at the 12-month follow-up, see Hsueh et al. (2012b).

they entered the study. Since SHM was designed as a preventive intervention, for example, it might not be expected to affect couples who were already experiencing the highest levels of marital distress. At the same time, there may be little room for SHM to improve the relationships of couples with the lowest levels of marital distress. Marital distress was also correlated with other characteristics of couples, such as length of couples' marriages and whether spouses experienced abuse or neglect in childhood, among other characteristics that might be hypothesized to influence the program's effectiveness. Therefore, the decision was made to look at SHM's differential effects by couples' level of marital distress when they entered the study.

- **Family income-to-poverty level.** While some marriage education programs have been found effective for middle-class families, very little research has examined the effects of marriage education among economically disadvantaged families. Given this lack of research involving low-income samples and the fact that the marriage education curricula used in the SHM programs were modified to make them more appropriate for low-income couples, it is important to examine whether and how SHM differentially affected couples at different income levels.

- **Race/ethnicity.** Within the United States, different racial and ethnic groups display different marital patterns.[85] Recognizing this, various federal initiatives, including the Hispanic Healthy Marriage Initiative and the African American Healthy Marriage Initiative, aimed to develop culturally competent strategies for supporting healthy marriages and addressing the unique needs of these populations. Furthermore, the Building Strong Families evaluation identified a pattern of significant positive impacts of the program for African-American couples. SHM aimed to deliver culturally competent services, but it was not specifically adapted to focus on the needs of any one racial or ethnic group. Rather, it was designed to deliver culturally competent services to diverse groups of people regardless of race or ethnicity. Thus, it is important to see whether SHM worked equally well for different groups or whether it worked better for some groups than for others.

To explore the subgroup impacts of SHM at 30 months, impacts were estimated separately for each subgroup to see whether their magnitude and direction differ significantly. Appendix Tables G.1 through G.6 present results of the analysis for the three sets of subgroups

[85]Kreider and Ellis (2011).

and show that, for each, a few outcomes (4 or 5 out of 30) were identified as having different impacts across subgroups (as indicated by daggers in the rightmost column of the tables).

- **The positive effects of SHM on marital quality and psychological abuse may be larger for couples who had high or moderate levels of marital distress at study entry.**

Appendix Tables G.1 and G.2 provide some evidence that SHM's impacts differ for subgroups of couples defined by level of marital distress at study entry. Across both the outcomes that are identified as having statistically significant differential impacts and the outcomes with differences that are not large enough to be statistically significant, it appears that impacts are larger for couples with high or moderate levels of marital distress at study entry than for couples with low marital distress at entry. This pattern was also found at the 12-month follow-up point. These results may point to the potential for more efficient targeting of SHM-type programs, but they should be viewed with some caution because additional statistical tests indicate that this pattern of results was not strong enough to remain statistically significant after an adjustment for multiple comparisons was made.[86] In addition, it is unclear whether this pattern results from differences in marital distress per se or, perhaps, from other sample and program characteristics that differ among couples in these marital distress subgroups.

- **There is little evidence that the effects of SHM differed for couples with different levels of income or from different racial or ethnic backgrounds.**

At 12 months, there was some evidence that the positive impacts of SHM were slightly larger for Hispanic couples than for others, but this pattern is no longer apparent at the 30-month follow-up point. In fact, at the 30-month follow-up point, even when statistically significant differences in the magnitude of the impacts across these income and race/ethnicity subgroups are found, there is an inconsistent pattern as to which subgroups have the larger effects, leading to the conclusion that the differences are likely due to chance.

Discussion

At the outset of the Supporting Healthy Marriage project, a number of policies and programs at the federal and state levels focused on strengthening marriages as one promising strategy for improving outcomes for low-income parents and children. Yet, scarce information existed about the effectiveness of programs focused on strengthening marriages for shaping the lives of parents and for improving the prospects for children in low- and modest-income families with

[86]For the unadjusted and adjusted p-values for estimated differences in impacts by subgroup, see Lowenstein et al. (2014), Appendix Table D.5.

diverse racial and ethnic backgrounds. This report provides some of the first rigorous evidence and insights into the longer-term effects of these programs on such families.

The findings for the full SHM sample are fairly straightforward. SHM was a well-implemented relationship skills and marriage education program. It did not succeed in achieving one of its primary objectives — improving marital stability at the 30-month follow-up. SHM did, however, produce small but sustained improvements in program group couples' marital functioning, reductions in psychological abuse between spouses, and improvements in psychological well-being for women relative to their counterparts in the control group. But these impacts are modest in magnitude and did not ultimately translate into substantial impacts on coparenting, parenting, or outcomes for children ages 2 to 17.

How do these results compare with those found by other studies? As is discussed in the 12-month impact report, three recent random assignment evaluations provide useful context for interpreting the effects of SHM: the Building Strong Families evaluation, a large-scale, multisite random assignment evaluation of a relationship skills education program for *unmarried* parents with a newborn or who were expecting a child; the Supporting Father Involvement intervention, a preventive couples-focused program aimed at strengthening family functioning and fathers' involvement that targets predominantly low-income Mexican parents; and the PREP for Strong Bonds (PREP Army) intervention, which is a study of the Prevention and Relationship Enhancement Program (PREP) curriculum delivered by Army chaplains that also targeted couples with low or modest incomes.

SHM's findings align with results from these recent studies to suggest that family-strengthening interventions, as currently designed, have limited effects on marital longevity. Of the three studies, only Strong Bonds found statistically significant impacts on couples' marital status.[87] That study found statistically significant impacts on couples' marital status after a 12-month follow-up period: in one of the two sites where Strong Bonds was tested, 6 percent of the control group filed for a divorce or divorced, compared with 2 percent of the program group. It may have been difficult for SHM to affect marital stability because of high levels of marital distress in the SHM sample, as evidenced by the high proportion of couples who reported thinking that their marriages were in trouble when they entered the study and the high rates of dissolution among sample members over the course of the follow-up period. SHM was not designed to address the needs of couples who were on the verge of dissolution; as a result, the program may not have been appropriately tailored to the needs of some SHM couples who were experiencing the highest levels of marital distress. It may also be that SHM's modest impacts on marital quality were simply not enough to reverse the course of couples whose marriages were closest to dissolution. Therefore, developing interventions for this high-risk group may be an

[87] Stanley et al. (2010).

area for additional exploration or curriculum development in the future. Moreover, it is important to note that the lack of SHM's impacts on couples' marital stability may not be an unfavorable outcome for some families. Indeed, marital dissolution can be a positive outcome for some couples, particularly if they are in unhealthy relationships, such as those that experience domestic violence and abuse.

When impacts on marital quality are considered, SHM's effects are consistently positive and larger than the effects of Building Strong Families. At a 36-month follow-up, that program did not affect the quality of couple relationships or parental psychological well-being.[88] On the other hand, SHM's findings are consistent with those of the Supporting Father Involvement intervention. An evaluation of that intervention found a range of positive effects on families at 18 months, including an effect on couples' relationship satisfaction on the order of 0.11 standard deviation for men and 0.25 standard deviation for women.[89] Collectively, the results from Supporting Father Involvement and SHM indicate that it is possible to improve relationship-quality outcomes for racially and ethnically diverse married couples who have low or modest incomes.

At the same time, a number of differences in the three interventions make it difficult to pinpoint why the studies produced varied results — differences in curricula content and length, target populations, implementation, and the take-up of services. For example, Building Strong Families and SHM had similar curricula content and length, but their target populations were different, and program group members took up services at very different rates across the studies. On surveys collected at the 15- and 12-month follow-up points, respectively, 61 percent of Building Strong Families couples and 89 percent of SHM couples reported ever participating in a group session about relationship skills. Similar to SHM, median attendance in the Supporting Father Involvement study's couples groups was quite high: 75 percent of fathers and 80 percent of mothers. With regard to curricula content, that intervention had a more direct focus on parenting than SHM, so even though participation rates were fairly high across both studies, participants in the Supporting Father Involvement study likely heard more messages about how their couple relationship affects their children.

Earlier research on marital interventions has generally found larger effects among middle-class families. SHM's effects are small by comparison, even though the program was designed to provide more intensive "dosages" of services than most relationship and marriage education program models tested in the past. The estimated impacts of SHM might be small for

[88]Wood et al. (2012).

[89]Cowan et al. (2009). The effect sizes for impacts in the Supporting Father Involvement intervention were calculated by the authors of this report using information presented in Cowan et al. (2009), by subtracting the posttreatment mean of the control group from the posttreatment mean of the couples-focused program group and dividing this by the posttreatment standard deviation of the control group.

a variety of reasons. For instance, it is possible that lower-income couples who face multiple challenging life circumstances, and who experience higher levels of marital distress and disruption, find it more difficult to implement the skills from the SHM curricula in their every-day lives and interactions, thereby diminishing the program's impacts.

Note also that even when statistically significant impacts are evident, large-scale program evaluations often tend to find only modest impacts. The vast majority of prior marriage education studies (other than the Building Strong Families evaluation) were conducted with relatively small samples, a single curriculum, and under relatively controlled circumstances. Meta-analyses in other fields have found that these conditions tend to produce larger impacts, on average, than circumstances like the SHM evaluation, in which programs were delivered and tested on a large scale and program operators had discretion over the curricula used, the staff who were hired, and the program's management structures, among other factors.[90]

In addition to its effects on marital quality, SHM also reduced psychological abuse for men and women and reduced psychological distress for women in the program group, relative to their counterparts in the control group. SHM's reductions in psychological abuse for men and women are noteworthy, even though modest in magnitude; the presence of any abuse in the home has important ramifications for adult and child well-being. Prior research has found that psychological and physical aggression are often intertwined, suggesting that program-driven reductions in psychological abuse could prevent other types of intimate partner violence in the longer run.[91] That the SHM program yielded small reductions in women's individual psychological distress is also important, because parental depression and distress are often linked to less positive parenting practices and increased problem behaviors for children.[92] These findings could be meaningful, given how few social programs have been capable of achieving lasting effects on these outcomes.

SHM's findings are consistent with evidence showing mixed or limited effects of family-strengthening interventions on parenting and child outcomes in lower-income families. At the 36-month follow-up, for instance, Building Strong Families had no significant effects on its key coparenting or parenting outcomes and small negative effects on father involvement. In contrast, the Supporting Father Involvement intervention improved fathers' engagement with their children.[93] These mixed effects are disappointing, since the field has considered improving marital quality to be one potential pathway to increasing fathers' involvement with their children. Moreover, effects of family-strengthening programs among lower-income families

[90]Lipsey and Wilson (2001); Wilson and Lipsey (2001).
[91]Murphy and O'Leary (1989); Tolman (1999).
[92]Hoffman, Crnic, and Baker (2006); McLoyd (1990); Conger and Elder (1994).
[93]Cowan et al. (2009).

tend to show limited impacts on child well-being. Building Strong Families produced small reductions in children's behavior problems (an effect size of –0.08), even though some program sites offered home visiting services directly aimed at improving parenting behaviors, along with relationship education services.[94] The Strong Bonds evaluation did not examine program effects on parenting or child outcomes.

Collectively, the 30-month impact findings discussed in this report indicate that the SHM program had sustained effects on marital quality, psychological abuse between spouses, and women's individual psychological distress. But these effects were likely too small to appreciably affect marital stability, parenting, and children's adjustment and well-being. This suggests that it may be challenging for family-strengthening programs, as currently designed, to sufficiently change aspects of family functioning to improve children's lives in low- and modest-income families when services are delivered on a large scale. That the SHM program did not substantially enhance parenting and child outcomes is not entirely surprising, however, given that even parenting, family development, and child-focused programs that directly target these outcomes sometimes yield only modest effects.[95] In addition, it is worth noting that SHM focal children in the control group were not doing particularly poorly at the 30-month follow-up. This may indicate that there was less room to improve outcomes for children in the program group. Therefore, what remains unknown is whether a family-strengthening program with more robust impacts on marital quality and other aspects of adult well-being could produce more substantial improvements for children. The subgroup analysis suggests that SHM's effects may be larger among couples experiencing higher levels of marital distress when they entered the study and among the youngest children in the sample. While these findings should be viewed with caution because statistical tests indicate that they could have occurred by chance, the results point to potential areas for further investigation in terms of effectively targeting services. However, given fairly high dissolution rates among couples in the sample, the findings also draw attention to the need for tailored services that better address the vulnerabilities of couples whose marriages are already close to dissolution.

