OPRE Report
2012-28A

# *The* BUILDING STRONG FAMILIES PROJECT

## The Long-Term Effects of Building Strong Families: A Relationship Skills Education Program for Unmarried Parents

November 2012

**OPRE Report Number:**
2012-28A

**Contract Number:**
233-02-0056

**Mathematica Reference Number:**
08935.156

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# The Long-Term Effects of Building Strong Families: A Relationship Skills Education Program for Unmarried Parents

## Final Report

November 2012

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# ACKNOWLEDGMENTS

Many people have contributed in significant ways to this report. First, we wish to acknowledge the support of the staff at the Office of Planning, Research, and Evaluation (OPRE) at the Administration for Children and Families, U.S. Department of Health and Human Services. Special thanks go to our OPRE project officers, Nancye Campbell and Seth Chamberlain, who have provided excellent oversight and guidance throughout the project. We also wish to thank members of the Building Strong Families (BSF) technical workgroup and expert consultants who provided useful direction on the focus of the study. In particular, we would like to thank Paul Amato, Tom Bradbury, Mark Cummings, and John Gottman for their input on the development of relationship quality measures.

At Mathematica Policy Research, we thank Alan Hershey and Barbara Devaney, who managed this large-scale evaluation effort through much of the evaluation period, provided valuable guidance throughout the project, and gave very helpful comments on earlier drafts of the report. We also thank Sheena McConnell, who led the initial design work for the impact evaluation. In addition, we thank the team of dedicated survey staff members that collected the data for the evaluation, led by Shawn Marsh, the survey director for the project. We also thank the team of information systems staff, led by Steven Lehrfield, for their hard work throughout the project. In addition, we thank Robert Whitaker, Kim Boller, and Sarah Avellar, as well as Charles Michalopoulos and Joanne Hsueh of MDRC, for their important contribution to selecting and refining measures for the analysis. Xiaofan Sun and Tim Novak provided excellent programming assistance. Cindy George and John Kennedy carefully edited the report and Linda Heath did an excellent job in producing it.

**Special Thanks**

We would like to extend a special thanks to the dedicated staff members at each of the eight BSF programs. Without their creativity, energy, and willingness to subject their programs to rigorous evaluation, this study would not have been possible. We thank each of the program teams, led by Sue Bullard, Franka Cumberhatch-Hankton, Cassandra Codes-Johnson, Marianne Ehrlich, Akilah Ferrell, Mercedes Fonseca, Rebecca Pena Hines, Joe Jones, Phyllis Kikendall, David Kimmel, Heidy Lough, Carol McNally, Dena Morrison, Mary Myrick, Anita Odom, Jay Otero, Chris Parker, Becky Solis, Marty Temple, Stefanie Toombs, Anne Wilson, and Carolyn Wiseheart.

We also extend our gratitude to curriculum developers Julie and John Gottman; Pamela Jordan; Mary Ortwein and Bernard Guerney; and Pamela Wilson and their teams, for their important contribution to the project.. Finally, our deepest appreciation is reserved for the couples who agreed to participate in the BSF demonstration and evaluation. We gratefully acknowledge all of these contributions and accept sole responsibility for any omissions in the report.

The Authors

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# EXECUTIVE SUMMARY

The proportion of children born to unmarried parents continues to increase. Currently, more than 4 out of every 10 children born in the United States have unmarried parents. Although many unmarried parents live together when their children are born, their relationships are often tenuous and most end within a few years of the child's birth. Therefore, most of these children are raised in households that do not include both of their biological parents. If interventions can improve the quality of unmarried parents' relationships and increase the likelihood that they remain together, these interventions might also improve the well-being of their children. Thus, one possible approach to improving child well-being is strengthening the relationships of low-income couples through relationship skills education.

The Building Strong Families (BSF) project, sponsored by the Administration for Children and Families (ACF), U.S. Department of Health and Human Services, evaluated this kind of approach. The project developed, implemented, and tested voluntary programs that offer relationship skills education and other support services to unwed couples who are expecting or who have just had a baby. Eight organizations volunteered to be part of a rigorous evaluation designed to test a new strategy to help new, unmarried parents strengthen their relationships. These organizations implemented BSF programs around the country, complying with a set of research-based program guidelines.

Mathematica Policy Research conducted an experimental evaluation of the eight BSF programs. More than 5,000 interested couples were randomly assigned to either a group that could participate in the BSF program or a control group that could not. An earlier report examined the impact of BSF on couples' outcomes about 15 months after they applied for the program. That analysis found that, when data for the eight programs were combined, BSF had no effect on couples' relationship quality or the likelihood that they remained romantically involved or got married. However, the results varied across the eight programs included in the evaluation. The BSF program in Oklahoma City had a consistent pattern of positive effects on relationship outcomes, while the Baltimore program had a number of negative effects. The other BSF programs generally had little or no effect on relationships.

**The Eight BSF Programs**

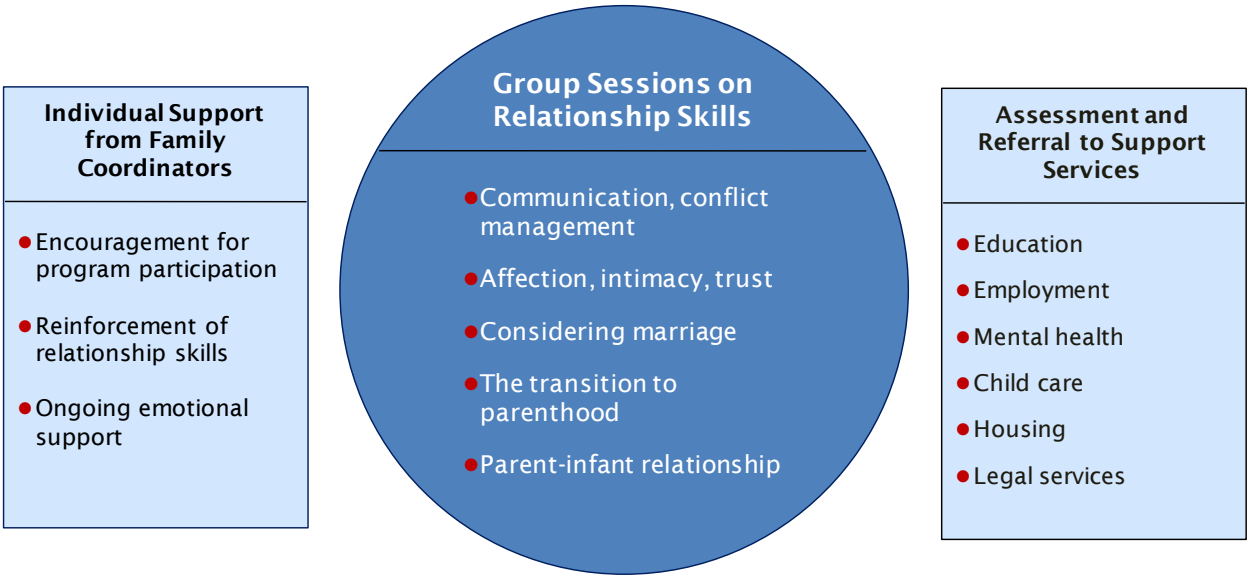
| Location | Sponsor Organization | Number of Couples Randomly Assigned |
|---|---|---|
| Atlanta, Georgia | Georgia State University, Latin American Association | 930 |
| Baltimore, Maryland | Center for Urban Families | 602 |
| Baton Rouge, Louisiana | Family Road of Greater Baton Rouge | 652 |
| Florida: Orange and Broward counties | Healthy Families Florida | 695 |
| Houston, Texas | Healthy Family Initiatives | 405 |
| Indiana: Allen, Marion, and Lake counties | Healthy Families Indiana | 466 |
| Oklahoma City, Oklahoma | Public Strategies, Inc. | 1,010 |
| San Angelo, Texas | Healthy Families San Angelo | 342 |
| **All Programs** | | **5,102** |

## The BSF Program: Three Key Components

The BSF program was designed to serve unmarried, romantically involved couples who were expecting or had recently had a baby. Before determining eligibility for BSF, program staff screened couples for intimate partner violence; if there was evidence of violence that could be aggravated by BSF participation, the couple was ineligible for BSF and was referred to other services.

BSF programs had three components: (1) group sessions on relationship skills, (2) individual support from family coordinators, and (3) assessment and referral to support services (Figure ES.1). The core service was relationship skills education offered in group sessions. The BSF model did not require a specific curriculum to guide these sessions, but required programs to use a curriculum that covered key topics specified by the program model. The eight BSF programs chose one of three curricula developed for the study by experts who tailored their existing curricula for married couples to the needs of unmarried parents. The relationship skills education was designed to be intensive—involving 30 to 42 hours of group sessions. Not all couples who enrolled in BSF participated in these sessions, however. Overall, 55 percent of couples offered BSF services attended a group session. Among those who did attend, couples averaged 21 hours of attendance at these sessions. BSF offered other services to participating couples. Under the program model, a family coordinator assigned to each couple was to reinforce relationship skills, provide emotional support, and encourage participation in the group sessions. The family coordinator also assessed family members' needs and referred them for appropriate support services. The average cost of BSF per couple was about $11,000 and ranged from approximately $9,000 to $14,000 across the eight programs.

**Figure ES.1. The BSF Program Model**



## The Impact of BSF After Three Years

The BSF 36-month impact analysis examines the program's effects on three main groups of outcomes: (1) the status and quality of the couples' relationships, (2) parenting and father involvement, and (3) child well-being. Results are summarized below.

- **After three years, BSF had no effect on the quality of couples' relationships and did not make couples more likely to stay together or get married**

At the three-year follow-up, about 6 in 10 couples were still romantically involved.[1] Among those who were, BSF and control group couples reported similar levels of happiness in their romantic relationships, with both groups reporting average ratings of 8.3 on a 0-to-10 relationship happiness scale. BSF and control group couples also reported very similar levels of supportiveness and affection in their relationships, with average ratings of 3.4 on a 1-to-4 scale among romantically involved couples in both research groups. In addition, BSF and control group couples were equally likely to remain faithful to each other over the three-year follow-up period.

BSF did not improve couples' ability to manage their conflicts. Among the 8 in 10 couples who were still in regular contact at the three-year follow-up, the average score on a scale measuring the use of constructive conflict behaviors (such as keeping a sense of humor and listening to the other partner's perspective during disagreements) was the same for both BSF and control group couples (Table ES.1). Similarly, there was no difference between the research groups in the avoidance of destructive conflict behaviors such as withdrawing when there is a disagreement or allowing small disagreements to escalate.

BSF did not increase the likelihood that couples remained together after three years. In fact, it made this outcome somewhat less likely. Three years after study enrollment, 57 percent of BSF couples were still romantically involved, compared with 60 percent of control group couples, a difference that is marginally statistically significant (Figure ES.2). Similarly, BSF couples were somewhat less likely than control group couples to be living together (married or unmarried) at the three-year follow-up (47 percent versus 50 percent). However, BSF and control group couples were equally likely to be married to one another three years after study enrollment, with 21 percent of couples in both research groups married at this point.

- **BSF had no effect on couples' co-parenting relationship; it had small negative effects on some aspects of father involvement**

At the three-year follow-up, BSF and control group couples reported that their co-parenting relationships were of similarly high quality (Table ES.1). The average rating for both groups was 4.2

[1] Because of the substantial amount of missing data for analyses of some relationship quality measures, the evaluation team assessed the potential risk of bias in these impact estimates using widely used standards developed by the U.S. Department of Education's What Works Clearinghouse. Analyses of measures based only on the 6 in 10 couples who were still romantically involved at the 36-month follow-up (relationship happiness and support and affection) meet these standards with reservations, indicating that there is a moderate risk of bias in these estimates. However, analyses of relationship quality measures based on the 8 in 10 couples who were still in regular contact (conflict management) and on all couples (fidelity), meet these standards without reservations, indicating that the risk of bias for these analyses is low. See the full report for more information.

**Table ES.1. Impacts of Building Strong Families at 36- Month Follow- Up**

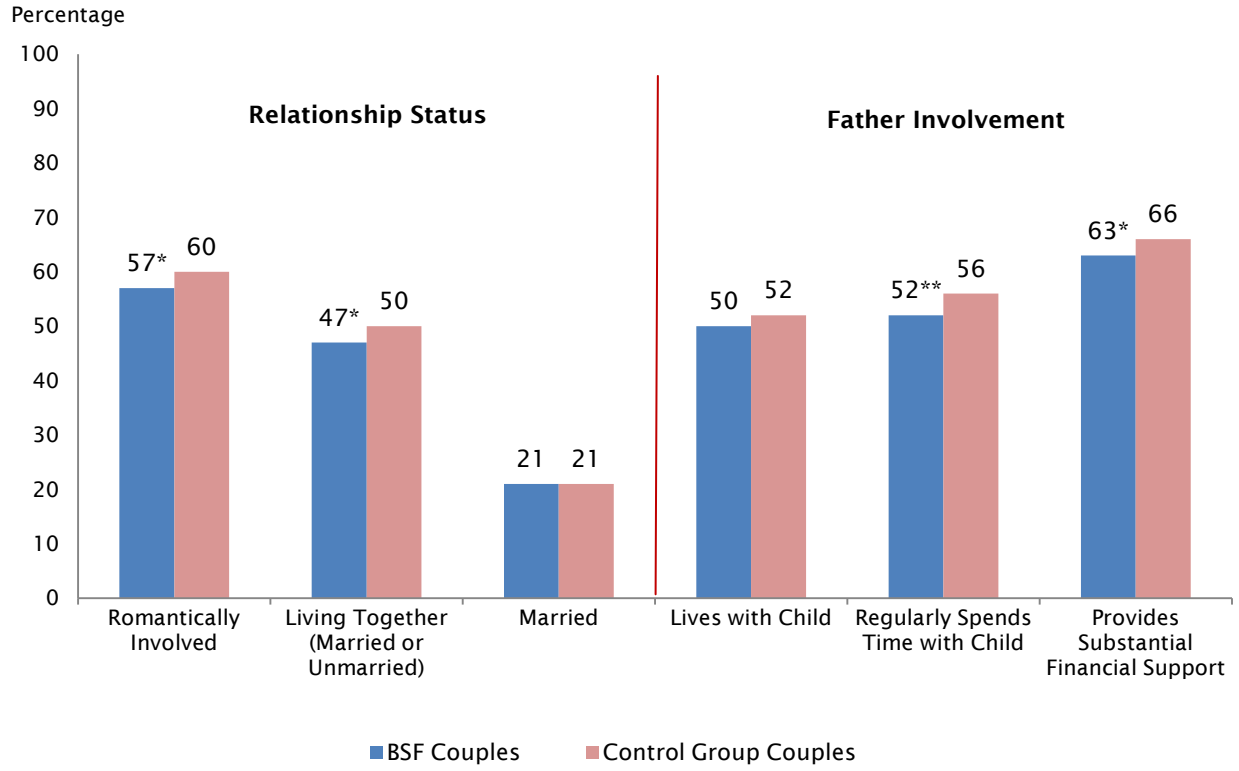
| Outcome | Statistical Significance of Estimated Impact |
|---|---|
| **Relationship Quality** | |
| Relationship happiness[a] | ○ |
| Support and affection[a] | ○ |
| Use of constructive conflict behaviors | ○ |
| Avoidance of destructive conflict behaviors | ○ |
| Neither member of the couple was unfaithful since random assignment | ○ |
| **Relationship Status** | |
| Romantically involved | — |
| Living together (married or unmarried) | — |
| Married | ○ |
| **Co- Parenting** | |
| Quality of co-parenting relationship | ○ |
| **Father's Involvement and Parenting Behavior** | |
| Father lives with child | ○ |
| Father regularly spends time with child | — — |
| Father's engagement with child | ○ |
| Father provides substantial financial support for raising child | — |
| Father's parental responsiveness (observed)[a] | ○ |
| **Family Stability** | |
| Both parents have lived with child since birth | ○ |
| **Child Economic Well- Being** | |
| Family's monthly income below poverty threshold | ○ |
| Family experienced difficulty meeting housing expenses during past year | ○ |
| Family receiving TANF or food stamps | ○ |
| **Child Socio- Emotional Development** | |
| Absence of behavior problems[b] | + + |
| Emotional insecurity amid parental conflict | ○ |

Source: BSF 36-month follow-up surveys and direct assessments, conducted by Mathematica Policy Research.

[a] Because of a high rate of attrition from the sample used for this analysis, there is a moderate risk of bias in these impact estimates. See the full report for more details.
[b] Measure reverse coded so that a positive impact is in the desired direction.
○ No statistically significant impact.

+ + +/+ +/+ Statistically significant positive impact at the .01/.05/.10 level.
— — —/— —/— Statistically significant negative impact at the .01/.05/.10 level.

**Figure ES.2. Impact of BSF on Relationship Status and Father Involvement at 36 Months**




Source: BSF 36-month follow-up surveys conducted by Mathematica Policy Research.

