



THE SUPPORTING HEALTHY MARRIAGE EVALUATION

DO THE EFFECTS OF A RELATIONSHIP EDUCATION PROGRAM VARY FOR DIFFERENT TYPES OF COUPLES? Exploratory Subgroup Analysis in the Supporting Healthy Marriage Evaluation

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Do the Effects of a Relationship Education Program Vary for Different Types of Couples? Exploratory Subgroup Analysis in the Supporting Healthy Marriage Evaluation

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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 Office of Planning, Research and Evaluation in the Administration for Children and Families, U.S. Department of Health and Human Services. This paper presents the results of an exploratory analysis that examines whether SHM program impacts vary by six subgroup-defining characteristics.

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 offered SHM's services but could access other services in the community.

The study's main impact reports limited subgroup analysis to three potential moderators of impacts 12 months and 30 months after couples entered the study: couples' level of marital distress, family income-to-poverty level, and race/ethnicity.¹ This paper explores whether the impacts of the SHM program on marital quality and stability outcomes differ according to six additional subgroup-defining characteristics at the 12- and 30-month follow-up points: (1) length of marriage at study entry, (2) experience of abuse or neglect in the family of origin, (3) psychological distress at study entry, (4) whether the extended family respects and values the couple's marriage, (5) presence of a stepchild in the household, and (6) presence of a young child (under 3) in the household.

Key Findings

- **No consistent pattern of differences in impacts was found for any of the six subgroup characteristics examined in this paper.**
- **Some variation in SHM's early impacts was found for two of the six subgroup characteristics, but these differences tended to fade over time and were no longer statistically significant by the 30-month follow-up point.**

The general consistency of impacts observed across subgroups may not be surprising, since SHM was designed to meet the needs of low-income couples with diverse backgrounds and was not tailored to any particular group of couples within this broad population. However, across the subgroup analyses presented here and in the 12- and 30-month impact reports, there is some evidence that couples at higher risk for poor marital outcomes and marital instability may be more likely to benefit from SHM. While these findings should be viewed with caution because they could have occurred by chance, the results point to potential areas for further investigation in terms of effectively targeting services.

¹See Hsueh et al. (2012), *The Supporting Healthy Marriage Evaluation: Early Impacts on Low-Income Families*, OPRE Report 2012-11; and Lundquist et al. (2014), *A Family-Strengthening Program for Low-Income Families: Final Impacts from the Supporting Healthy Marriage Evaluation*, OPRE Report 2014-09A.

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Introduction

Sponsored by the Office of Planning, Research and Evaluation in the Administration for Children and Families, U.S. Department of Health and Human Services, the Supporting Healthy Marriage (SHM) evaluation is a demonstration project that rigorously tests the effectiveness of a couples-based family-strengthening intervention designed for low- and modest-income married couples with children. The primary objectives of the SHM evaluation are (1) to document how eight local programs implemented the SHM model, the services that couples received, and how couples viewed the program; (2) 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; and (3) to understand whether particular groups of couples are more likely or less likely to benefit from the program.

In an effort to address this last objective, subgroup analyses were carried out to understand the extent to which SHM's effects differed for different subgroups of couples defined using characteristics of the sample at study entry. In earlier impact results presented in the 12- and 30-month impact reports,¹ the subgroup analysis was limited to three sets of characteristics, which were identified based on strong underpinnings in theory, prior research, and policy relevance. These three characteristics were couples' level of marital distress at study entry, family income-to-poverty level at study entry, and race/ethnicity. This approach to the analysis was intended to reduce the likelihood that a result would be statistically significant by chance. (For more information about this phenomenon and the limitations it presents, see Box 1.)

The current paper explores the possibilities that the impacts of the SHM program on marital quality and stability outcomes² differ for a broader set of subgroups also defined using characteristics of the couples when they first entered the study. The following six additional characteristics are explored:

- Length of marriage at study entry
- Experience of verbal or physical abuse or neglect from parent in family of origin
- Psychological distress at study entry
- Whether the extended family respects and values the couple's marriage
- Presence of a stepchild in the household
- Presence of a young child (under 3) in the household

¹The 12-month impact results are reported in Hsueh et al. (2012a). The 30-month impact results are reported in Lundquist et al. (2014).

²The term "marital stability" refers to the longevity of a couple's marriage or relationship.

Box 1

What Is an Exploratory Analysis?

The subgroup analysis presented in this paper is characterized as an “exploratory analysis.” This term and its companion term, “confirmatory analysis,” are drawn from the literature about approaches to the multiple comparisons problem.* The problem is simply that as the number of statistical tests performed increases, the number of statistically significant results that occur solely due to chance also increases, even if there are no true differences in the impacts across subgroups. That is, for example, if differences in impacts across two subgroups for 10 independent outcomes are explored, there is a good chance (65 percent) that at least one outcome will be statistically significantly different at the 10 percent level purely by chance, even if the program had the same true effect across the subgroups. This paper’s analysis contains 240 tests of impact differences across various subgroup-defining characteristics, and so one would expect 24 tests of impact differences to be statistically significant at the 10 percent level by chance, even if the program has the same true effect across all subgroups. Thus, as the number of statistical tests conducted increases, additional caution is needed when drawing conclusions from the results of the analysis.

To guard against the possibility of drawing incorrect conclusions from the analysis, one approach — often used in a *confirmatory analysis* — is to purposefully limit the number of comparisons that are conducted and from which firm conclusions are drawn.† This reduces the potential for chance findings of statistical significance. Here, the scope of the analysis is purposefully limited to include only those comparisons for which there are strong justification and a priori hypotheses. Limiting the scope of the analysis in this way reduces the potential for chance findings of statistical significance and, in turn, enhances the conclusiveness of the analysis. In SHM’s 12- and 30-month impact reports, for instance, a confirmatory subgroup analysis was conducted. The analysis was purposefully limited to the examination of three subgroup-defining characteristics, which were identified on the basis of theory, prior research, and policy relevance. Additional statistical techniques were also performed to enhance the conclusiveness of the analysis.‡

An *exploratory analysis*, on the other hand, is often conducted after the results of the confirmatory analysis are known. An exploratory analysis is often less purposefully limited in scope and usually aims to generate hypotheses for future research rather than to confirm existing hypotheses. As such, an exploratory analysis can be considered to have a lower a priori ability to establish firm conclusions, because, in essence, it is a “second look” at the data.

(continued)

Box 1 (continued)

In this paper, the subgroup analysis is exploratory. It was undertaken subsequent to the analysis presented in SHM’s 12- and 30-month impact reports. In addition, no formal method was employed to adjust the significance levels of the statistical tests performed. Rather, the criteria used to evaluate significant differences in impacts by each subgroup characteristic found at the 12- and 30-month follow-ups were (1) the number of outcomes with significant differences in impacts, (2) the consistency of the pattern of significant differences within each time point, and (3) the consistency of the pattern of results across the 12- and 30-month follow-up points. (For more information, see the discussion of these criteria in the text.) In light of the exploratory nature of the analysis and the above set of criteria, a very clear pattern of statistically significant differences would have to emerge to suggest that there were true differences in SHM impacts across the subgroup characteristics examined here. In the absence of such a pattern, the results presented here can help to generate hypotheses for future research and lay the groundwork for ways in which programs can consider tailoring services and curricula in the future.

NOTES: *The literature on factor analysis uses the terms “exploratory analysis” and “confirmatory analysis” in somewhat different ways. See, for example, Hurley et al. (1997).

†See Schochet (2009). Additional techniques may also include explicitly adjusting the results of the statistical tests to account for the number of tests performed. This also may enhance the conclusiveness of the analysis.

‡For a description of these additional techniques, see Lowenstein et al. (2014), Appendix D.

The focus of the subgroup analysis presented in this paper is on the *heterogeneity* of impacts — that is, whether impacts are different for different subgroups. If impacts on certain outcomes differ across subgroups, then the differences in impacts provide preliminary evidence that the subgroup characteristics moderate SHM’s impacts on the outcomes of interest. These results can generate hypotheses for future research and can help lay the groundwork for ways in which programs can consider targeting couples with particular characteristics or tailoring services and curricula to address the needs of particular types of couples.

The results presented in this paper are considered exploratory for a number of reasons. (Box 1 presents a discussion of what is meant by an “exploratory analysis.”) First, as discussed in more detail below, there is limited prior empirical evidence to inform whether and how SHM’s impacts might differ by these characteristics. As such, the subgroup characteristics explored here were not considered in the study’s core impact analysis but can be used to generate hypotheses for future research.

Second, because the analysis includes a large number of statistical tests, it is possible that some subgroup differences in impacts will be statistically significant by chance. Though a set of informal criteria is used to aid in the interpretation of the results (discussed below), no formal method is used to adjust for the number of statistical tests being conducted. Therefore, some caution is needed when interpreting the results.

Lastly, it is difficult to definitively attribute any of the differences in subgroup impacts to particular characteristics, above and beyond other potential confounding factors. This is because the subgroup characteristics explored here differ substantially across local SHM programs and may be correlated with other characteristics of the sample. As a result, it can be difficult to determine whether the impacts are driven by a particular subgroup characteristic, other associated characteristics, differences in local programs, or some combination of factors. For instance, length of marriage at study entry — one of the six subgroup characteristics explored — is correlated with couples' race/ethnicity, such that the largest share of couples who had been married for more than 7 years are Hispanic and the largest share of couples who had been married for fewer than 2.5 years are either multiracial or non-Hispanic, non-African-American, and nonwhite. In light of this association, it is difficult to know whether the source of differences in program impacts was, in fact, length of marriage or couples' race/ethnicity. If subgroup results are used to explore programmatic efforts to target services to particular couples, this limitation may not be important. But if results are used in an effort to inform how or why interventions are more effective or less effective for particular groups, some caution is warranted in interpreting the evidence presented here.

The remainder of this paper is organized as follows. The next two sections describe the SHM intervention and evaluation and summarize the findings in the final implementation report and two impact reports. Following that, the discussion introduces the subgroup-defining characteristics³ examined in this analysis and reviews how previous studies have found these characteristics to be correlated with marital quality and marital stability. Next, after describing the analytic method used, the paper presents the results for each set of subgroups, and it concludes with a discussion of these results.

In brief, the results do not provide strong evidence that SHM's impacts differ across subgroups. The results do, however, provide limited evidence that the program might have been more effective for couples who entered the study at risk for poor marital outcomes.

³This paper uses the term “subgroup-defining characteristics” to denote the characteristics that are hypothesized to moderate (that is, influence the direction and magnitude of) impacts. This term is synonymous with the commonly used term “moderator.”

The Supporting Healthy Marriage Evaluation

The Supporting Healthy Marriage 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.⁴ SHM offered curriculum-based group workshops that taught relationship skills and provided supplemental educational and social activities, as well as 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 had access to SHM services, and the other half were assigned to the control group, which did not have access to SHM services but could receive other services available in the community. The use of a random assignment research design ensures that the SHM program and control groups were similar when they first entered the study; therefore, any systematic differences that later emerged are most likely due to the program being studied.

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. 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.

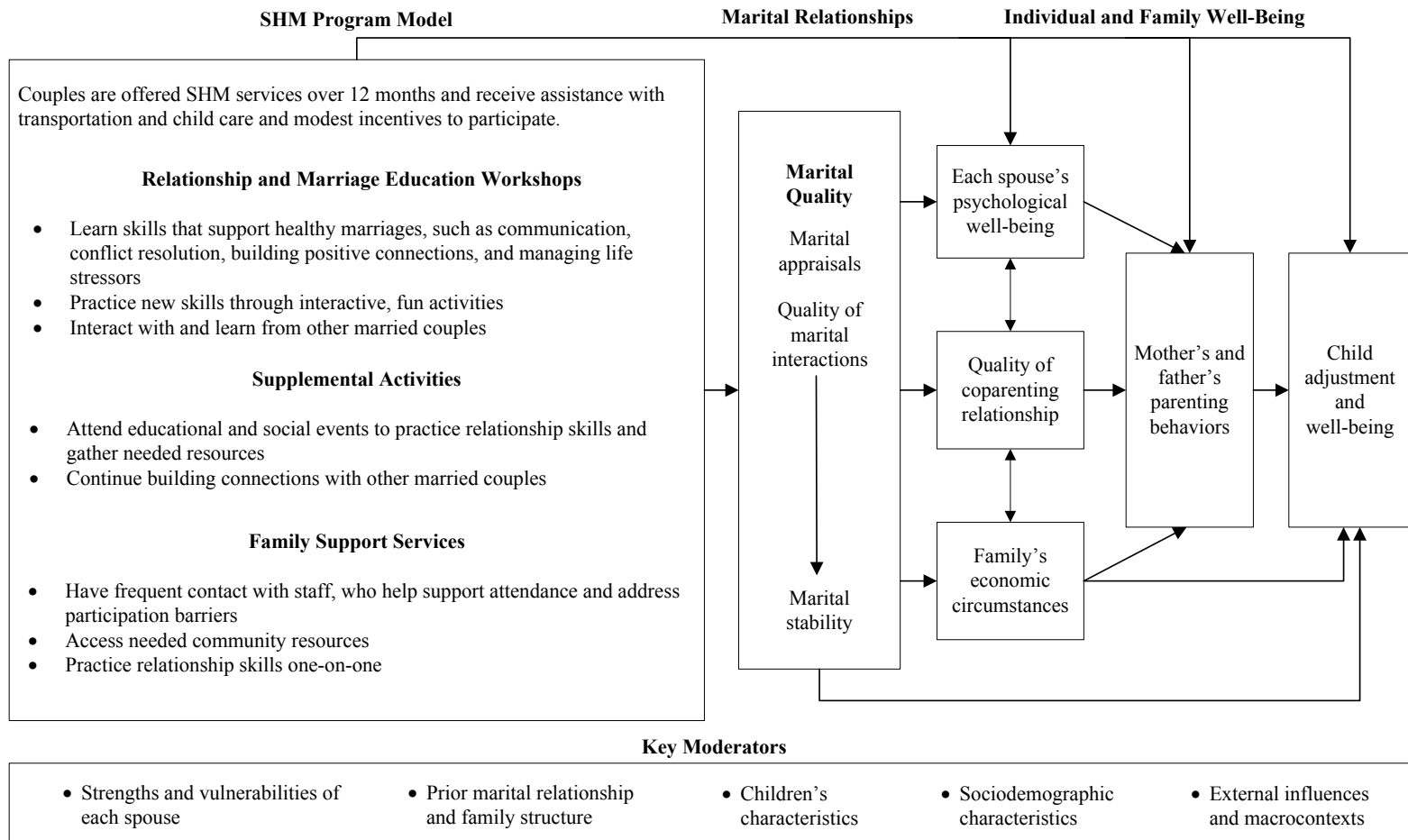
The SHM program model and theory of change are shown in Figure 1. The program's central and most intensive component was *a series of relationship and marriage education workshops for groups of couples* that was offered in the first four to five months of enrollment. Longer than most marriage education 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, and 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.

⁴The implementation of the SHM intervention is described in detail in the two implementation reports issued by the project (Miller Gaubert et al., 2010; Miller Gaubert, Gubits, Alderson, and Knox, 2012).

The Supporting Healthy Marriage Evaluation

Figure 1

The SHM Program Model and Theory of Change



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.

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 the local SHM 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.

Findings Summarized in Earlier SHM Reports

The final implementation analysis found that the full SHM program model was operated by the eight local programs participating in the study in adherence with established guidelines.⁵ Moreover, a substantial number of couples 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. In contrast, 76 percent of control group couples reported never receiving any group relationship services in the 12 months following study entry.

The 12- and 30-month impact analyses showed that the SHM intervention produced a consistent pattern of positive, but small, effects on several outcomes.⁶ In brief, SHM produced small but sustained improvements in program group couples' marital functioning (higher levels of marital happiness, lower levels of marital distress, more warm and supportive behaviors, more positive communication skills, and fewer negative emotions and behaviors in marital interactions), reductions in psychological abuse between spouses, and improvements in psychological well-being for women⁷ relative to their counterparts in the control group. These impacts, however, did not translate into significant impacts on whether couples remained together; nor did they translate into improvements in parenting skills or child adjustment and well-being, as hypothesized.

⁵Miller Gaubert, Gubits, Alderson, and Knox (2012).

⁶Hsueh et al. (2012a); Lundquist et al. (2014).

⁷The 12-month results also showed a reduction in men's level of psychological distress. At the 30-month follow-up, this impact was slightly smaller and no longer statistically significant.