SHM's findings provide some of the first experimental evidence to date that rigorously tests the theories that motivate the design and policy appeal of family-strengthening programs for lower-income and diverse families. Given that the local SHM programs were able to successfully recruit and retain participants in services, the results suggest that there is interest in family-strengthening services among this population. In addition, the findings demonstrate that a well-implemented, couples-based, family-strengthening program like SHM can lead to sustained improvements in several important aspects of marital quality, reductions in psychological abuse between spouses, and improvements in psychological well-being for women —

[94]Wood et al. (2012).

[95]See, for example, Vogel et al. (2010).

outcomes that are potentially important and are generally not targeted by other preventive community-based interventions. Yet SHM did not keep couples together and had only very limited effects on children. Moreover, the program was fairly expensive to operate. As noted above ("Overview of Program Implementation and Costs"), the average cost of delivering SHM services ranged from $7,400 to $11,500 per couple across the local programs. It is worthwhile considering whether this amount of money could be spent in ways that bring about more substantial effects on families and children.

The SHM study provides lessons for implementation of social programs in general as well as for future directions in family-strengthening services for two-parent families. Findings discussed in the 2010 implementation report point to the importance of methodically building an infrastructure to support effective implementation of the program model. This includes giving programs clear performance benchmarks that emphasize continuous improvement, providing staff with written guidance on how to perform their work, having a user-friendly management information system (MIS) to help track their performance, and providing technical assistance to support and monitor progress. The report also emphasizes the importance of designing program models so that they encourage participation, which could include having a diverse staff who reflect the characteristics of the local population, offering services at times and locations that are convenient to working parents, providing such participation supports as transportation and child care assistance, and offering modest incentives to encourage and reward attendance.[96]

As policymakers and program developers consider future directions for providing relationship-strengthening services to low-income two-parent families, it will be important to consider which aspects of SHM should be included in future tests and which should be altered in an effort to bolster program effects and reduce costs. Additional exploratory analyses of the SHM data may help to shed light on these questions. In addition, directions for future research could aim to better understand who is likely to benefit from more highly targeted services. Upcoming analyses by the SHM research team will aim to glean additional information about how to improve the cost-efficiency and effectiveness of future family-strengthening programs.

[96]Miller Gaubert et al. (2010).

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Appendix A

More Information on the Direct Child Assessments

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Appendix Box A.1

Descriptions of Direct Child Assessments

Direct Assessments of Children's Self-Regulatory Skills

Walk-A-Line[*] Task (administered to children ages 2 to 3 and a half)

The Walk-A-Line task assesses children's effortful and inhibitory control, defined as the ability to voluntarily inhibit a dominant response to activate a subdominant response. More specifically, the task captures children's behavioral self-regulation, which draws on cognitive self-regulatory skills, by assessing children's ability to slow down gross motor activity. The child is asked to walk down a line placed on the floor in three separate trials. In the first (baseline) trial, the child is simply instructed to walk down the line. Following the baseline trial, the child is asked to complete two "slow" trials by walking the line slowly. The assessor records the time (in seconds) that it takes for the child to walk the line in each trial. The score reflects the average difference in duration between the baseline trial and each slow trial (reflecting the average number of seconds, to the hundredths place, by which the child was able to slow down). A dichotomous measure that captures whether or not the child received a valid Walk-A-Line score was also included in the impact analysis.

Head-Toes-Knees-Shoulders[†] Task (administered to children ages 3 and a half to 8 and a half)

The Head-Toes-Knees-Shoulders task assesses behavioral self-regulation as well as three key dimensions of cognitive self-regulation: attentional focusing, working memory, and inhibitory control. The child is told to touch his or her head when the interviewer says "touch your toes" and to touch his or her toes when the interviewer says "touch your head." If the child performs adequately on the first 10 test items, he or she moves on to a more difficult portion of the assessment, in which a knees-shoulders task is introduced as well. Children are assigned a score of 0 (incorrect), 1 (self-correct) or 2 (correct) on each of the 20 test items. The final score is the sum of these, ranging from 0 to 40.

Bierman Assessor Report[‡] (completed for children ages 2 to 8 and a half)

The Bierman assessor report is a 13-item assessment of children's task orientation completed by an assessor after the administration of a child assessment battery. It is a behavioral performance measure of children's self-regulatory skills, and taps behavioral (for example, "Remains in seat appropriately during test") and cognitive (for example, "Pays attention to instructions and demonstrations") dimensions of self-regulation, as well as the capacity for goal orientation (for example, "Shows pleasure in accomplishment and active task mastery"). Items are rated on a 4-point scale, and the score is the average of all 13 items.

(continued)

Appendix Box A.1 (continued)

Direct Assessments of Children's Cognitive Performance

Peabody Picture Vocabulary Test (PPVT)[§] / Test de Vocabulario en Imágenes Peabody (TVIP)[‖] (administered to children ages 2 to 4)

The PPVT/TVIP is a test of children's receptive vocabulary skills and is often referred to as a measure of cognitive performance. The child is shown a card with four pictures on it and is instructed to point to the picture that matches a word spoken by the assessor. Scores are derived by subtracting the total number of errors from the item number of the last item administered, with consideration given to the item at which the child started, and scores are standardized by child age.

NOTES: [*]Kochanska et al. (1996).
[†]Ponitz, McClelland, Matthews, and Morrison (2009).
[‡]Bierman et al. (2008).
[§]Dunn and Dunn (2007).
[‖]Dunn, Padilla, Lugo, and Dunn (1986).

Appendix B

More Information on Baseline Characteristics of Couples and Focal Children in the SHM Evaluation

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The Supporting Healthy Marriage Evaluation

Appendix Table B.1

Definitions of the Demographic and Socioeconomic Characteristics of Couples in the SHM Evaluation Sample at Study Entry

Characteristic	How Defined
Race/ethnicity	Couples are categorized as Hispanic, white, or African-American if both spouses self-selected that race/ethnicity. The "other/multiracial" category includes couples who are of different race/ethnicity (70 percent), couples in which at least one spouse has more than one race/ethnicity (15 percent), couples in which both of these conditions are true (8 percent), and couples who both self-identified as only Asian, Pacific Islander, Native American, or other (8 percent).
Education level[a]	Each spouse was asked to identify the highest credential completed. Response options were: General Educational Development (GED) or high school equivalency certificate, high school diploma, two-year/associate's degree, technical/vocational degree, college degree, or none of the above.
Income 100% to less than 200% of FPL or less than 100% of FPL	FPL = federal poverty level. The poverty level was calculated using federal poverty guidelines for the year that the couple entered the study.
Either spouse currently employed	Each spouse was asked to report if they were currently working on a job for pay.
Receiving public assistance	Each spouse was asked to report if anyone in their family had received public assistance, welfare or food stamps in the 12 months prior to study entry.
Married at the time of random assignment	Information about marital status at enrollment comes from retrospective questions asked at the 12-month and 30-month follow-ups. (The question was a late addition to the SHM 12-month survey and, therefore, was also asked to a subset of couples on the 30-month survey.) In total, 90 percent of couples were retrospectively asked if they were married at the time of their enrollment in the SHM study, and the percentages in Table 2 reflect the responses of all these couples.
Average number of years married[b]	This number represents the mean of the woman's and the man's response. Years married is calculated using responses at enrollment for all couples, including those couples who gave a response on the 12-month or 30-month survey that they were not married at the time of enrollment.
Expecting a child	A couple was defined as expecting a child if the woman said that she was pregnant.
Stepfamily	A family is considered a stepfamily if either spouse responded that any child in the household was his or her stepchild.
Age	Average age is calculated using the date of birth provided by each spouse.

(continued)

Appendix Table B.1 (continued)

Characteristic	How Defined
Happiness in marriage	Individuals are categorized as happy in their marriage if they rated their happiness as 5, 6, or 7 on a scale of 1 to 7.
Marriage in trouble	Individuals are categorized as reporting marriage in trouble if they responded affirmatively to the question, "In the past year, have you ever thought your marriage was in trouble?"
Psychological distress	Psychological distress is measured using the Kessler 6, which is a quantifier of nonspecific psychological distress. It includes six questions, such as "During the past 30 days, how often did you feel: So sad that nothing could cheer you up? Nervous? Restless or fidgety?" Each item is rated on a scale from 0 to 4, where a higher score indicates more frequent distress. The items are summed, and the individual is considered to be distressed if this sum is greater than 12. See Kessler et al. (2003).
Substance abuse	Substance abuse is measured using three questions from the CAGE Questionnaire and three similar questions adapted for drug use. These include the following: "Have you ever felt you should cut down on your drinking/drug use?" "Have people annoyed you by complaining about your drinking/drug use?" "Have you ever felt bad or guilty about your drinking/drug use?" See Ewing (1984).

NOTES: [a]Participants in the Oklahoma City location were asked whether they had a high school diploma or GED certificate. Response options were: none, high school diploma, GED or high school equivalency certificate, other (specify).

[b]In Oklahoma City, this question was not included on the SHM Baseline Information Form but was asked on the SHM 12-month and 30-month adult surveys.

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Appendix Table B.2

Characteristics of SHM Couples Compared with Low-Income Married Couples from National Surveys

Characteristic[a]	SHM	2000 SMFL		1987 NSFH	
Socioeconomic characteristics					
Race/ethnicity[b] (%)			***		***
White	27.6	53.7		66.8	
Hispanic	49.5	33.3		18.3	
African-American	15.1	7.3		11.1	
Other	7.9	5.8		3.9	
Average age (years)	31.4	36.5	***	34.2	***
Education level (%)					***
Less than high school	23.1	27.8		33.0	
High school diploma or GED certificate[c]	51.8	44.5		40.4	
More than high school	25.2	27.7		26.7	
Family characteristics					
Average number of children in the household					
Preschool age (0 to 4 years)	1.0	0.8	***	0.8	***
School age (5 to 17 years)	1.2	1.7	***	1.7	***
Average number of years married	6.2	13.3	***	11.2	***
Marital appraisals (%)					
Men's report of happiness in marriage[d]			***		***
Less than happy	19.6	8.0		11.0	
Happy	51.6	44.0		42.0	
Very happy	28.9	48.0		47.0	
Women's report of happiness in marriage[d]			***		***
Less than happy	25.0	5.0		14.0	
Happy	49.3	43.0		39.0	
Very happy	25.7	52.0		47.0	
Men report marriage in trouble[e]	55.2	32.0	***	23.7	***
Women report marriage in trouble[e]	57.1	32.0	***	29.4	***
Sample size (individuals)	12,596	178		1,580	

(continued)

Appendix Table B.2 (continued)

SOURCES: MDRC calculations based on the SHM Baseline Information Forms; Amato's calculations based on the Survey of Marriage and Family Life (2000 SMFL); and Abt Associates' calculations based on the National Survey of Families and Households (1987 NSFH).

NOTES: Samples from the SMFL and NSFH are restricted to all married couples who had a child under age 18 and who had family incomes of less than 200 percent of the federal poverty level.

Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Asterisks indicate that the results are significantly different for the SMFL sample compared with the SHM sample or for the NSFH sample compared with the SHM sample.

[a]In this table, SHM baseline measures are defined at the individual level to make them comparable with the measures from the other studies.

[b]SHM and NSFH asked one question about race/ethnicity and one question about whether the respondent identified as Hispanic, while SMFL asked one question with the following response categories: "White Hispanic," "White non-Hispanic," "Black," or "Other."

[c]For comparability with the national samples, high school graduation in this table includes those with GED certificates.

[d]SHM asked, "All things considered, how happy are you with your marriage?" while NSFH and SMFL asked, "Taking all things together, how would you describe your marriage?" SHM and NSFH had a 7-point response scale, where 1 to 4 are considered "Less than happy"; 5 and 6 are considered "Happy"; and 7 is considered "Very happy." SMFL had a 3-point response scale with the options "Not too happy," "Pretty happy," and "Very happy."

[e]SHM and NSFH asked respondents whether they had ever thought that their marriage was in trouble during the past year, while SMFL asked about the past three years.