***/**/* Statistically significant at the .01/.05/.10 level.

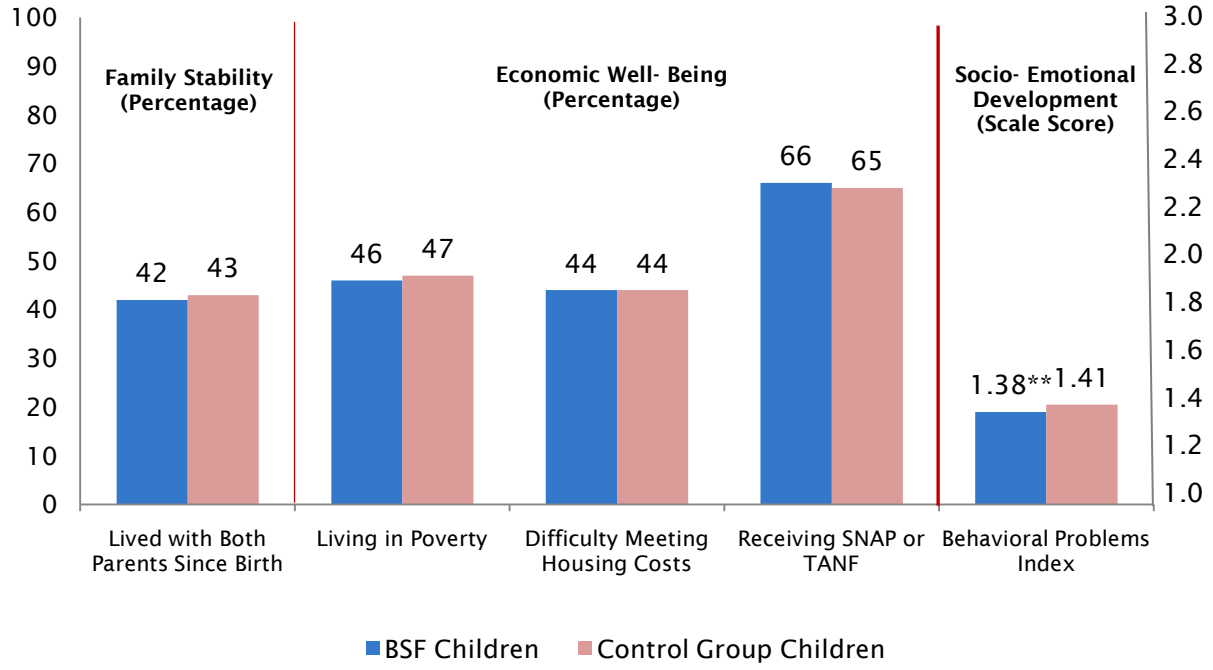
on a 1-to-5 co-parenting scale. BSF's effects on father involvement were mixed. BSF and control group fathers were equally likely to live with their children three years after program application (Figure ES.2). However, BSF fathers were somewhat less likely than control group fathers to spend time with their children and to provide financial support for them. At that point, 52 percent of BSF fathers regularly spent time with the focal child, compared with 56 percent of control group fathers, a statistically significant difference.[2] Similarly, 63 percent of BSF mothers reported that the father covered at least half the cost of raising the child, compared with 66 percent of mothers in the control group, a difference that is marginally statistically significant. These reductions in father involvement do not appear to have reduced the quality of father-child interactions. BSF and control group fathers had similar levels of self-reported engagement with their children and similar levels of parental responsiveness as measured through direct observations.

- **BSF had no effect on the family stability or economic well-being of children; however, the program led to modest reductions in children's behavior problems**

[2] The "focal child" refers to the child born around the time the couple applied for BSF and who made them eligible for the program.

BSF had no effect on two of three key dimensions of child well-being examined by this analysis: (1) family stability and (2) economic well-being. BSF did not increase the likelihood that children lived with both their biological parents through age 3. In both research groups, about two in five children had lived with both parents continuously since birth at the time of the three-year follow-up (Figure ES.3). Similarly, BSF had no effect on the economic well-being of children. At the three-year follow-up, there were no statistically significant differences between the research groups in the percentages of children who lived in poverty, lived in a family that had difficulty meeting housing expenses during the previous year or lived in a family that received public assistance (Figure ES.3).

**Figure ES.3. Impact of BSF on Child Outcomes at 36 Months**




Source: BSF 36-month follow-up surveys conducted by Mathematica Policy Research.

Note: Child economic well-being outcomes are measured based on the family in which the focal child resides. A negative impact on the behavioral problems index corresponds to a reduction in behavioral problems.

***/**/* Statistically significant at the .01/.05/.10 level.

BSF did have a small positive effect on a third key dimension of child well-being, socio-emotional development. Specifically, compared to parents in the control group, BSF parents reported slightly fewer behavior problems among their children. This effect was concentrated in the four BSF programs that also provided Healthy Families home visits, which aimed to improve parenting behavior; there was no effect on behavior problems in the other four BSF sites. This pattern, combined with the fact that BSF had no positive effects on the couple relationship, suggests that the impact on behavior problems is more likely due to the home visiting services offered in these four BSF sites than it is to the relationship skills education services that were offered in all BSF sites.

- **As at 15 months, BSF's effects at the 36-month follow-up varied across the eight local BSF programs; however, the pattern of this variation changed substantially over time**

At the 15-month follow-up, the BSF impact findings varied across the eight programs included in the evaluation. The BSF program in Oklahoma City had a consistent pattern of positive effects on relationship outcomes, while the Baltimore program had a number of negative effects. Other programs had little or no effect at 15 months. At the 36-month follow-up, this pattern had changed substantially. After three years, the negative impacts observed in Baltimore had faded and were generally not statistically significant. Similarly, most of the positive effects in Oklahoma City observed at 15 months did not persist; however, a positive impact on family stability had emerged. At the three-year follow-up, 49 percent of BSF children in Oklahoma City had lived with both their biological parents since birth, compared with 41 percent of control group children, a difference that is statistically significant. While the impacts observed in Baltimore and Oklahoma City generally faded, negative impacts emerged in the Florida BSF program after three years on relationship status and quality, father involvement, and family stability. The other BSF programs had little or no effect at either follow-up.

## Discussion

BSF represented a new approach to addressing the needs of unmarried parents and their children. Many new unmarried parents report that they want and expect to marry each other. BSF aimed to help these parents achieve this goal by offering them services designed to teach relationship skills. The hope was to improve the quality and stability of couples' relationships and ultimately improve outcomes for their children. Although relationship skills education had been shown to be successful in improving relationship quality among middle class and married couples, the approach had not yet been implemented on a large scale with low-income, unmarried parents and its effectiveness with this population had not yet been rigorously tested. The BSF program model was developed based on the best available research evidence on relationship skills education and the needs of unmarried parents. The goal of the BSF evaluation was to examine whether and how a carefully designed program model offering relationship skills education to unmarried parents might work.

As summarized above, BSF did not succeed in its primary objective of improving couples' relationships. What factors may have limited BSF's success? Some have suggested that poor attendance at group sessions limited couples' exposure to program services and thus reduced the effectiveness of the program. Across the eight programs, only 55 percent of couples assigned to the treatment group attended a group relationship skills session. However, analysis of BSF's impacts among couples who did attend found little evidence of effects on relationship outcomes. Thus, it does not appear that low participation rates explain BSF's limited success in improving couples' relationships.

The BSF results differ from findings from two other recent studies of similar relationship skills education programs that served low- and moderate-income married couples. A study of a relationship skills program for married military couples, PREP for Strong Bonds, found that the program reduced the likelihood that couples divorced in the year after the program ended. In addition, the Supporting Healthy Marriage (SHM) evaluation, which tested programs similar to BSF but served low-income married couples, found a pattern of small positive effects on relationship quality, but no effect on marriage stability at the 12-month follow-up.

The results for these studies of married couples represent short-term impacts and it is not clear whether these effects will persist in the longer term. Even so, it is useful to consider the differences between the unmarried parents served in BSF and the married couples served in these other studies to consider whether these differences offer insights into reasons for BSF's more limited success. One contributing factor may be the relatively low levels of trust and commitment among low-income, unmarried parents. The behavioral changes required to improve a couple's relationship may involve substantial personal effort. Partners who are less committed to a relationship or distrustful of the commitment of their partner may be more reluctant to do the hard work that relationship improvement may require. Thus, on average, unmarried parents may be less likely than married couples to put newly learned relationship skills to use if doing so requires considerable effort on their part and if they are uncertain about their own or their partner's commitment to the relationship. Other differences in the characteristics of married and unmarried parents may also play a role, such as the higher rates of economic disadvantage among unmarried parents and the more frequent occurrence of having children with different partners in these families. These additional stresses may make it difficult for some unmarried parents to focus on putting their newly learned relationship skills to use. Future programs may want to place greater emphasis on directly addressing these stresses.

A noteworthy finding from the BSF evaluation is the fact that a program that aimed to increase relationship stability and father involvement instead led to small reductions in the likelihood that couples remained together and that fathers regularly spent time with their children or provided them with substantial financial support. Perhaps BSF helped some couples with particularly negative or hostile relationships recognize this fact and break up sooner than they otherwise would have, an outcome that may be an appropriate one for these couples. In addition, qualitative research with BSF couples indicated that the need for fathers to "step up" and be more responsible was one of the strongest messages that couples took from the program. This expectation may have led some fathers in particularly disadvantaged circumstances to instead distance themselves from their partner and children. For example, if men do not see themselves as capable of being economically supportive or meeting other expectations of responsible fatherhood, they may reduce engagement with their children in order to protect themselves from a sense of failure. Consistent with that hypothesis, recent research using BSF data to examine negative impacts of the Baltimore BSF program at 15 months found that BSF fathers in that site were more likely than control group fathers to blame themselves—and especially their own financial, criminal justice, and substance abuse problems—for a relationship breakup, even though their objective outcomes related to earnings, arrests, and substance use were no worse than those of control group fathers. Thus, program messages concerning what is involved with being a good father and partner may have led some men to believe they could not meet those expectations and to instead withdraw from these relationships. Future programs serving unmarried parents should give careful attention to the messages they convey to fathers and be sure that goals for good parenting and partnering are presented to fathers in ways that make these goals appear realistic and attainable.

The BSF model was implemented by eight local programs; seven of them did not achieve the central objective of improving couples' relationships. The one exception to this pattern was the program in Oklahoma City, which at the 15-month follow-up had positive effects on relationship quality, romantic involvement, co-parenting, and father involvement. These impacts had generally faded by the three-year follow-up. However, the Oklahoma program did increase the likelihood that children lived with both their biological parents until age 3. Given that increasing family stability was one of BSF's central goals, this result is noteworthy. New programs that plan to offer relationship skills education services to unmarried parents may want to examine the approach used by the

Oklahoma City BSF program. Future programs may be able to build on Oklahoma's successes while they also aim to develop strategies to increase the likelihood that success will be maintained over the longer term.

The decision to marry can be a complex one for couples with limited economic prospects. Qualitative research suggests that many low-income couples want both parents to be in a stable economic position before they consider marriage. In addition, recent research on low-income fathers underscores the importance of fathers' perceptions of their economic success in their ability to be engaged and supportive parents. These factors may have limited the success of the BSF program model. More recent ACF grant initiatives have placed greater emphasis on approaches that offer low-income couples both employment and relationship services. In addition, ACF is currently sponsoring the Parents and Children Together (PACT) evaluation, which will examine the effectiveness of programs that offer both employment and relationship services. Perhaps these integrated approaches will have greater success in improving the outcomes of unmarried parents.

# BACKGROUND AND OVERVIEW

The proportion of children born to unmarried parents continues to increase. Currently, more than 4 out of every 10 children born in the United States have unmarried parents (Martin et al. 2011). Although many unmarried parents live together when their children are born, their relationships are often tenuous and most end within a few years of the child's birth (Center for Research on Child Well-Being 2007). Therefore, most of these children are raised in households that do not include both of their biological parents. The well-being of these children is a concern to policymakers because they are, on average, at greater risk of living in poverty and experiencing health, academic, and behavioral problems than are children raised by their married biological parents (McLanahan and Sandefur 1994; Amato 2001; Brown 2004; Amato 2005).

Two strands of research have suggested opportunities to improve the status of children born to unmarried parents. First, findings from the 20-city Fragile Families and Child Wellbeing Study suggested that a window of opportunity for interventions to preserve unmarried parents' relationships may exist around the time of the child's birth. The study found that, just after their child was born, most unmarried parents were romantically involved, had supportive and affectionate relationships, and were hopeful about their futures together (Carlson et al. 2005). However, these hopes were unrealized for many of these couples. Within five years, more than 60 percent were no longer in a romantic relationship and only 16 percent of them were married (Center for Research on Child Well-Being 2007). The initial positive expectations that unmarried parents have about their futures together suggest that these couples may be open to programs designed to improve their relationships and that aim to reduce the high rates of relationship breakup observed in the Fragile Families study.

A second strand of research suggested possible interventions that could help unmarried parents stay together. Research on the predictors of relationship stability and quality led to the development of programs that aimed to improve couples' relationships by teaching relationship skills such as effective communication and conflict resolution (Gottman 1993). Evaluations of these programs found promising results (Markman et al. 1993). Although these programs were studied with married and engaged middle class couples, their effectiveness with these populations suggested that similar interventions, properly adapted, might benefit unmarried parents.

In response to concern about the well-being of children raised by single parents and the emergence of research suggesting potential interventions, in 2002 the Office of Planning, Research, and Evaluation, Administration for Children and Families (ACF), U.S. Department of Health and Human Services launched the Building Strong Families (BSF) project. The project developed, implemented, and tested voluntary programs designed to help unmarried, economically disadvantaged new parents strengthen their couple relationships and thus create a stable and healthy home environment for their children. The core program service was relationship skills education offered to couples in group sessions. BSF also offered couples individual counseling and other support services. Mathematica Policy Research conducted the evaluation of BSF under contract to ACF.

Eight organizations implemented BSF programs around the country, complying with a set of research-based program guidelines (Hershey et al. 2004). As the objective of the evaluation was to determine whether a well-implemented BSF program could be effective, evaluation and ACF staff

carefully chose the organizations, provided them assistance in implementing their programs, and monitored them.

Mathematica conducted an experimental evaluation of the eight BSF programs. More than 5,000 couples who applied and were found eligible for BSF were randomly assigned to either a treatment group that could participate in BSF or a control group that could not. Two rounds of follow-up telephone surveys collected data on how the couples in both groups and their children fared in the period after they applied for BSF. These telephone surveys were supplemented with direct assessments of the quality of the parent-child relationship and the cognitive development of the children based on in-person observations. Mathematica estimated program effects by comparing the outcomes of the couples and children in the BSF group with the outcomes of those in the control group.

An earlier report examined the impact of BSF on couples' outcomes about 15 months after they applied for the program (Wood et al. 2010). That analysis found that, when data for the eight programs were combined, BSF had no effect on couples' relationship quality or the likelihood that they remained romantically involved or got married. However, the results varied across the eight programs included in the evaluation. The BSF program in Oklahoma City had a consistent pattern of positive effects on relationship outcomes, while the Baltimore program had a number of negative effects. The other BSF programs generally had little or no effect on relationships.[3]

This report focuses on impacts measured about three years after couples applied for the BSF program, when the children who made them eligible for the program were about three years old. It represents the final look at BSF's effects on couples and their children. It examines outcomes in three main areas: (1) the status and quality of the couples' relationships, (2) parenting and father involvement, and (3) child well-being. A technical supplement to this report presents additional detail on how the analysis was conducted, as well as additional impact results (Moore et al. 2012). Two earlier reports documented the implementation of the eight local BSF programs (Dion et al. 2008; Dion et al. 2010).

This final impact analysis finds that BSF had little effect on couples' relationships. When data from the eight programs are combined, the average relationship quality of BSF and control group couples was almost identical three years after they applied to the program. In addition, at the three-year follow-up, the program had a small negative effect on the likelihood that couples were still romantically involved. BSF also had small negative effects on the likelihood that fathers regularly spent time with their children or provided them with substantial financial support. BSF had no effect on two of three key dimensions of child well-being examined by this analysis: family stability and economic well-being. In particular, the program had no effect on the likelihood that children lived with both of their biological parents through age 3, that they lived in poverty, or that they lived in families that experienced material hardship or received public assistance. However, BSF had a

[3] A subsequent report reanalyzed these data using quasi-experimental methods to examine BSF's effects on the 55 percent of couples who attended at least one group session and found no strong evidence of effects (Wood et al. 2011). Among those who attended at least one group session, there were no statistically significant effects on the key relationship outcomes. Among the smaller group of couples who attended at least half of the group sessions offered, there was no strong evidence of effects, with one exception. BSF appears to have increased the likelihood that these couples were living together (married or unmarried) at the 15-month follow-up—with an impact on this outcome of 7 to 10 percentage points.

small positive effect on a third key dimension of child well-being, socio-emotional development. Specifically, the program led to a modest reduction in the prevalence of behavior problems at the time of the three-year follow-up. This effect was concentrated in the four BSF programs that also provided Healthy Families home visits, which aimed to improve parenting behavior; there was no effect on behavior problems in the other four BSF sites.

At the three-year follow-up, the impacts of BSF varied across the eight programs, as they did at 15 months. However, the pattern of this variation changed substantially at the later follow-up. After three years, the negative impacts observed in Baltimore had faded and were generally not statistically significant. Similarly, most of the positive effects in Oklahoma City observed at 15 months did not persist. However, the Oklahoma program did have a positive effect on family stability at the three-year follow-up, increasing the likelihood that children lived with both of their biological parents continuously until age 3. While the impacts observed in Baltimore and Oklahoma City generally faded, negative impacts emerged in the Florida BSF program after three years. The Florida program had negative effects on couples' relationship status and quality, co-parenting, father involvement, and family stability.

## Related Research

Programs that aim to improve couple relationships have existed for several decades, although they mainly have served middle class, married couples. Survey research, as well as laboratory work with couples, found that stable and happy couple relationships are associated with effective communication and conflict resolution (Gottman 1993). This finding led to the development of programs that aim to improve relationship stability and quality by teaching communication and conflict resolution skills to couples. Target populations for these programs have included married couples in the military (Stanley et al. 2010), engaged couples (Carroll and Doherty 2003), couples expecting a child (Shapiro and Gottman 2005), and couples in distressed relationships (DeMaria 2005; Kaiser et al. 1998).

Evidence has suggested that these relationship skills education programs can be effective at improving relationship stability and quality (Dion 2005; Reardon-Anderson et al. 2005; Markman et al. 1993). For example, Stanley et al. (2010) found that married military couples who participated in the Prevention and Relationship Enhancement Program (PREP) for Strong Bonds, a 14-hour relationship skills education program, had a two-thirds lower risk of divorce than a control group one year after the end of the program.[4] A 2008 meta-analysis by Hawkins et al. (2008) found relationship education groups improved relationship quality measured three to six months after the end of the program. However, most of the participants in these studies were married and not as economically disadvantaged as BSF couples.