The 12- and 30-month impact reports examine whether program impacts varied by three characteristics: level of marital distress at study entry, family income-to-poverty level at study entry, and race/ethnicity. At the 12-month follow-up, some evidence suggested that the positive estimated impacts of SHM were somewhat larger and more consistent for Hispanic couples and for couples with high marital distress at study entry. At the 30-month follow-up, there was also evidence that suggested that SHM's positive effects were larger for couples who reported moderate or high levels of marital distress at study entry. Race/ethnicity did not seem to moderate impacts at the 30-month follow-up point. Both reports caution against drawing a strong conclusion about differences in program impacts by subgroup because of the difficulty in disentangling subgroup characteristics from other related characteristics and the marginal significance of the statistical evidence.

Characteristics Used to Define Subgroups

During the planning for the analysis of the 12-month data, the SHM team considered a comprehensive list of characteristics by which to define subgroups. In order to minimize the potential for obtaining spurious results, the team sought to pick only a small number of subgroup-defining characteristics for examination. Ultimately, three characteristics (level of marital distress at study entry, family income-to-poverty level at study entry, and race/ethnicity) were deemed to be the most program- and policy-relevant and, therefore, the most compelling ones to include in the main impact reports. These three characteristics, however, represent only two of the five key hypothesized types of moderators shown at the bottom of Figure 1: *prior marital relationship and family structure* and *sociodemographic characteristics*. For the exploratory analysis in this paper, the team was interested in examining the other three key hypothesized types of moderators: *strengths and vulnerabilities of each spouse*, *children's characteristics*, and *external influences and macrocontexts*. The team selected the following six characteristics for inclusion in this analysis: (1) length of marriage at study entry, (2) experience of verbal or physical abuse or neglect from parent in the family of origin, (3) psychological distress at study entry, (4) whether the extended family respects and values the couple's marriage, (5) presence of a stepchild in the household, and (6) presence of a young child (under 3) in the household. These choices were based on program and policy relevance and whether previous research suggested a link with marital quality and/or stability.

Review of the Evidence

This section reviews the literature on associations between each of the six subgroup-defining characteristics examined in this paper and marital quality and stability. Although some evaluations of marriage education programs have examined whether program impacts vary across subgroups, there is little overlap between the characteristics examined in these studies (for

example, household income, marital status, marital quality)⁸ and those discussed in this paper. These characteristics are not examined in the current paper either because they were examined as part of the 12- and 30-month SHM primary impact analyses (family income-to-poverty level and level of marital distress at study entry) or because of the absence of data collected at study entry (marital status).⁹ In light of the limited evidence on the heterogeneity of effects of marriage education programs, the focus here is on correlational evidence linking each of the six selected subgroup-defining characteristics to marital quality and stability.

Length of Marriage

Studies have consistently shown that marital quality declines over time, especially in the early years of marriage, for both husbands and wives. These patterns of decline have been found to be evident within the first 4 years of marriage,¹⁰ the first 2.5 years of marriage,¹¹ and even the first year of marriage.¹² The early years of marriage are a time when couples often choose to have children, which can create additional sources of stress in the relationship. There is evidence to suggest, however, that the decline in marital quality in the early years of marriage is not simply a function of having young children in the household. Both parents and nonparents have been found to show significant declines in love and satisfaction in the first year of marriage.¹³

Studies that have examined marital quality over longer periods of time have found evidence for a curvilinear relationship between marital quality and length of marriage. A number of these have claimed to find a U-shaped pattern over the marital career, such that marital quality is lower at the intermediate stages of the marriage than at the early and late ones.¹⁴ However, other studies have found no evidence of such a pattern. For instance, in a study of the trajectory of change in marital quality over the first 10 years of marriage, Kurdek found that husbands and wives started their trajectories of change at fairly high levels of marital quality and showed a cubic pattern of change such that marital quality declined fairly rapidly in the early years of marriage (the first four years), stabilized, and then declined again at about the eighth year of marriage.¹⁵ Vaillant and Vaillant examined marital satisfaction both prospectively and retrospectively over the course of 40 years and found that when it was examined retrospec-

⁸See, for example, Cowan et al. (2009) and Hawkins, Blanchard, Baldwin, and Fawcett (2008).

⁹Information about marital status at enrollment comes from retrospective questions asked at the 12-month and 30-month follow-ups, rather than from information collected at study entry.

¹⁰Kurdek (1998); Kurdek (1999).

¹¹MacDermid, Huston, and McHale (1990).

¹²McHale and Huston (1985).

¹³McHale and Huston (1985).

¹⁴See, for example, Orbuch, House, Mero, and Webster (1996).

¹⁵Kurdek (1999).

tively, marital satisfaction followed a weak curvilinear pattern with the lowest point of marriage at approximately 20 years. When studied prospectively, however, the U-curve disappeared, and marital satisfaction remained relatively stable, particularly in the middle and later years.¹⁶ Other research suggests that marital quality declines steeply in the first decade of marriage and then more moderately in later years.¹⁷

Experience of Verbal or Physical Abuse or Neglect in the Family of Origin

A substantial body of research has examined associations between adults' experience of verbal and physical abuse in the family of origin and their own marital quality and found that abuse in the family of origin is predictive of marital functioning. Growing up in an abusive family has been found to predict marital quality for both men and women, although in different ways. Women's marital conflict is predicted by the verbal abuse that they reported having experienced in childhood, whereas for men there is suggestive evidence that marital conflict in adulthood is predicted by exposure to physical abuse as a child.¹⁸ Growing up in an abusive family has also been found to be positively related to becoming involved in a violent marital relationship, with associations found for becoming both the perpetrator and the victim of spousal abuse.¹⁹

Psychological Distress

There is a large literature linking mental health with marital quality. Although a great deal of this work has examined marital quality as a predictor of adult mental health and suggests that poor marital quality and marital dissolution increase the risk for mental health problems among both husbands and wives,²⁰ there is also evidence that poor mental health, especially depression, is predictive of lower subsequent marital quality. Depressive symptoms and major depressive episodes have been found to be predictive of declines in marital quality and marital satisfaction and predictive of increases in negative couple interactions.²¹

¹⁶Vaillant and Vaillant (1993).

¹⁷Glenn (1998).

¹⁸Belt and Abidin (1996).

¹⁹Stith et al. (2000).

²⁰See, for example, Prigerson, Maciejewski, and Rosenheck (1999).

²¹Beach and O'Leary (1993); Cox, Paley, Burchinal, and Payne (1999); Fein, Burnstein, Fein, and Lindberg (2003); Gotlib, Lewinsohn, and Seeley (1998); Howe, Levy, and Caplan (2004); Vinokur, Price, and Caplan (1996).

Whether the Extended Family Respects and Values the Couple's Marriage

Previous research highlights the close connection between marital quality and stability and support for one's relationship from friends, family, and shared social networks. Men and women who perceive that they have support from family and friends tend to report higher marital stability and satisfaction.²² There is conflicting evidence, however, that suggests that while emotional support networks can bolster an already-satisfying relationship, reliance on emotional support networks outside the marriage can have negative effects on marital satisfaction among wives who are not satisfied with their marriages by acting as a substitute for engagement with the spouse.²³ Similarly, approval or disapproval of the relationship from support networks can strongly influence the outcome of the relationship.²⁴

Presence of a Stepchild in the Household

Research indicates that couples in complex families (that is, stepfamilies) tend to have lower levels of marital satisfaction and marital quality than those in families without stepchildren. For example, White and Booth found that the higher divorce rate among remarried couples was limited to the most complex form of remarriage, in which both spouses were previously married and there were stepchildren in the household.²⁵ Respondents with stepchildren reported less satisfaction with their family life than those with biological children. The authors conclude that the presence of stepchildren is a destabilizing influence within remarriages and a major contributor to the somewhat greater rate of divorce among remarried couples. Others have compared simple stepfamilies (those in which only one spouse has children from a previous marriage) with complex stepfamilies (those in which both spouses have children from previous marriages) and have found that stepfamilies with a more complex structure have lower marital quality.²⁶ In contrast to these findings, other evidence suggests that the presence of stepchildren is not necessarily associated with more frequent marital conflict and, in some cases, is associated with less frequent conflict.²⁷ There is also evidence that the negative impact of stepchildren declines with the length of marriage.

²²Bryant and Conger (1999).

²³Proulx, Helms, and Payne (2004).

²⁴Felmlee, Sprecher, and Bassin (1990).

²⁵White and Booth (1985).

²⁶Clingempeel (1981); Clingempeel and Brand (1985).

²⁷MacDonald and DeMaris (1995).

Presence of a Young Child in the Household

There is strong evidence in the literature that relationship stability tends to increase after having a child — particularly, after a first child.²⁸ This effect is believed to be bidirectional: couples who expect to remain together are more likely to have children, and the presence of young children in the household increases the cost of separation. Both of these directional paths have empirical grounding. Using a set of panel data²⁹ for married and unmarried British women, Steele, Kallis, Goldstein, and Joshi found that the presence of a preschool-age or younger child in the household decreased the probability of separation for married and unmarried couples, while they did not find a similar effect for older children.³⁰ Using a set of panel data for American women, Lillard and Waite found a directional effect of marriage on childbearing and of number of children on marital dissolution; children conceived after marriage had the strongest stabilizing effect.³¹

The effect of having young children in the household on marital satisfaction may be quite different. In a meta-analysis of studies on marital satisfaction and the presence of children, Twenge, Campbell, and Foster found that parents had significantly lower marital satisfaction than nonparents and that the effect was significantly larger for couples with an infant than for couples with a child older than 2.³² The moderating effect of child age held for women more than for men, and the effect of the presence of children on marital quality was weaker for couples with lower socioeconomic status. Several pathways have been suggested for the reduction in marital quality brought about by young children and first parenthood. According to Anderson, Russell, and Schumm, reduction in the perceived amount of discussion of daily matters with the spouse is most responsible for the decline in marital quality with the birth of a first child.³³ White suggests interference with couple companionship and sexual intimacy, while Feeny, Peterson, and Noller suggest that new parenthood increases inequality between partners by increasing the burden on wives.³⁴

Why Program Impacts Might Vary Across Subgroups

There are many potential reasons why SHM might have larger effects for some couples than for others, but it is difficult to predict the direction of the differences. For the six subgroup-defining characteristics under consideration here, the reasons why program impacts might vary by these

²⁸Waite and Lillard (1991); Lillard and Waite (1993); Morgan and Rindfuss (1985).

²⁹Panel data cover observations of multiple phenomena over multiple periods for the same individuals.

³⁰Steele, Kallis, Goldstein, and Joshi (2005).

³¹Lillard and Waite (1993).

³²Twenge, Campbell, and Foster (2003).

³³Anderson, Russell, and Schumm (1983).

³⁴White (1983); Feeny, Peterson, and Noller (1994).

characteristics fall into one of two categories: those relating to time and level of commitment (*length of marriage at study entry* and *presence of a young child in the household*) and those relating to risk factors for poor marital outcomes (*experience of verbal or physical abuse or neglect in the family of origin*, *psychological distress at study entry*, *whether extended family respects and values couple's marriage*, and *presence of a stepchild in the household*).

Although it is relatively straightforward to consider why SHM might affect different types of couples differently, it is less straightforward to predict the direction of these differences. If subgroup membership is an indicator of time and level of commitment (for instance, subgroups defined by *length of marriage at study entry* or *presence of a young child in the household*), one might expect larger effects of SHM on couples who have invested less time in the marriage, because these couples might have fewer ingrained bad communication and behavior patterns than those who have been married longer. On the other hand, one might expect larger program impacts on couples who have invested more time in the marriage because these couples are more committed to the relationship on average and, therefore, might be more motivated to make changes than those who have been married for a shorter time.

If subgroup membership is an indicator of a risk factor for poor marital outcomes (for instance, subgroups defined by *psychological distress at study entry* or *experience of verbal or physical abuse or neglect in the family of origin*), one might expect couples facing more challenges to gain more from the SHM program than couples facing fewer challenges, because those with more challenges have more potential for improvement in their relationship. However, risk factors such as psychological distress could stand in the way of couples getting the most out of SHM — for instance, poorer current functioning could interfere with couples' ability to acquire the skills taught in the workshops — in which case one might expect couples facing more challenges to gain less from the program than couples facing fewer challenges.

Analytic Method

This section describes the analytic method used to examine whether the effects of the SHM intervention varied by the six selected characteristics. The section briefly describes the data sources used in the analysis, the six subgroup-defining characteristics, the follow-up outcomes of interest, the impact estimation and the key statistical test for differences in impacts, and the criteria used to interpret the large number of statistical test results. Additional detail is provided about data sources, outcomes, and impact estimation in other reports on the SHM project, which are referred to below.

Data Sources Used in This Paper

This paper uses information collected at study entry and at two follow-up time points for analysis. It uses information from the baseline information form, child information form, and self-administered questionnaire collected from all husbands and wives prior to study entry, 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 forms together with the help of program staff. These data sources were used to form subgroups, to describe the characteristics of these subgroups, and to improve the precision of the estimated program impacts. The paper also uses information from two follow-up survey interviews about 12 and 30 months after couples first entered the study, regardless of whether their marriages were intact. The surveys were each conducted separately with husbands and wives, and they 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.^{35,36}

Definition of Subgroups

The six subgroup-defining characteristics included in the present analysis are (1) length of marriage at study entry, (2) experience of verbal or physical abuse or neglect from parent in the family of origin, (3) psychological distress at study entry, (4) whether the extended family respects and values the couple's marriage, (5) presence of a stepchild in the household, and (6) presence of a young child (under 3) in the household. Each characteristic was used to divide the sample into two or three subgroups. A main consideration in defining subgroups was that each subgroup needed to be large enough to produce robust findings. Box 2 describes how the characteristics were used to define subgroups.

Outcomes Measured

This paper examines whether impacts on 20 outcomes varied within sets of subgroups.³⁷ These outcomes are described in Box 3.³⁸ They include couple-level measures of relationship status, marital happiness, marital distress, and fidelity, as well as men's and

³⁵Additional details about data sources are presented in Hsueh et al. (2012b), Appendix B, and Lowenstein et al. (2014), Appendix B.

³⁶At the 12-month follow-up, observational data from videotaped couple interactions were collected from about 1,400 couples in the study. These data are not included in the subgroup analysis for this paper, as some subgroups would have had undesirably small sample sizes.

³⁷The 20 outcomes analyzed in this paper were chosen because they are the primary outcomes in the 12-month impact report.

³⁸Full details about the construction of these outcomes are provided in Hsueh et al. (2012b), Appendix E, and Lowenstein et al. (2014), Appendix E.

Box 2

Definition of Subgroups

Length of marriage at study entry: This is measured at study entry by one item on the baseline information form that asks about length of marriage and relationship. For couples who were not married, the length of relationship was used instead of length of marriage.* The average of the husband's and wife's responses to the item was used to create the length of marriage characteristic. The three subgroups of *married for fewer than 2.5 years*, *married between 2.5 and 7 years*, and *married more than 7 years* were formed using this characteristic. The cutoffs of 2.5 and 7 years were chosen both because they split the sample of couples into three subgroups of roughly even size and because they correspond roughly to meaningful cutoffs found in the literature.

Experience of verbal or physical abuse or neglect from parent in family of origin: This is measured at study entry by three items on the self-administered questionnaire that ask "While you were growing up, how often did a parent, stepparent, or parent figure (a) Swear at you, insult you, or put you down? (b) Hit, slap, or hurt you so badly you were bruised or cut? (c) Neglect you so that you did not get the attention and care you needed?" Respondents who answered "Sometimes" or "Often" (rather than "Never" or "Hardly ever") to one of these items were considered to have experienced some type of abuse or neglect as a child. Typically, respondents who experienced some type of abuse or neglect responded "Sometimes" or "Often" to more than one of these items. Three subgroups were formed using this characteristic: *neither spouse experienced abuse as a child*, *one spouse experienced abuse as a child*, and *both spouses experienced abuse as children*.

Psychological distress at study entry: This is measured at study entry using the K6 scale of nonspecific psychological distress.† This scale is formed by taking the sum of six items included in the self-administered questionnaire that ask "During the past 30 days, how often did you feel (a) so sad that nothing could cheer you up? (b) nervous? (c) restless or fidgety? (d) hopeless? (e) that everything was an effort? (f) worthless?" Respondents with a score of 13 or above on the K6 scale were considered to be psychologically distressed.‡ Two subgroups were formed for analysis: *neither spouse was psychologically distressed* and *at least one spouse was psychologically distressed*.§

Whether extended family respects and values couple's marriage: This is measured at study entry using a single item on the self-administered questionnaire that asks about level of agreement with the statement "My family respects and values my marriage."|| If both spouses agreed with this statement, the couple was included in the subgroup *both spouses' families respect and value couple's marriage*. If one or both spouses disagreed with the statement, then the couple was included in the subgroup *at least one spouse's family does not respect and value couple's marriage*.