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Appendix Table B.3

Definitions of the Demographic Characteristics of Focal Children in the SHM Evaluation at the 30-Month Follow-Up

Characteristic	How Defined
Child age	Focal children were categorized as falling into one of the following three age categories at the 30-month follow-up: (1) 2 years to 4 years, 11 months (48.8 percent of focal children); (2) 5 years to 8 years, 5 months (21.4 percent); or (3) 8 years, 6 months, to 17 years, 11 months (29.8 percent). Each child's age was calculated as the difference between the survey date of the first parent to respond to the 30-month survey and the child's date of birth. Date of birth was first collected at enrollment. At each follow-up point (the 12-month adult survey, the 30-month adult survey, the 30-month youth survey, and the direct child assessments), respondents were asked to confirm the focal child's date of birth and to correct it if necessary. The last received update to the date of birth was used.
Child is female	This variable captures the gender of the focal child. Information about gender comes from responses at enrollment or, if the focal child was not yet born at enrollment, from responses to the first survey completed after the child was born (either the 12-month or the 30-month adult survey). Thirty-nine families did not provide information on the focal child's gender; this information was imputed based on the child's first name.
Child is a stepchild	This variable captures whether or not the focal child was a stepchild of one of the baseline spouses in the household. Respondents were asked at enrollment about their and their spouse's relationship to each child. Response options were: biological/ adoptive child, stepchild, foster child, and other relative/dependent child. For focal children who were not yet born at enrollment, this information was collected at the first follow-up adult survey completed after the child was born. The response options on the follow-up surveys were: biological/adoptive child, stepchild, foster child, other relative under 18, other dependent child, and unrelated child.

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Appendix C

Descriptions of Primary Outcomes

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Appendix Box C.1

Descriptions of Primary Adult Outcomes at the 30-Month Follow-Up

Married (%)
The outcome is examined at the couple level. A couple is considered married if both spouses report that they are married or in a committed relationship. If either respondent indicates that the couple is separated, divorced, or had the marriage annulled, the outcome is coded with a negative (0) response. If only one spouse responds, that response is used for the couple.

Couples' average report of relationship happiness (Scale: 1 to 7; M = 5.86; SD = 1.14)
The outcome is examined at the couple level. Respondents are asked how happy they are with their marriages. If both spouses respond to this question, the average of the responses is used. If only one spouse responds, the single response is used.

Either spouse reported marriage in trouble (%)
The outcome is examined at the couple level. Respondents are asked whether they thought that their marriage was in trouble in the past three months. If either spouse answers by saying that they were "divorced more than three months ago," the outcome is not created. Otherwise, if either spouse indicates that he or she had thought that their marriage was in trouble, an affirmative outcome is created.

Reports of warmth and support (Scale: 1 to 4; Men's report: M = 3.53, SD = 0.45; Women's report: M = 3.42, SD = 0.54)
The outcome is examined separately for men and women. Warmth and support is the average of the responses to seven items aimed at capturing warmth and support in a couple's relationship. Example items include "My spouse expresses love and affection toward me"; "My spouse listens to me when I need someone to talk to"; and "I trust my spouse completely."

Reports of positive communication skills (Scale: 1 to 4; Men's report: M = 3.25, SD = 0.59; Women's report: M = 3.21, SD = 0.65)
The outcome is examined separately for men and women. Positive communication skills is the average of the responses to seven items aimed at capturing how the couple communicates during disagreements. Example items include "My spouse understands that there are times when I do not feel like talking and times when I do"; "We are good at working out our differences"; and "During arguments, my spouse and I are good at taking breaks when we need them."

Reports of negative behavior and emotions (Scale: 1 to 4; Men's report: M = 2.11, SD = 0.78; Women's report: M = 2.08, SD = 0.80)
The outcome is examined separately for men and women. Negative behavior and emotions is the average of the responses to seven items aimed at capturing negative interactions that occur during disagreements. Example items include "My spouse was rude and mean to me when we disagreed"; "My spouse seemed to view my words or actions more negatively than I meant them to be"; and "My spouse has yelled or screamed at me."

(continued)

Appendix Box C.1 (continued)

Neither spouse reported infidelity (%)
This outcome is examined at the couple level. It measures whether either respondent reported cheating on the spouse with someone else or either respondent believes that the spouse had "definitely" cheated with someone else in the past three months.

Reports of psychological abuse (Scale: 1 to 4; Men's report: M = 1.28, SD = 0.47; Women's report: M = 1.26, SD = 0.47)
This outcome is examined separately for men and women. Psychological abuse is the average of the responses to six items. Example items include "Have you felt afraid that your spouse would hurt you?" "Has your spouse accused you of having an affair?" and "Has your spouse tried to keep you from seeing or talking with your friends or family?"

Reports of any physical assault (%)
This outcome is examined separately for men and women. The measure indicates any physical assault in the past three months. The measure is created from responses to questions adapted from the Revised Conflict Tactics Scale.[*]

Individual psychological distress (Scale: 1 to 4; Men's report: M = 1.91, SD = 0.71; Women's report: M = 2.01, SD = 0.75)
This outcome is examined separately for men and women. The measure is created from responses to the K6 Mental Health Screening Tool.[†]

NOTES: M = mean; SD = standard deviation.

A detailed description of the measurement and construction of the primary 30-month adult outcome measures can be found in Lowenstein et al. (2014), Appendix E.

[*]Straus, Hamby, Boney-McCoy, and Sugarman (1996).

[†]A measure of individual psychological distress was created from responses to a slightly adapted version of the K6 Mental Health Screening Tool (Kessler et al., 2003) that was administered to study participants, in which the response scale was modified from a 5-point scale to a 4-point scale.

Appendix Box C.2

Descriptions of Primary Coparenting and Parenting Outcomes at the 30-Month Follow-Up

Men's and women's reports of cooperative coparenting (Scale: 1 to 4; Paternal report: M = 3.43, SD = 0.60; Maternal report: M= 3.27, SD = 0.71)
Cooperative coparenting reflects the average of five responses to parent-reported items. An example item is "How well the respondent gets along with the spouse when it comes to parenting."

Paternal and maternal supportiveness of child
Two subconstructs are included in this outcome: warmth (reported by parents and children) and involvement (reported by parents and children). The supportiveness outcome is the average of items in both subconstructs, for each reporter. Examples of parent-reported items (for warmth and involvement, respectively) are "Over the past month, how often respondent has told [focal child] that respondent loves him/her" and "In the past month how often respondent talked with [focal child] about his/her friends." Examples of child-reported items (for warmth and involvement, respectively) are "How often [mother/father] tells respondent that he/she is doing a good job" and "In the past month, did respondent go with [mother/father] on an outing to a library, park, or playground?"

Paternal and maternal responsiveness to child
Both parent reports and child reports are used to measure parental responsiveness. An example of a parent-reported item is "In the past month, how often respondent has considered [focal child's] thoughts and feelings when making rules for him/her." An example of a child-reported item is "Whether [father/mother] respects respondent's feelings."

Paternal and maternal hostility toward child
Both parent reports and child reports are used to measure parental hostility. An example of a parent-reported item is "How often respondent has yelled, shouted, screamed at, or threatened [focal child] because he/she was mad at [him/her]." An example of a child-reported item is "How often [father/mother] gets really mad at respondent."

Paternal and maternal harsh discipline (Scale: 1 to 4; Paternal report: M = 1.25, SD = 0.54; Maternal report: M = 1.27, SD = 0.57)
This outcome is created from a single parent-reported item: "How often respondent has hit, spanked, grabbed, or used physical punishment with [focal child] over the past month."

NOTES: M = mean; SD = standard deviation.

Multiple measurement sources (parent reports and child reports) were used to measure the supportiveness, responsiveness, and hostility outcomes. Scales, means, and standard deviations are not shown for these outcomes because they are less relevant to the interpretation of program impacts. For more information on the analytic approach used to estimate program impacts on these outcomes, see Lowenstein et al. (2014), Appendix D.

A detailed description of the measurement and construction of the primary 30-month parenting outcome measures can be found in Lowenstein et al. (2014), Appendix E.

Appendix Box C.3

Descriptions of Primary Child Outcomes at the 30-Month Follow-Up

Child self-regulation
This outcome is examined for children ages 2 to 17 and is measured using three direct child assessment scores* and maternal, paternal, and child reports. Maternal- and paternal-reported measures reflect the averages of responses to ten items, including "[Focal child] thinks before acting." The child-reported measure reflects the average of responses to sixteen items, including "Respondent waits his/her turn during activities."

Child internalizing behavior problems
This outcome is examined for children ages 2 to 17 and is measured using maternal, paternal, and child reports. Maternal- and paternal-reported measures reflect the average of responses to eight items for children ages 2 to 4 and twelve items for children ages 2 to 17, including "[Focal child] is unhappy, sad, or depressed." The child-reported measure reflects the average of responses to twelve items, including "Respondent worries about things."

Child externalizing behavior problems
This outcome is examined for children ages 2 to 17 and is measured using maternal, paternal, and child reports. Maternal- and paternal-reported measures reflect the average of responses to fourteen items for children ages 2 to 4 and fifteen items for children ages 2 to 17, including "[Focal child] is disobedient at home." The child-reported measure reflects the average of responses to nine items, including "Respondent argues a lot."

Child cognitive and academic performance
This outcome is examined for children ages 2 to 17 and is measured using two direct child assessment scores* and maternal, paternal, and child reports. Maternal- and paternal-reported measures are based on a single item: "Based on respondent's knowledge of [focal child's] schoolwork, how well is he/she currently doing in school?" The child-reported measure is also based on a single item: "Overall, what grades did the respondent receive last year or the last full year of school that he/she completed?"

NOTES: Multiple measurement sources (maternal reports, paternal reports, child reports, and/or direct child assessments) were used to measure each outcome. Scales, means, and standard deviations are not shown for these outcomes because they are less relevant to the interpretation of program impacts. For more information on the analytic approach used to estimate program impacts on these outcomes, see Lowenstein et al. (2014), Appendix D.

A detailed description of the measurement and construction of the primary 30-month child outcome measures can be found in Appendix E of Lowenstein et al. (2014).

*As noted in Appendix Box A.1, the direct child assessments that were used to measure children's self-regulatory skills were the Walk-A-Line task, the Head-Toes-Knees-Shoulders task, and the Bierman assessor report; the direct child assessments that were used to measure children's cognitive performance were the Peabody Picture Vocabulary Test (PPVT) and the Test de Vocabulario en Imágenes Peabody (TVIP).

Appendix D

Descriptions of and Estimated Impacts on Selected Secondary Outcomes

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The Supporting Healthy Marriage Evaluation

Appendix Table D.1

Estimated Impacts on Secondary Marital-Quality Outcomes at the 30-Month Follow-Up

Outcome[a]	Program Group	Control Group	Difference (Impact)	Effect Size[b]		Standard Error
Satisfaction in marital relationship (%)						
Men who reported being satisfied with:						
Communication	86.2	81.7	4.5	0.11	***	1.0
Handling of disagreements	84.0	80.3	3.8	0.09	***	1.1
Time spent together	76.9	74.5	2.4	0.05	*	1.3
Sex life	87.2	85.3	1.9	0.05	*	1.1
Division of chores	89.1	87.1	2.0	0.05	**	1.0
Handling of finances	86.7	86.2	0.5	0.01		1.1
Women who reported being satisfied with:						
Communication	78.3	74.4	3.8	0.09	***	1.2
Handling of disagreements	78.2	74.8	3.4	0.08	***	1.2
Time spent together	68.8	67.0	1.7	0.04		1.4
Sex life	85.3	83.9	1.4	0.04		1.1
Division of chores	75.6	76.2	-0.6	-0.02		1.3
Handling of finances	80.9	78.8	2.1	0.06	*	1.2
Marital closeness (%)						
Men's report of spending time alone as a couple at least weekly	68.4	65.8	2.6	0.05	*	1.5
Women's report of spending time alone as a couple at least weekly	54.3	54.8	-0.5	-0.01		1.5
Men's report of talking daily with spouse about their day	69.2	65.1	4.1	0.09	***	1.4
Women's report of talking daily with spouse about their day	68.4	66.2	2.2	0.05		1.3
Relationship quality (%)						
Men's report of having serious disagreements sometimes or often in the past month	31.6	34.9	-3.3	-0.07	**	1.4
Women's report of having serious disagreements sometimes or often in the past month	33.0	36.8	-3.8	-0.08	***	1.3
Men's report of discussing divorce with someone in the past 3 months	12.6	14.4	-1.9	-0.05	*	1.1
Women's report of discussing divorce with someone in the past 3 months	21.6	23.0	-1.4	-0.03		1.3
Sample size[c]						
Men	2,120	2,233				
Women	2,287	2,358				

(continued)

Appendix Table D.1 (continued)

SOURCE: MDRC calculations based on the SHM 30-month adult survey.

NOTES: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members.

Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

[a]Appendix Box D.1 describes how the secondary adult outcomes are defined.

[b]Effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the standard deviation for the control group.