Until recently, little rigorous research existed on the effectiveness of relationship skills programs for low-income couples or unmarried parents. Hawkins and Fackrell (2010) recently published a meta-analysis of research on relationship skills education programs serving low-income couples, both married and unmarried. The studies generally found positive impacts, but the designs were not rigorous: 9 of the 12 studies were pre-post examinations with no comparison or control group. The

[4] The families in this study had low to moderate income levels. More than two-thirds reported an annual income of less than $40,000.

sample sizes in the studies were typically small, and outcomes were often only measured immediately after the end of the program. One of the few experimental studies of a relationship intervention with low-income parents is the 2009 examination by Cowan et al. of the Supporting Father Involvement program, which found positive impacts on some outcomes. However, this intervention served primarily married couples and its main focus was on increasing father involvement (Cowan et al. 2009).

ACF is also sponsoring the Supporting Healthy Marriage (SHM) evaluation. Like BSF, SHM is a large-scale, multisite evaluation that uses an experimental research design to examine the effectiveness of relationship skills education. However, SHM programs serve low-income married parents, not unmarried parents as in BSF. As of the 12-month follow-up, SHM had a consistent pattern of small positive effects on couples' relationship quality, but no effect on marriage stability (Hsueh et al. 2012). A final impact report examining SHM's effects after 30 months is scheduled for release in 2013.

## The BSF Program

BSF was a voluntary program designed to serve unmarried, romantically involved couples who were expecting or had recently had a baby. Specifically, couples were eligible for BSF if they met the following five main criteria:

1. Both members of the couple wanted to participate in the program
2. The couple was romantically involved
3. The couple was either expecting a baby together or had a baby that was less than 3 months old
4. The couple was unmarried at the time their baby was conceived
5. Both members of the couple were 18 years of age or older

BSF programs did not apply any income eligibility criteria. However, they targeted and typically served low-income parents.

Before determining eligibility for BSF, program staff screened couples for intimate partner violence. Each local BSF program developed an intimate partner violence screen and protocol in collaboration with its local or state domestic violence coalition or national experts. If the local BSF program found evidence of violence that could be aggravated by BSF participation, the couple was ineligible for BSF and was referred to other services. Each local program also had protocols for ongoing assessment of intimate partner violence among couples participating in BSF and protocols for how to respond if violence was detected.

The eight local BSF programs that participated in the evaluation were in diverse locations across the United States, including large metropolitan areas and smaller towns and cities (Table 1). Most sponsor organizations developed BSF from the infrastructure of existing programs. Four programs (those in Florida; Indiana; and Houston and San Angelo, Texas) added BSF services to their Healthy

**Table 1. Characteristics of BSF Programs**

| Location | Sponsor Organization | Primary Recruitment Source | Predominant Timing of Recruitment | Curriculum Used |
|---|---|---|---|---|
| Atlanta, Georgia | Georgia State University, Latin American Association | Public health clinics | Prenatal | Loving Couples, Loving Children |
| Baltimore, Maryland | Center for Urban Families | Hospitals, prenatal clinics | Pre- and postnatal | Loving Couples, Loving Children |
| Baton Rouge, Louisiana | Family Road of Greater Baton Rouge | Prenatal program | Prenatal | Loving Couples, Loving Children |
| Florida: Orange and Broward counties | Healthy Families Florida | Hospitals | Postnatal | Loving Couples, Loving Children |
| Houston, Texas | Healthy Family Initiatives | Public health clinics | Pre- and postnatal | Love's Cradle |
| Indiana: Allen, Marion, and Lake counties | Healthy Families Indiana | Hospitals, WIC clinics | Pre- and postnatal | Loving Couples, Loving Children |
| Oklahoma City, Oklahoma | Public Strategies, Inc. | Hospitals, prenatal clinics, WIC clinics | Prenatal | Becoming Parents for Low-Income, Low-Literacy Couples |
| San Angelo, Texas | Healthy Families San Angelo | Hospitals | Postnatal | Love's Cradle |

Families programs.[5] Healthy Families programs aim to promote positive parenting and child health and development and prevent child abuse and neglect via staff visiting and educating new and expectant parents in their homes. In Baltimore, BSF was developed by a community-based organization with extensive experience providing employment and responsible fatherhood services to low-income men. In Baton Rouge, BSF was developed by an agency that provided a variety of services for low-income families. In Atlanta and Oklahoma City, the infrastructure for BSF was developed from the ground up specifically for BSF. Across the eight programs, key recruitment sources included hospital maternity wards, prenatal clinics, health clinics, and clinics for the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).

All BSF programs had three components: (1) group sessions on relationship skills, (2) individual support from family coordinators, and (3) assessment and referral to support services (Figure 1). The programs were required to implement these components according to specified guidelines, but they could differ in how and where they recruited couples, the curriculum used to guide group sessions (as long as it addressed the core content required by the program model), and how they provided the family coordinator and referral services.

The core component of BSF was curriculum-based group education on relationship skills (Figure 1). BSF programs could choose any curriculum that addressed the standard set of topics specified by the program model. The eight programs each chose one of three curricula developed for the study by experts who tailored their existing curricula for married couples to the needs of unmarried parents. The program in Oklahoma City chose the Becoming Parents for Low-income

[5] The Healthy Families programs in Florida and Indiana are affiliated with Healthy Families of America. The programs in Houston and San Angelo are not.

and Low-Literacy Couples (Becoming Parents) curriculum developed by Pamela Jordan. The San Angelo and Houston programs chose Love's Cradle developed by Mary Ortwein and Bernard Guerney. The other five programs chose Loving Couples, Loving Children developed by John and Julie Gottman. Although these curricula covered a standard set of topics, the emphasis varied

**Figure 1. The BSF Program Model**


somewhat. For example, Becoming Parents placed a particular emphasis on the challenges associated with the transition to parenthood. In addition, the curricula varied in the total hours of group sessions offered and the specified ideal group size (Table 2).

The relationship skills education was designed to be intensive—involving 30 to 42 hours of group sessions. Group sessions usually met weekly but the timing and length of sessions differed. Sessions ranged in length from 2 to 5 hours, with shorter sessions typically held on weeknights and longer sessions held on weekends. Depending on the format and the number of hours of instruction offered, the curriculum could take as little as 6 weeks or as much as 5 months to complete.

**Table 2. Curricula Used by BSF Programs**

| Curriculum | Developers | Group Size | Total Hours of Group Sessions Offered |
|---|---|---|---|
| Loving Couples, Loving Children | John and Julie Gottman | 4 to 6 couples | 42 |
| Love's Cradle | Mary Ortwein and Bernard Guerney | 6 to 8 couples | 42 |
| Becoming Parents for Low-Income, Low-Literacy Couples | Pamela Jordan | 10 to 15 couples | 30 |

The BSF model complemented the core service of group relationship skills education with other supports (Figure 1). In particular, it included a family coordinator who was to reinforce relationship skills, provide emotional support, and encourage participation in and completion of the group sessions. The family coordinator also assessed family members' needs and referred them for appropriate support services, such as education, employment, and mental health services. In the four

Healthy Families programs that adopted BSF programs, home visitors were assigned to fill the BSF family coordinator role and continued providing Healthy Families services during home visits.

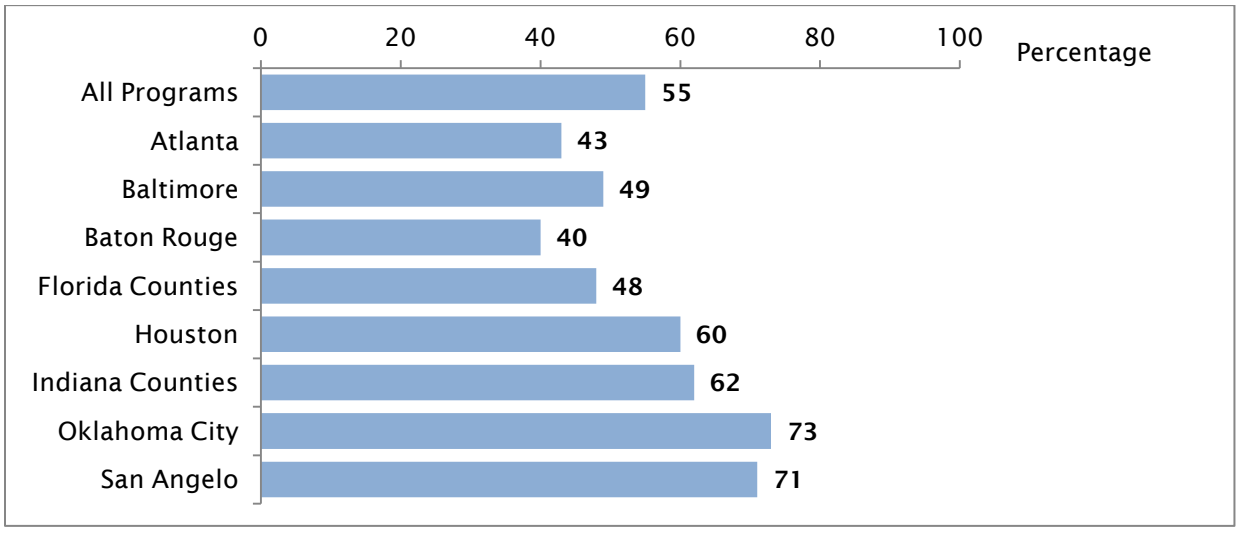
The average cost of BSF per couple was about $11,000 and ranged from approximately $9,000 to $14,000 across the eight programs (Dion et al. 2008). These costs include staff labor, materials and supports for participants, and costs related to the evaluation.

## Program Participation

The eight local BSF programs devoted considerable effort to encouraging program participation (Dion et al. 2010). To encourage attendance at group sessions, programs offered free meals and on-site child care. They also provided transportation assistance, such as subway or bus tokens, cab fare, gas cards and, in some programs, a van service that transported couples to and from group sessions. In addition, some programs offered couples cash incentives, gift cards, or baby products to promote attendance at group sessions.

Despite these efforts, encouraging regular attendance at BSF group sessions proved challenging (Figure 2). Across the eight programs, 45 percent of couples assigned to the BSF group never attended a group session. The 55 percent who did attend spent 21 hours in group sessions, on average. This average represents about half the hours of programming offered in most sites. Attendance rates varied substantially across the eight programs. The proportion of couples attending group sessions was highest in Oklahoma City (73 percent) and San Angelo (71 percent). Rates were lowest in Baton Rouge (40 percent) and Atlanta (43 percent). Most couples who did not attend group sessions received other services from the program, such as help from a family coordinator or referrals to support services. Overall, 90 percent of couples who enrolled in BSF received some service from the program.

**Figure 2. Percentage of Couples Attending Any BSF Group Session**




Source: BSF management information system data.

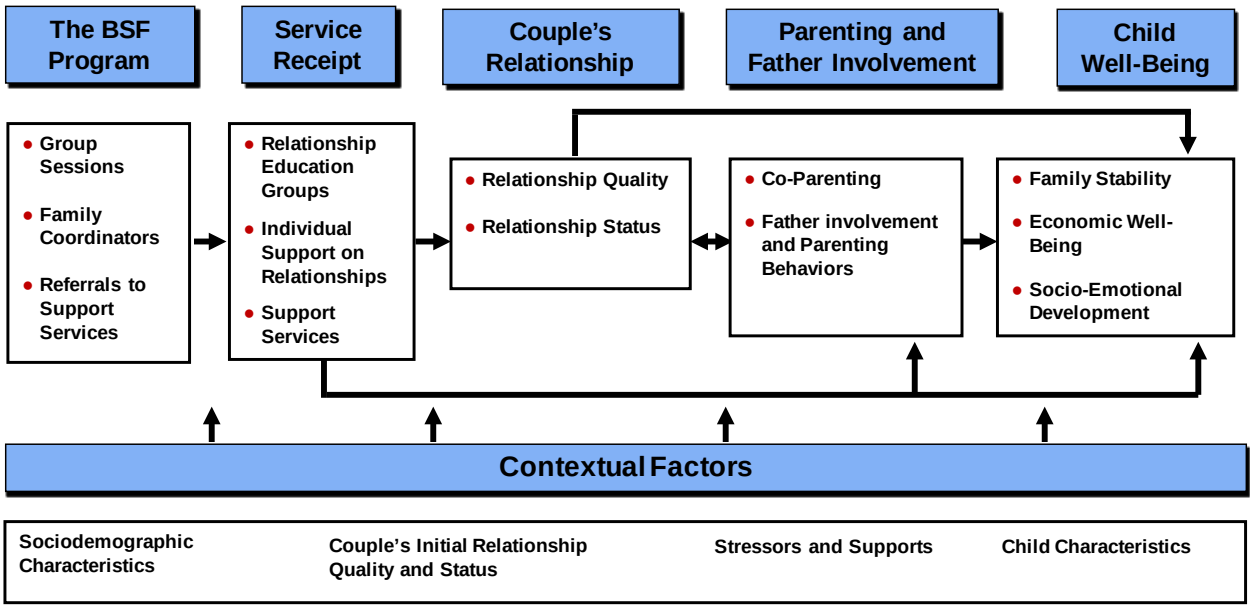
While attendance rates at BSF group sessions were fairly low, they are similar to the rates found for other multi-session programs for low-income parents (McCurdy and Daro 2001; Garvey et al. 2006). For example, in the Effective Black Parenting Program, a parenting program for low-income, inner-city African American families, 51 percent of treatment group members attended at least one

parenting session (Myers et al. 1992). The Supporting Healthy Marriage program, which served a somewhat less disadvantaged population of low-income married couples had higher participation rates, with 83 percent of couples attending at least one group session (Hsueh et al. 2012).

## Evaluation Design

A model of how BSF could affect couples and their families (Figure 3) guided the study design. BSF services were designed to directly strengthen couples' relationships and thereby improve parent and child outcomes. However, parent and child outcomes could also be directly affected by the receipt of support services, as well as indirectly via the improvement of the couple's relationship. The magnitude of the program impacts could also be influenced by contextual factors such as the demographic characteristics of the couples.

**Figure 3. Model of BSF and Its Expected Impacts**




The evaluation addressed the following questions:

- *Does BSF affect the couple relationship?* Does it affect the likelihood that couples remain romantically involved or get married, the quality of their relationship, or their attitudes toward marriage?
- *Does BSF improve parenting and increase father involvement?* Does the program affect the co-parenting relationship or the frequency with which fathers spend time with their children or provide financial support for them? Does it influence parenting behavior or parents' emotional well-being?
- *Does BSF increase child well-being?* Does the program improve family stability or decrease the child's likelihood of experiencing poverty or material hardship? Does it affect the child's socio-emotional development? Analysis of BSF's effect on child outcomes centers on the "focal child"—the child who made the couple eligible for BSF.
- *Are some local BSF programs more effective than others?* Do impacts vary across the eight evaluation sites?

- *Do BSF's effects vary across key subgroups?* Is the program more effective for some groups of couples than others?

Once couples were found eligible for BSF and consented to participate in the study, a computer program randomly assigned them to either the BSF group or the control group. Couples in the BSF group were offered BSF services. Control group couples could not participate in BSF and, in the BSF programs developed from Healthy Families' programs, were also ineligible for Healthy Families' services.

Having a control group is a crucial element of a rigorous impact evaluation because it allows the evaluator to estimate what would have happened in the absence of the intervention. In the case of BSF, the control group represents what would have happened to couples who applied to BSF if they had not been offered BSF services. The evaluation team estimated BSF's effects by comparing the outcomes of the BSF group to those of the control group. These estimated effects represent the difference, on average, between what actually happened to couples who were offered BSF services and what would have happened to them if they had not been offered these services. The strength of random assignment is that it ensures that couples in both research groups have similar characteristics and circumstances before they apply for the program. Hence, a statistically significant difference between outcomes of the couples in the BSF and control groups after random assignment can be attributed to BSF rather than to any differences in the pre-existing characteristics or circumstances of the couples in the two groups.

A total of 5,102 couples were randomly assigned for the study between July 2005 and March 2008. Half the couples were assigned to the BSF group and half to the control group. The impacts of BSF were estimated as the difference in average outcomes between BSF and control group couples. To estimate the overall effect of BSF, impacts were first estimated for each of the eight programs. These eight estimates were then averaged together, with each program receiving equal weight. Program effects were estimated using statistical models that adjusted for small differences in the initial characteristics of the research groups that may have arisen by chance or because of survey nonresponse.

**Number of Study Couples by BSF Program**

| BSF Program | Number of Study Couples |
|---|---|
| Atlanta | 930 |
| Baltimore | 602 |
| Baton Rouge | 652 |
| Florida Counties | 695 |
| Houston | 405 |
| Indiana Counties | 466 |
| Oklahoma City | 1,010 |
| San Angelo | 342 |
| Total | 5,102 |

The analysis sample included all couples who applied for BSF irrespective of whether they actually participated in the program. Therefore, the impact estimates presented in this report represent the average effect on all program applicants of being offered BSF services. These "intent to treat" impact estimates are widely used in rigorous evaluations and ensure that differences in the outcomes of BSF and control group members can be attributed to the program. In addition, these

estimates incorporate the fact that not everyone who enrolls in a program ends up actually participating. The estimates therefore answer a policy-relevant question—do programs make a difference in the lives of those they recruit and enroll?[6]

This report is based on data collected from three sources: (1) forms completed by all parents when they applied to BSF, (2) telephone surveys conducted with mothers and fathers in the study when the focal child was 3 years old (typically about 36 months after they applied for the program), and (3) direct assessments of child outcomes and parent-child interactions. At least one parent responded to the telephone survey in 4,247 couples (85 percent of all couples).[7] Eighty percent of mothers and 69 percent of fathers responded to the survey. The evaluation team conducted direct assessments in six of the eight evaluation sites (Atlanta, Baltimore, Baton Rouge, Houston, Indiana, and Oklahoma City) programs.[8] These assessments were completed by 1,975 mothers (56 percent of mothers for whom direct assessments were attempted) and 1,309 fathers (43 percent of fathers for whom direct assessments were attempted).[9]

The BSF intervention has the potential to affect multiple aspects of the lives of participating couples and their children. For this reason, this analysis examines the program's effects on a range of outcomes within three broad areas: (1) the couple relationship, (2) parenting, and (3) child well-being (Figure 3). Examining a large number of outcomes in an impact analysis increases the risk of finding statistically significant impacts that do not reflect the true effect of the program (Schochet 2009). To address this multiple comparison concern, the analysis focuses on a relatively small set of outcomes that were identified before the analysis began. They represent the outcomes that BSF aimed most directly to affect.