(continued)

Box 2 (continued)

Presence of a stepchild in the household: This is measured at study entry using the child information form, which asks about how each child in the household is related to each spouse. If one of the children in the household is a stepchild of either the husband or the wife, then the couple was included in the subgroup *at least one stepchild in household*. If all children in the household are the biological or adoptive children or other relatives of both spouses, then the couple was included in the subgroup *no stepchild in household*.

Presence of a young child (under 3) in the household: This is measured at study entry using the child information form, which collects birthdates for all children under age 18 who live with the couple at least half the time. Those couples who had a child younger than 3 years old or in which the wife was pregnant were included in the subgroup *at least one child under 3 in the household*. Those couples whose children were all between the ages of 3 and 17 were included in the subgroup *no child under 3 in the household*. The cutoff of age 3 was chosen because children under age 3 are more likely to be at home and less likely to be in out-of-home early care and education settings. This age cutoff also allowed a substantial number of couples from programs other than Oklahoma City and Seattle (where eligibility criteria required all couples to have a newborn or a child in utero) to be included in the young child subgroup.

NOTES: *In the SHM 12- and 30-month impact reports and this paper, the term “married” is used to refer to couples who were either married or in a committed relationship. It is assumed that most or all SHM couples who were not married at study entry responded with the length of their relationship when they were asked how long they had been married. This is based on the fact that the majority of men and women in unmarried couples responded to the question about length of marriage with responses of 2.5 years or more.

[†]Missing K6 items were imputed with single stochastic imputation if at least one K6 item was nonmissing (Kessler et al., 2003).

[‡]The cutoff point of 13 or above on the K6 scale that is used in this paper as an indication of being psychologically distressed was developed by Ronald Kessler and colleagues as a measure of “serious mental illness.” The definition of serious mental illness has been developed by the Substance Abuse and Mental Health Services Administration (SAMHSA) within the U.S. Department of Health and Human Services. For more information on the definition of serious mental illness, see this Web site: <http://www.odmhsas.org/eda/advancedquery/smi.htm>.

[§]Separating out couples in which both spouses were psychologically distressed at study entry into a third subgroup was also considered. Because this third subgroup would have included only 3.5 percent of study couples, it was not formed for this analysis.

^{||}A separate item on the self-administered questionnaire directly asked respondents whom they could turn to for advice or emotional support. The responses to this item suggested that many study members responded incorrectly, checking a single box instead of all boxes that applied, as intended by the instrument. Therefore, this item was not used to form subgroups.

Box 3

Outcomes Examined in This Paper

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.

Couple's average report of relationship happiness (Scale: 1 to 7)

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 answered by saying that they were “divorced more than three months ago,” the outcome was not created. Otherwise, if either spouse indicated that he or she had thought that their marriage was in trouble, an affirmative outcome is created.

Men's and women's reports of warmth and support (Scale: 1 to 4)

The outcome is examined separately for men and women. It is measured as 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 towards me”; “My spouse listens to me when I need someone to talk to”; and “I trust my spouse completely.”

Men's and women's reports of positive communication skills (Scale: 1 to 4)

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.”

Men's and women's reports of negative behavior and emotions (Scale: 1 to 4)

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)

Box 3 (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 whether either respondent believes that the spouse had “definitely” cheated with someone else in the past three months.

Men’s and women’s reports of psychological abuse (Scale: 1 to 4)

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?”

Men’s and women’s 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 five questions adapted from the Revised Conflict Tactics Scale.* A respondent’s report of one or more instances of physical assault by the spouse, including the spouse’s having “thrown something at” the respondent, was treated as an affirmative response.

Men’s and women’s reports of 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 measure of any physical assault. Examined separately for men and women, a respondent’s report of any occurrence of a spouse’s using “a knife, gun, or weapon” or “choking, slamming, kicking, burning, or beating” the respondent was treated as an affirmative response.

Individual psychological distress (Scale: 1 to 4)

This outcome is examined separately for men and women. The measure reflects the average of responses to six items drawn from the K6 Mental Health Screening Tool.† An example item is “How often in the past 30 days have you felt worthless?”

Men’s and women’s reports of cooperative coparenting (Scale: 1 to 4)

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.”

NOTES: A detailed description of the measurement and construction of these 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 the follow-up surveys, in which the response scale was modified from a 5-point scale to a 4-point scale.

women's reports of warmth and support, positive communication skills, negative interactions, psychological abuse, physical assault, individual psychological distress, and cooperative coparenting.³⁹

Estimation of Impacts

The same analytic steps were performed for all six sets of subgroups. First, for each subgroup within the set, impacts on the 20 outcomes were estimated separately using ordinary least squares regression models. The covariates in these regression models are the same set that was used in the full-sample impact models from the 12-month and 30-month impact reports, except that the variables that were used to create the subgroup were excluded.⁴⁰ Next, for each outcome, the impacts and standard errors from the subgroup regressions were used to generate an H-statistic in order to compare impacts across subgroups.⁴¹ The H-statistic is used to assess whether the difference in impacts across subgroups is statistically significant. The p-value associated with the H-statistic reflects the probability that observed differences in impacts across subgroups could have been generated if the true impacts were identical across subgroups. Differences are considered statistically significant if the p-value level is 10 percent (0.10) or smaller.

Although the impact model controls for covariates, the test for differences in impacts does not control for covariates. For example, psychological distress at study entry appears to be correlated with marital distress at study entry.⁴² The test for difference in impacts on a particular outcome between the two subgroups defined by psychological distress *does not* control for the difference in impacts due to marital distress at study entry (or due to any other characteristic). Therefore, the test performed here is a test of the total difference in impacts, rather than a test of difference net of the difference that can be attributed to other characteristics. This means that observed differences between subgroups cannot be attributed definitively to the particular characteristic used to define the subgroups with heterogeneous impacts. The source of heterogeneity may be the characteristic examined here or may be another characteristic that is substantially correlated with the examined characteristic.

³⁹While this paper examines all the primary outcomes from survey data in the 12-month impact report, it does not include the additional primary outcomes measuring parenting and child well-being that were available only in the 30-month data sources.

⁴⁰The covariates are listed in Lowenstein et al. (2014), Appendix D.

⁴¹The construction of the H-statistic is described in Lowenstein et al. (2014), Appendix D.

⁴²This correlation is noted in the section "Subgroup Differences in Characteristics at Study Entry," below, and is shown in Appendix Table A.3.

Criteria Used to Interpret Results

The following criteria were used to evaluate significant differences in impacts by subgroup characteristics found at the 12- and 30-month follow-ups: (1) the number of outcomes with significant differences in impacts (where five or more was considered a large number),⁴³ (2) the consistency of the pattern of significant differences *within* each time point (where a consistent pattern was one in which all or almost all significant differences *within* a time point were in the same direction), and (3) the consistency of the pattern of results *across* the 12- and 30-month follow-up points. In this case, a consistent pattern was one in which all or almost all significant differences at both 12 months and 30 months were in the same direction.^{44,45}

Subgroup Differences in Characteristics at Study Entry

This section characterizes the subgroups examined in this paper in terms of their characteristics at study entry. Understanding how the subgroup-defining characteristics are correlated with other characteristics provides a backdrop for interpreting subgroup-specific impacts and differences in impacts across subgroups. Appendix Tables A.1 through A.6 show the characteristics at study entry of all the subgroups examined in this paper. There are large differences by race or ethnicity in only two sets of subgroups: *length of marriage at study entry* and *presence of a young child (under 3) in the household*. Hispanic couples were more likely to have been married for longer and to not have a young child in the household than couples of other racial or ethnic backgrounds. These two sets of subgroups also have large differences across subgroups in the percentage of couples expecting a child, such that couples who had been married for fewer years and those with a young child in the household were more likely to be expecting a

⁴³When the null hypotheses of 20 independent tests are exactly true, it is expected that four or more tests will be statistically significant by chance 13.3 percent of the time (using a 10 percent significance level for each test, as is done here). It is expected that five or more tests will be statistically significant by chance only 4.3 percent of the time. Therefore, the threshold of five or more statistically significant tests is used as a criterion to interpret results.

⁴⁴Both significant and nonsignificant differences were examined, as long as the differences were significant in at least one of the two sets of results. For example, if there were four outcomes with significant differences in impacts by a subgroup characteristic at 12 months but no outcomes with significant differences in impacts for the same characteristic at 30 months, the four outcomes with significant differences at 12 months would be examined at 30 months to see whether the pattern of results was consistent with the pattern at 12 months. If most or all of these four outcomes displayed the same pattern of differences at 30 months as was seen at 12 months, it would be treated as evidence of consistency in the pattern of results across the 12- and 30-month follow-up points.

⁴⁵Although formal adjustments for multiple comparisons were applied to the subgroup analyses presented in the main impact reports, multiple comparisons adjustments were not used here because this was considered an exploratory analysis. Furthermore, there is not a standard approach to adjusting for multiple comparisons, and the use of different strategies can sometimes yield different results.

child than those who had been married longer and those who did not have a young child.⁴⁶ None of the subgroup sets had large differences in income or employment status at study entry.

There were large differences in marital appraisals at study entry across three sets of subgroups: *experience of verbal or physical abuse in family of origin*, *psychological distress at study entry*, and *whether extended family respects and values couple's marriage*. Large differences in adult well-being at study entry were also apparent according to experience of abuse in family of origin and whether extended family respects and values couple's marriage (and, by definition, psychological distress at study entry). Couples in which one or both spouses had experienced abuse as a child were less satisfied with their marriages and had lower levels of adult well-being than couples in which neither spouse had experienced abuse. Couples in which at least one spouse was psychologically distressed were less satisfied with their marriages than couples in which neither spouse was psychologically distressed. And couples in which at least one spouse had extended family who did not respect and value the couple's marriage had lower levels of marital satisfaction and adult well-being than couples whose extended family valued and respected the couple's marriage. If larger effects of SHM are experienced by those couples with greater potential for growth in marital satisfaction, then one might expect to see differences in impacts according to these three characteristics that are more strongly correlated with marital satisfaction.

Results of the Subgroup Analysis

This section of the paper presents the results of the subgroup analysis, focusing on 12-month impacts and 30-month impacts across subgroups for each subgroup-defining characteristic.

- **Overall, SHM's impacts were generally consistent within each of the six subgroup sets explored in this paper.**

Table 1 summarizes these results, using the criteria specified above. In brief, the findings of the exploratory subgroup analysis are as follows: At the 12-month follow-up, SHM program impacts appeared to vary by two of the six characteristics examined: *psychological*

⁴⁶These differences in race/ethnicity and the percentages of couples expecting a child suggest that length of marriage and presence of a young child are more closely correlated with program location than the other four characteristics. As described in the final implementation report (Miller Gaubert, Gubits, Alderson, and Knox, 2012), the Oklahoma City and Seattle programs served only expectant and new parents. These types of parents are more likely to be in the *married fewer than 2 years, 6 months*, subgroup, and all of them are included in the *at least one child under 3 in household* subgroup. Oklahoma City and Seattle also happened to have relatively low proportions of couples in which both spouses are Hispanic. Therefore, the *married more than 7 years* subgroup and the *no child under 3 in household* subgroup have relatively high proportions of Hispanic couples.

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Table 1

Summary of Results of Tests of Differences in Impacts by Subgroup-Defining Characteristics at 12 and 30 Months After Study Entry

Subgroup-Defining Characteristic	12 Months		30 Months		Consistent Pattern of Estimates at 12 and 30 Months (Yes / No)
	Number of Statistically Significant H-Tests (Out of 20)	Consistent Pattern of Estimates at 12 Months (Yes / No / NA)	Number of Statistically Significant H-Tests (Out of 20)	Consistent Pattern of Estimates at 30 Months (Yes / No / NA)	
Length of marriage at study entry	3	No	2	No	No
Verbal or physical abuse or neglect in the family of origin	5	No	5	No	No
Psychological distress at study entry	8	Yes	0	NA	Yes
Whether extended family respects and values couple's marriage	1	NA	2	Yes	No
Presence of a stepchild in the household	6	Yes	1	NA	Yes
Presence of a young child (under 3) in the household	2	Yes	2	Yes	Yes

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

NOTE: The number of statistically significant H-tests reflects the number of tests of differences in impacts across subgroups that are significant at the 1 percent, 5 percent, or 10 percent level.

distress at study entry and *presence of a stepchild in the household*. For both of these characteristics, the subgroups that were at higher risk for marital problems at study entry (couples in which *at least one spouse was psychologically distressed* and couples who reported having *at least one stepchild in the household*) experienced larger benefits of SHM. At the 30-month follow-up, however, the effects of SHM did not appear to vary by any of the six characteristics, despite the fact that program impacts were sustained in the pooled sample. Taken together, the exploratory subgroup results suggest that SHM's impacts do not differ markedly according to any of the subgroup-defining characteristics examined. Detailed information about the results of the exploratory subgroup analysis is presented below.

Length of Marriage at Study Entry

Appendix Tables B.1 and B.2 show estimated impacts on adult outcomes at the 12- and 30-month follow-ups, respectively, by length of marriage at study entry. Daggers in the right-most column indicate statistically significant differences in program impacts across subgroups. As is shown in Appendix Table B.1, significant differences in impacts at the 12-month follow-up were found for three of the 20 outcomes examined: men's and women's reports of warmth and support and women's report of any severe physical assault. There were no significant differences for the other 17 outcomes. The significant differences in impacts did not show a consistent pattern. A linear relationship was found for men's report of warmth and support, with the largest gain found for couples who had been married fewer than 2.5 years. A linear relationship was also found for women's report of warmth and support, but the largest gain was for couples who had been married more than 7 years. Finally, a nonlinear relationship was found for women's report of any severe physical assault, with reductions found for couples who had been married fewer than 2.5 years and more than 7 years and an increase in physical assault found for those who had been married between 2.5 and 7 years.⁴⁷ The small number of outcomes with significant differences across subgroups and the lack of a consistent pattern in these differences suggest that the observed differences in impacts could easily have happened by

⁴⁷This potential adverse effect was one of three effects found in the subgroup analysis whereby SHM appears to have increased the incidence of physical assault or severe physical assault for a subgroup. To investigate these results, the research team examined the pattern of impacts for each of the three subgroups where these effects were found and the pattern of impacts on physical assault outcomes across all subgroups. In each case, the potential adverse effect was inconsistent with the other statistically significant impacts, all of which showed beneficial effects. Across all subgroups at both time points, 112 tests of impacts on physical assault outcomes were performed. Of these tests, 20 showed a statistically significant reduction in reports of physical assault, while three showed a statistically significant increase. Furthermore, of eight pooled impacts on physical assault or severe physical assault reported in the 12- and 30-month impact reports (Hsueh et al., 2012a; Lundquist et al., 2014), only one was statistically significant: a reduction in men's report of physical assault at 12 months. Therefore, the three potential adverse effects should likely be interpreted as statistical anomalies that occurred by chance and should not be taken as concrete evidence of potential unintended effects of the SHM program.

chance and provide little evidence that program impacts on adult outcomes at the 12-month follow-up varied by length of marriage.

Turning to Appendix Table B.2, statistically significant differences in program impacts at 30 months were found for two of the 20 outcomes examined: women's report of warmth and support and women's report of cooperative coparenting. There were no significant differences in impacts for the other 18 outcomes. The significant differences in impacts did not show a consistent pattern. A nonlinear relationship was found for women's report of warmth and support, with the largest gain for couples who had been married between 2.5 and 7 years. Results for women's report of cooperative coparenting suggest a linear relationship, with the largest gain found for couples who had been married more than 7 years. As at 12 months, both the small number of outcomes with significant differences across subgroups and the lack of a consistent pattern in these differences suggest that the observed differences in impacts could easily have happened by chance and provide little evidence that program impacts on adult outcomes at the 30-month follow-up varied by length of marriage.

Experience of Verbal or Physical Abuse or Neglect from Parent in the Family of Origin

Appendix Tables B.3 and B.4 show estimated impacts on outcomes at the 12- and 30-month follow-ups, respectively, by whether one or both spouses reported verbal or physical abuse or neglect from a parent in the family of origin at study entry. As is shown in Appendix Table B.3, statistically significant differences in impacts at 12 months were found for five of the 20 outcomes examined: the percentage of couples who were married, men's and women's reports of negative behavior and emotions, and men's and women's reports of cooperative coparenting. There were no significant differences in impacts for the other 15 outcomes. The significant differences in impacts did not show a consistent pattern. There was a negative impact on the percentage of couples still married at 12 months for the subgroup in which neither spouse experienced abuse as a child. This contrasts with the positive impact for those couples in which one or both spouses experienced abuse as a child. For negative behavior and emotions, a linear relationship was found for the men's report, with the largest reduction found for couples in which both spouses experienced abuse as a child, but a nonlinear relationship was found for the women's report, with the largest reduction found for couples in which one spouse experienced abuse as a child. A nonlinear relationship was found for both men's and women's reports of cooperative coparenting, with the largest gains for couples in which one spouse experienced abuse as a child. The lack of a consistent pattern in significant differences across subgroups suggests that the observed differences in impacts could have happened by chance.