[c]Some outcomes in this table were available for all respondents, and some were only available for couples who were still together at the 30-month follow-up. The sample sizes in this table reflect the sample sizes for the outcomes with the least missing data, although the sample sizes were similar across outcomes.

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Appendix Table D.2

Estimated Impacts on Severe Physical Assault at the 30-Month Follow-Up

Outcome[a]	Program Group	Control Group	Difference (Impact)	Effect Size[b]	Standard Error
Severe physical assault (%)					
Men's report of any severe physical assault	1.4	1.4	0.0	0.00	0.4
Women's report of any severe physical assault	1.6	1.7	-0.1	-0.01	0.4
Sample size					
Men	2,154	2,261			
Women	2,353	2,401			

SOURCE: MDRC calculations based on the SHM 30-month adult survey.

NOTES: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members.

Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

[a]Appendix Box D.1 describes how this outcome is defined.

[b]Effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the standard deviation for the control group.

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Appendix Table D.3

Estimated Impacts on Adult Substance Abuse at the 30-Month Follow-Up

Outcome[a]	Program Group	Control Group	Difference (Impact)	Effect Size[b]		Standard Error
Substance abuse (%)						
Spouse's report of men having problems with job, family, or friends because of alcohol or drug use in past year	5.3	7.4	-2.1	-0.09	***	0.7
Spouse's report of women having problems with job, family, or friends because of alcohol or drug use in past year	1.1	2.6	-1.5	-0.07	***	0.4
Sample size						
Men	2,182	2,304				
Women	2,413	2,464				

SOURCE: MDRC calculations based on the SHM 30-month adult survey.

NOTES: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members.

Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

[a]Appendix Box D.1 describes how this outcome is defined.

[b]Effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the standard deviation for the control group.

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Appendix Table D.4

Estimated Impacts on Secondary Coparenting and Parenting Outcomes at the 30-Month Follow-Up

Outcome[a]	Program Group	Control Group	Difference (Impact)	Effect Size[b]	Standard Error
Coparenting					
Men's report of spending time together with spouse and child(ren) at least a few times a week (%)	84.8	84.3	0.4	0.01	1.1
Women's report of spending time together with spouse and child(ren) at least a few times a week (%)	80.4	80.3	0.2	0.00	1.1
Men's report of being able to raise the child(ren) just as well without spouse (%)	31.6	34.0	-2.5	-0.04 *	1.4
Women's report of being able to raise the child(ren) just as well without spouse (%)	41.1	42.9	-1.8	-0.04	1.4
Men's report of frequency of disagreements about child-rearing[c]	2.74	2.72	0.03	0.03	0.03
Women's report of frequency of disagreements about child-rearing[c]	2.65	2.66	-0.01	-0.01	0.02
Sample size					
Men	2,072	2,163			
Women	2,227	2,290			
Parental monitoring (child ages 5- 17 years)[c]					
Paternal monitoring	3.51	3.54	-0.02	-0.05	0.03
Maternal monitoring	3.74	3.73	0.01	0.02	0.02
Sample size					
Men	995	1,043			
Women	1,118	1,129			
Adolescent disclosure[c] (child ages 8.5- 17 years)					
Adolescent disclosure to father	2.83	2.79	0.04	0.06	0.05
Adolescent disclosure to mother	3.11	3.05	0.06	0.08 *	0.04
Sample size (adolescent reporters)	551	579			
Parental engagement (child ages 2- 17 years) (%)					
Paternal report of spending time with focal child at least a few times a week	83.7	83.4	0.3	0.01	1.2
Maternal report of spending time with focal child at least a few times a week	93.0	91.9	1.1	0.03	0.9
Sample size					
Men	2,072	2,163			
Women	2,227	2,290			

(continued)

Appendix Table D.4 (continued)

SOURCES: MDRC calculations based on the SHM 30-month adult and youth surveys.

NOTES: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members.

Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

Although the vast majority of focal children in the sample were between the ages of 2 and 17 years, 2 percent fell outside this range.

[a]Appendix Box D.2 describes how the secondary coparenting and parenting outcomes are defined.

[b]Effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the standard deviation for the control group.

[c]The scale ranges from 1 to 4, where higher scores indicate higher levels of the outcome.

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Appendix Table D.5

Estimated Impacts on Secondary Child Outcomes at the 30-Month Follow-Up

Outcome[a]	Program Group	Control Group	Difference (Impact)	Effect Size[b]	Standard Error
Social competence and delinquency					
Social competence[c] (ages 2-17 years)[d]	—	—	—	0.07 ***	0.03
Delinquent activities engaged in (ages 11-17 years) (%)	11.2	10.5	0.7	0.04	1.3
Perceptions of marital quality/ interparental conflict[e] (ages 8.5-17 years)					
Children's reports of interparental conflict	1.71	1.68	0.03	0.06	0.03
Children's reports of interparental positive interactions	3.13	3.12	0.01	0.01	0.05
Reactivity to interparental conflict					
Overt distress[c] (ages 2.5-17 years)	—	—	—	-0.06 **	0.03
Behavioral dysregulation[c] (ages 2.5-17 years)	—	—	—	-0.05 *	0.03
Negative family representations[e] (ages 8.5-17 years)	1.78	1.72	0.06	0.07	0.06
Behavioral involvement[c] (ages 2.5-17 years)	—	—	—	-0.06 *	0.03
Attributions of self-blame[e] (ages 8.5-17 years)	1.49	1.42	0.07	0.13 *	0.04
Sample size					
Children (ages 2-17 years)[d]	2,234	2,260			
Children (ages 8.5-17 years)	667	691			
Children (ages 11-17 years)	439	460			

SOURCES: MDRC calculations based on the SHM 30-month adult and youth surveys.

NOTES: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members.

Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

[a]Appendix Box D.3 describes how the secondary child outcomes are defined.

[b]For unstandardized outcomes, effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the standard deviation for the control group. For standardized outcomes, the impact estimate is already an effect size.

[c]Multiple measurement sources (maternal reports, paternal reports, and/or child reports) were used to measure this outcome. The outcome was standardized by measurement source, using control group means and standard deviations. The standard error was adjusted to account for nonindependence of measures at the family level. The program and control group means are not presented for this outcome because they are less relevant to the interpretation of program impacts.

[d]Although the vast majority of focal children in the sample were between the ages of 2 and 17 years, 1 percent were outside this range.

[e]The scale ranges from 1 to 4, where higher scores indicate higher levels of the outcome.

Appendix Box D.1

Descriptions of Secondary Adult Outcomes at the 30-Month Follow-Up

Marital satisfaction (%)
There are six marital satisfaction outcomes reported separately for men and women. The survey asks men and women to report on their satisfaction with the following aspects of their couple relationship: communication, handling of disagreements, time spent together, sex life, division of chores, and handling of finances. Respondents reported levels of satisfaction with each outcome, and if respondents reported that they were "Somewhat satisfied" or "Very satisfied," the final outcomes were coded with a positive (1) response. Each outcome is based on one item, such as "How satisfied are you with the way [spouse] and you communicate?" and "How satisfied are you with how you divide household chores?"

Report of spending time alone as a couple at least weekly (%)
This outcome is based on responses to one question, reported separately for men and women. Respondents were asked how frequently in the past month they "Spent time together as a couple alone." If they reported spending time together "Weekly" or more frequently, the outcome was coded with a positive (1) response.

Report of talking daily with spouse about their day (%)
This outcome is based on responses to one question, reported separately for men and women. Respondents were asked how frequently in the past month they "[talked with their spouse] about things that happened during [their] days." If respondents reported that they spoke "Daily" with their spouses, the outcome was coded with a positive (1) response.

Report of having serious disagreements frequently (%)
This outcome is based on responses to one question, reported separately for men and women. Respondents were asked how frequently they had "a serious disagreement" with their spouse in the past month. If respondents reported having serious disagreements "Sometimes" or "Often" in the past month, the outcome was coded with a positive (1) response.

Report of discussing divorce with someone (%)
This outcome is based on responses to one question, reported separately for men and women. Respondents were asked whether they "[spoke] to anyone about the possibility that [they and their spouse] might separate or divorce" in the past three months. If respondents reported speaking to someone about this, the outcome was coded with a positive (1) response.

Severe physical assault (%)
The severe physical assault measure is based on two questions that ask how frequently the respondent's spouse physically assaulted him or her. These items are a subset of the items used to construct the primary measure of physical assault (Appendix Box C.1). Examined separately for men and women, a respondent's report of any occurrence of the spouse's using "a knife, gun, or weapon" or "choking, slamming, kicking, burning, or beating" the respondent was treated as an affirmative response.

(continued)

Appendix Box D.1 (continued)

Spousal report of substance abuse (%)
This measure represents the percentage of respondents who report that their spouse had difficulty maintaining relationships or employment due to substance abuse. The outcome is constructed by combining responses from two questions to reflect whether the respondent believed that the spouse had difficulties maintaining family and friend relationships or maintaining employment due to substance abuse.

Appendix Box D.2

Descriptions of Secondary Coparenting and Parenting Outcomes at the 30-Month Follow-Up

Reports of spending time together with spouse and children frequently (%)
This outcome is examined separately for men and women. It is composed of a single binary item and measures whether or not the respondent reported spending time at least a few times a week with his or her family in the past month.

Reports that he or she could raise the children just as well without spouse (%)
This outcome is examined separately for men and women. It is composed of a single binary item and measures whether or not the respondent felt that he or she could raise the couple's children just as well without the spouse.

Reports of frequency of disagreements about child-rearing (Scale: 1 to 4; M = 2.69; SD = 0.87)
This outcome is examined separately for men and women. The frequency of disagreements scale reflects an average of five items. Example items ask how often the respondent disagrees with his or her spouse on such topics as "setting rules for or disciplining the children," "who does child care tasks," and "how much money is spent on the children."

Parental monitoring (Scale: 1 to 4; M = 3.63; SD = 0.54)
This outcome is examined separately for men and women who reported having a focal child age 5 to 17. The parental monitoring scale comprises an average of four parent-reported items and asks, for example, how often in the past month the respondent knew "where [focal child] spent his or her free time" or "whether [focal child] had finished his/her schoolwork or studying."

Adolescent disclosure (Scale: 1 to 4; M = 2.95; SD = 0.71)
This outcome is examined separately for mothers and fathers. The adolescent self-disclosure measure comprises the average of eight items, which were asked of children ages 8 and a half to 17. The items ask child respondents whether, for example, they talk with their mother or father "about things respondent has done in school" or whether they let their mother or father know "when respondent is angry about something."

Parental engagement (%)
This outcome is examined separately for mothers and fathers. Each parental engagement outcome combines parent self-reports and child reports via a single item that was asked of both adults and children. This item asked respondents whether parents spent at least an hour with the focal child a few times a week or more. If either child or parent responded negatively to the question, the final parental engagement binary outcome reported that the parent did not spend at least an hour with the focal child.

NOTES: M = mean; SD = standard deviation.
A detailed description of the measurement and construction of the secondary 30-month coparenting and parenting outcome measures can be found in Lowenstein et al. (2014), Appendix E.

Appendix Box D.3

Descriptions of Secondary Child Outcomes at the 30-Month Follow-Up

Child social competence
This outcome is examined for children ages 2 to 17 and captures their interpersonal competence with peers, prosocial behavior, and friendship quality. It is measured using maternal, paternal, and child reports. (Maternal- and paternal-reported measures are available for children ages 2 to 8 and a half; child-reported measures are available for children ages 8 and a half to 17.) Parent-reported measures reflect the averages of responses to nine items, including "Focal child understands other people's feelings." The child-reported measure reflects the average of responses to five items, including "I try to work out problems with classmates, family, or friends."

Delinquent activities engaged in (%)
This outcome comprises five self-reported items that were asked of children ages 11 to 17. Each item captures whether or not the child reported having engaged in a delinquent activity at least once in the past year, including "Skipped school, cut classes without [his or her] parents' permission, or refused to go to school." The resulting measure is an average of the five items and reflects the proportion of delinquent activities that the child engaged in.

Children's reports of interparental conflict (Scale: 1 to 4; M = 1.69; SD = 0.52)
This outcome is examined for children ages 8 and a half to 17; it captures child-reported perceptions of conflict between parents. The score is the average of responses to seven items for children ages 8 and a half to 11 and responses to nine items for children ages 11 to 17, including "Mother and father still act mean after they had an argument."

Children's reports of interparental positive interactions (Scale: 1 to 4; M = 3.12; SD = 0.78)
This outcome is examined for children ages 8 and a half to 17; it captures child-reported perceptions of positive interactions between parents. The score is the average of responses to four items for children ages 8 and a half to 11 and responses to five items for children ages 11 to 17, including "How often do mother and father laugh together?" and "Mother and father like each other."