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[6] Chapter VII of the technical supplement to this report presents quasi-experimental analyses of BSF's effects on couples who actually attended group sessions (Moore et al. 2012).

[7] Surveys were not attempted for about 2 percent of the original sample at 36 months, because these couples were randomly assigned very late in the sample intake period and a three-year follow-up could not be completed within the evaluation period.

[8] In the Baltimore program, in-home assessments were conducted with mothers only.

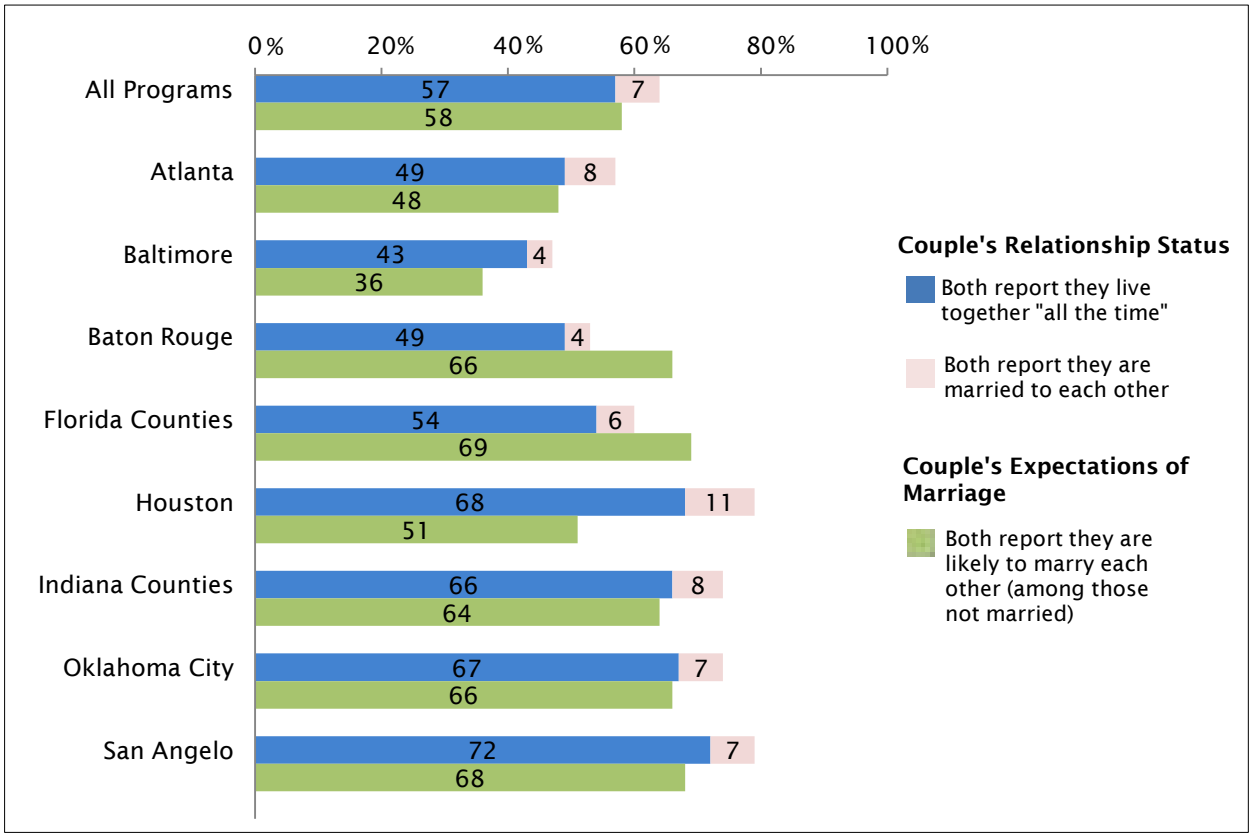
[9] For all analysis samples, the evaluation team used a two-step procedure developed for the U.S. Department of Education's What Works Clearinghouse (WWC) to assess the potential risk of bias due to low response rates. In the first step, the team assessed whether the sample had response rates that met WWC standards for low sample attrition. Samples that met this attrition standard were deemed to have met WWC standards for generating reliable impact estimates. If the sample did not meet the attrition standard, the evaluation team proceeded to the second step of the assessment. In this step, the two research groups were compared on a set of key baseline characteristics. If no large differences existed between the research groups on these baseline characteristics, then the sample was deemed to meet WWC evidence standards with reservations. If there were substantial differences between the research groups in baseline characteristics, the sample was deemed not to meet WWC evidence standards. This report only includes analyses that meet WWC standards (with or without reservations). Analyses that do not meet WWC standards are included only in the report's technical supplement. For analyses that combine data from all eight BSF programs, all the samples described above meet WWC standards with one exception: the direct assessments conducted with fathers. Those analyses do not meet the WWC standards for low sample attrition but they do meet the WWC standards of equivalence on key baseline measures. Therefore, those analyses meet WWC standards with reservations. See the technical supplement to this report for more information on these assessments of the potential for bias due to sample attrition (Moore et al. 2012). ACF has developed similar standards for assessing the quality of research evidence from studies of family interventions as part of its Strengthening Families Evidence Review (SFER). SFER standards yield very similar results to the WWC standards used for this analysis. See the technical supplement for more details (Moore et al. 2012).

The outcomes examined in this analysis can be grouped within seven key domains (Figure 3). Two outcome domains measure the couple relationship: (1) relationship quality and (2) relationship status. Two are associated with parenting: (1) the quality of the co-parenting relationship and (2) fathers' involvement and parenting behavior. Three are associated with child well-being: (1) children's family stability, (2) their economic well-being, and (3) their socio-emotional development. The analysis examines whether BSF had impacts on these outcome domains to test whether the program succeeded in its primary objectives of improving couples' relationships, their parenting, and their children's well-being. The analysis also examines BSF's effects on outcomes in several additional domains, such as attitudes toward marriage, mothers' parenting behavior, and children's language development. These analyses serve as a supplement to the central analysis of BSF's effects on the key outcome domains listed above. The technical supplement contains more information on the rationale for selecting these key outcome domains and the approach to multiple comparisons (Moore et al. 2012).

## Characteristics of Couples Entering BSF

Most BSF couples were in stable relationships and aspired to marriage when they applied for the program (Figure 4). Across all programs, 7 percent were married when they applied, having wed after their baby was conceived but before applying for BSF. Another 57 percent of couples reported that they were living together "all of the time." In addition, among couples who were not yet married when they applied for BSF, 58 percent reported that they both thought there was either "a pretty good" or "an almost certain" chance that they would marry each other in the future.

**Figure 4. BSF Couples' Initial Relationship Status and Marriage Expectations**




Source: BSF baseline information forms.

The initial strength of the relationships of BSF couples differed by local program (Figure 4). Couples in Baltimore had the least committed relationships. Fewer than half the couples in Baltimore were married or living together full time when they applied for BSF, compared with 64 percent of couples across all the programs. In addition, both members of the couple thought that there was a good chance they would marry in only 36 percent of unmarried couples in Baltimore, compared with 58 percent across all the programs.

BSF served a racially and ethnically diverse population. Across all the programs, just over half the couples were African American; 20 percent were Hispanic; and 12 percent were white (Table 3). An additional 16 percent were couples in which the parents were from different racial or ethnic groups or in which both parents considered themselves neither white, African American, nor Hispanic. The programs in Atlanta, Baltimore, and Baton Rouge, and to a lesser extent Florida, served primarily African American couples. The programs in Houston and San Angelo served primarily Hispanic couples. The most racially and ethnically diverse program was in Oklahoma City.

**Table 3. Demographic and Socioeconomic Characteristics of Couples Who Applied to BSF (percentage unless noted otherwise)**

| | All Programs | Atlanta | Baltimore | Baton Rouge | Florida Counties | Houston | Indiana Counties | Oklahoma City | San Angelo |
|---|---|---|---|---|---|---|---|---|---|
| Race/Ethnicity [a] | | | | | | | | | |
| Both African American | 52 | 80 | 92 | 75 | 59 | 5 | 41 | 24 | 2 |
| Both Hispanic | 20 | 13 | 0 | 0 | 12 | 89 | 10 | 20 | 61 |
| Both White | 12 | 0 | 2 | 14 | 6 | 1 | 26 | 29 | 16 |
| Both Hispanic | 20 | 13 | 0 | 0 | 12 | 89 | 10 | 20 | 61 |
| Other | 16 | 7 | 6 | 11 | 24 | 6 | 23 | 28 | 22 |
| Baby born prior to BSF entry | 38 | 12 | 28 | 12 | 99 | 39 | 55 | 21 | 85 |
| Both partners have high school diplomas [b] | 37 | 32 | 31 | 39 | 45 | 30 | 43 | 40 | 37 |
| Couples' annual earnings ($) | 20,475 | 18,055 | 21,762 | 21,279 | 22,206 | 19,812 | 21,074 | 21,633 | 16,275 |
| Father employed | 74 | 65 | 58 | 77 | 80 | 90 | 74 | 78 | 79 |
| Either partner has psychological distress [c] | 39 | 40 | 23 | 45 | 33 | 31 | 44 | 45 | 45 |
| Either partner has a child from a prior relationship | 47 | 53 | 58 | 44 | 42 | 41 | 48 | 44 | 48 |
| Mother's age (years) | 23 | 23 | 23 | 22 | 22 | 25 | 23 | 23 | 22 |
| Father's age (years) | 25 | 25 | 26 | 25 | 25 | 27 | 26 | 25 | 24 |
| Both partners age 21 or over | 58 | 53 | 58 | 55 | 56 | 72 | 62 | 61 | 51 |

Source: BSF baseline information forms.

[a]Race/ethnicity categories are mutually exclusive.

[b]Does not include General Educational Development (GED).

[c]Psychological distress was assessed using the Kessler-6 scale, which sums the responses to six items rated on a 0 to 4 scale. A person is considered to have psychological distress if the sum is over 9.

Although all BSF programs served both expectant parents and parents with new babies, some programs primarily enrolled parents before their baby was born, while others typically enrolled them after their child's birth (Table 3). Across the eight programs, 38 percent of couples enrolled in BSF after their babies were born. A large majority of couples in the Florida and San Angelo BSF programs had already had their baby when they applied for BSF; conversely, a large majority of couples in the Atlanta, Baton Rouge, and Oklahoma City programs were expecting when they applied for BSF. This variation across programs in the proportion of couples who had their babies prior to applying for the program was mainly determined by the program's recruitment sources. However, in the case of Oklahoma City, the focus on expectant parents was a deliberate one,

because the site's relationship skills curriculum, *Becoming Parents*, focused on the transition to parenthood.

The couples that applied for BSF faced many stresses in their relationships. They had low levels of educational attainment—only 37 percent of couples included two members with high school diplomas (Table 3). The couples' earnings were generally low—averaging $20,475 in the year prior to BSF application.[10] About one-quarter of fathers were not employed when they applied for BSF. About 4 in 10 couples had at least one member who suffered from psychological distress. In nearly half of all couples applying for BSF, at least one of the parents had a child from a prior relationship, a factor that can complicate current relationships. In addition, the parents who applied for BSF were typically young; more than 40 percent of the couples had at least one member who was less than 21 years old.

## Impacts on the Couple's Relationship

A central aim of the BSF initiative was to improve the quality and stability of the relationships of participating couples. The BSF curricula covered topics designed to enhance relationship quality, including communication and conflict management skills, building affection and emotional intimacy, and managing the effect of parenthood on couple relationships. The curricula also addressed specific topics that are of particular importance in the healthy development of relationships in low-income, unmarried-parent families. These topics included the development of mutual trust and commitment, the importance of fidelity to a successful romantic relationship, considering marriage, management of complex family relationships that may include children from prior relationships, and working together as a financial team.

This section examines BSF's effects on the couple relationship three years after program application. It focuses on two key aspects of the couple relationship that the program aimed most directly to affect: (1) relationship quality and (2) relationship status (including romantic involvement and marriage). It also examines impacts on two additional measures related to relationship status and quality: (1) attitudes toward marriage and (2) the prevalence of intimate partner violence.

### BSF had no effect on the quality of couples' relationships

At the three-year follow-up, about 6 in 10 couples were still romantically involved.[11] Among those who were, BSF and control group couples reported being equally happy in their romantic

[10] This figure represents the average of the combined earnings of the mother and father during the year prior to program application.

[11] The relationship happiness and support and affection measures are defined and analyzed only for couples for whom at least one partner responded to the 36-month follow-up survey and who were still romantically involved at the time of the survey. Similarly, the two conflict management measures are defined and analyzed only for couples who responded to the survey and were still in regular contact at the end of the three-year follow-up period. Because of the substantial amount of missing data for these analyses, the evaluation team assessed the potential risk of bias in the impact estimates based on these samples. These assessments were made following a two-step procedure developed for the U.S. Department of Education's What Works Clearinghouse (WWC) and described in footnote 9 of this report. The results from these assessments suggest that the analyses based on the sample of couples still in regular contact at the 36-month follow-up meet WWC evidence standards, indicating that the risk of bias due to sample attrition is low. The analyses based on the sample of couples who were still romantically involved at the 36-month follow-up meet WWC evidence standards with reservations, indicating that there is a moderate risk of bias. This risk is the result of the high rate of sample attrition created because these measures are not available for couples who are no longer romantically

relationships, with average ratings of 8.29 and 8.30 respectively on a 0 to 10 relationship happiness scale (Table 4).[12] Similarly, among those still romantically involved, couples in both research groups reported identical levels of supportiveness and affection in their relationships, with average support and affection scale values of 3.43 for both BSF and control group couples on a 1 to 4 scale (Table 4). The maximum score on this scale (4) indicates that both members of the couple strongly agreed with each of 12 statements describing support and affection in their relationship (such as "my partner understands me" and "my partner is honest with me"). The average scale scores indicate that couples in both research groups, on average, strongly agreed or agreed with these statements.

**Table 4. Impacts of Building Strong Families on Relationship Quality, Intimate Partner Violence, and Attitudes Toward Marriage at 36-Month Follow-Up**

| Outcome | BSF Group | Control Group | Estimated Impact | Effect Size |
|---|---|---|---|---|
| **Relationship Quality (Key Domain)** | | | | |
| Relationship happiness scale (range: 0 to10)[a] | 8.29 | 8.30 | -0.01 | -0.01 |
| Support and affection scale (range: 1 to 4)[a] | 3.43 | 3.43 | 0.00 | 0.00 |
| Use of constructive conflict behaviors scale (range: 1 to 4) | 3.22 | 3.22 | -0.01 | -0.01 |
| Avoidance of destructive conflict behaviors scale (range: 1to 4) | 2.75 | 2.78 | -0.03 | -0.05 |
| Neither member of the couple was unfaithful since random assignment (%) | 58 | 59 | -1 | -0.02 |
| **Intimate Partner Violence (Additional Domain)** | | | | |
| Mother reports any severe physical assault (%) | 9 | 7 | 2 | 0.13 |
| Father reports any severe physical assault (%) | 9 | 8 | 2 | 0.12 |
| **Attitudes Toward Marriage (Additional Domain)** | | | | |
| Mothers' attitudes toward marriage scale (range: 1-to-4) | 3.06 | 3.00 | 0.06** | 0.08 |
| Fathers' attitudes toward marriage scale (range: 1-to-4) | 3.16 | 3.11 | 0.05** | 0.08 |
| **Sample Size** | **2,129** | **2,118** | | |

Source: BSF 36-month follow-up surveys conducted by Mathematica Policy Research.

Notes: The difference between the BSF and control group means may not equal the estimated impact due to rounding. At follow-up, 59 percent of couples were still romantically involved. Only these couples were included in the analysis of relationship happiness and support and affection. At follow-up, 79 percent of couples were still in regular contact. Only these couples were included in the analysis of conflict management measures. Other measures are defined for all couples for whom at least one partner responded to the follow-up survey.

[a] Analyses of the relationship happiness and support-and-affection measures do not meet the study's standards for low sample attrition because these outcomes are not measured for the 41 percent of couples who were no longer romantically involved at the time of the 36-month follow-up. Although the BSF and control groups for this analysis sample meet the study's standards of equivalence on key baseline measures, these estimates should be interpreted more cautiously than other experimental impacts because of the high rate of sample attrition. See the technical supplement for this report for more details (Moore et al. 2012).

***/**/* Impact estimates are statistically significant at the .01/.05/.10 level, two-tailed test.

*(continued)*

involved. However, among couples who remained romantically involved at the 36-month follow-up, BSF and control groups were similar on key baseline characteristics, suggesting that comparisons of the outcomes of the two research groups still produce meaningful estimates of BSF's effects on these measures. See the technical supplement to this report for more information (Moore et al. 2012).