Turning to Appendix Table B.4, statistically significant differences in impacts at 30 months were found for five of the 20 outcomes examined: whether either spouse reported

marriage in trouble, women’s report of psychological abuse, men’s and women’s reports of any physical assault, and women’s report of any severe physical assault. There were no significant differences in impacts for the other 15 outcomes. The significant differences in impacts did not show a consistent pattern. A linear relationship was found for whether either spouse reported marriage in trouble, with the largest reduction for couples in which neither spouse experienced abuse as a child. A linear relationship was also found for women’s report of psychological abuse, with the largest reduction for couples in which neither spouse experienced abuse as a child. Linear relationships were found for men’s and women’s reports of any physical assault, but while the largest reduction in the men’s report was found for couples in which both spouses experienced abuse as a child, the largest reduction in the women’s report was seen for couples in which neither spouse experienced abuse. A nonlinear relationship was found for women’s report of any severe physical assault, with reductions for couples in which neither spouse experienced abuse as a child and both spouses experienced abuse as a child and an increase for couples in which one spouse experienced abuse as a child.⁴⁸ The lack of a consistent pattern in significant differences across subgroups — coupled with the fact that there was no overlap between the outcomes with significant differences in impacts at 12 and 30 months — suggests that the observed differences in impacts may have happened by chance and provides little evidence that program impacts at the 30-month follow-up varied by whether one or both spouses experienced verbal or physical abuse or neglect in the family of origin.

Psychological Distress at Study Entry

Appendix Tables B.5 and B.6 show estimated impacts at the 12- and 30-month follow-ups, respectively, by whether either spouse was psychologically distressed at study entry. Appendix Table B.5 shows that statistically significant differences in program impacts at 12 months were found for eight of the 20 outcomes examined: whether either spouse reported marriage in trouble, women’s report of warmth and support, women’s report of positive communication skills, women’s report of negative behavior and emotions, men’s and women’s reports of psychological abuse, women’s report of any severe physical assault, and women’s report of cooperative coparenting. There were no significant differences for the other 12 outcomes. The significant differences in impacts showed a consistent pattern, with the largest benefits of SHM found for couples in which at least one spouse was psychologically distressed at study entry. For whether either spouse reported that the marriage was in trouble, women’s report of negative behavior and emotions, men’s and women’s reports of psychological abuse, and women’s report of any severe physical assault, larger reductions were seen for couples in which at least one spouse was distressed at study entry. For women’s reports of warmth and

⁴⁸This potential adverse effect appears to be a statistical anomaly. For discussion, see the preceding footnote.

support, positive communication skills, and cooperative coparenting, larger gains were seen for couples in which at least one spouse was distressed at study entry. Both the large number of outcomes with significant differences across subgroups and the consistent pattern in these differences provide evidence that program impacts on adult outcomes at the 12-month follow-up varied by whether either spouse was psychologically distressed at study entry.

Turning to Appendix Table B.6, no significant differences in program impacts at the 30-month follow-up were found for any of the outcomes examined. In contrast to findings for the 12-month follow-up, there was no evidence of significant variation in program impacts at 30 months by whether either spouse reported being psychologically distressed at study entry. It is important to note, however, that for all but one of the eight outcomes that showed significant differences in program impacts at 12 months, the pattern of differences in impacts at 30 months was the same: larger benefits of SHM were seen for couples in which at least one spouse was psychologically distressed at study entry.

Whether the Extended Family Respects and Values the Couple's Marriage

Appendix Tables B.7 and B.8 show estimated impacts at the 12- and 30-month follow-ups, respectively, by whether either spouse reported that his or her family did not respect the couple's marriage at study entry. Appendix Table B.7 shows that statistically significant differences in program impacts at 12 months were found for only one of the 20 outcomes examined: men's report of psychological abuse. A larger average decrease in men's report of psychological abuse was found for couples in which at least one spouse reported that his or her family did not respect the marriage. The fact that a significant difference in program impacts was found for only one outcome suggests that this difference could easily have occurred by chance and provides little evidence that program impacts at the 12-month follow-up varied by whether the spouses' extended family respected the couple's marriage.

As shown in Appendix Table B.8, there were significant differences in program impacts at the 30-month follow-up for two of the 20 outcomes examined: couple's average report of relationship happiness and whether either spouse reported that the marriage was in trouble. There were no significant differences in impacts for the other 18 outcomes. In contrast to the results at 12 months, a larger increase in couple's average report of relationship happiness and a larger decrease in the percentage of couples in which either spouse reported that the marriage was in trouble was found for couples in which both spouses reported that their families respected their marriage. In addition, there was no consistency in the pattern of results across the two time points for the three outcomes that showed significant differences at 12 or 30 months. The small number of outcomes with significant differences across subgroups and the fact that the pattern of results differed at the 12- and 30-month follow-up points suggest that the observed

differences in impacts may have happened by chance and provide little evidence that program impacts varied by whether the spouses' extended family respected the couple's marriage.

Presence of a Stepchild in the Household

Appendix Tables B.9 and B.10 show estimated impacts at the 12- and 30-month follow-ups, respectively, by the presence of a stepchild in the household at study entry. Appendix Table B.9 shows that statistically significant differences in program impacts at 12 months were found for six of the 20 outcomes examined: whether either spouse reported that the marriage was in trouble; women's reports of positive communication skills, negative behavior and emotions, psychological abuse, and any physical assault; and whether neither spouse reported infidelity. There were no significant differences in impacts for the other 14 outcomes. The significant differences in impacts showed a consistent pattern, with the largest benefits of SHM found for couples who reported having at least one stepchild in the household at study entry. For whether either spouse reported that the marriage was in trouble and women's reports of negative behavior and emotions, psychological abuse, and any physical assault, larger reductions were found for couples with a stepchild in the household. Similarly, for women's report of positive communication skills and whether neither spouse reported infidelity, larger increases were found for couples with a stepchild in the household. Both the large number of outcomes with significant differences across subgroups and the consistent pattern in these differences provide evidence that program impacts at the 12-month follow-up varied by the presence of a stepchild in the household at study entry.

As shown in Appendix Table B.10, there was a significant difference in program impacts at the 30-month follow-up for only one of the 20 outcomes examined: women's report of positive communication skills. In keeping with the results at the 12-month follow-up, increases in women's report of positive communication skills were larger for couples who reported having at least one stepchild in the household at study entry. The fact that a significant difference in program impacts was found for only one outcome provides little evidence that program impacts at the 30-month follow-up varied by the presence of stepchildren in the household. It is important to note, however, that for all but one of the six outcomes that showed significant differences in program impacts at 12 months, the pattern of differences in impacts at 30 months was the same: larger benefits of SHM were found for couples with a stepchild in the household at study entry.

Presence of a Young Child (Under 3) in the Household

Appendix Tables B.11 and B.12 show estimated impacts at the 12- and 30-month follow-ups, respectively, by the presence of a young child (under 3) in the household at study entry. Appendix Table B.11 shows that statistically significant differences in program impacts

at 12 months were found for two of the 20 outcomes examined: men's report of any physical assault and women's report of any severe physical assault. There were no significant differences in impacts for the other 18 outcomes. For both outcomes, larger decreases were found for couples who reported having no young children in the household at study entry. The small number of outcomes with significant differences across subgroups suggests that these observed differences could easily have occurred by chance and provides little evidence that program impacts at the 12-month follow-up varied by the presence of young children in the household.

As shown in Appendix Table B.12, significant differences in program impacts at the 30-month follow-up were found for two of the 20 outcomes examined: men's reports of any physical assault and any severe physical assault. There were no significant differences in impacts for the other 18 outcomes. In keeping with the 12-month results, larger decreases in these two outcomes were found for couples who reported having no young children in the household at study entry. The pattern of results was consistent across the two time points for two of the three outcomes that showed significant differences in impacts at the 12- or 30-month follow-up points. Despite this consistency, the small number of outcomes with significant differences across subgroups suggests that these differences could have occurred by chance and provides little evidence that program impacts varied by the presence of a young child in the household.

Discussion

Overall, the exploratory subgroup results suggest that SHM's impacts are generally consistent across low-income couples with diverse backgrounds. This is not entirely surprising, since the program was designed to be relevant to these couples and was not specifically tailored to meet the needs of any particular group of couples within this broad population.

The evidence suggests that, in the short term, SHM's effects might vary for some subgroups of couples but that these differences generally faded over time. At the 12-month follow-up, SHM program impacts appeared to vary by two of the six characteristics: *psychological distress at study entry* and *the presence of a stepchild in the household*. For both of these characteristics, the subgroups that were at higher risk for marital problems at study entry (couples in which at least one spouse was psychologically distressed and couples who reported having at least one stepchild in the household) experienced larger benefits of SHM. At the 30-month follow-up, however, these differences in SHM's impacts were no longer statistically significant. It is not clear why these differences faded over time, when SHM's impacts in the pooled sample were sustained at the 30-month follow-up.

When the results of this exploratory subgroup analysis are considered with the subgroup results presented in the 12- and 30-month impact reports, it seems that the SHM program

may be somewhat more effective for couples who entered the study at higher risk for poor marital outcomes. As discussed above, SHM's impacts were somewhat larger among couples in which at least one spouse experienced psychological distress or for whom there was a stepchild in the household at study entry. Both of these characteristics are risk factors for marital distress and instability. Furthermore, the subgroup analysis presented in the 12- and 30-month impact reports suggests that SHM's effects may be larger for couples who experienced higher levels of marital distress when they first entered the study. While these findings should be viewed with caution because they could have occurred by chance, the results point to potential areas for further investigation in terms of effectively targeting services.

Interestingly, differences in SHM's impacts by subgroup were found primarily for marital-quality outcomes, not for couples' marital stability. Overall, SHM had no effect on the likelihood that couples stayed together at the 12- or 30-month follow-up points. It is likely that SHM's impacts on marital quality, though somewhat larger for some subgroups, were still not sufficient to keep couples together if they were on the verge of dissolution. Given the high dissolution rates among the couples in the study sample, the findings draw attention to the potential need for tailoring services to better address the vulnerabilities of couples who are already close to dissolution.

Looking forward, further research is needed to understand why subgroup differences in program impacts tended to fade over time. Additional research should also determine whether the pattern of impacts identified here can be replicated in other contexts or can be generalized to a broader population of low-income married couples with children. Finally, it will be important for future research to explore these findings to understand more definitively which factors account for differences in impacts by subgroup, given that the subgroup characteristics explored here are highly correlated with other characteristics of the sample members and local SHM programs.

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Appendix A

Characteristics of Couples at Study Entry, by Subgroup

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Appendix Table A.1

**Demographic and Socioeconomic Characteristics of Couples at Study Entry,
by Length of Marriage at Study Entry**

Characteristic ^a	Married Fewer Than 2.5 Years	Married Between 2.5 and 7 Years	Married More Than 7 Years
<u>Socioeconomic and family characteristics</u>			
Race/ethnicity (%)			
Both spouses Hispanic	26.9	41.1	61.8
Both spouses African-American, non-Hispanic	11.6	11.6	10.4
Both spouses white, non-Hispanic	28.0	19.9	13.0
Other/multiracial	33.3	27.2	14.6
Both spouses have at least a high school diploma (%)	54.2	50.9	45.5
Income 100% to less than 200% of federal poverty level (%)	36.2	39.9	41.7
Income less than 100% of federal poverty level (%)	46.5	42.1	41.1
Either spouse currently employed (%)	78.0	81.0	84.3
Receiving public assistance (%)	78.6	74.0	62.9
Married at the time of random assignment (%)	76.2	80.0	87.8
Average number of years married	1.2	4.4	12.7
Expecting a child (%)	46.9	29.5	11.9
Stepfamily (%)	36.1	29.5	15.6
Average age (years)	27.5	29.9	36.9
<u>Marital appraisals (%)</u>			
Men report happy or very happy in marriage	85.6	76.8	78.7
Women report happy or very happy in marriage	82.5	73.2	69.4
Men report marriage in trouble	49.6	61.4	55.2
Women report marriage in trouble	53.7	61.9	56.7
<u>Adult well-being (%)</u>			
Either spouse has psychological distress	21.8	23.7	25.5
Either spouse reports substance abuse problem	20.0	20.7	22.0
Sample size (couples)	1,942	2,064	2,124

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

NOTE: ^aAppendix Table B.1 of Lundquist et al. (2014) explains how the demographic and socioeconomic characteristics are defined.

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Appendix Table A.2

**Demographic and Socioeconomic Characteristics of Couples at Study Entry,
by Experience of Verbal or Physical Abuse or Neglect in Family of Origin**

Characteristic ^a	Neither Spouse Experienced Abuse as a Child	One Spouse Experienced Abuse as a Child	Both Spouses Experienced Abuse as Children
<u>Socioeconomic and family characteristics</u>			
Race/ethnicity (%)			
Both spouses Hispanic	51.6	42.6	34.3
Both spouses African-American, non-Hispanic	10.8	11.7	11.0
Both spouses white, non-Hispanic	17.7	20.2	24.4
Other/multiracial	19.7	25.3	30.1
Both spouses have at least a high school diploma (%)	56.9	49.5	44.0
Income 100% to less than 200% of federal poverty level (%)	41.2	38.6	38.5
Income less than 100% of federal poverty level (%)	38.2	43.5	47.5
Either spouse currently employed (%)	85.0	81.4	76.7
Receiving public assistance (%)	68.6	71.6	75.7
Married at the time of random assignment (%)	84.2	81.9	79.0
Average number of years married	6.5	6.3	5.8
Expecting a child (%)	32.4	29.8	27.4
Stepfamily (%)	20.0	27.2	33.7
Average age (years)	31.1	31.6	31.6
<u>Marital appraisals (%)</u>			
Men report happy or very happy in marriage	85.0	81.3	73.2
Women report happy or very happy in marriage	82.2	73.7	68.8
Men report marriage in trouble	43.6	55.8	68.2
Women report marriage in trouble	43.6	58.6	70.8
<u>Adult well-being (%)</u>			
Either spouse has psychological distress	14.0	24.2	33.5
Either spouse reports substance abuse problem	16.7	21.2	25.2
Sample size (couples)	1,879	2,830	1,512

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

NOTE: ^aAppendix Table B.1 of Lundquist et al. (2014) explains how the demographic and socioeconomic characteristics are defined.

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Appendix Table A.3

Demographic and Socioeconomic Characteristics of Couples at Study Entry,
by Psychological Distress at Study Entry

Characteristic ^a	Neither Spouse Was Psychologically Distressed	At Least One Spouse Was Psychologically Distressed
<u>Socioeconomic and family characteristics</u>		
Race/ethnicity (%)		
Both spouses Hispanic	41.7	47.9
Both spouses African-American, non-Hispanic	11.8	8.9
Both spouses white, non-Hispanic	21.3	19.2
Other/multiracial	25.1	23.9
Both spouses have at least a high school diploma (%)	52.8	43.9
Income 100% to less than 200% of federal poverty level (%)	40.2	36.5
Income less than 100% of federal poverty level (%)	40.0	51.2
Either spouse currently employed (%)	83.1	75.8
Receiving public assistance (%)	70.4	75.6
Married at the time of random assignment (%)	82.6	80.2
Average number of years married	6.1	6.5
Expecting a child (%)	33.5	19.7
Stepfamily (%)	24.5	32.7
Average age (years)	31.2	31.9
<u>Marital appraisals (%)</u>		
Men report happy or very happy in marriage	85.9	63.1
Women report happy or very happy in marriage	82.1	52.3
Men report marriage in trouble	48.6	78.1
Women report marriage in trouble	49.8	81.9
<u>Adult well-being (%)</u>		
Either spouse has psychological distress	0.2	99.4
Either spouse reports substance abuse problem	18.1	29.6
Sample size (couples)	4,646	1,406

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

NOTE: ^aAppendix Table B.1 of Lundquist et al. (2014) explains how the demographic and socioeconomic characteristics are defined.