Child overt distress
This outcome is examined for children ages 2 and a half to 17 and captures their emotional distress in response to interparental conflict. It is measured using maternal, paternal, and child reports. (Maternal- and paternal-reported measures are available for children ages 2 and a half to 17; child-reported measures are available for children ages 8 and a half to 17.) Parent-reported measures reflect the averages of responses to three items, including "Focal child appears upset." The child-reported measure reflects the average of responses to four items, including "When mother and father argue, I feel sad."

(continued)

Appendix Box D.3 (continued)

Child behavioral dysregulation
This outcome is examined for children ages 2 and a half to 17 and captures "acting out" behavior after seeing their parents argue. It is measured using maternal, paternal, and child reports. (Maternal- and paternal-reported measures are available for children ages 2 and a half to 17; child-reported measures are available for children ages 8 and a half to 17.) Parent-reported measures reflect the averages of responses to three items, including "Focal child starts hitting, pushing, slapping, or throwing things at one or both of you or other family members." The child-reported measure reflects the average of responses to two items, including "I yell at or say unkind things to people in my family."

Negative family representations (Scale: 1 to 4; M = 1.75; SD = 0.87)
This outcome is examined for children ages 8 and a half to 17; it captures child-reported appraisals of deleterious consequences of interparental conflict. The score is the average of two items, including "I worry that [my parents] might break up or get divorced."

Child behavioral involvement
This outcome is examined for children ages 2 and a half to 17 and captures their behavioral involvement in parents' conflicts. It is measured using maternal, paternal, and child reports. (Maternal- and paternal-reported measures are available for children ages 2 and a half to 17; child-reported measures are available for children ages 8 and a half to 17.) Parent-reported measures reflect the averages of responses to two items, including "Focal child tries to distract one or both of you by bringing up other things." The child-reported measure reflects the average of responses to two items, including "I try to comfort one or both of them."

Child attributions of self-blame (Scale: 1 to 4; M = 1.46; SD = 0.54)
This outcome is examined for children ages 8 and a half to 17; it captures child-reported expectations that he or she is to blame for interparental conflict and that the conflict will affect his or her well-being and relationship with the parents. The score is the average of three items, including "I feel caught in the middle" and "It's my fault."

NOTES: M = mean; SD = standard deviation.

Multiple measurement sources (maternal reports, paternal reports, and/or child reports) were used to measure the social competence, overt distress, behavioral dysregulation, and behavioral involvement outcomes. Scales, means, and standard deviations are not shown for these outcomes because they are less relevant to the interpretation of program impacts. For more information on the analytic approach used to estimate program impacts on these outcomes, see Lowenstein et al. (2014), Appendix D.

A detailed description of the measurement and construction of the secondary 30-month child outcome measures can be found in Lowenstein et al. (2014), Appendix E.

Appendix E

Estimated Impacts on Child Outcomes, Analyzed by Child Age

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Appendix Table E.1

Tests of Differences in Estimated Impacts on Child Adjustment and Well-Being at the 30-Month Follow-Up, by Child Age

Outcome[a,b,c]	2 to 4 Years Impact[d] (Effect Size)	2 to 4 Years Standard Error	5 to 8.5 Years Impact[d] (Effect Size)	5 to 8.5 Years Standard Error	8.5 to 17 Years Impact[d] (Effect Size)	8.5 to 17 Years Standard Error	Subgroup Difference[e]
Child adjustment and well-being							
Self-regulation	0.07 ***	0.03	-0.02	0.04	-0.04	0.06	†
Internalizing behavior problems	-0.10 ***	0.03	0.02	0.05	0.00	0.04	††
Externalizing behavior problems	-0.08 **	0.03	0.00	0.05	-0.02	0.04	
Cognitive and academic performance	0.03	0.05	0.04	0.05	0.06	0.04	
Sample size (children)							
Program group	1,083		487		667		
Control group	1,083		491		691		

SOURCES: MDRC calculations based on the SHM 30-month adult and youth surveys and direct child assessments.

NOTES: Program impacts were calculated separately for each subgroup, using an ordinary least squares model controlling for pre-random assignment characteristics of sample members. See Lowenstein et. al (2014), Appendix J, for more information.

Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

The first age group included children between the ages of 2 years and 4 years, 11 months. The second age group included children between the ages of 5 years and 8 years, 5 months. The third age group included children between the ages of 8 years, 6 months, and 17 years, 11 months.

[a]Appendix Box C.3 describes how the child outcomes are defined.

[b]Multiple measurement sources (maternal reports, paternal reports, child reports and/or direct child assessments) were used to measure the outcomes in this table. The outcomes were standardized by measurement source, using control group means and standard deviations. Standard errors were adjusted to account for nonindependence of measures at the family level.

[c]Although the vast majority of focal children in the sample were between the ages of 2 and 17 years, 1 percent were outside this range.

[d]Program and control group means are not presented because they are less relevant to the interpretation of program impacts. The impact estimates presented are effect sizes.

[e]Tests of differences in impact estimates across subgroups were conducted. (See Lowenstein et al. [2014], Appendix D, for more details.) Statistical significance levels are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

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Appendix F

Tests of Differences in Estimated Impacts, Analyzed by Local SHM Program

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The Supporting Healthy Marriage Evaluation

Appendix Table F.1

Tests of Differences in Estimated Impacts on Adult Outcomes at the 30-Month Follow-Up, by Local SHM Program

Outcome[a]	Bronx Control Group	Bronx Impact/ Effect size[b]	Oklahoma City Control Group	Oklahoma City Impact/ Effect size[b]	Local Program Difference[c]
Relationship status					
Married[d] (%)	79.7	-3.3	86.8	2.6	
Marital appraisals					
Couple's average report of relationship happiness[e]	5.62	0.04	6.03	0.11	
Either spouse reported marriage in trouble (%)	56.0	1.8	37.9	-3.9	
Warmth and support in relationship[f]					
Men's report of warmth and support	3.42	-0.10	3.56	0.18	
Women's report of warmth and support	3.27	0.10	3.53	0.05	
Positive communication skills in relationship[f]					
Men's report of positive communication skills	3.10	0.03	3.29	0.10	
Women's report of positive communication skills	3.07	0.03	3.30	0.08	
Negative interactions in relationship[f]					
Men's report of negative behavior and emotions	2.30	0.04	2.08	-0.09	
Women's report of negative behavior and emotions	2.30	-0.13	2.02	-0.09	
Fidelity					
Neither spouse reported infidelity (%)	85.0	-1.8	94.6	2.6	
Psychological abuse and physical assault					
Men's report of psychological abuse[f]	1.41	-0.11	1.24	-0.05	
Women's report of psychological abuse[f]	1.32	-0.04	1.22	-0.08	
Men's report of any physical assault (%)	13.3	1.2	9.2	-0.9	†
Women's report of any physical assault (%)	11.0	-3.8	6.9	-0.1	
Individual psychological distress[f]					
Men's psychological distress	1.98	0.00	1.83	-0.04	
Women's psychological distress	2.10	-0.04	1.91	-0.06	
Sample size[g] (program and control group totals)					
Couples	639		654		
Men	565		580		
Women	615		637		

(continued)

Appendix Table F.1 (continued)

Outcome[a]	Orlando Control Group	Orlando Impact/ Effect size[b]	Pennsylvania Control Group	Pennsylvania Impact/ Effect size[b]	Local Program Difference[c]
Relationship status					
Married[d] (%)	84.6	-0.3	87.2	-2.9	
Marital appraisals					
Couple's average report of relationship happiness[e]	5.86	0.15	6.00	0.13	
Either spouse reported marriage in trouble (%)	50.3	-8.1	30.3	-1.1	
Warmth and support in relationship[f]					
Men's report of warmth and support	3.55	0.10	3.63	0.07	
Women's report of warmth and support	3.41	0.14	3.53	0.06	
Positive communication skills in relationship[f]					
Men's report of positive communication skills	3.20	0.16	3.43	0.08	
Women's report of positive communication skills	3.16	0.18	3.38	0.07	
Negative interactions in relationship[f]					
Men's report of negative behavior and emotions	2.19	-0.14	1.75	-0.07	
Women's report of negative behavior and emotions	2.10	-0.15	1.83	-0.09	
Fidelity					
Neither spouse reported infidelity (%)	93.1	1.3	95.6	-1.3	
Psychological abuse and physical assault					
Men's report of psychological abuse[f]	1.30	-0.11	1.20	-0.06	
Women's report of psychological abuse[f]	1.22	0.00	1.20	-0.11	
Men's report of any physical assault (%)	8.4	3.6	5.7	1.3	†
Women's report of any physical assault (%)	6.2	-1.1	6.4	0.2	
Individual psychological distress[f]					
Men's psychological distress	1.95	-0.16	1.77	-0.06	
Women's psychological distress	2.03	-0.15	1.95	-0.05	
Sample size[g] (program and control group totals)					
Couples	687		551		
Men	631		502		
Women	667		545		

(continued)

Appendix Table F.1 (continued)

Outcome[a]	Seattle Control Group	Seattle Impact/ Effect size[b]	Shoreline Control Group	Shoreline Impact/ Effect size[b]	Local Program Difference[c]
Relationship status					
Married[d] (%)	81.4	1.1	72.9	0.9	
Marital appraisals					
Couple's average report of relationship happiness[e]	5.79	0.17	5.74	0.01	
Either spouse reported marriage in trouble (%)	51.1	-3.5	41.7	-6.8	
Warmth and support in relationship[f]					
Men's report of warmth and support	3.54	0.02	3.49	0.11	
Women's report of warmth and support	3.44	0.12	3.40	0.12	
Positive communication skills in relationship[f]					
Men's report of positive communication skills	3.22	-0.04	3.25	0.12	
Women's report of positive communication skills	3.11	0.11	3.24	0.01	
Negative interactions in relationship[f]					
Men's report of negative behavior and emotions	2.17	0.06	2.19	-0.18	
Women's report of negative behavior and emotions	2.22	-0.16	2.10	-0.08	
Fidelity					
Neither spouse reported infidelity (%)	89.5	0.8	93.7	2.6	
Psychological abuse and physical assault					
Men's report of psychological abuse[f]	1.36	-0.12	1.27	-0.04	
Women's report of psychological abuse[f]	1.32	-0.15	1.28	-0.15	
Men's report of any physical assault (%)	10.7	-0.3	9.4	-3.7	†
Women's report of any physical assault (%)	9.8	-1.5	6.0	-0.3	
Individual psychological distress[f]					
Men's psychological distress	1.89	0.03	1.98	-0.16	
Women's psychological distress	1.97	-0.14	2.09	-0.11	
Sample size[g] (program and control group totals)					
Couples	529		641		
Men	435		574		
Women	505		627		

(continued)

Appendix Table F.1 (continued)

Outcome[a]	Texas Control Group	Texas Impact/ Effect size[b]	Wichita Control Group	Wichita Impact/ Effect size[b]	Local Program Difference[c]
Relationship status					
Married[d] (%)	82.1	0.4	77.4	-1.0	
Marital appraisals					
Couple's average report of relationship happiness[e]	5.74	0.22	5.51	0.15	
Either spouse reported marriage in trouble (%)	52.1	-1.8	55.7	-9.1	
Warmth and support in relationship[f]					
Men's report of warmth and support	3.41	0.22	3.43	0.13	
Women's report of warmth and support	3.32	0.10	3.27	0.19	
Positive communication skills in relationship[f]					
Men's report of positive communication skills	3.19	0.17	3.15	0.10	
Women's report of positive communication skills	3.14	0.18	3.03	0.13	
Negative interactions in relationship[f]					
Men's report of negative behavior and emotions	2.13	-0.09	2.29	-0.14	
Women's report of negative behavior and emotions	2.22	-0.21	2.27	-0.09	
Fidelity					
Neither spouse reported infidelity (%)	90.1	3.6	84.9	4.5	
Psychological abuse and physical assault					
Men's report of psychological abuse[f]	1.30	-0.12	1.34	-0.11	
Women's report of psychological abuse[f]	1.27	-0.02	1.38	-0.09	
Men's report of any physical assault (%)	12.2	-6.6	13.8	-2.0	†
Women's report of any physical assault (%)	10.3	-2.8	10.0	-1.4	
Individual psychological distress[f]					
Men's psychological distress	1.90	0.12	2.10	-0.08	
Women's psychological distress	2.10	-0.15	2.19	-0.06	
Sample size[g] (program and control group totals)					
Couples	673		660		
Men	605		594		
Women	643		638		

(continued)

Appendix Table F.1 (continued)

SOURCE: MDRC calculations based on the SHM 30-month adult survey.