[12] Relationship quality measures are constructed by averaging mothers' and fathers' responses to create a combined couple-level measure. In cases in which only one member of the couple responded to the survey, the values for the nonresponding partner were imputed using a multiple imputation technique. This method is described in the technical supplement to this report (Moore et al. 2012).

## Couple Relationship Measures

**Relationship Status (Key Domain)**

- **Still romantically involved.** Indicates that both members of the couple reported being romantically involved at the time of the survey.
- **Living together (married or unmarried).** Indicates that both members of the couple reported living together "all" or "most" of the time at the time of the survey.
- **Married.** Indicates that both members of the couple reported being married to each other at the time of the survey.

**Relationship Quality (Key Domain)**

Relationship quality measures incorporate both the mother's and father's responses to a series of questions asked on the 36-month follow-up survey. The first four measures average the partners' responses.

- **Relationship happiness.** A single question asked respondents to rate their overall relationship happiness on a 0 to 10 scale, with 10 representing being completely happy with the relationship and 0 representing being completely unhappy.
- **Support and affection.** Twelve questions asked respondents whether they agree with a series of statements about their relationship, such as: "My partner shows love and affection for me," "My partner respects me," and "My partner encourages or helps me do things that are important to me." The scale ranges from 1 to 4, where 4 represents strongly agreeing with all 12 statements and 1 represents strongly disagreeing with all of them.
- **Use of constructive conflict behaviors.** Eight survey questions asked respondents how frequently they used specific constructive behaviors for managing conflict with their partner, such as: "Even when arguing, we can keep a sense of humor;" "We are pretty good listeners, even when we have different positions on things;" and "My partner is good at calming me when I get upset." The scale ranges from 1 to 4, where 4 corresponds to "often" exhibiting the behaviors and 1 corresponds to "never" exhibiting the behaviors.
- **Avoidance of destructive conflict behaviors.** Nine survey questions asked respondents how frequently they engaged in destructive conflict management behaviors with their partner, such as: "When we argue, one of us withdraws and refuses to talk about it anymore;" "When we argue, I feel personally attacked by my partner;" and "Little arguments turn into ugly fights with accusations, criticisms, name calling or bringing up past hurts." The scale ranges from 1 to 4 with higher numbers reflecting better conflict management (4 corresponds to "never" exhibiting these behaviors and 1 corresponds to "often" exhibiting these behaviors).
- **Fidelity.** Indicates that neither member of the couple reports sexual unfaithfulness in the relationship since random assignment. This measure takes a value of "1" if both members of the couple indicated having been faithful and neither reports that their partner has "definitely" been unfaithful. It takes a value of 0 if either partner reports having been unfaithful or that their partner was "definitely" unfaithful.

**Intimate Partner Violence (Additional Domain)**

- **Severe physical assault.** Measured using seven items from the physical assault subscale of the Conflict Tactics Scale (CTS2). The measure takes a value of 1 if the respondent reports having suffered any of the following types of assaults at the hands of any romantic partner since random assignment: knife or gun, punching or hitting with something that could hurt, choking, slamming against wall, kicking, beating up, or burning/scalding.

**Attitudes Toward Marriage (Additional Domain)**

- **Positive attitudes toward marriage.** Two survey questions asked whether respondents agreed that "it is better for a couple to be married than to just live together" and "it is better for children if their parents are married." The scale ranges from 1 to 4, where 4 represents strong respondent agreement with both assertions and 1 represents strong disagreement with both.

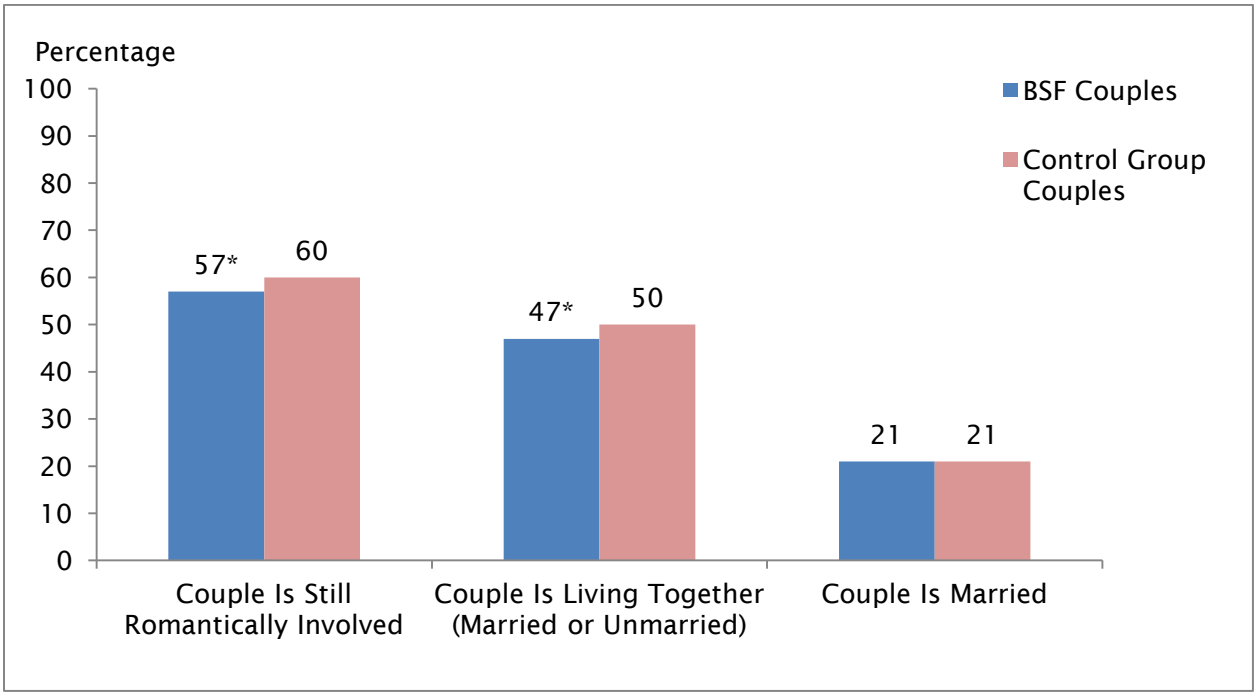
BSF did not improve couples' ability to manage their conflicts. Among the 8 in 10 couples who were still in regular contact at the three-year follow-up, the average score on the 1 to 4 scale measuring the use of constructive conflict behaviors (such as keeping a sense of humor and listening to the other partner's perspective during disagreements) was 3.22 for both BSF and control group couples (Table 4). These average values suggest that couples in both research groups typically reported that they used these constructive strategies for managing conflict at least some of the time. Similarly, there was no difference between the research groups in the avoidance of destructive conflict behaviors such as withdrawing when there is a disagreement or allowing small disagreements to escalate. The average scale scores were 2.75 for BSF couples and 2.78 for control group couples. These average values suggest that couples in both the BSF and control groups typically reported that they sometimes engage in these destructive conflict behaviors.

BSF also had no effect on how faithful couples were to each other. At the time of the 36-month follow-up survey, 58 percent of BSF couples reported no instances of infidelity by either partner since applying for the program, compared with 59 percent of control group couples, a difference that is not statistically significant (Table 4).

### BSF did not make couples more likely to stay together or get married

Three years after study enrollment, 57 percent of BSF couples were still romantically involved, compared with 60 percent of control group couples, a difference that is marginally statistically significant (Figure 5). Similarly, BSF couples were somewhat less likely than control group couples to live together (married or unmarried) at the three-year follow-up (47 percent and 50 percent, respectively; Figure 5). This difference is also marginally statistically significant. These results differ

**Figure 5. Impact of BSF on Couples' Relationship Status at 36 Months**




Source: BSF 36-month follow-up surveys conducted by Mathematica Policy Research.

***/**/* Statistically significant at the .01/.05/.10 level.

from the findings at the 15-month follow-up, when BSF was found to have no effect on couples' likelihood of being romantically involved or living together (Table B.1). However, as was the case at 15 months, BSF and control group couples were equally likely to be married to one another at 36 months. Within each group, 21 percent of couples were married 36 months after study enrollment.[13]

**BSF had no effect on how likely couples were to experience intimate partner violence**

BSF and control group couples reported similar levels of intimate partner violence. At the three-year follow-up, 9 percent of BSF mothers reported a severe physical assault by a romantic partner in the past year, compared with 7 percent of mothers in the control group (Table 4). Similarly, 9 percent of BSF fathers and 8 percent of control group fathers reported a severe physical assault by a romantic partner (Table 4). These differences were not statistically significant. These measures were constructed from a standard set of questions covering severe physical assaults (such as punching, choking, or kicking) drawn from the revised Conflict Tactics Scale (Strauss et al. 1996).

**BSF had a small positive effect on attitudes toward marriage**

BSF increased positive attitudes toward marriage modestly among both mothers and fathers at the three-year follow-up (Table 4). The marriage attitudes scale is based on two survey items representing how strongly sample members agreed with two statements: "It is better for a couple to be married than to just live together" and "It is better for children if their parents are married." Values on the scale run from 1 to 4, with 4 indicating that respondents strongly agreed with both statements and 1 indicating that they strongly disagreed with both statements. On average, BSF mothers had somewhat higher scores on this scale than mothers in the control group did—3.06 versus 3.00 (Table 4). Similarly, BSF fathers had an average score of 3.16 on the attitudes scale, compared to 3.11 for fathers from the control group (Table 4). At the 15-month follow-up, BSF had a modest positive effect on marriage attitudes for mothers but no effect for fathers (Table B.1).

## Impacts on Parenting and Father Involvement

In addition to their central goal of improving the relationships of participating couples, BSF programs also aimed to enhance father involvement and improve parenting. For example, it was hoped that by enhancing couples' relationship and communication skills and increasing the likelihood of their being in committed romantic relationships, the programs would also improve couples' ability to work together in their shared parenting roles. Similarly, BSF aimed to increase father involvement by increasing the likelihood of fathers being in committed romantic relationships with the mothers of their children and by emphasizing the importance of both parents in the child's life. It was also theorized that, by improving relationship quality, BSF could improve parenting, if better relationship quality enabled these new parents to be more patient and generous with their children. In addition, four of the eight local BSF programs (those in Florida; Indiana; and Houston and San Angelo, Texas) provided families with home visits that focused on promoting positive parenting behaviors.

[13] These relationship status measures are based on the responses of the 85 percent of couples in which at least one partner responded to the 36-month survey. These measures are based on the responses of both partners. When only one partner responded to the survey, the response of the other partner was imputed. This imputation process is described in the technical supplement to this report (Moore et al. 2012).

This section examines BSF's effects on parenting and father involvement at the three-year follow-up. It focuses on two key outcome domains that the program aimed to improve: (1) the quality of the co-parenting relationship and (2) fathers' involvement and parenting behavior. It also examines two other aspects of parenting that were less central to the goals of the program: (1) mothers' parenting behavior and (2) parents' emotional well-being.

### BSF had no effect on couples' co-parenting relationship

BSF and control group couples reported that their co-parenting relationships were of similarly high quality. The average co-parenting scale score was 4.19 for members of the BSF group and 4.21 for members of the control group (Table 5). The maximum value for this scale (5) indicates that both the mother and father strongly agreed with the 10 positive statements about the co-parenting relationship used to create the scale. Examples of these statements include "(other parent) and I communicate well about (our child)," "(other parent) makes my job of being a parent easier," and "(other parent) and I are a good team." The average scores indicate that, in both research groups, couples typically agreed or strongly agreed with these statements. This finding is very similar to the results at the 15-month follow-up, when the average score on the co-parenting scale was 4.37 for both research groups (Table B.1).

**Table 5. Impacts of Building Strong Families on Co-Parenting, Parenting Behavior, and Parent Emotional Well-Being at 36-Month Follow-Up**

| Outcome | BSF Group | Control Group | Estimated Impact | Effect Size |
|---|---|---|---|---|
| **Co- Parenting (Key Domain)** | | | | |
| Quality of co-parenting relationship scale (range: 1 to 5) | 4.19 | 4.21 | -0.02 | -0.02 |
| **Father's Parenting Behavior (Key Domain)** | | | | |
| Engagement with child (range: 1 to 6) | 4.22 | 4.26 | -0.04 | -0.03 |
| Parental responsiveness (observed) (range: 1 to 7)[a] | 4.60 | 4.53 | 0.06 | 0.08 |
| **Mother's Parenting Behavior (Additional Domain)** | | | | |
| Engagement in cognitive and social play (range: 1 to 6) | 4.91 | 4.95 | -0.04 | -0.04 |
| Parental responsiveness (observed) (range: 1 to 7) | 4.58 | 4.48 | 0.10* | 0.11 |
| **Parent Emotional Well- Being (Additional Domain)** | | | | |
| Father's CES-D scale of depressive symptoms (range: 0 to 36) | 4.05 | 4.28 | -0.23 | -0.04 |
| Mother's CES-D scale of depressive symptoms (range: 0 to 36) | 4.48 | 4.82 | -0.34 | -0.05 |
| **Sample Size** | | | | |
| **Couples responding to the survey** | **2,129** | **2,118** | | |
| **Direct assessment fathers** | **675** | **634** | | |
| **Direct assessment mothers** | **988** | **987** | | |

Source: BSF 36-month follow-up surveys conducted by Mathematica Policy Research.

Notes: The difference between the BSF and control group means may not equal the estimated impact due to rounding. Measures of each parent's observed parental responsiveness are defined for parents who participated in the direct assessment. Other measures are defined for all couples for whom at least one partner responded to the follow-up survey.

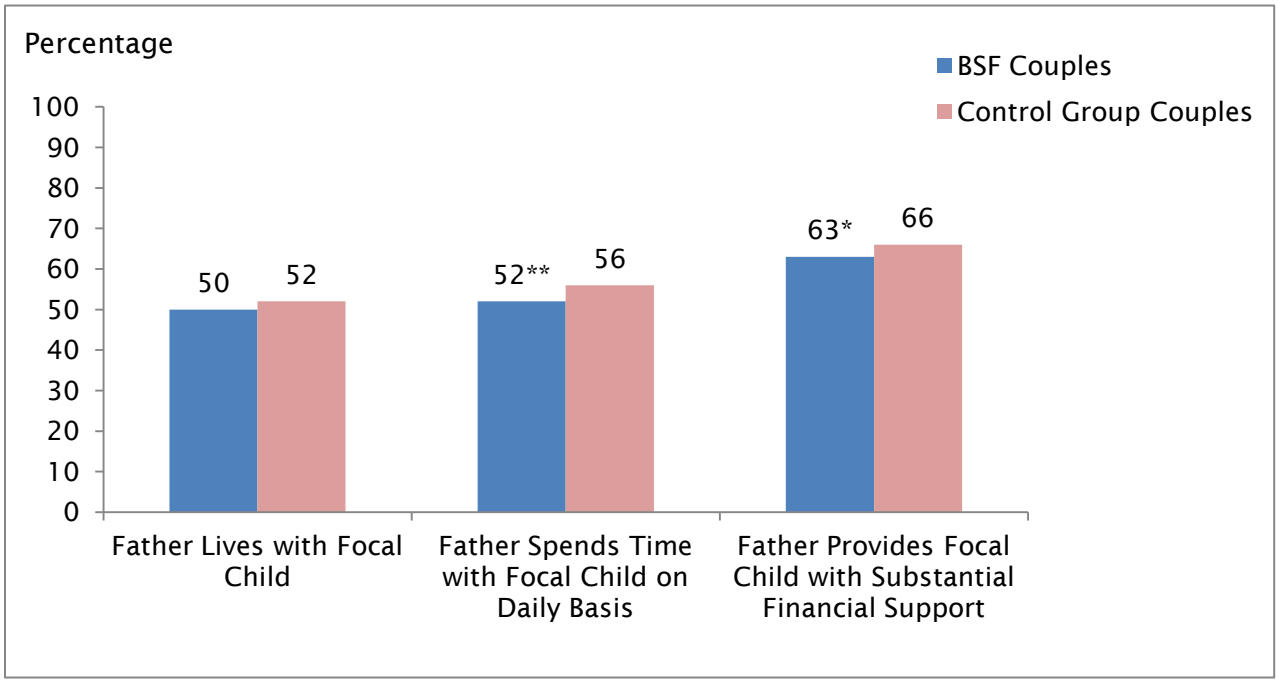
[a] Analyses of fathers' parental responsiveness do not meet the study's standards for low sample attrition because 57 percent of fathers for whom direct assessments were attempted did not complete them. Although the BSF and control groups for this analysis sample meet the study's standards of equivalence on key baseline measures, these estimates should be interpreted more cautiously than other experimental impacts. See the technical supplement to this report for more details (Moore et al. 2012).

***/**/* Impact estimates are statistically significant at the .01/.05/.10 level, two-tailed test.

**BSF had small negative effects on some aspects of fathers' involvement; however, it had no effect on fathers' engagement or parental responsiveness**

At the three-year follow-up, BSF fathers were somewhat less likely than control group fathers to spend time with their children and to provide financial support for them (Figure 6). At that point, 52 percent of BSF fathers had spent an hour or more with the focal child on a daily basis during the previous month, compared to 56 percent of control group fathers, a statistically significant difference (Figure 6). Similarly, 63 percent of BSF mothers reported that the father covered at least half the cost of raising the child, compared to 66 percent of mothers in the control group, a difference that is marginally statistically significant (Figure 6). BSF had no effect on these outcomes at the 15-month follow-up (Table B.2). Similar to the 15-month results, BSF and control group fathers were equally likely to live with their children three years after program application, 50 percent and 52 percent, respectively (Figure 6).

**Figure 6. Impact of BSF on Father Involvement at 36 Months**




Source: BSF 36-month follow-up surveys conducted by Mathematica Policy Research.