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Appendix Table A.4

**Demographic and Socioeconomic Characteristics of Couples at Study Entry,
by Whether Extended Family Respects and Values Couple's Marriage**

Characteristic ^a	Both Spouses' Families Respect and Value Couple's Marriage	At Least One Spouse's Family Does Not Respect and Value Couple's Marriage
<u>Socioeconomic and family characteristics</u>		
Race/ethnicity (%)		
Both spouses Hispanic	44.3	39.1
Both spouses African-American, non-Hispanic	11.5	10.6
Both spouses white, non-Hispanic	20.5	21.6
Other/multiracial	23.6	28.6
Both spouses have at least a high school diploma (%)	53.2	44.0
Income 100% to less than 200% of federal poverty level (%)	40.9	35.5
Income less than 100% of federal poverty level (%)	39.3	52.5
Either spouse currently employed (%)	83.9	73.8
Receiving public assistance (%)	69.0	78.8
Married at the time of random assignment (%)	83.7	76.9
Average number of years married	6.4	5.6
Expecting a child (%)	31.8	24.4
Stepfamily (%)	23.1	36.6
Average age (years)	31.4	31.2
<u>Marital appraisals (%)</u>		
Men report happy or very happy in marriage	85.2	66.6
Women report happy or very happy in marriage	80.8	58.5
Men report marriage in trouble	48.6	75.0
Women report marriage in trouble	49.6	79.4
<u>Adult well-being (%)</u>		
Either spouse has psychological distress	17.5	40.2
Either spouse reports substance abuse problem	18.4	27.4
Sample size (couples)	4,477	1,524

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

NOTE: ^aAppendix Table B.1 of Lundquist et al. (2014) explains how the demographic and socioeconomic characteristics are defined.

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Appendix Table A.5

**Demographic and Socioeconomic Characteristics of Couples at Study Entry,
by Presence of a Stepchild in the Household**

Characteristic ^a	No Stepchild in Household	At Least One Stepchild in Household
<u>Socioeconomic and family characteristics</u>		
Race/ethnicity (%)		
Both spouses Hispanic	45.0	38.2
Both spouses African-American, non-Hispanic	10.1	14.5
Both spouses white, non-Hispanic	20.9	19.3
Other/multiracial	23.8	27.9
Both spouses have at least a high school diploma (%)	52.1	44.9
Income 100% to less than 200% of federal poverty level (%)	40.4	36.6
Income less than 100% of federal poverty level (%)	40.3	50.0
Either spouse currently employed (%)	82.7	77.5
Receiving public assistance (%)	70.5	75.4
Married at the time of random assignment (%)	84.1	75.0
Average number of years married	6.9	4.1
Expecting a child (%)	33.7	20.5
Stepfamily (%)	0.0	100.0
Average age (years)	31.1	32.5
<u>Marital appraisals (%)</u>		
Men report happy or very happy in marriage	81.5	77.4
Women report happy or very happy in marriage	76.4	70.9
Men report marriage in trouble	52.6	62.8
Women report marriage in trouble	54.3	65.2
<u>Adult well-being (%)</u>		
Either spouse has psychological distress	21.6	29.2
Either spouse reports substance abuse problem	20.0	23.5
Sample size (couples)	4,705	1,568

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

NOTE: ^aAppendix Table B.1 of Lundquist et al. (2014) explains how the demographic and socioeconomic characteristics are defined.

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Appendix Table A.6

**Demographic and Socioeconomic Characteristics of Couples at Study Entry,
by Presence of a Young Child (Under 3) in the Household**

Characteristic ^a	No Child Under 3 in Household	At Least One Child Under 3 in Household
<u>Socioeconomic and family characteristics</u>		
Race/ethnicity (%)		
Both spouses Hispanic	58.5	36.3
Both spouses African-American, non-Hispanic	13.1	9.5
Both spouses white, non-Hispanic	12.7	24.8
Other/multiracial	15.6	29.3
Both spouses have at least a high school diploma (%)	45.7	52.8
Income 100% to less than 200% of federal poverty level (%)	41.3	38.5
Income less than 100% of federal poverty level (%)	40.4	44.0
Either spouse currently employed (%)	81.2	81.7
Receiving public assistance (%)	56.3	79.4
Married at the time of random assignment (%)	85.0	80.4
Average number of years married	10.0	4.4
Expecting a child (%)	0.0	46.4
Stepfamily (%)	35.4	22.3
Average age (years)	36.9	28.7
<u>Marital appraisals (%)</u>		
Men report happy or very happy in marriage	75.6	83.0
Women report happy or very happy in marriage	66.5	79.4
Men report marriage in trouble	61.8	52.1
Women report marriage in trouble	62.8	54.0
<u>Adult well-being (%)</u>		
Either spouse has psychological distress	29.6	20.6
Either spouse reports substance abuse problem	24.1	18.9
Sample size (couples)	1,917	4,129

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

NOTE: ^aAppendix Table B.1 of Lundquist et al. (2014) explains how the demographic and socioeconomic characteristics are defined.

Appendix B

**Estimated Impacts on Primary 12-Month and 30-Month
Outcomes, by Subgroup**

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Appendix Table B.1

Estimated Impacts on Primary Outcomes Based on the 12-Month Adult Survey,
by Length of Marriage at Study Entry: Subgroup Analysis Using Split Samples

Outcome ^a	Married Fewer Than 2 Years, 6 Months				Married Between 2 Years, 6 Months, and 7 Years				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
<u>Relationship status</u>									
Married ^d (%)	87.6	-0.5	-	1.6	87.8	1.6	-	1.5	
<u>Marital appraisals</u>									
Couple's average report of relationship happiness ^e	5.84	0.12	0.11 **	0.05	5.73	0.16	0.14 ***	0.05	
Either spouse reports marriage in trouble (%)	55.3	-4.9	- **	2.2	53.6	-4.0	- *	2.2	
<u>Warmth and support in relationship^f</u>									
Men's report of warmth and support	3.45	0.08	0.18 ***	0.02	3.42	0.03	0.07	0.02	†
Women's report of warmth and support	3.42	0.00	-0.01	0.02	3.31	0.06	0.12 ***	0.02	††
<u>Positive communication skills in relationship^f</u>									
Men's report of positive communication skills	3.18	0.07	0.12 ***	0.03	3.18	0.03	0.05	0.02	
Women's report of positive communication skills	3.15	0.04	0.07	0.03	3.14	0.06	0.10 **	0.03	
<u>Negative interactions in relationship^f</u>									
Men's report of negative behavior and emotions	2.25	-0.04	-0.06	0.03	2.28	-0.08	-0.11 ***	0.03	
Women's report of negative behavior and emotions	2.19	-0.07	-0.08 *	0.03	2.21	-0.08	-0.10 **	0.03	
<u>Fidelity</u>									
Neither spouse reported infidelity (%)	90.8	2.0	-	1.4	90.5	1.5	-	1.3	
<u>Psychological abuse and physical assault</u>									
Men's report of psychological abuse ^f	1.35	-0.01	-0.03	0.02	1.37	-0.06	-0.12 ***	0.02	
Women's report of psychological abuse ^f	1.28	-0.04	-0.09 *	0.02	1.31	-0.03	-0.07	0.02	

(continued)

Appendix Table B.1 (continued)

Outcome ^a	Married Fewer Than 2 Years, 6 Months				Married Between 2 Years, 6 Months, and 7 Years				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
Men's report of any physical assault (%)	15.7	-1.7	-	1.9	13.9	-1.8	-	1.7	
Women's report of any physical assault (%)	10.0	-1.0	-	1.6	10.0	1.5	-	1.5	
Men's report of any severe physical assault (%)	1.6	-0.2	-	0.7	2.7	-0.4	-	0.8	
Women's report of any severe physical assault (%)	1.3	-0.4	-	0.5	1.0	2.1	- *** ^g	0.7	†††
<u>Individual psychological distress</u>^f									
Men's psychological distress	1.90	-0.07	-0.10 **	0.04	1.90	-0.03	-0.04	0.03	
Women's psychological distress	1.99	-0.07	-0.09 *	0.03	2.01	-0.06	-0.08 *	0.03	
<u>Coparenting</u>^f									
Men's report of cooperative coparenting	3.47	0.04	0.07	0.02	3.43	0.02	0.03	0.02	
Women's report of cooperative coparenting	3.38	-0.03	-0.04	0.03	3.32	0.03	0.05	0.03	
Sample size									
Couples	1,499				1,639				
Men	1,344				1,477				
Women	1,386				1,539				

(continued)

Appendix Table B.1 (continued)

Outcome ^a	Married More Than 7 Years				
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Subgroup Difference ^c
<u>Relationship status</u>					
Married ^d (%)	92.1	1.0	–	1.2	
<u>Marital appraisals</u>					
Couple's average report of relationship happiness ^e	5.76	0.17	0.14 ***	0.04	
Either spouse reports marriage in trouble (%)	49.8	-6.0	– ***	2.1	
<u>Warmth and support in relationship^f</u>					
Men's report of warmth and support	3.39	0.02	0.04	0.02	†
Women's report of warmth and support	3.26	0.07	0.13 ***	0.02	††
<u>Positive communication skills in relationship^f</u>					
Men's report of positive communication skills	3.22	0.05	0.10 **	0.02	
Women's report of positive communication skills	3.17	0.08	0.13 ***	0.02	
<u>Negative interactions in relationship^f</u>					
Men's report of negative behavior and emotions	2.17	-0.07	-0.09 **	0.03	
Women's report of negative behavior and emotions	2.18	-0.12	-0.14 ***	0.03	
<u>Fidelity</u>					
Neither spouse reported infidelity (%)	92.5	-0.1	–	1.2	
<u>Psychological abuse and physical assault</u>					
Men's report of psychological abuse ^f	1.32	-0.05	-0.11 ***	0.02	
Women's report of psychological abuse ^f	1.27	-0.04	-0.09 **	0.02	
Men's report of any physical assault (%)	11.2	-3.0	– **	1.4	
Women's report of any physical assault (%)	7.9	-2.4	– **	1.2	
Men's report of any severe physical assault (%)	1.5	-0.6	–	0.5	
Women's report of any severe physical assault (%)	2.3	-1.6	– ***	0.6	†††

(continued)

Appendix Table B.1 (continued)

Outcome ^a	Married More Than 7 Years				
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Subgroup Difference ^c
Individual psychological distress^f					
Men's psychological distress	1.91	-0.05	-0.06	0.03	
Women's psychological distress	2.03	-0.06	-0.07 *	0.03	
Coparenting^f					
Men's report of cooperative coparenting	3.39	0.00	0.00	0.02	
Women's report of cooperative coparenting	3.24	0.06	0.09 **	0.02	
Sample size					
Couples	1,781				
Men	1,608				
Women	1,671				

SOURCE: MDRC calculations based on the SHM 12-month adult survey.

NOTES: Program impacts were calculated separately for each subgroup, using an ordinary least squares model adjusting for characteristics of sample members at study entry. Impact estimates from each subgroup were then compared to see whether their magnitude and direction differ significantly by subgroup.

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

^aSee Box 3 for a description of these outcomes.

^bA dash indicates that a value is not shown for dichotomous outcomes because percentage point differences are readily interpretable. 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.

^cStatistical significance levels for tests of differences across subgroups are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

^dThis includes couples who, at follow-up, were still married or still in a committed relationship with the same partner as when they entered the study.

^eThe scale ranges from 1 to 7, where 1 = “completely unhappy” and 7 = “completely happy.”

^fThe scale ranges from 1 to 4, where higher scores indicate higher levels of the respective outcomes.

^gIn the “married between 2 years, 6 months and 7 years” subgroup, a larger percentage of women in the program group (3.1 percent) reported experiencing any severe physical assault in the past three months than the percentage of women in the control group (1.0 percent). To investigate this result, the research team examined the pattern of impacts for the subgroup and the pattern of impacts on physical assault outcomes across all subgroups at 12 months. For this subgroup, the impact on women's reports of any severe physical assault is inconsistent with the 8 other statistically significant impacts, all of which show positive effects. Across all subgroups in the 12-month data, 56 tests of impacts on reports of physical assault were performed. Of these tests, 10 showed statistically significant reductions in reports of physical assault, while 1 showed a statistically significant increase. Furthermore, SHM's impact on women's reports of any severe physical assault is not statistically significant in the 12-month pooled sample (Hsueh et al., 2012). Therefore, the impact estimate for this subgroup should likely be interpreted as a statistical anomaly that occurred by chance, and should not be taken as concrete evidence of potential unintended effects of the SHM program.

The Supporting Healthy Marriage Evaluation

Appendix Table B.2

Estimated Impacts on Primary Outcomes Based on the 30-Month Adult Survey,
by Length of Marriage at Study Entry: Subgroup Analysis Using Split Samples

Outcome ^a	Married Fewer Than 2 Years, 6 Months				Married Between 2 Years, 6 Months, and 7 Years				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
<u>Relationship status</u>									
Married ^d (%)	75.7	1.3	–	2.1	80.6	-1.0	–	1.9	
<u>Marital appraisals</u>									
Couple's average report of relationship happiness ^e	5.82	0.06	0.05	0.06	5.71	0.22	0.18 ***	0.06	
Either spouse reports marriage in trouble (%)	50.5	-0.3	–	2.6	51.6	-7.0	– ***	2.4	
<u>Warmth and support in relationship^f</u>									
Men's report of warmth and support	3.52	0.04	0.10 *	0.02	3.48	0.07	0.13 ***	0.02	
Women's report of warmth and support	3.44	0.00	0.00	0.03	3.36	0.08	0.15 ***	0.03	†
<u>Positive communication skills in relationship^f</u>									
Men's report of positive communication skills	3.17	0.04	0.06	0.03	3.19	0.08	0.13 ***	0.03	
Women's report of positive communication skills	3.14	0.05	0.08	0.03	3.14	0.08	0.11 **	0.03	
<u>Negative interactions in relationship^f</u>									
Men's report of negative behavior and emotions	2.23	-0.04	-0.05	0.04	2.21	-0.12	-0.16 ***	0.04	
Women's report of negative behavior and emotions	2.19	-0.07	-0.08 *	0.04	2.18	-0.11	-0.14 ***	0.04	
<u>Fidelity</u>									
Neither spouse reported infidelity (%)	90.5	0.6	–	1.6	89.6	1.6	–	1.5	
<u>Psychological abuse and physical assault</u>									
Men's report of psychological abuse ^f	1.34	-0.02	-0.04	0.03	1.33	-0.08	-0.15 ***	0.02	
Women's report of psychological abuse ^f	1.30	-0.02	-0.04	0.03	1.29	-0.04	-0.07	0.02	

(continued)

Appendix Table B.2 (continued)

Outcome ^a	Married Fewer Than 2 Years, 6 Months				Married Between 2 Years, 6 Months, and 7 Years				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
Men's report of any physical assault (%)	11.5	0.9	–	1.8	10.4	-1.0	–	1.6	
Women's report of any physical assault (%)	9.8	-0.9	–	1.6	8.0	-0.6	–	1.3	
Men's report of any severe physical assault (%)	1.5	0.1	–	0.7	1.4	0.3	–	0.7	
Women's report of any severe physical assault (%)	1.4	0.4	–	0.7	1.8	-0.1	–	0.7	
<u>Individual psychological distress^f</u>									
Men's psychological distress	1.98	-0.07	-0.09 *	0.04	1.92	-0.02	-0.03	0.04	
Women's psychological distress	2.01	-0.05	-0.06	0.04	2.06	-0.07	-0.10 **	0.03	
<u>Coparenting^f</u>									
Men's report of cooperative coparenting	3.41	0.01	0.01	0.03	3.42	0.03	0.05	0.03	
Women's report of cooperative coparenting	3.27	-0.04	-0.05	0.04	3.24	0.05	0.07	0.03	†
Sample size									
Couples	1,512				1,667				
Men	1,311				1,485				
Women	1,455				1,606				

(continued)

Appendix Table B.2 (continued)

Outcome ^a	Married More Than 7 Years				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
<u>Relationship status</u>					
Married ^d (%)	87.7	-0.5	—	1.5	
<u>Marital appraisals</u>					
Couple's average report of relationship happiness ^c	5.83	0.15	0.13 ***	0.05	
Either spouse reports marriage in trouble (%)	40.7	-5.1	— **	2.1	
<u>Warmth and support in relationship</u>^f					
Men's report of warmth and support	3.51	0.04	0.09 **	0.02	
Women's report of warmth and support	3.39	0.07	0.12 ***	0.02	†
<u>Positive communication skills in relationship</u>^f					
Men's report of positive communication skills	3.29	0.06	0.11 ***	0.02	
Women's report of positive communication skills	3.25	0.06	0.10 **	0.03	
<u>Negative interactions in relationship</u>^f					
Men's report of negative behavior and emotions	2.02	-0.06	-0.07 *	0.03	
Women's report of negative behavior and emotions	2.04	-0.09	-0.12 ***	0.03	
<u>Fidelity</u>					
Neither spouse reported infidelity (%)	92.3	2.0	—	1.2	
<u>Psychological abuse and physical assault</u>					
Men's report of psychological abuse ^f	1.25	-0.04	-0.09 **	0.02	
Women's report of psychological abuse ^f	1.24	-0.05	-0.10 **	0.02	
Men's report of any physical assault (%)	9.8	-2.8	— **	1.4	
Women's report of any physical assault (%)	7.1	-2.0	— *	1.1	
Men's report of any severe physical assault (%)	1.4	-0.5	—	0.5	
Women's report of any severe physical assault (%)	1.9	-0.4	—	0.6	

(continued)

Appendix Table B.2 (continued)

Outcome ^a	Married More Than 7 Years			Standard Error	Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b		
Individual psychological distress^f					
Men's psychological distress	1.90	-0.03	-0.04	0.03	
Women's psychological distress	2.05	-0.05	-0.07	0.04	
Coparenting^f					
Men's report of cooperative coparenting	3.43	0.04	0.07	0.03	
Women's report of cooperative coparenting	3.25	0.07	0.10 **	0.03	†
Sample size					
Couples	1,789				
Men	1,634				
Women	1,752				

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 adjusting for characteristics of sample members at study entry. Impact estimates from each subgroup were then compared to see whether their magnitude and direction differ significantly by subgroup.