NOTES: Program impacts were calculated separately for each local program, using an ordinary least squares model controlling for pre-random assignment characteristics of sample members.

Statistical significance of these impact estimates is shown in Appendix Table H.2 in Lowenstein et al. (2014).

This table focuses on the tests of differences in impacts across local SHM programs. These tests provide statistical evidence on whether SHM had larger effects for some programs than for others.

[a]Appendix Box C.1 describes how the adult outcomes are defined.

[b]Effect size is shown for all outcomes, except as noted below. Effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the standard deviation for the control group. For the outcomes of relationship status, marriage in trouble, fidelity, and physical assault, this column reports the percentage point difference between the means for the program group and the control group. Effect sizes for these outcomes are shown in Appendix Table H.2 in Lowenstein et al. (2014).

[c]Tests of differences in impact estimates across local SHM programs were conducted. (See Lowenstein et al. [2014], Appendix D, for more details.) Statistical significance levels are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

[d]This includes couples who, at follow-up, were still married or still in a committed relationship with the same partner they had when they entered the study.

[e]The scale ranges from 1 to 7, where 1 = "completely unhappy" and 7 = "completely happy."

[f]The scale ranges from 1 to 4, where higher scores indicate higher levels of the outcome.

[g]Some outcomes in this table were available for all respondents, and some were only available for couples who were still together at the 30-month follow-up. The sample sizes in this table reflect the sample sizes for the outcomes with the least missing data for each local program, although the sample sizes were similar across outcomes. See Lowenstein et al. (2014), Appendix E, for more information on the criteria used to determine respondent eligibility for each outcome.

The Supporting Healthy Marriage Evaluation

Appendix Table F.2

Tests of Differences in Estimated Impacts on Coparenting, Parenting, and Child Outcomes at the 30-Month Follow-Up, by Local SHM Program

	Bronx		Oklahoma City		Local
Outcome[a,b]	Control Group	Impact (Effect Size)[c]	Control Group	Impact (Effect Size)[c]	Program Difference[d]
Coparenting relationship[e]					
Men's report of cooperative coparenting	3.38	-0.06	3.53	0.03	
Women's report of cooperative coparenting	3.24	-0.04	3.43	0.01	
Parenting[f]					
Paternal supportiveness of child	-0.09	-0.18	0.30	-0.04	
Maternal supportiveness of child	-0.07	-0.15	0.24	0.12	
Paternal responsiveness to child	0.09	-0.13	0.01	0.06	
Maternal responsiveness to child	0.01	0.04	-0.04	0.13	††
Paternal hostility toward child	-0.08	-0.13	0.17	0.03	
Maternal hostility toward child	-0.19	0.13	0.19	-0.02	
Paternal harsh discipline[e]	1.20	-0.04	1.54	-0.10	
Maternal harsh discipline[e]	1.13	0.04	1.62	-0.11	
Child adjustment and well-being[f]					
Self-regulation	0.11	-0.09	-0.17	0.08	
Internalizing behavior problems	-0.08	-0.03	-0.18	-0.08	
Externalizing behavior problems	-0.14	-0.02	0.11	-0.01	
Cognitive and academic performance	-0.06	0.05	0.10	0.00	
Sample size (program and control group totals)					
Men[g]	517		563		
Women[g]	547		612		
Children	509		632		

(continued)

Appendix Table F.2 (continued)

Outcome[a,b]	Orlando Control Group	Orlando Impact (Effect Size)[c]	Pennsylvania Control Group	Pennsylvania Impact (Effect Size)[c]	Local Program Difference[d]
Coparenting relationship[e]					
Men's report of cooperative coparenting	3.49	0.04	3.61	0.00	
Women's report of cooperative coparenting	3.31	0.04	3.44	0.06	
Parenting[f]					
Paternal supportiveness of child	0.02	0.02	0.11	-0.14	
Maternal supportiveness of child	0.09	0.04	-0.12	0.07	
Paternal responsiveness to child	0.03	-0.02	0.17	-0.02	
Maternal responsiveness to child	0.17	-0.16	0.08	0.05	††
Paternal hostility toward child	0.03	0.00	-0.28	0.02	
Maternal hostility toward child	-0.03	0.04	-0.25	0.05	
Paternal harsh discipline[e]	1.26	-0.01	1.09	-0.06	
Maternal harsh discipline[e]	1.30	-0.07	1.18	0.00	
Child adjustment and well-being[f]					
Self-regulation	0.03	0.06	0.25	-0.04	
Internalizing behavior problems	-0.05	0.05	-0.21	0.07	
Externalizing behavior problems	-0.03	-0.02	-0.37	0.07	
Cognitive and academic performance	0.09	-0.03	0.04	-0.02	
Sample size (program and control group totals)					
Men[g]	596		469		
Women[g]	632		500		
Children	645		489		

(continued)

Appendix Table F.2 (continued)

Outcome[a,b]	Seattle Control Group	Seattle Impact (Effect Size)[c]	Shoreline Control Group	Shoreline Impact (Effect Size)[c]	Local Program Difference[d]
Coparenting relationship[e]					
Men's report of cooperative coparenting	3.48	-0.03	3.34	0.14	
Women's report of cooperative coparenting	3.26	-0.01	3.21	0.09	
Parenting[f]					
Paternal supportiveness of child	0.26	-0.07	-0.11	0.09	
Maternal supportiveness of child	0.43	-0.09	-0.05	0.05	
Paternal responsiveness to child	0.02	0.02	0.07	0.05	
Maternal responsiveness to child	0.07	-0.07	0.00	0.18	††
Paternal hostility toward child	-0.02	0.07	-0.05	-0.04	
Maternal hostility toward child	-0.07	0.01	0.02	0.00	
Paternal harsh discipline[e]	1.34	0.02	1.15	-0.02	
Maternal harsh discipline[e]	1.34	-0.11	1.18	0.03	
Child adjustment and well-being[f]					
Self-regulation	-0.24	0.02	0.25	0.00	
Internalizing behavior problems	-0.17	-0.07	0.04	-0.02	
Externalizing behavior problems	0.00	0.06	-0.01	-0.06	
Cognitive and academic performance	-0.25	0.10	0.06	-0.02	
Sample size (program and control group totals)					
Men[g]	417		548		
Women[g]	475		586		
Children	489		594		

(continued)

Appendix Table F.2 (continued)

Outcome[a,b]	Texas Control Group	Texas Impact (Effect Size)[c]	Wichita Control Group	Wichita Impact (Effect Size)[c]	Local Program Difference[d]
Coparenting relationship[e]					
Men's report of cooperative coparenting	3.30	0.09	3.28	0.07	
Women's report of cooperative coparenting	3.10	0.07	3.07	0.04	
Parenting[f]					
Paternal supportiveness of child	-0.09	0.06	-0.19	0.00	
Maternal supportiveness of child	-0.07	0.01	-0.21	0.05	
Paternal responsiveness to child	-0.08	0.15	-0.21	-0.01	
Maternal responsiveness to child	-0.14	0.17	-0.13	-0.02	††
Paternal hostility toward child	-0.07	0.10	0.27	0.03	
Maternal hostility toward child	0.17	-0.07	0.15	-0.13	
Paternal harsh discipline[e]	1.18	-0.10	1.31	-0.08	
Maternal harsh discipline[e]	1.15	-0.07	1.31	-0.08	
Child adjustment and well-being[f]					
Self-regulation	0.05	0.09	-0.03	0.01	
Internalizing behavior problems	0.29	-0.10	0.19	-0.03	
Externalizing behavior problems	0.09	-0.11	0.23	-0.11	
Cognitive and academic performance	0.07	0.01	-0.09	0.17	
Sample size (program and control group totals)					
Men[g]	561		564		
Women[g]	585		596		
Children	590		616		

(continued)

Appendix Table F.2 (continued)

SOURCES: MDRC calculations based on the SHM 30-month adult and youth surveys and direct child assessments.

NOTES: Program impacts were calculated separately for each local program, using an ordinary least squares model controlling for pre-random assignment characteristics of sample members.

Statistical significance of these impact estimates is shown in Appendix Table H.3 in Lowenstein et al. (2014).

This table focuses on the tests of differences in impacts across local SHM programs. These tests provide statistical evidence on whether SHM had larger effects for some programs than for others.

[a]Appendix Box C.2 describes how the coparenting and parenting outcomes are defined, and Appendix Box C.3 describes how the child outcomes are defined.

[b]Multiple measurement sources were used to measure all parenting and child outcomes except for coparenting and harsh discipline. The outcomes were standardized by source, using control group means and standard deviations. Standard errors were adjusted to account for nonindependence of measures at the family level. A negative subgroup control group mean indicates that the subgroup control group mean is less than the mean for the entire sample. Likewise, a positive subgroup control group mean indicates that the subgroup control group mean is greater than the mean for the entire sample.

[c]For unstandardized outcomes, effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the standard deviation for the control group. For standardized outcomes, the impact estimate is already an effect size.

[d]Tests of differences in impact estimates across local SHM programs were conducted. (See Lowenstein et al. [2014], Appendix D, for more details.) Statistical significance levels are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

[e]The scale ranges from 1 to 4, where higher scores indicate higher levels of the outcome.

[f]Although the vast majority of focal children in the sample were between the ages of 2 and 17 years, 1 to 2 percent were outside this range, depending on the outcome.

[g]Information on the quality of the coparenting relationship was only collected from couples who were either together or in contact at the 30-month follow-up. Information on parenting was only collected from men and women who had a focal child at the 30-month follow-up. The men's and women's sample sizes in this table reflect the sample sizes for the outcomes with the least missing data for each local program, although the sample sizes were similar across outcomes. See Lowenstein et al. (2014), Appendix E, for more information on the criteria used to determine respondent eligibility for each outcome.

Appendix G

Tests of Differences in Estimated Impacts, Analyzed by Subgroup

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The Supporting Healthy Marriage Evaluation

Appendix Table G.1

Tests of Differences in Estimated Impacts on Adult Outcomes at the 30-Month Follow-Up, by Level of Marital Distress at Study Entry

Outcome[a]	Low Marital Distress Control Group	Low Marital Distress Impact/ Effect Size[b]	Moderate Marital Distress Control Group	Moderate Marital Distress Impact/ Effect Size[b]	High Marital Distress Control Group	High Marital Distress Impact/ Effect Size[b]	Subgroup Difference[c]
Relationship status							
Married[d] (%)	90.4	0.0	81.9	1.6	72.2	-2.2	
Marital appraisals							
Couple's average report of relationship happiness[e]	6.22	0.11	5.85	0.15	5.12	0.16	
Either spouse reported marriage in trouble (%)	30.2	-4.6	45.9	-4.6	68.8	-5.2	
Warmth and support in relationship[f]							
Men's report of warmth and support	3.65	0.11	3.52	0.10	3.26	0.16	
Women's report of warmth and support	3.61	0.10	3.42	0.10	3.08	0.17	
Positive communication skills in relationship[f]							
Men's report of positive communication skills	3.46	0.02	3.23	0.18	2.93	0.15	†††
Women's report of positive communication skills	3.45	0.03	3.22	0.12	2.84	0.16	
Negative interactions in relationship[f]							
Men's report of negative behavior and emotions	1.81	0.02	2.14	-0.15	2.56	-0.20	†††
Women's report of negative behavior and emotions	1.80	-0.05	2.10	-0.16	2.53	-0.17	
Fidelity							
Neither spouse reported infidelity (%)	96.0	-0.7	91.0	2.7	84.5	2.9	†
Psychological abuse and physical assault							
Men's report of psychological abuse[f]	1.15	-0.02	1.30	-0.16	1.49	-0.16	††
Women's report of psychological abuse[f]	1.14	-0.04	1.27	-0.12	1.42	-0.07	
Men's report of any physical assault (%)	6.0	0.1	9.8	-1.4	16.5	-2.6	
Women's report of any physical assault (%)	5.1	-1.4	7.6	-0.6	12.6	-2.3	

(continued)

Appendix Table G.1 (continued)

Outcome[a]	Low Marital Distress Control Group	Low Marital Distress Impact/ Effect Size[b]	Moderate Marital Distress Control Group	Moderate Marital Distress Impact/ Effect Size[b]	High Marital Distress Control Group	High Marital Distress Impact/ Effect Size[b]	Subgroup Difference[c]
Individual psychological distress[f]							
Men's psychological distress	1.72	0.00	1.95	-0.05	2.13	-0.13	
Women's psychological distress	1.85	-0.09	2.03	-0.12	2.26	-0.08	
Sample size[g] (program and control group totals)							
Couples	1,578		1,826		1,549		
Men	1,434		1,640		1,341		
Women	1,545		1,777		1,477		

SOURCE: MDRC calculations based on the SHM 30-month adult survey.