***/**/* Statistically significant at the .01/.05/.10 level.

Although BSF fathers spent somewhat less time with their children than fathers in the control group did, BSF had no impact on fathers' self-reported engagement with their children. The average score on the father engagement scale was 4.22 for BSF fathers and 4.26 for control group fathers, a difference that is not statistically significant (Table 5). The scale includes 12 activities that cover three aspects of father engagement: (1) direct care of the child (such as helping the child to dress), (2) engagement in cognitive and social play with the child (such as telling stories), and (3) engagement in physical play with the child (such as playing outside). The scale ranges from 1 to 6 and the maximum value indicates that the father reported doing each of the 12 activities with the child more than once a day. The average scores indicate that, in both research groups, fathers reported that they typically engaged in these activities with their children between a few times a week and once a day.

Fathers' parenting was also measured through direct assessments of father-child interactions at the three-year follow-up. Similar to the self-reported survey data, these direct assessment data indicated that BSF did not affect fathers' parenting behavior. Fathers' parenting was assessed through a semi-structured play activity with the child that was videotaped and later scored on multiple dimensions of parenting by trained coders. Five of these dimensions—positive regard, sensitivity, cognitive development stimulation, the quality of the parent-child relationship, and parental attachment—were then combined to create an observed parental responsiveness scale with values ranging from 1 to 7 and the maximum value corresponding to a very high level of responsiveness. BSF fathers had an average score of 4.60 on the parental responsiveness scale,

## Parenting and Father Involvement Measures

**Co-Parenting (Key Domain)**

- **Quality of co-parenting relationship.** Ten questions drawn from the Parenting Alliance Inventory asked respondents whether they agreed with a series of statements about their shared role as parents, such as: "(other parent) and I communicate well about (our child)." The scale ranges from 1 to 5, where 1 represents both parents strongly disagreeing with all 10 statements and 5 represents both parents strongly agreeing with all of them (Abidin and Brunner 1995).

**Father's Involvement and Parenting Behaviors (Key Domain)**

- **Father lives with focal child.** Indicates that both members of the couple reported that the father lived with the focal child at the time of the survey.
- **Father spends time with focal child on daily basis.** Indicates that both members of the couple reported that, during the month prior to the survey, the father spent an hour or more with the child "every day or almost every day."
- **Father provides focal child with substantial financial support.** Indicates that the mother reported that, at the time of the survey, the father was covering at least half of the cost of raising the child.
- **Father's engagement with the child.** Twelve survey questions asked fathers how frequently during the past month they engaged in a variety of caregiving, cognitive and social play, and physical play activities with their child. The scale ranges from 1 to 6, where 6 corresponds to engaging in all 12 activities "more than once a day," and 1 corresponds to not engaging in any of the activities at all during the past month.
- **Father's parental responsiveness.** During the in-home assessments, fathers engaged in a semi-structured play activity with their children and their interactions were recorded. The video recordings were later coded for the degree of parental responsiveness by the father. A summary scale was created by averaging five items that measure the quality of the father-child relationship and father's positive regard toward the child, sensitivity, cognitive stimulation, and level of detachment (reverse-coded).

**Mother's Parenting Behaviors (Additional Domain)**

- **Engagement in cognitive and social play activities.** Five survey questions asked respondents how frequently during the past month they engaged in activities that support children's language and cognitive development, such as: playing "peek-a-boo" or "gotcha," singing songs, and reading or looking at books. The scale ranges from 1 to 6, where 6 corresponds to engaging in all five activities "more than once a day" and 1 corresponds to not engaging in any of these activities at all during the past month.
- **Mother's parental responsiveness.** During the in-home assessments, mothers engaged in a semi-structured play activity with their children and their interactions were recorded. The video recordings were later coded for the degree of parental responsiveness by the mother. A summary scale was created by averaging five items that measure the quality of the mother-child relationship and mother's positive regard toward the child, sensitivity, cognitive stimulation, and level of detachment (reverse-coded).

**Parent's Emotional Well-Being (Additional Domain)**

- **Parental depression.** Based on the 12-item Center for Epidemiologic Studies Depression Scale (CES-D). Items ask respondents the frequency with which they experienced 12 specific depressive symptoms during the past week, such as having a poor appetite; having difficulty concentrating or sleeping; and feeling fearful, sad, or lonely. Values of the summary scale range from 0, indicating that the respondent never or rarely experienced any of the symptoms, to 36, indicating that the respondent experienced all 12 symptoms most or all of the time.

compared with a score of 4.53 for control group fathers, a difference that is not statistically significant (Table 5). The average scores indicate that fathers in both research groups were judged to have a moderate level of responsiveness.

**BSF had limited effects on other aspects of parenting, such as mothers' parenting behavior and parents' emotional well-being**

BSF had no effect on the frequency with which mothers reported engaging in cognitive and social play with their children, such as singing, playing games, telling stories, and reading books. At the three-year follow-up, the average score on the scale was 4.91 for BSF mothers and 4.95 for control group mothers (Table 5). This scale ranges from 1 to 6 and the maximum value indicates that mothers engaged in each of these activities more than once a day. On average, mothers in both groups reported engaging in these activities about once a day.

However, BSF had a modest positive impact on mothers' parental responsiveness as measured through direct assessments. Maternal responsiveness was measured in the same way as paternal responsiveness (described earlier). The average score on the parental responsiveness scale was 4.58 for BSF mothers and 4.48 for control group mothers, a difference that is marginally statistically significant (Table 5). In both research groups, mothers and fathers were judged to have similar levels of parental responsiveness.

At the three-year follow-up, BSF had no effect on the frequency of depressive symptoms experienced by either mothers or fathers. Depressive symptoms were measured on follow-up surveys using the 12-item Center for Epidemiologic Studies Depression Scale (CES-D). The CES-D score represents the frequency with which sample members experienced a set of 12 specific depressive symptoms, such as having a poor appetite; having difficulty concentrating or sleeping; and feeling fearful, sad, or lonely. Values of the summary scale range from 0, indicating that the respondent never or rarely experienced any of the symptoms, to 36, indicating that the respondent experienced all 12 symptoms most or all of the time.

At the 15-month follow-up, BSF had led to modest reductions in the number of depressive symptoms experienced by both mothers and fathers (Table B.2). At the 36-month follow-up, differences between the research groups in the average number of depressive symptoms were smaller and no longer statistically significant. BSF mothers had an average CES-D scale score of 4.48, compared to an average of 4.82 for control group mothers (Table 5). Similarly, BSF fathers had an average CES-D scale score of 4.05 compared with 4.28 for control group fathers. These responses suggest that sample members typically reported that they rarely experienced depressive symptoms.

## Impacts on Child Well-Being

The ultimate aim of BSF was to improve child well-being. It was hoped that, by improving parents' relationship quality and increasing the likelihood that they remained together in a healthy relationship, BSF would also enhance the well-being of their children by increasing the likelihood that they were raised in stable and healthy home environments. If BSF made couples more likely to remain together and have positive relationships, this could in turn increase children's access to both their parents, including their time, attention, and financial resources. In addition, if BSF succeeded in reducing conflict in the household by helping parents better manage their own disagreements, BSF could improve the socio-emotional well-being of children. This section examines BSF effects on

child well-being at the 36-month follow-up, when the focal children were 3 years old. It focuses on three key aspects of child well-being that BSF aimed most directly to affect: (1) family stability, (2) economic well-being, and (3) the child's socio-emotional development. It also examines three additional aspects of child well-being that were less central to BSF's goals and focus: (1) household routines, (2) language development, and (3) physical health.

## Child Well-Being Measures

**Family Stability (Key Domain)**

- **Both parents have lived with child since birth.** Indicates that both members of the couple reported that they have always lived with the other parent and the child since the child's birth.

**Economic Well-Being (Key Domain)**

**All economic stability measures are based on the family in which the focal child resides.**

- **Family income below poverty.** Indicates whether the monthly income of the child's family at the time of the survey was below the poverty threshold. This measure includes the earnings of the child's residential biological parents, earnings of co-residential partners of the child's biological parent (if the parents indicate that they pool financial resources), child support, public assistance, unemployment insurance, and disability benefits.
- **Family had difficulty meeting housing costs in past year.** Indicates that the family reported experiencing one of the following three hardships in the year prior to the survey: (1) being unable to pay rent or mortgage, (2) having utilities cut off, or (3) being evicted.
- **Family receiving SNAP or TANF.** Indicates that the family reported receiving Supplemental Nutrition Assistance Program (SNAP) or Temporary Assistance for Needy Families (TANF) in the month prior to the survey.

**Child Socio-Emotional Development (Key Domain)**

- **Behavior problems.** Summary scale based on parents' reports of the frequency of child internalizing and externalizing behavior problems as measured by the Behavior Problems Index (BPI; Zill 1985). Values on the summary scale range from 1, indicating that none of the behaviors are ever true for the child, to 3, indicating that all of the behaviors are often true for the child.
- **Emotional insecurity amid parental conflict.** Summary scale of the frequency of emotionally dysregulated behaviors a child exhibits during parental conflict, as reported by the parent. The scale is constructed from items drawn from the Security in the Marital Subsystem-Parent Report Inventory (SIMS-PR, Davies et al. 2002). Values on the summary scale range from 1, indicating that the child never exhibits the behavior, to 4, indicating that the child often exhibits the behavior. Examples of behaviors include "couldn't seem to calm down after you argued," "appeared frightened," and "yelled at family members."

**Household Routines (Additional Domain)**

- **Child regularly goes to bed on time.** Indicates whether the child's parent reports that the child had a regular bedtime and was put to bed at that time at least four nights of the previous Monday through Friday.
- **Child regularly eats the evening meal with a parent**. Indicates whether the child's parent reports that the child eats the evening meal with at least one parent at least six days in a typical week.

**Language and Cognitive Development (Additional Domain)**

- **Receptive language**. Standard scores measured by English-speaking or bilingual children's performance on the Peabody Picture Vocabulary Test 4 (PPVT-4; Dunn and Dunn 2006). Based on direct child assessment in which children identify pictures that correspond to words spoken by the assessor.

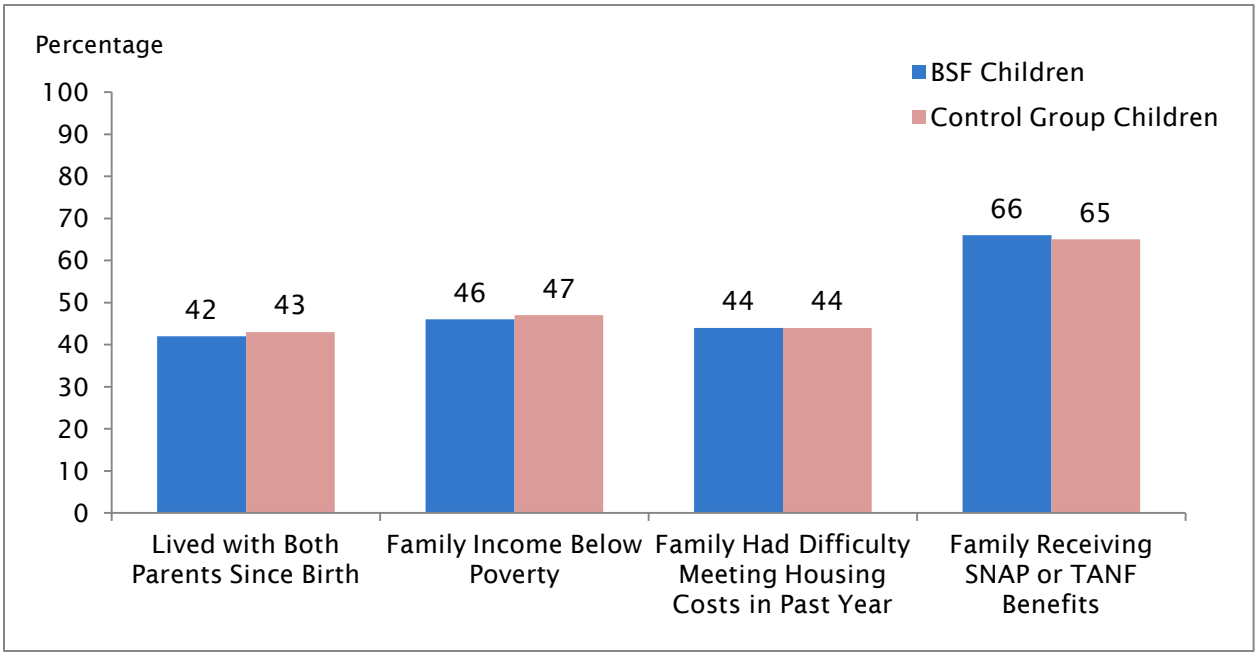
**Physical Health (Additional Domain)**

- **General health**. A binary item created from the parent's response to a single item about the quality of the child's health. The categories are: very good to excellent health, less than very good health.

### BSF had no effect on the family stability or economic well-being of children

BSF did not increase the likelihood that children lived with both their biological parents through age 3. At the time of the three-year follow-up, 42 percent of BSF children and 43 percent of children in the control group had lived with both parents continuously since birth (Figure 7). Similarly, BSF had no effect on the economic well-being of children. At the three-year follow-up, 47 percent of children in both research groups lived in poverty (Figure 7). Similarly, 44 percent of children in both research groups lived in a family that had difficulty meeting housing expenses during the previous year. In addition, virtually identical percentages of BSF and control group children were living in families that received Supplemental Nutrition Assistance Program (SNAP) or Temporary Assistance for Needy Families (TANF) benefits. At the three-year follow-up, 66 percent of BSF children and 65 percent of control group children were living in families that received either SNAP or TANF (Figure 7).[14]

**Figure 7. Impact of BSF on Children's Family Stability and Economic Well-Being at 36 Months**




Source: BSF 36-month follow-up surveys conducted by Mathematica Policy Research.

Note: None of the differences between BSF and control group couples are statistically significant at the .10 level. For these analyses, the family refers to the family in which the focal child resides.

### BSF led to modest reductions in behavior problems among children

Three years after program application, BSF parents reported slightly fewer behavior problems for their children than did parents in the control group. Parents were asked to report how often their children exhibited each of 26 problem behaviors, such as lying, losing their temper easily, demanding

[14] Many more families in the study were receiving SNAP benefits than TANF benefits. At the 36-month follow-up, 66 percent of BSF children and 65 percent of control group children were living in families receiving SNAP. In contrast, only 8 percent of BSF children and 9 percent of control group children were living in families receiving TANF.

a lot of attention, or crying or worrying too much. These responses were combined to create a behavior problem index, with values ranging from 1 to 3 and the maximum value corresponding to the child often exhibiting the problem behavior. The average index score was 1.38 for BSF children and 1.41 for children in the control group, a difference that is statistically significant (Table 6). These levels indicate that reports of behavior problems are not prevalent among the children in either group. The average responses indicate that parents typically reported that their children exhibited these behaviors either "sometimes" or "never."

**Table 6. Impacts of Building Strong Families on Child Development at 36-Month Follow-Up: All Sites Combined**

| Outcome | Program Group | Control Group | Estimated Impact | Effect Size |
|---|---|---|---|---|
| **Socio- Emotional Development (Key Domain)** | | | | |
| Behavior problems index (range: 1 to 3) | 1.38 | 1.41 | -0.02** | -0.08 |
| Emotional insecurity amid parental conflict (range: 1 to 4) | 1.40 | 1.42 | -0.02 | -0.03 |
| **Household Routines (Additional Domain)** | | | | |
| Child regularly goes to bed on time (%) | 85 | 86 | -1 | 0.04 |
| Child regularly eats the evening meal with a parent (%) | 75 | 74 | 1 | 0.04 |
| **Physical Health (Additional Domain)** | | | | |
| Parent rates child's health as "very good" or "excellent" (%) | 86 | 84 | 2 | 0.10 |
| **Language and Cognitive Development (Additional Domain)** | | | | |
| Receptive language (range: 20 to 160) | 89.46 | 89.18 | 0.28 | 0.02 |
| **Sample Size** | | | | |
| **Couples responding to the survey** | **2,122** | **2,112** | | |
| **Direct assessment mothers** | **988** | **987** | | |

Source: BSF 36-month follow-up surveys and direct assessments conducted by Mathematica Policy Research.

Notes: The difference between the BSF and control group means may not equal the estimated impact due to rounding. The measure of emotional insecurity amid parental conflict is defined for the 79 percent of couples who were still in regular contact at the 36-month survey. The language and cognitive development measures are available for children whose mothers completed a direct assessment. Other measures are defined for all couples for whom at least one partner responded to the follow-up survey.

***/**/* Impact estimates are statistically significant at the .01/.05/.10 level, two-tailed test.

Four of the eight local BSF programs (those in Florida; Indiana; and Houston and San Angelo, Texas) were also Healthy Families programs. In these four sites, families received home visits focused on promoting positive parenting behaviors, in addition to the relationship skills education offered in BSF group sessions. BSF's effect on behavior problems is concentrated in these four Healthy Families programs, suggesting that the effect may be related to the home visits offered in these sites.[15]

[15] When impact estimates are pooled across these four programs, the effect size on the behavior problem index is -0.14 and is statistically significant. In contrast, in the four BSF sites that did not offer Healthy Families home visits, the pooled effect size is -0.02 and is not statistically significant.

BSF had no effect on children's emotional reactions to parental conflict. At the three-year follow-up, parents reported how often in the past month children exhibited each of 10 signs of emotional distress when seeing arguments or disagreements between their parents. These included behaviors, such as the child "couldn't seem to calm down after you argued," "appeared frightened," and "yelled at family members." The average score on the composite measure of the child's emotional insecurity amid parental conflict was 1.40 in the BSF group and 1.42 in the control group (Table 6), indicating that parents in both groups typically reported that their children never or only rarely responded to parents' conflicts in these ways.

**BSF had no effect on other aspects of child well-being, such as household routines, general health, or language development**

BSF did not affect routines in children's households. In both research groups, 86 percent of children regularly went to bed on time, as reported by their parents (Table 6). Similarly, 75 percent of BSF children and 74 percent of children in the control group regularly ate the evening meal with a parent (Table 6). BSF also did not affect children's general health. Equally high percentages of parents in both research groups reported that their children had "very good" or "excellent" health.