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

^aSee Box 3 for a description of these outcomes.

^bA dash indicates that a value is not shown for dichotomous outcomes because percentage point differences are readily interpretable. 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.

^cStatistical significance levels for tests of differences across subgroups are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

^dThis includes couples who, at follow-up, were still married or still in a committed relationship with the same partner as when they entered the study.

^eThe scale ranges from 1 to 7, where 1 = “completely unhappy” and 7 = “completely happy.”

^fThe scale ranges from 1 to 4, where higher scores indicate higher levels of the respective outcomes.

The Supporting Healthy Marriage Evaluation

Appendix Table B.3

Estimated Impacts on Primary Outcomes Based on the 12-Month Adult Survey,
by Experience of Verbal or Physical Abuse or Neglect in Family of Origin: Subgroup Analysis Using Split Samples

Outcome ^a	Neither Spouse Experienced Abuse as a Child				One Spouse Experienced Abuse as a Child				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
<u>Relationship status</u>									
Married ^d (%)	93.8	-2.1	- *	1.2	89.2	1.8	-	1.2	††
<u>Marital appraisals</u>									
Couple's average report of relationship happiness ^e	5.98	0.11	0.10 **	0.04	5.72	0.18	0.15 ***	0.04	
Either spouse reports marriage in trouble (%)	43.7	-5.2	- **	2.2	55.0	-6.3	- ***	1.8	
<u>Warmth and support in relationship^f</u>									
Men's report of warmth and support	3.45	0.06	0.13 ***	0.02	3.42	0.05	0.10 ***	0.02	
Women's report of warmth and support	3.39	0.05	0.10 **	0.02	3.31	0.06	0.11 ***	0.02	
<u>Positive communication skills in relationship^f</u>									
Men's report of positive communication skills	3.26	0.04	0.08 *	0.02	3.20	0.05	0.09 **	0.02	
Women's report of positive communication skills	3.28	0.04	0.08 *	0.02	3.12	0.09	0.14 ***	0.02	
<u>Negative interactions in relationship^f</u>									
Men's report of negative behavior and emotions	2.04	0.00	0.01	0.03	2.25	-0.08	-0.11 ***	0.03	†
Women's report of negative behavior and emotions	2.00	-0.05	-0.06	0.03	2.23	-0.15	-0.18 ***	0.03	††
<u>Fidelity</u>									
Neither spouse reported infidelity (%)	94.4	-0.8	-	1.2	91.4	1.7	-	1.1	
<u>Psychological abuse and physical assault</u>									
Men's report of psychological abuse ^f	1.24	-0.02	-0.04	0.02	1.36	-0.05	-0.09 **	0.02	
Women's report of psychological abuse ^f	1.19	-0.02	-0.05	0.02	1.30	-0.06	-0.13 ***	0.02	

(continued)

Appendix Table B.3 (continued)

Outcome ^a	Neither Spouse Experienced Abuse as a Child				One Spouse Experienced Abuse as a Child				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
Men's report of any physical assault (%)	10.9	-1.2	-	1.6	14.1	-2.5	- *	1.4	
Women's report of any physical assault (%)	6.8	0.2	-	1.3	10.4	-1.9	-	1.2	
Men's report of any severe physical assault (%)	1.9	-1.0	-	0.6	1.7	-0.2	-	0.5	
Women's report of any severe physical assault (%)	1.1	-0.2	-	0.5	1.7	0.4	-	0.6	
<u>Individual psychological distress^f</u>									
Men's psychological distress	1.76	-0.02	-0.03	0.03	1.91	-0.05	-0.07 *	0.03	
Women's psychological distress	1.84	-0.07	-0.10 **	0.03	2.02	-0.06	-0.08 **	0.03	
<u>Coparenting^f</u>									
Men's report of cooperative coparenting	3.50	-0.01	-0.01	0.02	3.41	0.05	0.10 ***	0.02	†
Women's report of cooperative coparenting	3.41	0.01	0.02	0.02	3.27	0.07	0.11 ***	0.02	††
Sample size									
Couples	1,511				2,238				
Men	1,364				2,033				
Women	1,427				2,089				

(continued)

Appendix Table B.3 (continued)

Outcome ^a	Both Spouses Experienced Abuse as Children				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
<u>Relationship status</u>					
Married ^d (%)	83.7	2.2	–	2.0	††
<u>Marital appraisals</u>					
Couple's average report of relationship happiness ^e	5.60	0.17	0.15 ***	0.06	
Either spouse reports marriage in trouble (%)	60.5	-2.9	–	2.6	
<u>Warmth and support in relationship</u> ^f					
Men's report of warmth and support	3.38	0.01	0.02	0.03	
Women's report of warmth and support	3.26	0.03	0.04	0.03	
<u>Positive communication skills in relationship</u> ^f					
Men's report of positive communication skills	3.09	0.05	0.09	0.03	
Women's report of positive communication skills	3.05	0.06	0.09 *	0.03	
<u>Negative interactions in relationship</u> ^f					
Men's report of negative behavior and emotions	2.43	-0.10	-0.13 **	0.04	†
Women's report of negative behavior and emotions	2.38	-0.07	-0.09 *	0.04	††
<u>Fidelity</u>					
Neither spouse reported infidelity (%)	87.1	2.6	–	1.8	
<u>Psychological abuse and physical assault</u>					
Men's report of psychological abuse ^f	1.45	-0.07	-0.13 **	0.03	
Women's report of psychological abuse ^f	1.39	-0.03	-0.05	0.03	
Men's report of any physical assault (%)	15.8	-3.6	– *	2.2	
Women's report of any physical assault (%)	10.0	1.0	–	1.9	
Men's report of any severe physical assault (%)	2.3	0.4	–	1.0	
Women's report of any severe physical assault (%)	2.0	-0.7	–	0.8	

(continued)

Appendix Table B.3 (continued)

Outcome ^a	Both Spouses Experienced Abuse as Children				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
Individual psychological distress^f					
Men's psychological distress	2.05	-0.07	-0.09	0.04	
Women's psychological distress	2.23	-0.08	-0.10 *	0.04	
Coparenting^f					
Men's report of cooperative coparenting	3.38	-0.02	-0.04	0.03	†
Women's report of cooperative coparenting	3.22	-0.03	-0.05	0.04	††
Sample size					
Couples	1,120				
Men	987				
Women	1,033				

SOURCE: MDRC calculations based on the SHM 12-month adult survey.

NOTES: Program impacts were calculated separately for each subgroup, using an ordinary least squares model adjusting for characteristics of sample members at study entry. Impact estimates from each subgroup were then compared to see whether their magnitude and direction differ significantly by subgroup.

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

^aSee Box 3 for a description of these outcomes.

^bA dash indicates that a value is not shown for dichotomous outcomes because percentage point differences are readily interpretable. 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.

^cStatistical significance levels for tests of differences across subgroups are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

^dThis includes couples who, at follow-up, were still married or still in a committed relationship with the same partner as when they entered the study.

^eThe scale ranges from 1 to 7, where 1 = “completely unhappy” and 7 = “completely happy.”

^fThe scale ranges from 1 to 4, where higher scores indicate higher levels of the respective outcomes.

The Supporting Healthy Marriage Evaluation

Appendix Table B.4

Estimated Impacts on Primary Outcomes Based on the 30-Month Adult Survey,
by Experience of Verbal or Physical Abuse or Neglect in Family of Origin: Subgroup Analysis Using Split Samples

Outcome ^a	Neither Spouse Experienced Abuse as a Child				One Spouse Experienced Abuse as a Child				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
<u>Relationship status</u>									
Married ^d (%)	85.5	0.2	–	1.7	81.5	0.1	–	1.5	
<u>Marital appraisals</u>									
Couple's average report of relationship happiness ^e	5.98	0.16	0.14 ***	0.05	5.74	0.17	0.14 ***	0.05	
Either spouse reports marriage in trouble (%)	40.6	-7.6	– ***	2.4	47.8	-4.5	– **	2.0	†
<u>Warmth and support in relationship^f</u>									
Men's report of warmth and support	3.58	0.05	0.11 **	0.02	3.49	0.07	0.14 ***	0.02	
Women's report of warmth and support	3.47	0.07	0.13 ***	0.03	3.39	0.05	0.09 **	0.02	
<u>Positive communication skills in relationship^f</u>									
Men's report of positive communication skills	3.33	0.03	0.05	0.03	3.22	0.09	0.15 ***	0.02	
Women's report of positive communication skills	3.28	0.07	0.12 **	0.03	3.17	0.07	0.11 ***	0.03	
<u>Negative interactions in relationship^f</u>									
Men's report of negative behavior and emotions	1.98	-0.03	-0.04	0.04	2.14	-0.09	-0.11 ***	0.03	
Women's report of negative behavior and emotions	2.02	-0.15	-0.18 ***	0.04	2.13	-0.09	-0.11 ***	0.03	
<u>Fidelity</u>									
Neither spouse reported infidelity (%)	92.8	2.1	– *	1.3	90.3	1.7	–	1.2	
<u>Psychological abuse and physical assault</u>									
Men's report of psychological abuse ^f	1.22	-0.03	-0.07	0.02	1.32	-0.07	-0.14 ***	0.02	
Women's report of psychological abuse ^f	1.24	-0.08	-0.16 ***	0.02	1.27	-0.03	-0.07 *	0.02	††

(continued)

Appendix Table B.4 (continued)

Outcome ^a	Neither Spouse Experienced Abuse as a Child				One Spouse Experienced Abuse as a Child				Subgroup Difference ^c	
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error		
Men's report of any physical assault (%)	5.9	1.2	-	1.4	10.7	-0.6	-	1.3	††	
Women's report of any physical assault (%)	9.0	-4.6	- ***	1.3	7.3	0.1	-	1.1	†††	
Men's report of any severe physical assault (%)	0.9	0.3	-	0.6	1.2	0.2	-	0.5		
Women's report of any severe physical assault (%)	2.3	-1.7	- ***	0.6	1.4	1.0	- * ^g	0.6	††	
<u>Individual psychological distress^f</u>										
Men's psychological distress	1.76	0.01	0.02	0.03	1.96	-0.07	-0.09 **	0.03		
Women's psychological distress	1.90	-0.08	-0.10 **	0.04	2.06	-0.07	-0.10 **	0.03		
<u>Coparenting^f</u>										
Men's report of cooperative coparenting	3.52	0.00	-0.01	0.03	3.41	0.06	0.10 **	0.03		
Women's report of cooperative coparenting	3.35	0.06	0.09 **	0.03	3.24	0.03	0.05	0.03		
Sample size										
Couples	1,503				2,271					
Men	1,332				2,033					
Women	1,460				2,202					

(continued)

Appendix Table B.4 (continued)

Outcome ^a	Both Spouses Experienced Abuse as Children				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
<u>Relationship status</u>					
Married ^d (%)	76.9	-0.9	-	2.4	
<u>Marital appraisals</u>					
Couple's average report of relationship happiness ^e	5.63	0.08	0.07	0.07	
Either spouse reports marriage in trouble (%)	54.1	0.9	-	2.9	†
<u>Warmth and support in relationship</u>^f					
Men's report of warmth and support	3.44	0.01	0.01	0.03	
Women's report of warmth and support	3.31	0.04	0.06	0.04	
<u>Positive communication skills in relationship</u>^f					
Men's report of positive communication skills	3.11	0.05	0.08	0.04	
Women's report of positive communication skills	3.07	0.02	0.03	0.04	
<u>Negative interactions in relationship</u>^f					
Men's report of negative behavior and emotions	2.36	-0.08	-0.10 *	0.05	
Women's report of negative behavior and emotions	2.26	-0.04	-0.04	0.05	
<u>Fidelity</u>					
Neither spouse reported infidelity (%)	89.6	-0.3	-	1.9	
<u>Psychological abuse and physical assault</u>					
Men's report of psychological abuse ^f	1.39	-0.03	-0.05	0.03	
Women's report of psychological abuse ^f	1.33	0.02	0.05	0.03	††
Men's report of any physical assault (%)	15.8	-5.3	- **	2.1	††
Women's report of any physical assault (%)	9.0	1.0	-	1.8	†††
Men's report of any severe physical assault (%)	2.3	-0.8	-	0.9	
Women's report of any severe physical assault (%)	1.7	-0.1	-	0.8	††

(continued)

Appendix Table B.4 (continued)

Outcome ^a	Both Spouses Experienced Abuse as Children				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
<u>Individual psychological distress^f</u>					
Men's psychological distress	2.07	-0.01	-0.02	0.05	
Women's psychological distress	2.19	-0.03	-0.03	0.04	
<u>Coparenting^f</u>					
Men's report of cooperative coparenting	3.31	0.01	0.02	0.04	
Women's report of cooperative coparenting	3.17	-0.05	-0.07	0.04	
Sample size					
Couples	1,205				
Men	1,071				
Women	1,161				

(continued)

Appendix Table B.4 (continued)

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 adjusting for characteristics of sample members at study entry. Impact estimates from each subgroup were then compared to see whether their magnitude and direction differ significantly by subgroup.

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

^aSee Box 3 for a description of these outcomes.

^bA dash indicates that a value is not shown for dichotomous outcomes because percentage point differences are readily interpretable. 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.

^cStatistical significance levels for tests of differences across subgroups are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

^dThis includes couples who, at follow-up, were still married or still in a committed relationship with the same partner as when they entered the study.

^eThe scale ranges from 1 to 7, where 1 = “completely unhappy” and 7 = “completely happy.”

^fThe scale ranges from 1 to 4, where higher scores indicate higher levels of the respective outcomes.

^gIn the “one spouse experienced abuse as a child” subgroup, a larger percentage of women in the program group (2.4 percent) reported experiencing any severe physical assault in the past three months than the percentage of women in the control group (1.4 percent). To investigate this result, the research team examined the pattern of impacts for the subgroup and the pattern of impacts on physical assault outcomes across all subgroups at 30 months. For this subgroup, the impact on women’s reports of any severe physical assault is inconsistent with the 13 other statistically significant impacts, all of which show positive effects. Across all subgroups in the 30-month data, 56 tests of impacts on reports of physical assault were performed. Of these tests, 10 showed statistically significant reductions in reports of physical assault, while 2 showed statistically significant increases. Furthermore, SHM’s impact on women’s reports of any severe physical assault is not statistically significant in the 30-month pooled sample (Lundquist et al., 2014). Therefore, the impact estimate for this subgroup should likely be interpreted as a statistical anomaly that occurred by chance, and should not be taken as concrete evidence of potential unintended effects of the SHM program.