NOTES: Program impacts were calculated separately for each subgroup, using an ordinary least squares model controlling for pre-random assignment characteristics of sample members.

Statistical significance of these impact estimates is shown in Appendix Table J.1 in Lowenstein et al. (2014).

This table focuses on the tests of differences in impacts across subgroups. These tests provide statistical evidence on whether SHM had larger effects for some programs than for others.

See Lowenstein et al. (2014), Appendix J, for a description of how the subgroups were defined.

[a]Appendix Box C.1 describes how the adult outcomes are defined.

[b]Effect sizes are shown for all outcomes, except as noted below. Effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the standard deviation for the control group. For the outcomes of relationship status, marriage in trouble, fidelity, and physical assault, this column reports the percentage point difference between the means for the program group and the control group. Effect sizes for these outcomes are shown in Appendix Table J.1 in Lowenstein et al. (2014).

[c]Tests of differences in impact estimates across subgroups were conducted. (See Lowenstein et al. [2014], Appendix D, for more details.) Statistical significance levels are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

[d]This includes couples who, at follow-up, were still married or still in a committed relationship with the same partner they had when they entered the study.

[e]The scale ranges from 1 to 7, where 1 = "completely unhappy" and 7 = "completely happy."

[f]The scale ranges from 1 to 4, where higher scores indicate higher levels of the outcome.

[g]Some outcomes in this table were available for all respondents, and some were only available for couples who were still together at the 30-month follow-up. The sample sizes in this table reflect the sample sizes for the outcomes with the least missing data for each subgroup, although the sample sizes were similar across outcomes. See Lowenstein et al. (2014), Appendix E, for more information on the criteria used to determine respondent eligibility for each outcome.

The Supporting Healthy Marriage Evaluation

Appendix Table G.2

Tests of Differences in Estimated Impacts on Coparenting, Parenting, and Child Outcomes at the 30-Month Follow-Up, by Level of Marital Distress at Study Entry

Outcome[a,b]	Low Marital Distress		Moderate Marital Distress		High Marital Distress		
	Control Group	Impact (Effect Size)[c]	Control Group	Impact (Effect Size)[c]	Control Group	Impact (Effect Size)[c]	Subgroup Difference[d]
Coparenting[e]							
Men's report of cooperative coparenting	3.64	0.03	3.45	0.07	3.13	0.09	
Women's report of cooperative coparenting	3.54	0.02	3.30	0.03	2.89	0.10	
Parenting[f]							
Paternal supportiveness of child	0.17	0.06	0.03	0.00	-0.20	-0.10	†
Maternal supportiveness of child	0.11	0.05	0.04	-0.03	-0.13	0.05	
Paternal responsiveness to child	0.10	0.06	0.03	0.03	-0.13	0.01	
Maternal responsiveness to child	0.02	0.03	0.02	0.03	-0.04	0.07	
Paternal hostility toward child	-0.04	0.04	0.00	0.01	0.06	-0.06	
Maternal hostility toward child	-0.07	0.03	-0.04	0.00	0.10	-0.01	
Paternal harsh discipline[e]	1.32	-0.08	1.26	-0.03	1.22	-0.08	
Maternal harsh discipline[e]	1.33	-0.07	1.27	-0.05	1.25	-0.01	
Child adjustment and well-being[f]							
Self-regulation	0.00	0.05	0.01	0.01	-0.01	0.06	
Internalizing behavior problems	-0.19	-0.01	-0.04	0.00	0.21	-0.09	
Externalizing behavior problems	-0.12	0.00	-0.03	-0.03	0.14	-0.08	
Cognitive and academic performance	0.09	0.01	0.01	0.05	-0.07	0.08	
Sample size (program and control group totals)							
Men[g]	1,392		1,548		1,227		
Women[g]	1,478		1,645		1,341		
Children	1,428		1,650		1,398		

(continued)

Appendix Table G.2 (continued)

SOURCES: MDRC calculations based on the SHM 30-month adult and youth surveys and direct child assessments.

NOTES: Program impacts were calculated separately for each subgroup, using an ordinary least squares model controlling for pre-random assignment characteristics of sample members.

Statistical significance of these impact estimates is shown in Appendix Table J.2 in Lowenstein et al. (2014).

This table focuses on the tests of differences in impacts across subgroups. These tests provide statistical evidence on whether SHM had larger effects for some groups than for others.

See Lowenstein et al. (2014), Appendix J, for a description of how the subgroups were defined.

[a]Appendix Box C.2 describes how the coparenting and parenting outcomes are defined, and Appendix Box C.3 describes how the child outcomes are defined.

[b]Multiple measurement sources were used to measure all parenting and child outcomes except for coparenting and harsh discipline. The outcomes were standardized by source using control group means and standard deviations. Standard errors were adjusted to account for non-independence of measures at the family level. A negative subgroup control group mean indicates that the subgroup control group mean is less than the mean for the entire sample. Likewise, a positive subgroup control group mean indicates that the subgroup control group mean is greater than the mean for the entire sample.

[c]For unstandardized outcomes, effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the standard deviation for the control group. For standardized outcomes, the impact estimate is already an effect size.

[d]Tests of differences in impact estimates across subgroups were conducted. (See Lowenstein et al. [2014], Appendix D, for more details.) Statistical significance levels are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

[e]The scale ranges from 1 to 4, where higher scores indicate higher levels of the outcome.

[f]Although the vast majority of focal children in the sample were between the ages of 2 and 17 years, 1 to 2 percent were outside this range, depending on the outcome.

[g]Information on the quality of the coparenting relationship was only collected from couples who were either together or in contact at the 30-month follow-up. Information on parenting was only collected from men and women who had a focal child at the 30-month follow-up. The men's and women's sample sizes in this table reflect the sample sizes for the outcomes with the least missing data for each subgroup, although the sample sizes were similar across outcomes. See Lowenstein et al. (2014), Appendix E, for more information on the criteria used to determine respondent eligibility for each outcome.

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Appendix Table G.3

Tests of Differences in Estimated Impacts on Adult Outcomes at the 30-Month Follow-Up, by Income Relative to Poverty Level at Study Entry

Outcome[a]	Less Than 100% of FPL Control Group	Less Than 100% of FPL Impact/ Effect Size[b]	100% to Less Than 200% of FPL Control Group	100% to Less Than 200% of FPL Impact/ Effect Size[b]	200% or More of FPL Control Group	200% or More of FPL Impact/ Effect Size[b]	Subgroup Difference[c]
Relationship status							
Married[d] (%)	77.1	2.8	84.2	-1.6	85.2	-2.4	†
Marital appraisals							
Couple's average report of relationship happiness[e]	5.86	0.06	5.76	0.17	5.69	0.14	
Either spouse reported marriage in trouble (%)	48.2	-1.8	47.1	-5.8	43.8	-6.0	
Warmth and support in relationship[f]							
Men's report of warmth and support	3.51	0.07	3.50	0.09	3.51	0.17	
Women's report of warmth and support	3.40	0.05	3.39	0.16	3.41	0.08	
Positive communication skills in relationship[f]							
Men's report of positive communication skills	3.23	0.11	3.21	0.11	3.24	0.09	
Women's report of positive communication skills	3.14	0.11	3.19	0.12	3.20	0.07	
Negative interactions in relationship[f]							
Men's report of negative behavior and emotions	2.15	-0.09	2.16	-0.13	2.10	-0.04	
Women's report of negative behavior and emotions	2.14	-0.11	2.13	-0.16	2.13	-0.08	
Fidelity							
Neither spouse reported infidelity (%)	89.3	1.3	90.6	2.9	94.0	0.0	
Psychological abuse and physical assault							
Men's report of psychological abuse[f]	1.34	-0.14	1.31	-0.14	1.23	0.03	††
Women's report of psychological abuse[f]	1.33	-0.13	1.25	-0.05	1.21	0.02	
Men's report of any physical assault (%)	12.0	-2.8	10.0	0.1	7.9	-0.6	
Women's report of any physical assault (%)	9.8	-2.1	7.4	-0.5	5.8	-0.1	

(continued)

Appendix Table G.3 (continued)

Outcome[a]	Less Than 100% of FPL Control Group	Less Than 100% of FPL Impact/ Effect Size[b]	100% to Less Than 200% of FPL Control Group	100% to Less Than 200% of FPL Impact/ Effect Size[b]	200% or More of FPL Control Group	200% or More of FPL Impact/ Effect Size[b]	Subgroup Difference[c]
Individual psychological distress[f]							
Men's psychological distress	2.00	-0.05	1.92	-0.06	1.80	-0.01	
Women's psychological distress	2.11	-0.09	2.03	-0.10	1.94	-0.10	
Sample size[g] (program and control group totals)							
Couples	2,031		1,946		864		
Men	1,771		1,782		769		
Women	1,964		1,891		837		

SOURCE: MDRC calculations based on the SHM 30-month adult survey.

NOTES: "FPL" = federal poverty level. The poverty level was calculated using federal poverty guidelines for the year that the couple entered the study. See Lowenstein et al. (2014), Appendix J, for more information.

Program impacts were calculated separately for each subgroup, using an ordinary least squares model controlling for pre-random assignment characteristics of sample members.

Statistical significance of these impact estimates is shown in Appendix Table J.6 in Lowenstein et al. (2014).

This table focuses on the tests of differences in impacts across subgroups. These tests provide statistical evidence on whether SHM had larger effects for some groups than for others.

[a]Appendix Box C.1 describes how the adult outcomes are defined.

[b]Effect sizes are shown for all outcomes, except as noted below. Effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the standard deviation for the control group. For the outcomes of relationship status, marriage in trouble, fidelity, and physical assault, this column reports the percentage point difference between the means for the program group and the control group. Effect sizes for these outcomes are shown in Appendix Table J.6 in Lowenstein et al. (2014).

[c]Tests of differences in impact estimates across subgroups were conducted. (See Lowenstein et al. [2014], Appendix D, for more details.) Statistical significance levels are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

[d]This includes couples who, at follow-up, were still married or still in a committed relationship with the same partner they had when they entered the study.

[e]The scale ranges from 1 to 7, where 1 = "completely unhappy" and 7 = "completely happy."

[f]The scale ranges from 1 to 4, where higher scores indicate higher levels of the outcome.

[g]Some outcomes in this table were available for all respondents, and some were only available for couples who were still together at the 30-month follow-up. The sample sizes in this table reflect the sample sizes for the outcomes with the least missing data for each subgroup, although the sample sizes were similar across outcomes. See Lowenstein et al. (2014), Appendix E, for more information on the criteria used to determine respondent eligibility for each outcome.

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Appendix Table G.4

Tests of Differences in Estimated Impacts on Coparenting, Parenting, and Child Outcomes at the 30-Month Follow-Up, by Income Relative to Poverty Level at Study Entry

	Less Than 100% of FPL		100% to Less Than 200% of FPL		200% or More of FPL		
Outcome[a,b]	Control Group	Impact (Effect Size)[c]	Control Group	Impact (Effect Size)[c]	Control Group	Impact (Effect Size)[c]	Subgroup Difference[d]
Coparenting[e]							
Men's report of cooperative coparenting	3.40	0.06	3.41	0.02	3.47	0.06	
Women's report of cooperative coparenting	3.23	0.04	3.25	0.02	3.32	0.02	
Parenting[f]							
Paternal supportiveness of child	-0.05	-0.02	-0.02	0.02	0.16	-0.10	
Maternal supportiveness of child	-0.06	-0.03	-0.01	0.09	0.16	-0.04	†
Paternal responsiveness to child	0.00	0.03	0.01	0.03	-0.02	0.00	
Maternal responsiveness to child	-0.04	0.03	0.03	0.05	0.06	-0.02	
Paternal hostility toward child	-0.04	-0.04	-0.01	0.03	0.07	0.07	
Maternal hostility toward child	-0.11	0.05	0.08	-0.09	0.07	0.11	††
Paternal harsh discipline[e]	1.24	-0.09	1.26	-0.04	1.31	-0.06	
Maternal harsh discipline[e]	1.23	-0.01	1.30	-0.07	1.34	-0.04	
Child adjustment and well-being[f]							
Self-regulation	-0.01	0.03	0.02	0.04	0.03	0.00	
Internalizing behavior problems	0.09	-0.08	-0.04	0.00	-0.15	0.01	
Externalizing behavior problems	0.04	-0.08	0.00	-0.05	-0.12	0.04	
Cognitive and academic performance	-0.11	0.12	0.03	0.04	0.22	-0.11	††
Sample size (program and control group totals)							
Men[g]	1,652		1,686		739		
Women[g]	1,776		1,775		790		
Children	1,808		1,791		768		

(continued)

Appendix Table G.4 (continued)

SOURCES: MDRC calculations based on the SHM 30-month adult and youth surveys and direct child assessments.