In addition, BSF and control group children exhibited similar levels of language development three years after their parents applied for BSF. Children's receptive language was assessed using the Peabody Picture Vocabulary Test 4 (PPVT-4; Dunn and Dunn 2006). The assessment tests children's ability to match spoken words with a drawing representing that word. The PPVT is scaled so that 100 is an average score for a nationally representative sample. BSF children had an average score of 89.5, compared with an average of 89.2 for children in the control group, a difference that is not statistically significant (Table 6).

## Separate Impacts of the Eight BSF Programs

As described in the first BSF impact report, at the 15-month follow-up, the effects of BSF varied across the eight programs included in the evaluation (Wood et al. 2010). Most programs had little or no effect on relationships. However, there were two notable exceptions. The Oklahoma BSF program had numerous positive effects on couples at 15 months, improving their relationship quality and co-parenting, and increasing father involvement (Table 7). In contrast, the Baltimore BSF program had negative effects on numerous outcomes at 15 months, including relationship status, intimate partner violence, co-parenting, and father involvement.

At the three-year follow-up, the impacts of BSF also varied across the eight programs.[16] However, the pattern of this variation changed substantially. At 36 months, the negative impacts observed in Baltimore had faded and were generally not statistically significant (Table 7, Table A.3a,

[16] Among Houston couples, there was a substantial difference in survey response rates at the 36-month follow-up, with 87 percent of BSF couples and 78 percent of control group couples responding. This difference across research groups was twice as large in Houston than in any other program. In addition, there were substantial differences across research groups in key baseline characteristics among the Houston couples who did respond. Therefore, most Houston analyses do not meet the study's standards for an acceptable level of risk of bias in estimating program impacts. For this reason, Houston results are not included in this report. They are included only in the technical supplement to this report (Moore et al. 2012). See the technical supplement for more information.

Table A.3b). Similarly, most of the positive effects in Oklahoma City observed at 15 months did not persist at the three-year follow-up. However, a positive impact on family stability had emerged (Table 7). At the three-year follow-up, 49 percent of BSF children in Oklahoma City had lived with both their biological parents since birth, compared with 41 percent of control group children, a difference that is statistically significant (Table A.7b).

While the impacts observed in Baltimore and Oklahoma City faded between the 15- and 36-month follow-ups, numerous negative impacts emerged in a third evaluation site. At the three-year follow-up, the BSF program in Florida had negative impacts on relationship status and quality, co-parenting, father involvement, and family stability (Table 7, Table A.5a, Table A.5b). For example, only 55 percent of BSF couples in Florida were still romantically involved after three years, compared with 67 percent of control group couples (Table A.5a). Similarly, at the three-year follow-up in Florida, only 33 percent of BSF children had lived with both their parents since birth, compared with 47 percent of children in the control group (Table A.5b). In contrast, at the 15-month follow-up, the Florida BSF program had no impacts (either positive or negative) on the key outcomes examined. The other evaluation sites generally had little or no effect at either follow-up.

**Table 7. Impacts on Key Outcome Domains for the Eight Local BSF Programs at 15 and 36 Months**

| | Overall | Atlanta | Baltimore | Baton Rouge | Florida Counties | Houston | Indiana Counties | Oklahoma City | San Angelo |
|---|---|---|---|---|---|---|---|---|---|
| **15-Month Follow-Up** | | | | | | | | | |
| Relationship Status | ○ | ○ | — | ○ | ○ | ○ | ○ | ○ | ○ |
| Relationship Quality | ○ | ○ | ○ | ○ | ○ | ○ | ○ | + + + | ○ |
| Co-Parenting | ○ | ○ | — | ○ | ○ | ○ | ○ | + | ○ |
| Father Involvement | ○ | ○ | — — — | ○ | ○ | ○ | ○ | + | ○ |
| Family Stability | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Economic Well-Being | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| **36-Month Follow-Up** | | | | | | | | | |
| Relationship Status | ○ | ○ | ○ | ○ | — — — | nr | ○ | ○ | ○ |
| Relationship Quality | ○ | ○ | ○ | ○ | — | nr | ○ | ○ | ○ |
| Co-Parenting | ○ | ○ | ○ | ○ | — | nr | ○ | ○ | ○ |
| Father Involvement | — — | ○ | ○ | ○ | — — — | nr | ○ | ○ | ○ |
| Family Stability | ○ | ○ | ○ | ○ | — — — | nr | ○ | + + | ○ |
| Economic Well-Being | ○ | ○ | ○ | ○ | ○ | nr | — | ○ | ○ |
| Child Socio-Emotional Development | + + | ○ | ○ | ○ | ○ | nr | ○ | ○ | ○ |

Source: BSF 15- and 36-month follow-up surveys and 36-month direct assessments, conducted by Mathematica Policy Research.

Note: See the technical supplement to this report for more information on how outcomes within these domains were combined for this analysis (Moore et al. 2012). Child socio-emotional development was not measured at the 15-month follow-up.

+++/++/+ Statistically significant positive impact at the .01/.05/.10 level.
— — —/— —/— Statistically significant negative impact at the .01/.05/.10 level.

○ No statistically significant impact.

nr = Not reported. Because of differences between the survey response rates of the program and control groups, analyses of Houston data do not meet the study's standards for an acceptable level of risk of bias in estimating impacts. Therefore, Houston results are reported only in the technical supplement to this report (Moore et al. 2012). See the technical supplement for more information.

## Subgroup Impacts

The BSF impact analysis examined whether BSF was more effective for certain subgroups of couples. These subgroups were selected before the data analysis began and were defined based on the following initial characteristics of the couples: relationship quality, multiple partner fertility, fathers' earnings, race and ethnicity, and the age of the parents. At 36 months, none of these subgroups had a strong pattern of effects. Therefore, subgroup findings are presented only in the technical supplement to this report (Moore et al. 2012).

The absence of strong subgroup findings at 36 months differs from the pattern found at the 15-month follow-up. At the earlier follow-up, the strongest pattern of subgroup impacts was for African American couples. BSF had positive impacts for African Americans on four of the eight primary relationship quality and status measures at 15 months (Wood et al. 2010). At the 36-month follow-up, BSF did not have a significant impact on any of these eight measures for African American couples. The complete set of subgroup results is included in the technical supplement to this report (Moore et al. 2012).

## Discussion

BSF represented a new approach to addressing the needs of unmarried parents and their children. Many new unmarried parents report that they want and expect to marry each other (Carlson et al. 2005). BSF aimed to help these parents achieve this goal by offering them services designed to teach relationship skills. The hope was to improve the quality and stability of couples' relationships and ultimately improve outcomes for their children. Although relationship skills education had been shown to be successful in improving relationship quality among middle class and married couples, the approach had not yet been implemented on a large scale with low-income, unmarried parents and its effectiveness with this population had not yet been rigorously tested. The BSF program model was developed based on the best available research evidence on relationship skills education and the needs of unmarried parents. The goal of the BSF evaluation was to examine whether and how a carefully designed program model offering relationship skills education to unmarried parents might work.

The results of the BSF evaluation suggest that it is challenging to make this approach work with unmarried parents. Overall, BSF did not succeed in its central objectives of improving the couple relationship, increasing the quality of co-parenting, or enhancing father involvement. After three years, the average relationship and co-parenting quality of BSF and control group couples was almost identical. In addition, at the three-year follow-up, the program had a small negative effect on the likelihood that couples were still romantically involved, as well as small negative effects on the likelihood that fathers regularly spent time with their children or provided them with substantial financial support. These reductions in father involvement do not appear to have reduced the quality of father-child interactions. BSF had no effect on fathers' self-reported levels of engagement with their children or fathers' level of parental responsiveness as measured through direct observations.

BSF had no effect on two of three key dimensions of child well-being examined by this analysis: (1) family stability and (2) economic well-being. In particular, the program had no effect on the likelihood that children lived with both their biological parents through age 3, that they lived in poverty, or that they lived in families that experienced material hardship or received public assistance. However, BSF had a small positive effect on a third key dimension of child well-being, socio-emotional development. Specifically, the program led to a modest reduction in the prevalence

of behavior problems at the time of the three-year follow-up. This effect was concentrated in the four BSF programs that also provided Healthy Families home visits, which aimed to improve parenting behavior; there was no effect on behavior problems in the other four BSF sites. This pattern, combined with the fact that BSF had no positive effects on the couple relationship, suggests that the impact on behavior problems is more likely due to the home visiting services offered in these four BSF sites than it is to the relationship skills education services that were offered in all BSF sites.

Why was BSF unsuccessful overall at improving couples' relationships? Some have suggested that poor attendance at group sessions limited couples' exposure to program services and thus reduced the effectiveness of the program. As noted earlier, across the eight programs, only 55 percent of couples assigned to the treatment group attended a group relationship skills session. However, additional analysis using quasi-experimental techniques to estimate BSF's impacts for couples who attended at least one group session found little evidence of effects of the program on relationship outcomes (Moore et al. 2012).[17] Thus, it does not appear that low participation rates explain BSF's limited success in improving couples' relationships.

The BSF results differ from findings from two other recent studies of similar relationship skills education programs that served low- and moderate-income married couples. As described earlier, a study of a relationship skills program for married military couples, PREP for Strong Bonds, found that the program reduced the likelihood that couples divorced in the year after the program ended (Stanley et al. 2010). In addition, the SHM evaluation, which tested programs similar to BSF but that served low-income married couples, found a pattern of small positive effects on relationship quality, but no effect on marriage stability at the 12-month follow-up (Hsueh et al. 2012).

The results for these studies of married couples represent short-term impacts and it is not clear whether these effects will persist in the longer term. Even so, it is useful to consider the differences between the unmarried parents served in BSF and the married couples served in these other studies to consider whether these differences offer insights into reasons for BSF's more limited success. One contributing factor may be the relatively low levels of trust and commitment among unmarried low-income parents (Edin and Kefalas 2005). The behavioral changes required to improve a couple's relationship may involve substantial personal effort. Partners who are less committed to a relationship or distrustful of the commitment of their partner may be more reluctant to do the hard work relationship improvement may require (Van Lange et al. 1997). Thus, on average, unmarried parents may be less likely than married couples to put newly learned relationship skills to use if doing so requires considerable effort on their part and if they are uncertain about their own or their partner's commitment to the relationship. Other differences in the characteristics of married and unmarried parents may also play a role, such as the higher rates of economic disadvantage among unmarried parents and the more frequent occurrence of multiple partner fertility in these families. These additional stresses may make it difficult for some unmarried parents to focus on putting their newly learned relationship skills to use. Future programs may want to place greater emphasis on directly addressing these stresses.

[17] These results are presented in the technical supplement to this report (Moore et al. 2012). A similar analysis based on 15-month data yielded similar results (Wood et al. 2011).

A noteworthy finding from the BSF evaluation is the fact that a program that aimed to increase relationship stability and father involvement instead led to small reductions in the likelihood that couples remained together and that fathers regularly spent time with their children or provided them with substantial financial support. Perhaps BSF helped some couples with particularly negative or hostile relationships recognize this fact and break up sooner than they otherwise would have, an outcome that may be an appropriate one for these couples. In addition, qualitative research with BSF couples indicated that the need for fathers to "step up" and be more responsible was one of the strongest messages that couples took from the program (Dion, Avellar, and Clary 2010). This expectation may have led some fathers in particularly disadvantaged circumstances to instead distance themselves from their partner and children. For example, if men do not see themselves as capable of being economically supportive or meeting other expectations of responsible fatherhood, they may reduce engagement with their children in order to protect themselves from a sense of failure or to "shield their children from their own personal failing" (Young 2011: 120). Consistent with that hypothesis, recent research using BSF data to examine negative impacts of the Baltimore BSF program at 15 months found that BSF fathers in that site were more likely than control group fathers to blame themselves—and especially their own financial, criminal justice, and substance abuse problems— for a relationship breakup, even though their objective outcomes related to earnings, arrests, and substance use were no worse than those of control group fathers (Clarkwest, Killewald, and Wood 2012). Thus, program messages concerning what is involved with being a good father and partner may have led some men to believe they could not meet those expectations and to instead withdraw from these relationships. Future programs serving unmarried parents should give careful attention to the messages they convey to fathers and be sure that goals for good parenting and partnering are presented to fathers in ways that make these goals appear realistic and attainable.

The BSF model was implemented by eight local programs; seven of them did not achieve the central objective of improving couples' relationships. The one exception to this pattern was the program in Oklahoma City, which at the 15-month follow-up had positive effects on relationship quality, romantic involvement, co-parenting, and father involvement (Wood et al. 2010). These impacts had generally faded by the three-year follow-up. However, the Oklahoma program did increase the likelihood that children lived with both their biological parents until age 3. At the three-year follow-up, 49 percent of BSF children in Oklahoma had lived with both parents continuously, compared with 41 percent of children in the control group (Table A.7b). Given that increasing family stability was one of BSF's central goals, this result is noteworthy. New programs that plan to offer relationship skills education services to unmarried parents may want to examine the approach used by the Oklahoma City BSF program. Future programs may be able to build on Oklahoma's successes while they also aim to develop strategies to increase the likelihood that success will be maintained over the longer term.

The decision to marry can be a complex one for couples with limited economic prospects. Qualitative research suggests that many low-income couples want both parents to be in a stable economic position before they consider marriage (Edin and Kefalas 2005; Edin and Reed 2005; Cherlin 2009). In addition, recent research on low-income fathers underscores the importance of fathers' perceptions of their economic success in their ability to be engaged and supportive parents (Young 2011). These factors may have limited the success of the BSF program model. Recent program efforts have placed greater emphasis on approaches that offer low-income couples both employment and relationship services (Zaveri and Hershey 2010). In addition, ACF is currently sponsoring the Parents and Children Together (PACT) evaluation, which will examine the effectiveness of programs that offer both employment and relationship services. Perhaps these integrated approaches will have greater success in improving the outcomes of unmarried parents.

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# APPENDIX A

# ADDITIONAL IMPACT TABLES

**Table A.1a. Impacts of Building Strong Families on Relationship and Parenting Outcomes at 36-Month Follow-Up**

| Outcome | Program Group | Control Group | Estimated Impact | *p*-Value | Effect Size |
|---|---|---|---|---|---|
| **Relationship Status** | | | | | |
| Romantically involved (%)[a] | 57.4 | 60.5 | -3.2* | 0.053 | -0.079 |
| Living together (married or unmarried) (%)[a] | 46.9 | 49.5 | -2.6* | 0.100 | -0.064 |
| Married (%)[a] | 20.6 | 20.9 | -0.3 | 0.817 | -0.011 |
| **Relationship Quality** | | | | | |
| Relationship happiness scale (range: 0 to 10)[b] | 8.29 | 8.30 | -0.01 | 0.868 | -0.008 |
| Support and affection scale (range: 1 to 4)[b] | 3.43 | 3.43 | 0.00 | 0.989 | 0.001 |
| Use of constructive conflict behaviors scale (range: 1 to 4)[c] | 3.22 | 3.22 | -0.01 | 0.770 | -0.011 |
| Avoidance of destructive conflict behaviors scale (range: 1 to 4)[c] | 2.75 | 2.78 | -0.03 | 0.130 | -0.054 |
| Neither member of the couple was unfaithful since random assignment (%)[a] | 58.2 | 59.0 | -0.8 | 0.628 | -0.020 |
| **Co-Parenting** | | | | | |
| Quality of co-parenting relationship scale (range: 1 to 5)[a] | 4.19 | 4.21 | -0.02 | 0.510 | -0.022 |
| **Father's Involvement and Parenting Behavior** | | | | | |
| Father lives with child (%)[a] | 50.1 | 51.8 | -1.7 | 0.308 | -0.040 |
| Father regularly spends time with child (%)[a] | 52.4 | 56.1 | -3.6** | 0.032 | -0.089 |
| Father's engagement with child (range: 1 to 6)[d] | 4.22 | 4.26 | -0.04 | 0.429 | -0.031 |
| Mother reports that father provides substantial financial support for raising child (%)[e] | 62.8 | 65.6 | -2.8* | 0.096 | -0.073 |
| Father's parental responsiveness (observed) (range: 1 to 7)[f] | 4.60 | 4.53 | 0.06 | 0.282 | 0.075 |
| **Sample Sizes** | | | | | |
| **All couples** | **2,129** | **2,118** | | | |
| **Couples in regular contact** | **1,717** | **1,742** | | | |
| **Romantically involved couples** | **1,233** | **1,253** | | | |
| **Mothers** | **1,997** | **1,984** | | | |
| **Fathers** | **1,719** | **1,707** | | | |
| **Fathers participating in the direct assessment** | **675** | **634** | | | |

Source: BSF 36-month follow-up surveys and direct assessments, conducted by Mathematica Policy Research.

Notes: Details on the construction of these measures are provided in the technical supplement to this report (Moore et al. 2012).

[a] Among all couples responding to the 36-month follow-up survey.

[b] Among couples who were romantically involved at the 36-month follow-up survey. This analysis does not meet the study's standards for low sample attrition because these outcomes are not measured for couples who did not respond to the survey or who were no longer romantically involved at the time of the 36-month follow-up survey. Although the BSF and control groups for this analysis sample met the study's standards for equivalence on key baseline measures, these estimates should be interpreted more cautiously than other experimental impacts because of the high rate of sample attrition. See the technical supplement for this report for more details (Moore et al. 2012).

[c] Among couples who are in regular contact at the 36-month follow-up survey. Couples are considered to be in regular contact with each other if both report seeing or talking to each other at least a few times a month.

[d] Among couples in which the father responded to the 36-month follow-up survey.

[e] Among couples in which the mother responded to the 36-month follow-up survey.