The Supporting Healthy Marriage Evaluation

Appendix Table B.5

Estimated Impacts on Primary Outcomes Based on the 12-Month Adult Survey,
by Psychological Distress at Study Entry: Subgroup Analysis Using Split Samples

Outcome ^a	Neither Spouse Was Psychologically Distressed				At Least One Spouse Was Psychologically Distressed				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
<u>Relationship status</u>									
Married ^d (%)	90.7	1.1	–	0.9	84.1	0.1	–	2.1	
<u>Marital appraisals</u>									
Couple's average report of relationship happiness ^e	5.89	0.14	0.13 ***	0.03	5.36	0.21	0.17 ***	0.07	
Either spouse reports marriage in trouble (%)	46.8	-4.2	– ***	1.4	75.3	-10.8	– ***	2.7	††
<u>Warmth and support in relationship</u>^f									
Men's report of warmth and support	3.46	0.04	0.09 ***	0.01	3.27	0.06	0.13 **	0.03	
Women's report of warmth and support	3.39	0.03	0.05 *	0.01	3.11	0.12	0.21 ***	0.03	†††
<u>Positive communication skills in relationship</u>^f									
Men's report of positive communication skills	3.24	0.05	0.09 ***	0.02	3.04	0.05	0.08	0.03	
Women's report of positive communication skills	3.23	0.04	0.08 ***	0.02	2.91	0.14	0.20 ***	0.04	††
<u>Negative interactions in relationship</u>^f									
Men's report of negative behavior and emotions	2.15	-0.06	-0.08 ***	0.02	2.50	-0.10	-0.12 **	0.05	
Women's report of negative behavior and emotions	2.09	-0.06	-0.08 ***	0.02	2.54	-0.20	-0.24 ***	0.05	†††
<u>Fidelity</u>									
Neither spouse reported infidelity (%)	93.1	0.9	–	0.8	85.0	1.9	–	2.1	
<u>Psychological abuse and physical assault</u>									
Men's report of psychological abuse ^f	1.29	-0.03	-0.07 **	0.01	1.52	-0.09	-0.16 ***	0.04	†
Women's report of psychological abuse ^f	1.23	-0.02	-0.05	0.01	1.47	-0.10	-0.18 ***	0.04	††

(continued)

Appendix Table B.5 (continued)

Outcome ^a	Neither Spouse Was Psychologically Distressed				At Least One Spouse Was Psychologically Distressed				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
Men's report of any physical assault (%)	12.2	-2.4	- **	1.0	18.1	-0.8	-	2.5	
Women's report of any physical assault (%)	7.6	0.1	-	0.9	15.1	-3.5	-	2.2	
Men's report of any severe physical assault (%)	1.6	0.0	-	0.4	2.8	-1.2	-	1.0	
Women's report of any severe physical assault (%)	1.2	0.4	-	0.4	3.1	-1.5	-	1.0	†
Individual psychological distress^f									
Men's psychological distress	1.79	-0.04	-0.06 *	0.02	2.29	-0.10	-0.11 *	0.05	
Women's psychological distress	1.90	-0.06	-0.08 ***	0.02	2.43	-0.10	-0.12 **	0.05	
Coparenting^f									
Men's report of cooperative coparenting	3.47	0.02	0.03	0.01	3.30	0.02	0.04	0.03	
Women's report of cooperative coparenting	3.37	0.01	0.01	0.02	3.09	0.09	0.13 **	0.04	†
Sample size									
Couples	3,728				1,016				
Men	3,365				910				
Women	3,496				942				

SOURCE: MDRC calculations based on the SHM 12-month adult survey.

NOTES: Program impacts were calculated separately for each subgroup, using an ordinary least squares model adjusting for characteristics of sample members at study entry. Impact estimates from each subgroup were then compared to see whether their magnitude and direction differ significantly by subgroup.

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

^aSee Box 3 for a description of these outcomes.

^bA dash indicates that a value is not shown for dichotomous outcomes because percentage point differences are readily interpretable. 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.

^cStatistical significance levels for tests of differences across subgroups are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

^dThis includes couples who, at follow-up, were still married or still in a committed relationship with the same partner as when they entered the study.

^eThe scale ranges from 1 to 7, where 1 = “completely unhappy” and 7 = “completely happy.”

^fThe scale ranges from 1 to 4, where higher scores indicate higher levels of the respective outcomes.

The Supporting Healthy Marriage Evaluation

Appendix Table B.6

Estimated Impacts on Primary Outcomes Based on the 30-Month Adult Survey,
by Psychological Distress at Study Entry: Subgroup Analysis Using Split Samples

Outcome ^a	Neither Spouse Was Psychologically Distressed				At Least One Spouse Was Psychologically Distressed				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
<u>Relationship status</u>									
Married ^d (%)	84.0	-0.4	-	1.2	73.9	1.3	-	2.5	
<u>Marital appraisals</u>									
Couple's average report of relationship happiness ^e	5.87	0.16	0.14 ***	0.03	5.44	0.12	0.09	0.08	
Either spouse reports marriage in trouble (%)	43.4	-5.4	- ***	1.5	60.3	-0.8	-	3.0	
<u>Warmth and support in relationship</u>^f									
Men's report of warmth and support	3.54	0.05	0.11 ***	0.01	3.38	0.05	0.10	0.03	
Women's report of warmth and support	3.45	0.05	0.09 ***	0.02	3.18	0.11	0.16 ***	0.04	
<u>Positive communication skills in relationship</u>^f									
Men's report of positive communication skills	3.27	0.06	0.10 ***	0.02	3.05	0.09	0.14 **	0.04	
Women's report of positive communication skills	3.25	0.05	0.07 **	0.02	2.96	0.09	0.13 **	0.04	
<u>Negative interactions in relationship</u>^f									
Men's report of negative behavior and emotions	2.08	-0.06	-0.08 ***	0.02	2.40	-0.12	-0.14 **	0.05	
Women's report of negative behavior and emotions	2.05	-0.07	-0.09 ***	0.02	2.39	-0.14	-0.15 ***	0.05	
<u>Fidelity</u>									
Neither spouse reported infidelity (%)	92.0	1.2	-	0.9	86.7	1.9	-	2.1	
<u>Psychological abuse and physical assault</u>									
Men's report of psychological abuse ^f	1.26	-0.04	-0.09 ***	0.01	1.44	-0.07	-0.12 *	0.04	
Women's report of psychological abuse ^f	1.23	-0.02	-0.04	0.01	1.41	-0.07	-0.12 **	0.03	

(continued)

Appendix Table B.6 (continued)

Outcome ^a	Neither Spouse Was Psychologically Distressed				At Least One Spouse Was Psychologically Distressed				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
	Men's report of any physical assault (%)	9.4	-0.9	–	1.0	14.4	-0.3	–	
Women's report of any physical assault (%)	7.3	-0.7	–	0.8	11.4	-2.9	–	1.9	
Men's report of any severe physical assault (%)	1.1	0.1	–	0.4	2.0	-0.1	–	0.9	
Women's report of any severe physical assault (%)	1.5	-0.1	–	0.4	2.7	-0.4	–	1.0	
Individual psychological distress^f									
Men's psychological distress	1.84	-0.02	-0.03	0.02	2.20	-0.05	-0.07	0.05	
Women's psychological distress	1.94	-0.04	-0.06 *	0.02	2.38	-0.11	-0.14 **	0.05	
Coparenting^f									
Men's report of cooperative coparenting	3.47	0.02	0.04	0.02	3.24	0.06	0.08	0.04	
Women's report of cooperative coparenting	3.33	0.01	0.01	0.02	3.01	0.07	0.09	0.05	
Sample size									
Couples	3,724				1,121				
Men	3,339				977				
Women	3,617				1,077				

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 adjusting for characteristics of sample members at study entry. Impact estimates from each subgroup were then compared to see whether their magnitude and direction differ significantly by subgroup.

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

^aSee Box 3 for a description of these outcomes.

^bA dash indicates that a value is not shown for dichotomous outcomes because percentage point differences are readily interpretable. 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.

^cStatistical significance levels for tests of differences across subgroups are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

^dThis includes couples who, at follow-up, were still married or still in a committed relationship with the same partner as when they entered the study.

^eThe scale ranges from 1 to 7, where 1 = “completely unhappy” and 7 = “completely happy.”

^fThe scale ranges from 1 to 4, where higher scores indicate higher levels of the respective outcomes.

The Supporting Healthy Marriage Evaluation

Appendix Table B.7

Estimated Impacts on Primary Outcomes Based on the 12-Month Adult Survey,
by Whether Extended Family Respects and Values Couple's Marriage: Subgroup Analysis Using Split Samples

Outcome ^a	Both Spouses' Families Respect and Value Couple's Marriage				At Least One Spouse's Family Does Not Respect and Value Couple's Marriage				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
Relationship status									
Married ^d (%)	91.7	0.8	—	0.8	82.0	-0.1	—	2.2	
Marital appraisals									
Couple's average report of relationship happiness ^c	5.88	0.13	0.12 ***	0.03	5.38	0.23	0.18 ***	0.07	
Either spouse reports marriage in trouble (%)	48.2	-4.6	— ***	1.4	68.6	-6.6	— **	2.6	
Warmth and support in relationship^f									
Men's report of warmth and support	3.46	0.04	0.09 ***	0.01	3.29	0.06	0.11 *	0.03	
Women's report of warmth and support	3.37	0.05	0.09 ***	0.01	3.17	0.05	0.08	0.03	
Positive communication skills in relationship^f									
Men's report of positive communication skills	3.25	0.05	0.09 ***	0.02	3.02	0.05	0.08	0.04	
Women's report of positive communication skills	3.21	0.08	0.13 ***	0.02	2.96	0.05	0.07	0.04	
Negative interactions in relationship^f									
Men's report of negative behavior and emotions	2.16	-0.05	-0.07 ***	0.02	2.50	-0.10	-0.13 **	0.04	
Women's report of negative behavior and emotions	2.10	-0.10	-0.13 ***	0.02	2.49	-0.08	-0.09 *	0.04	
Fidelity									
Neither spouse reported infidelity (%)	93.1	0.6	—	0.8	85.3	3.1	—	2.0	
Psychological abuse and physical assault									
Men's report of psychological abuse ^f	1.29	-0.02	-0.05 *	0.01	1.53	-0.12	-0.20 ***	0.03	††
Women's report of psychological abuse ^f	1.24	-0.04	-0.09 ***	0.01	1.44	-0.03	-0.06	0.03	

(continued)

Appendix Table B.7 (continued)

Outcome ^a	Both Spouses' Families Respect and Value Couple's Marriage				At Least One Spouse's Family Does Not Respect and Value Couple's Marriage				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
Men's report of any physical assault (%)	11.2	-1.4	—	1.0	20.8	-3.7	—	2.5	
Women's report of any physical assault (%)	7.9	-0.9	—	0.9	13.3	0.7	—	2.2	
Men's report of any severe physical assault (%)	1.5	-0.2	—	0.4	3.1	-1.0	—	1.0	
Women's report of any severe physical assault (%)	1.2	-0.1	—	0.4	3.1	-0.3	—	1.1	
Individual psychological distress^f									
Men's psychological distress	1.84	-0.04	-0.05 *	0.02	2.09	-0.07	-0.09	0.05	
Women's psychological distress	1.96	-0.08	-0.11 ***	0.02	2.21	-0.01	-0.02	0.05	
Coparenting^f									
Men's report of cooperative coparenting	3.47	0.02	0.04	0.01	3.29	0.00	-0.01	0.04	
Women's report of cooperative coparenting	3.35	0.04	0.07 **	0.02	3.16	-0.02	-0.03	0.04	
Sample size									
Couples	3,648				1,047				
Men	3,310				918				
Women	3,420				970				

SOURCE: MDRC calculations based on the SHM 12-month adult survey.

NOTES: Program impacts were calculated separately for each subgroup, using an ordinary least squares model adjusting for characteristics of sample members at study entry. Impact estimates from each subgroup were then compared to see whether their magnitude and direction differ significantly by subgroup.

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

^aSee Box 3 for a description of these outcomes.

^bA dash indicates that a value is not shown for dichotomous outcomes because percentage point differences are readily interpretable. 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.

^cStatistical significance levels for tests of differences across subgroups are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

^dThis includes couples who, at follow-up, were still married or still in a committed relationship with the same partner as when they entered the study.

^eThe scale ranges from 1 to 7, where 1 = "completely unhappy" and 7 = "completely happy."

^fThe scale ranges from 1 to 4, where higher scores indicate higher levels of the respective outcomes.

The Supporting Healthy Marriage Evaluation

Appendix Table B.8

Estimated Impacts on Primary Outcomes Based on the 30-Month Adult Survey,
by Whether Extended Family Respects and Values Couple's Marriage: Subgroup Analysis Using Split Samples

Outcome ^a	Both Spouses' Families Respect and Value Couple's Marriage				At Least One Spouse's Family Does Not Respect and Value Couple's Marriage				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
Relationship status									
Married ^d (%)	84.6	0.7	–	1.1	71.6	-2.1	–	2.6	
Marital appraisals									
Couple's average report of relationship happiness ^e	5.86	0.17	0.15 ***	0.03	5.50	0.02	0.02	0.08	†
Either spouse reports marriage in trouble (%)	43.8	-5.5	– ***	1.5	58.8	0.5	–	3.1	†
Warmth and support in relationship^f									
Men's report of warmth and support	3.54	0.05	0.12 ***	0.01	3.35	0.05	0.09	0.04	
Women's report of warmth and support	3.44	0.05	0.10 ***	0.02	3.25	0.04	0.06	0.04	
Positive communication skills in relationship^f									
Men's report of positive communication skills	3.28	0.06	0.10 ***	0.02	3.05	0.07	0.11 *	0.04	
Women's report of positive communication skills	3.25	0.06	0.09 ***	0.02	2.97	0.05	0.07	0.04	
Negative interactions in relationship^f									
Men's report of negative behavior and emotions	2.09	-0.09	-0.12 ***	0.02	2.37	-0.04	-0.05	0.05	
Women's report of negative behavior and emotions	2.07	-0.11	-0.14 ***	0.02	2.34	-0.04	-0.05	0.05	
Fidelity									
Neither spouse reported infidelity (%)	92.3	1.2	–	0.9	84.9	3.8	– *	2.2	
Psychological abuse and physical assault									
Men's report of psychological abuse ^f	1.27	-0.06	-0.12 ***	0.01	1.42	-0.02	-0.04	0.04	
Women's report of psychological abuse ^f	1.24	-0.04	-0.09 ***	0.01	1.40	-0.03	-0.05	0.03	

(continued)

Appendix Table B.8 (continued)

Outcome ^a	Both Spouses' Families Respect and Value Couple's Marriage				At Least One Spouse's Family Does Not Respect and Value Couple's Marriage				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
Men's report of any physical assault (%)	9.7	-1.7	- *	1.0	13.0	1.2	-	2.2	
Women's report of any physical assault (%)	7.6	-1.5	- *	0.8	10.6	-1.0	-	1.9	
Men's report of any severe physical assault (%)	1.3	-0.4	-	0.4	1.7	0.8	-	0.9	
Women's report of any severe physical assault (%)	1.4	0.0	-	0.4	2.7	-0.5	-	1.0	
Individual psychological distress^f									
Men's psychological distress	1.88	-0.03	-0.04	0.02	2.09	-0.07	-0.09	0.05	
Women's psychological distress	2.00	-0.08	-0.11 ***	0.02	2.20	-0.02	-0.03	0.05	
Coparenting^f									
Men's report of cooperative coparenting	3.47	0.04	0.07 **	0.02	3.26	-0.01	-0.02	0.04	
Women's report of cooperative coparenting	3.32	0.03	0.04	0.02	3.04	0.01	0.01	0.05	
Sample size									
Couples	3,620				1,185				
Men	3,259				1,023				
Women	3,523				1,131				

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 adjusting for characteristics of sample members at study entry. Impact estimates from each subgroup were then compared to see whether their magnitude and direction differ significantly by subgroup.

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

^aSee Box 3 for a description of these outcomes.

^bA dash indicates that a value is not shown for dichotomous outcomes because percentage point differences are readily interpretable. 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.

^cStatistical significance levels for tests of differences across subgroups are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

^dThis includes couples who, at follow-up, were still married or still in a committed relationship with the same partner as when they entered the study.

^eThe scale ranges from 1 to 7, where 1 = "completely unhappy" and 7 = "completely happy."

^fThe scale ranges from 1 to 4, where higher scores indicate higher levels of the respective outcomes.