NOTES: "FPL" = federal poverty level. The poverty level was calculated using federal poverty guidelines for the year that the couple entered the study. See Lowenstein et al. (2014), Appendix J, for more information.

Program impacts were calculated separately for each subgroup, using an ordinary least squares model controlling for pre-random assignment characteristics of sample members.

Statistical significance of these impact estimates is shown in Appendix Table J.7 in Lowenstein et al. (2014).

This table focuses on the tests of differences in impacts across subgroups. These tests provide statistical evidence on whether SHM had larger effects for some groups than for others.

[a]Appendix Box C.2 describes how the coparenting and parenting outcomes are defined, and Appendix Box C.3 describes how the child outcomes are defined.

[b]Multiple measurement sources were used to measure all parenting and child outcomes except for coparenting and harsh discipline. The outcomes were standardized by source, using control group means and standard deviations. Standard errors were adjusted to account for nonindependence of measures at the family level. A negative subgroup control group mean indicates that the subgroup control group mean is less than the mean for the entire sample. Likewise, a positive subgroup control group mean indicates that the subgroup control group mean is greater than the mean for the entire sample.

[c]For unstandardized outcomes, effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the standard deviation for the control group. For standardized outcomes, the impact estimate is already an effect size.

[d]Tests of differences in impact estimates across subgroups were conducted. (See Lowenstein et al. [2014], Appendix D, for more details.) Statistical significance levels are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

[e]The scale ranges from 1 to 4, where higher scores indicate higher levels of the outcome.

[f]Although the vast majority of focal children in the sample were between the ages of 2 and 17 years, 1 to 2 percent were outside this range, depending on the outcome.

[g]Information on the quality of the coparenting relationship was only collected from couples who were either together or in contact at the 30-month follow-up. Information on parenting was only collected from men and women who had a focal child at the 30-month follow-up. The men's and women's sample sizes in this table reflect the sample sizes for the outcomes with the least missing data for each subgroup, although the sample sizes were similar across outcomes. See Lowenstein et al. (2014), Appendix E, for more information on the criteria used to determine respondent eligibility for each outcome.

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Appendix Table G.5

Tests of Differences in Estimated Impacts on Adult Outcomes at the 30-Month Follow-Up, by Race/Ethnicity

Outcome[a]	Both Hispanic		Both African-American		Both White		Other/Multiracial		Subgroup Difference[c]
	Control Group	Impact/ Effect Size[b]	Control Group	Impact/ Effect Size[b]	Control Group	Impact/ Effect Size[b]	Control Group	Impact/ Effect Size[b]	
Relationship status									
Married[d] (%)	86.1	-1.3	77.0	1.7	79.6	1.6	76.6	0.3	
Marital appraisals									
Couple's average report of relationship happiness[e]	5.92	0.14	5.59	0.06	5.74	0.15	5.65	0.12	
Either spouse reported marriage in trouble (%)	41.4	-2.3	56.1	0.1	44.1	-6.3	57.6	-11.2	††
Warmth and support in relationship[f]									
Men's report of warmth and support	3.52	0.11	3.47	-0.12	3.52	0.16	3.48	0.10	††
Women's report of warmth and support	3.42	0.08	3.28	0.10	3.46	0.14	3.36	0.12	
Positive communication skills in relationship[f]									
Men's report of positive communication skills	3.29	0.12	3.12	0.07	3.23	0.11	3.13	0.08	
Women's report of positive communication skills	3.28	0.10	3.01	0.16	3.17	0.16	3.07	0.03	
Negative interactions in relationship[f]									
Men's report of negative behavior and emotions	2.01	-0.10	2.31	0.04	2.16	-0.13	2.32	-0.12	
Women's report of negative behavior and emotions	2.04	-0.15	2.29	-0.09	2.07	-0.05	2.28	-0.14	
Fidelity									
Neither spouse reported infidelity (%)	93.5	0.5	87.3	-1.3	90.8	4.5	87.0	3.5	
Psychological abuse and physical assault									
Men's report of psychological abuse[f]	1.26	-0.12	1.39	-0.08	1.24	-0.04	1.40	-0.14	
Women's report of psychological abuse[f]	1.23	-0.07	1.29	0.09	1.26	-0.05	1.36	-0.18	
Men's report of any physical assault (%)	8.5	-1.3	12.0	0.1	10.7	-1.4	13.0	-0.6	
Women's report of any physical assault (%)	7.6	-1.4	8.1	0.6	6.1	1.4	11.5	-4.3	†

(continued)

Appendix Table G.5 (continued)

Outcome[a]	Both Hispanic Control Group	Both Hispanic Impact/ Effect Size[b]	Both African-American Control Group	Both African-American Impact/ Effect Size[b]	Both White Control Group	Both White Impact/ Effect Size[b]	Other/Multiracial Control Group	Other/Multiracial Impact/ Effect Size[b]	Subgroup Difference[c]
Individual psychological distress[f]									
Men's psychological distress	1.89	-0.04	1.96	-0.13	1.94	-0.04	2.00	-0.06	
Women's psychological distress	2.03	-0.09	2.10	-0.21	2.00	-0.02	2.10	-0.10	
Sample size[g] (program and control group totals)									
Couples	2,217		550		1,035		1,212		
Men	1,986		495		928		1,058		
Women	2,165		526		1,001		1,165		

SOURCE: MDRC calculations based on the SHM 30-month adult survey.

NOTES: Couples are categorized as Hispanic, white, or African-American if both spouses self-selected that race/ethnicity. Sixty-three percent of couples in the category "other/multiracial" are couples in which the spouses differed in racial or ethnic backgroud. See Lowenstein et al. (2014), Appendix J, for more information.

Program impacts were calculated separately for each subgroup, using an ordinary least squares model controlling for pre-random assignment characteristics of sample members.

Statistical significance of these impact estimates is shown in Appendix Table J.10 in Lowenstein et al. (2014).

This table focuses on the tests of differences in impacts across programs. These tests provide statistical evidence on whether SHM had larger effects for some groups than for others.

[a]Appendix Box C.1 describes how the adult outcomes are defined.

[b]Effect sizes are shown for all outcomes, except as noted below. Effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the standard deviation for the control group. For the outcomes of relationship status, marriage in trouble fidelity, and physical assault, this column reports the percentage point difference between the means for the program group and the control group. Effect sizes for these outcomes are shown in Appendix Table J.10 in Lowenstein et al. (2014).

[c]Tests of differences in impact estimates across subgroups were conducted. (See Lowenstein et al. [2014], Appendix D, for more details.) Statistical significance levels are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

[d]This includes couples who, at follow-up, were still married or still in a committed relationship with the same partner they had when they entered the study.

[e]The scale ranges from 1 to 7, where 1 = "completely unhappy" and 7 = "completely happy."

[f]The scale ranges from 1 to 4, where higher scores indicate higher levels of the outcome.

[g]Some outcomes in this table were available for all respondents, and some were only available for couples who were still together at the 30-month follow-up. The sample sizes in this table reflect the sample sizes for the outcomes with the least missing data for each subgroup, although the sample sizes were similar across outcomes. See Lowenstein et al. (2014), Appendix E, for more information on the criteria used to determine respondent eligibility for each outcome.

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Appendix Table G.6

Tests of Differences in Estimated Impacts on Coparenting, Parenting, and Child Outcomes at the 30-Month Follow-Up, by Race/Ethnicity

Outcome[a,b]	Both Hispanic		Both African-American		Both White		Other/Multiracial		
	Control Group	Impact (Effect Size)[c]	Control Group	Impact (Effect Size)[c]	Control Group	Impact (Effect Size)[c]	Control Group	Impact (Effect Size)[c]	Subgroup Difference[d]
Coparenting[e]									
Men's report of cooperative coparenting	3.46	0.03	3.37	0.05	3.38	0.12	3.39	0.01	
Women's report of cooperative coparenting	3.29	0.06	3.21	0.04	3.27	0.01	3.20	0.00	
Parenting[f]									
Paternal supportiveness of child	-0.01	0.00	-0.08	-0.06	0.04	0.02	0.03	-0.03	
Maternal supportiveness of child	-0.05	0.01	-0.14	0.07	0.03	0.14	0.16	-0.08	†
Paternal responsiveness to child	0.06	0.06	0.03	-0.04	-0.08	-0.01	-0.03	-0.03	
Maternal responsiveness to child	0.01	0.08	-0.12	0.00	0.03	0.01	0.03	-0.01	
Paternal hostility toward child	-0.13	0.04	-0.01	-0.14	0.24	-0.04	0.07	0.05	
Maternal hostility toward child	-0.04	0.03	-0.12	-0.04	0.15	-0.06	0.01	0.04	
Paternal harsh discipline[e]	1.16	-0.06	1.34	-0.02	1.38	-0.12	1.33	-0.03	
Maternal harsh discipline[e]	1.19	-0.06	1.35	0.04	1.40	-0.11	1.34	-0.05	
Child adjustment and well-being[f]									
Self-regulation	0.14	0.04	0.00	0.05	-0.13	0.02	-0.10	0.03	
Internalizing behavior problems	0.02	-0.02	-0.08	-0.10	-0.02	-0.04	-0.01	-0.01	
Externalizing behavior problems	-0.09	-0.06	-0.13	-0.06	0.20	-0.03	0.05	0.03	
Cognitive and academic performance	0.03	0.01	-0.13	0.11	0.05	0.11	-0.06	0.11	
Sample size (program and control group totals)									
Men[g]	1,881		462		880		993		
Women[g]	2,010		485		950		1,064		
Children	1,994		462		977		1,096		

(continued)

Appendix Table G.6 (continued)

SOURCES: MDRC calculations based on the SHM 30-month adult and youth surveys and direct child assessments.

NOTES: Couples are categorized as Hispanic, white, or African-American if both spouses self-selected that race/ethnicity. Sixty-three percent of couples in the category "other/multiracial" are couples in which the spouses differed in racial or ethnic backgroud. See Lowenstein et al. (2014), Appendix J, for more information.

Program impacts were calculated separately for each subgroup, using an ordinary least squares model controlling for pre-random assignment characteristics of sample members.

Statistical significance of these impact estimates is shown in Appendix Table J.11 in Lowenstein et al. (2014).

This table focuses on the tests of differences in impacts across subgroups. These tests provide statistical evidence on whether SHM had larger effects for some groups than for others.

[a]Appendix Box C.2 describes how the coparenting and parenting outcomes are defined, and Appendix Box C.3 describes how the child outcomes are defined.

[b]Multiple measurement sources were used to measure all parenting and child outcomes except for coparenting and harsh discipline. The outcomes were standardized by source, using control group means and standard deviations. Standard errors were adjusted to account for nonindependence of measures at the family level. A negative subgroup control group mean indicates that the subgroup control group mean is less than the mean for the entire sample. Likewise, a positive subgroup control group mean indicates that the subgroup control group mean is greater than the mean for the entire sample.

[c]For unstandardized outcomes, effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the standard deviation for the control group. For standardized outcomes, the impact estimate is already an effect size.

[d]Tests of differences in impact estimates across subgroups were conducted. (See Lowenstein et al. [2014], Appendix D, for more details.) Statistical significance levels are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

[e]The scale ranges from 1 to 4, where higher scores indicate higher levels of the outcome.

[f]Although the vast majority of focal children in the sample were between the ages of 2 and 17 years, 1 to 2 percent were outside this range, depending on the outcome.

[g]Information on the quality of the coparenting relationship was only collected from couples who were either together or in contact at the 30-month follow-up. Information on parenting was only collected from men and women who had a focal child at the 30-month follow-up. The men's and women's sample sizes in this table reflect the sample sizes for the outcomes with the least missing data for each subgroup, although the sample sizes were similar across outcomes. See Lowenstein et al. (2014), Appendix E, for more information on the criteria used to determine respondent eligibility for each outcome.

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