The Supporting Healthy Marriage Evaluation

Appendix Table B.9

Estimated Impacts on Primary Outcomes Based on the 12-Month Adult Survey,
by Presence of a Stepchild in the Household: Subgroup Analysis Using Split Samples

Outcome ^a	<u>No Stepchild in Household</u>				<u>At Least One Stepchild in Household</u>				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
<u>Relationship status</u>									
Married ^d (%)	90.8	0.3	–	0.9	84.4	2.4	–	1.9	
<u>Marital appraisals</u>									
Couple's average report of relationship happiness ^e	5.81	0.14	0.12 ***	0.03	5.65	0.21	0.18 ***	0.06	
Either spouse reports marriage in trouble (%)	49.5	-3.5	– **	1.4	63.0	-10.2	– ***	2.5	††
<u>Warmth and support in relationship</u> ^f									
Men's report of warmth and support	3.43	0.05	0.10 ***	0.01	3.40	0.04	0.08	0.03	
Women's report of warmth and support	3.33	0.05	0.09 ***	0.01	3.30	0.04	0.07	0.03	
<u>Positive communication skills in relationship</u> ^f									
Men's report of positive communication skills	3.22	0.05	0.09 ***	0.02	3.12	0.05	0.10 *	0.03	
Women's report of positive communication skills	3.19	0.05	0.08 ***	0.02	3.04	0.13	0.19 ***	0.03	††
<u>Negative interactions in relationship</u> ^f									
Men's report of negative behavior and emotions	2.19	-0.06	-0.08 ***	0.02	2.36	-0.08	-0.11 **	0.04	
Women's report of negative behavior and emotions	2.15	-0.07	-0.08 ***	0.02	2.33	-0.17	-0.20 ***	0.04	††
<u>Fidelity</u>									
Neither spouse reported infidelity (%)	92.8	0.0	–	0.8	87.0	4.3	– **	1.7	††
<u>Psychological abuse and physical assault</u>									
Men's report of psychological abuse ^f	1.32	-0.03	-0.07 **	0.01	1.42	-0.07	-0.13 **	0.03	
Women's report of psychological abuse ^f	1.26	-0.02	-0.05	0.01	1.36	-0.09	-0.17 ***	0.03	††

(continued)

Appendix Table B.9 (continued)

Outcome ^a	No Stepchild in Household				At Least One Stepchild in Household				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
Men's report of any physical assault (%)	12.9	-1.4	–	1.1	15.4	-5.0	– **	2.0	
Women's report of any physical assault (%)	8.3	0.5	–	0.9	11.8	-3.5	– *	1.8	††
Men's report of any severe physical assault (%)	1.7	-0.1	–	0.4	2.5	-1.3	–	0.8	
Women's report of any severe physical assault (%)	1.6	-0.1	–	0.4	1.4	0.6	–	0.8	
Individual psychological distress^f									
Men's psychological distress	1.87	-0.03	-0.04	0.02	1.98	-0.09	-0.11 **	0.04	
Women's psychological distress	1.98	-0.05	-0.07 **	0.02	2.14	-0.12	-0.15 ***	0.04	
Coparenting^f									
Men's report of cooperative coparenting	3.45	0.01	0.03	0.01	3.35	0.03	0.06	0.03	
Women's report of cooperative coparenting	3.34	0.02	0.03	0.02	3.18	0.06	0.09 *	0.03	
Sample size									
Couples	3,736				1,170				
Men	3,349				1,069				
Women	3,485				1,099				

SOURCE: MDRC calculations based on the SHM 12-month adult survey.

NOTES: Program impacts were calculated separately for each subgroup, using an ordinary least squares model adjusting for characteristics of sample members at study entry. Impact estimates from each subgroup were then compared to see whether their magnitude and direction differ significantly by subgroup.

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

^aSee Box 3 for a description of these outcomes.

^bA dash indicates that a value is not shown for dichotomous outcomes because percentage point differences are readily interpretable. 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.

^cStatistical significance levels for tests of differences across subgroups are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

^dThis includes couples who, at follow-up, were still married or still in a committed relationship with the same partner as when they entered the study.

^eThe scale ranges from 1 to 7, where 1 = “completely unhappy” and 7 = “completely happy.”

^fThe scale ranges from 1 to 4, where higher scores indicate higher levels of the respective outcomes.

The Supporting Healthy Marriage Evaluation

Appendix Table B.10

Estimated Impacts on Primary Outcomes Based on the 30-Month Adult Survey,
by Presence of a Stepchild in the Household: Subgroup Analysis Using Split Samples

Outcome ^a	No Stepchild in Household				At Least One Stepchild in Household				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
<u>Relationship status</u>									
Married ^d (%)	83.8	-0.2	—	1.1	74.2	1.0	—	2.4	
<u>Marital appraisals</u>									
Couple's average report of relationship happiness ^e	5.82	0.13	0.11 ***	0.03	5.69	0.20	0.17 ***	0.07	
Either spouse reports marriage in trouble (%)	44.0	-4.1	— ***	1.5	57.7	-5.9	— **	2.9	
<u>Warmth and support in relationship</u> ^f									
Men's report of warmth and support	3.51	0.05	0.10 ***	0.01	3.48	0.05	0.11 *	0.03	
Women's report of warmth and support	3.41	0.05	0.09 ***	0.02	3.35	0.06	0.11 *	0.03	
<u>Positive communication skills in relationship</u> ^f									
Men's report of positive communication skills	3.26	0.05	0.09 ***	0.02	3.12	0.10	0.15 ***	0.04	
Women's report of positive communication skills	3.21	0.04	0.07 **	0.02	3.07	0.13	0.19 ***	0.04	††
<u>Negative interactions in relationship</u> ^f									
Men's report of negative behavior and emotions	2.11	-0.06	-0.08 ***	0.02	2.25	-0.11	-0.13 **	0.05	
Women's report of negative behavior and emotions	2.09	-0.08	-0.09 ***	0.02	2.26	-0.15	-0.19 ***	0.05	
<u>Fidelity</u>									
Neither spouse reported infidelity (%)	91.6	1.4	—	0.9	88.8	1.9	—	1.9	
<u>Psychological abuse and physical assault</u>									
Men's report of psychological abuse ^f	1.28	-0.03	-0.07 **	0.01	1.37	-0.09	-0.16 ***	0.03	
Women's report of psychological abuse ^f	1.26	-0.03	-0.06 **	0.01	1.33	-0.06	-0.12 **	0.03	

(continued)

Appendix Table B.10 (continued)

Outcome ^a	No Stepchild in Household				At Least One Stepchild in Household				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
Men's report of any physical assault (%)	9.8	-0.6	—	1.0	12.6	-2.5	—	1.9	
Women's report of any physical assault (%)	8.0	-1.3	—	0.9	8.8	-0.9	—	1.6	
Men's report of any severe physical assault (%)	1.3	0.1	—	0.4	1.8	-0.5	—	0.8	
Women's report of any severe physical assault (%)	1.9	-0.3	—	0.4	1.3	0.4	—	0.7	
Individual psychological distress^f									
Men's psychological distress	1.91	-0.04	-0.06 *	0.02	1.99	-0.01	-0.02	0.05	
Women's psychological distress	2.01	-0.06	-0.07 **	0.02	2.16	-0.10	-0.13 **	0.04	
Coparenting^f									
Men's report of cooperative coparenting	3.45	0.04	0.06 **	0.02	3.33	0.00	0.01	0.04	
Women's report of cooperative coparenting	3.28	0.03	0.04	0.02	3.15	0.04	0.05	0.04	
Sample size									
Couples	3,767				1,248				
Men	3,386				1,082				
Women	3,669				1,189				

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 adjusting for characteristics of sample members at study entry. Impact estimates from each subgroup were then compared to see whether their magnitude and direction differ significantly by subgroup.

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

^aSee Box 3 for a description of these outcomes.

^bA dash indicates that a value is not shown for dichotomous outcomes because percentage point differences are readily interpretable. 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.

^cStatistical significance levels for tests of differences across subgroups are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

^dThis includes couples who, at follow-up, were still married or still in a committed relationship with the same partner as when they entered the study.

^eThe scale ranges from 1 to 7, where 1 = “completely unhappy” and 7 = “completely happy.”

^fThe scale ranges from 1 to 4, where higher scores indicate higher levels of the respective outcomes.

The Supporting Healthy Marriage Evaluation

Appendix Table B.11

Estimated Impacts on Primary Outcomes Based on the 12-Month Adult Survey,
by Presence of a Young Child (Under 3) in the Household: Subgroup Analysis Using Split Samples

Outcome ^a	No Child Under 3 in Household				At Least One Child Under 3 in Household				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
<u>Relationship status</u>									
Married ^d (%)	89.4	0.4	–	1.5	89.2	1.2	–	1.0	
<u>Marital appraisals</u>									
Couple's average report of relationship happiness ^e	5.73	0.16	0.14 ***	0.05	5.80	0.14	0.12 ***	0.03	
Either spouse reports marriage in trouble (%)	53.7	-4.1	– *	2.2	52.8	-5.8	– ***	1.5	
<u>Warmth and support in relationship^f</u>									
Men's report of warmth and support	3.38	0.04	0.10 **	0.02	3.43	0.05	0.10 ***	0.01	
Women's report of warmth and support	3.25	0.07	0.13 ***	0.02	3.36	0.03	0.06 **	0.02	
<u>Positive communication skills in relationship^f</u>									
Men's report of positive communication skills	3.18	0.07	0.13 ***	0.03	3.20	0.04	0.08 **	0.02	
Women's report of positive communication skills	3.15	0.06	0.10 **	0.03	3.16	0.07	0.11 ***	0.02	
<u>Negative interactions in relationship^f</u>									
Men's report of negative behavior and emotions	2.24	-0.09	-0.11 ***	0.03	2.23	-0.06	-0.08 ***	0.02	
Women's report of negative behavior and emotions	2.22	-0.12	-0.14 ***	0.03	2.17	-0.08	-0.10 ***	0.02	
<u>Fidelity</u>									
Neither spouse reported infidelity (%)	91.7	0.1	–	1.4	91.3	1.5	– *	0.9	
<u>Psychological abuse and physical assault</u>									
Men's report of psychological abuse ^f	1.33	-0.07	-0.14 ***	0.02	1.35	-0.03	-0.07 **	0.02	
Women's report of psychological abuse ^f	1.28	-0.05	-0.11 **	0.02	1.28	-0.03	-0.07 **	0.01	

(continued)

Appendix Table B.11 (continued)

Outcome ^a	No Child Under 3 in Household				At Least One Child Under 3 in Household				Subgroup Difference ^c	
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error		
Men's report of any physical assault (%)	12.7	-4.5	- ***	1.6	13.8	-1.1	-	1.2	†	
Women's report of any physical assault (%)	8.6	-1.6	-	1.4	9.2	0.1	-	1.0		
Men's report of any severe physical assault (%)	1.4	0.0	-	0.6	2.0	-0.4	-	0.5		
Women's report of any severe physical assault (%)	1.8	-1.1	- *	0.6	1.5	0.5	-	0.5	††	
<u>Individual psychological distress^f</u>										
Men's psychological distress	1.94	-0.06	-0.07	0.04	1.88	-0.04	-0.05	0.02		
Women's psychological distress	2.09	-0.06	-0.07	0.04	1.98	-0.08	-0.11 ***	0.02		
<u>Coparenting^f</u>										
Men's report of cooperative coparenting	3.37	0.00	0.01	0.02	3.45	0.03	0.06 *	0.02		
Women's report of cooperative coparenting	3.21	0.06	0.09 **	0.03	3.35	0.01	0.02	0.02		
Sample size										
Couples	1,509				3,216					
Men	1,368				2,934					
Women	1,419				3,046					

SOURCE: MDRC calculations based on the SHM 12-month adult survey.

NOTES: Program impacts were calculated separately for each subgroup, using an ordinary least squares model adjusting for characteristics of sample members at study entry. Impact estimates from each subgroup were then compared to see whether their magnitude and direction differ significantly by subgroup.

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

^aSee Box 3 for a description of these outcomes.

^bA dash indicates that a value is not shown for dichotomous outcomes because percentage point differences are readily interpretable. 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.

^cStatistical significance levels for tests of differences across subgroups are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

^dThis includes couples who, at follow-up, were still married or still in a committed relationship with the same partner as when they entered the study.

^eThe scale ranges from 1 to 7, where 1 = "completely unhappy" and 7 = "completely happy."

^fThe scale ranges from 1 to 4, where higher scores indicate higher levels of the respective outcomes.

The Supporting Healthy Marriage Evaluation

Appendix Table B.12

Estimated Impacts on Primary Outcomes Based on the 30-Month Adult Survey,
by Presence of a Young Child (Under 3) in the Household: Subgroup Analysis Using Split Samples

Outcome ^a	No Child Under 3 in Household				At Least One Child Under 3 in Household				Subgroup Difference ^c
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	
<u>Relationship status</u>									
Married ^d (%)	82.8	-1.1	–	1.8	81.0	0.2	–	1.3	
<u>Marital appraisals</u>									
Couple's average report of relationship happiness ^e	5.77	0.18	0.14 ***	0.06	5.80	0.13	0.12 ***	0.04	
Either spouse reports marriage in trouble (%)	45.3	-7.0	– ***	2.4	48.0	-3.4	– **	1.7	
<u>Warmth and support in relationship^f</u>									
Men's report of warmth and support	3.51	0.05	0.11 **	0.02	3.50	0.06	0.12 ***	0.02	
Women's report of warmth and support	3.38	0.06	0.11 **	0.03	3.41	0.05	0.09 ***	0.02	
<u>Positive communication skills in relationship^f</u>									
Men's report of positive communication skills	3.26	0.07	0.11 **	0.03	3.21	0.07	0.11 ***	0.02	
Women's report of positive communication skills	3.20	0.09	0.14 ***	0.03	3.17	0.05	0.08 **	0.02	
<u>Negative interactions in relationship^f</u>									
Men's report of negative behavior and emotions	2.04	-0.07	-0.09 **	0.04	2.20	-0.08	-0.11 ***	0.03	
Women's report of negative behavior and emotions	2.07	-0.12	-0.15 ***	0.04	2.15	-0.08	-0.10 ***	0.03	
<u>Fidelity</u>									
Neither spouse reported infidelity (%)	91.8	1.1	–	1.4	90.6	1.7	–	1.0	
<u>Psychological abuse and physical assault</u>									
Men's report of psychological abuse ^f	1.25	-0.05	-0.11 **	0.02	1.33	-0.05	-0.09 ***	0.02	
Women's report of psychological abuse ^f	1.26	-0.04	-0.08 *	0.02	1.28	-0.04	-0.08 **	0.02	

(continued)

Appendix Table B.12 (continued)

Outcome ^a	No Child Under 3 in Household				At Least One Child Under 3 in Household				Subgroup Difference ^c	
	Control Group	Difference (Impact)	Effect Size ^b	Standard Error	Control Group	Difference (Impact)	Effect Size ^b	Standard Error		
Men's report of any physical assault (%)	9.9	-3.5	- **	1.5	10.4	0.2	-	1.1	††	
Women's report of any physical assault (%)	7.6	-2.3	- *	1.3	8.4	-0.7	-	1.0		
Men's report of any severe physical assault (%)	2.2	-1.6	- **	0.6	0.9	0.8	- * ^g	0.4	†††	
Women's report of any severe physical assault (%)	1.7	-0.2	-	0.7	1.8	-0.1	-	0.5		
<u>Individual psychological distress</u>^f										
Men's psychological distress	1.91	-0.02	-0.02	0.04	1.94	-0.05	-0.07 **	0.03		
Women's psychological distress	2.07	-0.06	-0.07	0.04	2.03	-0.07	-0.09 ***	0.02		
<u>Coparenting</u>^f										
Men's report of cooperative coparenting	3.40	0.02	0.03	0.03	3.43	0.04	0.07 **	0.02		
Women's report of cooperative coparenting	3.22	0.05	0.07	0.03	3.27	0.02	0.02	0.02		
<hr/>										
Sample size										
Couples	1,592				3,227					
Men	1,440				2,848					
Women	1,545				3,123					

(continued)

Appendix Table B.12 (continued)

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 adjusting for characteristics of sample members at study entry. Impact estimates from each subgroup were then compared to see whether their magnitude and direction differ significantly by subgroup.

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

^aSee Box 3 for a description of these outcomes.

^bA dash indicates that a value is not shown for dichotomous outcomes because percentage point differences are readily interpretable. 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.

^cStatistical significance levels for tests of differences across subgroups are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

^dThis includes couples who, at follow-up, were still married or still in a committed relationship with the same partner as when they entered the study.

^eThe scale ranges from 1 to 7, where 1 = “completely unhappy” and 7 = “completely happy.”

^fThe scale ranges from 1 to 4, where higher scores indicate higher levels of the respective outcomes.

^gIn the “at least one child under 3 in household” subgroup, a larger percentage of men in the program group (1.7 percent) reported experiencing any severe physical assault in the past three months than the percentage of men in the control group (0.9 percent). To investigate this result, the research team examined the pattern of impacts for the subgroup and the pattern of impacts on physical assault outcomes across all subgroups at 30 months. For this subgroup, the impact on men’s reports of any severe physical assault is inconsistent with the 13 other statistically significant impacts, all of which show positive effects. Across all subgroups in the 30-month data, 56 tests of impacts on reports of physical assault were performed. Of these tests, 10 showed statistically significant reductions in reports of physical assault, while 2 showed statistically significant increases. Furthermore, SHM’s impact on men’s reports of any severe physical assault is not statistically significant in the 30-month pooled sample (Lundquist et al., 2014). Therefore, the impact estimate for this subgroup should likely be interpreted as a statistical anomaly that occurred by chance, and should not be taken as concrete evidence of potential unintended effects of the SHM program.

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Earlier MDRC Publications on the Supporting Healthy Marriage Evaluation

A Family-Strengthening Program for Low-Income Families: Final Impacts from the Supporting Healthy Marriage Evaluation.

2014. Erika Lundquist, JoAnn Hsueh, Amy E. Lowenstein, Kristen Faucetta, Daniel Gubits, Charles Michalopoulos, and Virginia Knox.

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NOTE: A complete publications list is available from MDRC and on its Web site (www.mdrc.org), from which copies of reports can also be downloaded.

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