[f] Among couples in which the father participated in the direct assessment. This analysis does not meet the study's standards for low sample attrition because 57 percent of fathers for whom direct assessments were attempted did not complete them. Although the BSF and control groups for this analysis sample were equivalent on key baseline measures, these estimates should be interpreted more cautiously than other experimental impacts. See the technical supplement to this report for more details (Moore et al. 2012).

***/**/* Impact estimates are statistically significant at the .01/.05/.10 level, two-tailed test.

**Table A.1b. Impacts of Building Strong Families on Child Outcomes at 36-Month Follow-Up**

| Outcome | Program Group | Control Group | Estimated Impact | *p*-Value | Effect Size |
|---|---|---|---|---|---|
| **Family Stability** | | | | | |
| Both parents have lived with child since birth (%)[a] | 42.3 | 42.7 | -0.4 | 0.810 | -0.010 |
| **Economic Well-Being** | | | | | |
| Family's monthly income below poverty threshold (%)[b] | 46.5 | 46.9 | -0.4 | 0.824 | -0.010 |
| Family experienced difficulty meeting housing expenses during past year (%)[b] | 44.1 | 44.0 | 0.1 | 0.956 | 0.002 |
| Family receiving TANF or food stamps (%)[b] | 66.4 | 65.4 | 0.9 | 0.564 | 0.025 |
| **Child Socio-Emotional Development** | | | | | |
| Behavior problems index (range: 1 to 3)[c] | 1.38 | 1.41 | -0.02** | 0.040 | -0.078 |
| Emotional insecurity amid parental conflict (range: 1 to 4)[d] | 1.40 | 1.42 | -0.02 | 0.430 | -0.032 |
| **Sample Sizes** | | | | | |
| **All children** | **2,129** | **2,118** | | | |
| **Children in regular contact with at least one parent** | **2,122** | **2,012** | | | |
| **Children living with at least one parent** | **2,116** | **2,096** | | | |
| **Children with parents still in regular contact** | **1,713** | **1,740** | | | |

Source: BSF 36-month follow-up surveys, conducted by Mathematica Policy Research.

Notes: Details on the construction of these measures are provided in the technical supplement to this report (Moore et al. 2012).

[a] Among all children.

[b] Among children living with at least one parent.

[c] Among children in regular contact with at least one parent. A child is considered to be in regular contact with a parent if the parent reports living with the child at least some of the time or seeing the child at least a few times per week.

[d] Among children with parents still in regular contact. Couples are considered to be in regular contact with each other if both report seeing or talking to each other at least a few times a month.

***/**/* Impact estimates are statistically significant at the .01/.05/.10 level, two-tailed test.

**Table A.2a. Impacts of Building Strong Families on Relationship and Parenting Outcomes at 36-Month Follow-Up: Atlanta**

| Outcome | Program Group | Control Group | Estimated Impact | *p*-Value | Effect Size |
|---|---|---|---|---|---|
| **Relationship Status** | | | | | |
| Romantically involved (%)[a] | 54.2 | 56.1 | -1.9 | 0.601 | -0.046 |
| Living together (married or unmarried) (%)[a] | 42.9 | 43.8 | -0.9 | 0.792 | -0.023 |
| Married (%)[a] | 19.1 | 15.4 | 3.7 | 0.179 | 0.158 |
| **Relationship Quality** | | | | | |
| Support and affection abbreviated scale (range: 1 to 4)[a] | 2.94 | 2.94 | 0.00 | 0.951 | -0.004 |
| Use of constructive conflict behaviors scale (range: 1 to 4)[b] | 3.19 | 3.18 | 0.01 | 0.901 | 0.010 |
| Avoidance of destructive conflict behaviors scale (range: 1 to 4)[b] | 2.67 | 2.79 | -0.12** | 0.021 | -0.182 |
| Neither member of the couple was unfaithful since random assignment (%)[a] | 51.0 | 47.7 | 3.3 | 0.365 | 0.080 |
| **Co-Parenting** | | | | | |
| Quality of co-parenting relationship scale (range: 1 to 5)[a] | 4.20 | 4.18 | 0.02 | 0.763 | 0.022 |
| **Father's Involvement and Parenting Behavior** | | | | | |
| Father lives with child (%)[a] | 45.5 | 45.1 | 0.4 | 0.919 | 0.009 |
| Father regularly spends time with child (%)[a] | 50.7 | 47.5 | 3.2 | 0.379 | 0.078 |
| Father's engagement with child (range: 1 to 6)[c] | 4.15 | 4.17 | -0.02 | 0.845 | -0.017 |
| Mother reports that father provides substantial financial support for raising child (%)[d] | 60.0 | 58.5 | 1.5 | 0.692 | 0.037 |
| **Sample Sizes** | | | | | |
| **All couples** | **380** | **371** | | | |
| **Couples in regular contact** | **303** | **289** | | | |
| **Mothers** | **361** | **350** | | | |
| **Fathers** | **316** | **295** | | | |

Source: BSF 36-month follow-up surveys, conducted by Mathematica Policy Research.

Notes: Details on the construction of these measures are provided in the technical supplement to this report (Moore et al. 2012).

[a] Among all couples responding to the 36-month follow-up survey.

[b] Among couples who are in regular contact at the 36-month follow-up survey. Couples are considered to be in regular contact with each other if both report seeing or talking to each other at least a few times a month. This analysis does not meet the study's standards for low sample attrition. Although the BSF and control groups for this analysis met the study's standards for equivalence on key baseline measures, these estimates should be interpreted more cautiously than other experimental impacts because of the high rate of sample attrition. See the technical supplement for this report for more details (Moore et al. 2012).

[c] Among couples in which the father responded to the 36-month follow-up survey. This analysis does not meet the study's standards for low sample attrition. Although the BSF and control group members of this analysis sample met the study's standards for equivalence on key baseline measures, these estimates should be interpreted more cautiously than other experimental impacts because of the high rate of sample attrition. See the technical supplement for this report for more details (Moore et al. 2012).

[d] Among couples in which the mother responded to the 36-month follow-up survey.

***/**/* Impact estimates are statistically significant at the .01/.05/.10 level, two-tailed test.

**Table A.2b. Impacts of Building Strong Families on Child Outcomes at 36-Month Follow-Up: Atlanta**

| Outcome | Program Group | Control Group | Estimated Impact | *p*-Value | Effect Size |
|---|---|---|---|---|---|
| **Family Stability** | | | | | |
| Both parents have lived with child since birth (%)[a] | 39.4 | 39.1 | 0.3 | 0.932 | 0.008 |
| **Economic Well-Being** | | | | | |
| Family's monthly income below poverty threshold (%)[b] | 58.5 | 58.9 | -0.3 | 0.935 | -0.008 |
| Family experienced difficulty meeting housing expenses during past year (%)[b] | 40.5 | 44.7 | -4.2 | 0.260 | -0.105 |
| Family receiving TANF or food stamps (%)[b] | 80.1 | 77.2 | 3.0 | 0.366 | 0.107 |
| **Child Socio-Emotional Development** | | | | | |
| Behavior problems index (range: 1 to 3)[c] | 1.38 | 1.40 | -0.02 | 0.369 | -0.071 |
| Emotional insecurity amid parental conflict (range: 1 to 4)[d] | 1.40 | 1.35 | 0.05 | 0.334 | 0.093 |
| **Sample Sizes** | | | | | |
| **All children** | **380** | **371** | | | |
| **Children in regular contact with at least one parent** | **380** | **370** | | | |
| **Children living with at least one parent** | **378** | **366** | | | |
| **Children with parents still in regular contact** | **303** | **289** | | | |

Source: BSF 36-month follow-up surveys, conducted by Mathematica Policy Research.

Notes: Details on the construction of these measures are provided in the technical supplement to this report (Moore et al. 2012).

[a] Among all children.

[b] Among children living with at least one parent.

[c] Among children in regular contact with at least one parent. A child is considered to be in regular contact with a parent if the parent reports living with the child at least some of the time or seeing the child at least a few times per week.

[d] Among children with parents still in regular contact. Couples are considered to be in regular contact with each other if both report seeing or talking to each other at least a few times a month. This analysis does not meet the study's standards for low sample attrition. Although the BSF and control groups for this analysis sample met the study's standards for equivalence on key baseline measures, these estimates should be interpreted more cautiously than other experimental impacts because of the high rate of sample attrition. See the technical supplement for this report for more details (Moore et al. 2012).

***/**/* Impact estimates are statistically significant at the .01/.05/.10 level, two-tailed test.

**Table A.3a. Impacts of Building Strong Families on Relationship and Parenting Outcomes at 36-Month Follow-Up: Baltimore**

| Outcome | Program Group | Control Group | Estimated Impact | *p*-Value | Effect Size |
|---|---|---|---|---|---|
| **Relationship Status** | | | | | |
| Romantically involved (%)[a] | 41.6 | 48.2 | -6.6 | 0.145 | -0.162 |
| Living together (married or unmarried) (%)[a] | 30.0 | 35.1 | -5.1 | 0.251 | -0.142 |
| Married (%)[a] | 10.4 | 10.5 | -0.1 | 0.977 | -0.006 |
| **Relationship Quality** | | | | | |
| Support and affection abbreviated scale (range: 1 to 4)[a] | 2.79 | 2.88 | -0.09 | 0.177 | -0.118 |
| Use of constructive conflict behaviors scale (range: 1 to 4)[b] | 3.05 | 3.16 | -0.10 | 0.133 | -0.179 |
| Avoidance of destructive conflict behaviors scale (range: 1 to 4)[b] | 2.57 | 2.64 | -0.07 | 0.287 | -0.113 |
| Neither member of the couple was unfaithful since random assignment (%)[a] | 42.3 | 42.4 | -0.1 | 0.980 | -0.003 |
| **Co-Parenting** | | | | | |
| Quality of co-parenting relationship scale (range: 1 to 5)[a] | 4.05 | 4.05 | 0.00 | 0.998 | 0.000 |
| **Father's Involvement and Parenting Behavior** | | | | | |
| Father lives with child (%)[a] | 33.8 | 36.2 | -2.4 | 0.606 | -0.063 |
| Father regularly spends time with child (%)[a] | 39.4 | 47.2 | -7.8* | 0.090 | -0.193 |
| Father's engagement with child (range: 1 to 6)[c] | 4.05 | 4.11 | -0.06 | 0.657 | -0.049 |
| Mother reports that father provides substantial financial support for raising child (%)[d] | 46.7 | 50.7 | -4.0 | 0.385 | -0.098 |
| **Sample Sizes** | | | | | |
| **All couples** | **273** | **261** | | | |
| **Couples in regular contact** | **210** | **201** | | | |
| **Mothers** | **255** | **248** | | | |
| **Fathers** | **206** | **203** | | | |

Source: BSF 36-month follow-up surveys, conducted by Mathematica Policy Research.

Notes: Details on the construction of these measures are provided in the technical supplement to this report (Moore et al. 2012).

[a] Among all couples responding to the 36-month follow-up survey.

[b] Among couples who are in regular contact at the 36-month follow-up survey. Couples are considered to be in regular contact with each other if both report seeing or talking to each other at least a few times a month.

[c] Among couples in which the father responded to the 36-month follow-up survey.

[d] Among couples in which the mother responded to the 36-month follow-up survey.

***/**/* Impact estimates are statistically significant at the .01/.05/.10 level, two-tailed test.

**Table A.3b. Impacts of Building Strong Families on Child Outcomes at 36-Month Follow-Up: Baltimore**

| Outcome | Program Group | Control Group | Estimated Impact | *p*-Value | Effect Size |
|---|---|---|---|---|---|
| **Family Stability** | | | | | |
| Both parents have lived with child since birth (%)[a] | 22.2 | 26.9 | -4.8 | 0.276 | -0.156 |
| **Economic Well-Being** | | | | | |
| Family's monthly income below poverty threshold (%)[b] | 53.4 | 53.5 | -0.1 | 0.980 | -0.003 |
| Family experienced difficulty meeting housing expenses during past year (%)[b] | 43.9 | 39.8 | 4.1 | 0.389 | 0.103 |
| Family receiving TANF or food stamps (%)[b] | 80.3 | 80.1 | 0.2 | 0.967 | 0.007 |
| **Child Socio-Emotional Development** | | | | | |
| Behavior problems index (range: 1 to 3)[c] | 1.40 | 1.41 | 0.00 | 0.907 | -0.012 |
| Emotional insecurity amid parental conflict (range: 1 to 4)[d] | 1.40 | 1.49 | -0.09 | 0.139 | -0.170 |
| **Sample Sizes** | | | | | |
| **All children** | **273** | **261** | | | |
| **Children in regular contact with at least one parent** | **272** | **261** | | | |
| **Children living with at least one parent** | **272** | **258** | | | |
| **Children with parents still in regular contact** | **210** | **201** | | | |

Source: BSF 36-month follow-up surveys, conducted by Mathematica Policy Research.

Notes: Details on the construction of these measures are provided in the technical supplement to this report (Moore et al. 2012).

[a] Among all children.

[b] Among children living with at least one parent.

[c] Among children in regular contact with at least one parent. A child is considered to be in regular contact with a parent if the parent reports living with the child at least some of the time or seeing the child at least a few times per week.

[d] Among children with parents still in regular contact. Couples are considered to be in regular contact with each other if both report seeing or talking to each other at least a few times a month.

***/**/* Impact estimates are statistically significant at the .01/.05/.10 level, two-tailed test.

**Table A.4a. Impacts of Building Strong Families on Relationship and Parenting Outcomes at 36-Month Follow-Up: Baton Rouge**

| Outcome | Program Group | Control Group | Estimated Impact | *p*-Value | Effect Size |
|---|---|---|---|---|---|
| **Relationship Status** | | | | | |
| Romantically involved (%)[a] | 51.5 | 52.9 | -1.4 | 0.744 | -0.034 |
| Living together (married or unmarried) (%)[a] | 40.0 | 44.1 | -4.1 | 0.352 | -0.102 |
| Married (%)[a] | 22.5 | 21.8 | 0.6 | 0.856 | 0.021 |
| **Relationship Quality** | | | | | |
| Support and affection abbreviated scale (range: 1 to 4)[a] | 2.95 | 2.98 | -0.03 | 0.580 | -0.047 |
| Use of constructive conflict behaviors scale (range: 1 to 4)[b] | 3.20 | 3.20 | -0.01 | 0.912 | -0.012 |
| Avoidance of destructive conflict behaviors scale (range: 1 to 4)[b] | 2.69 | 2.79 | -0.10 | 0.153 | -0.151 |
| Neither member of the couple was unfaithful since random assignment (%)[a] | 50.5 | 53.4 | -2.9 | 0.507 | -0.070 |
| **Co-Parenting** | | | | | |
| Quality of co-parenting relationship scale (range: 1 to 5)[a] | 4.17 | 4.17 | 0.00 | 0.950 | -0.006 |
| **Father's Involvement and Parenting Behavior** | | | | | |
| Father lives with child (%)[a] | 43.6 | 48.1 | -4.5 | 0.290 | -0.109 |
| Father regularly spends time with child (%)[a] | 47.2 | 51.2 | -4.1 | 0.385 | -0.099 |
| Father's engagement with child (range: 1 to 6)[c] | 4.24 | 4.19 | 0.05 | 0.718 | 0.037 |
| Mother reports that father provides substantial financial support for raising child (%)[d] | 60.3 | 62.0 | -1.7 | 0.706 | -0.043 |
| **Sample Sizes** | | | | | |
| **All couples** | **244** | **259** | | | |
| **Couples in regular contact** | **186** | **208** | | | |
| **Mothers** | **224** | **236** | | | |
| **Fathers** | **200** | **203** | | | |

Source: BSF 36-month follow-up surveys, conducted by Mathematica Policy Research.

Notes: Details on the construction of these measures are provided in the technical supplement to this report (Moore et al. 2012).

[a] Among all couples responding to the 36-month follow-up survey.

[b] Among couples who are in regular contact at the 36-month follow-up survey. Couples are considered to be in regular contact with each other if both report seeing or talking to each other at least a few times a month. This analysis does not meet the study's standards for low sample attrition. Although the BSF and control groups for this analysis sample met the study's standards for equivalence on key baseline measures, these estimates should be interpreted more cautiously than other experimental impacts because of the high rate of sample attrition. See the technical supplement for this report for more details (Moore et al. 2012).

[c] Among couples in which the father responded to the 36-month follow-up survey.

[d] Among couples in which the mother responded to the 36-month follow-up survey.

***/**/* Impact estimates are statistically significant at the .01/.05/.10 level, two-tailed test.

**Table A.4b. Impacts of Building Strong Families on Child Outcomes at 36-Month Follow-Up: Baton Rouge**

| Outcome | Program Group | Control Group | Estimated Impact | *p*-Value | Effect Size |
|---|---|---|---|---|---|
| **Family Stability** | | | | | |
| Both parents have lived with child since birth (%)[a] | 37.4 | 34.8 | 2.6 | 0.538 | 0.068 |
| **Economic Well-Being** | | | | | |
| Family's monthly income below poverty threshold (%)[b] | 37.2 | 44.6 | -7.4 | 0.111 | -0.187 |
| Family experienced difficulty meeting housing expenses during past year (%)[b] | 41.6 | 42.7 | -1.2 | 0.800 | -0.029 |
| Family receiving TANF or food stamps (%)[b] | 68.0 | 70.1 | -2.1 | 0.612 | -0.059 |
| **Child Socio-Emotional Development** | | | | | |
| Behavior problems index (range: 1 to 3)[c] | 1.39 | 1.39 | 0.00 | 0.946 | 0.006 |
| Emotional insecurity amid parental conflict (range: 1 to 4)[d] | 1.39 | 1.39 | 0.00 | 0.969 | -0.005 |
| **Sample Sizes** | | | | | |
| **All children** | **244** | **259** | | | |
| **Children in regular contact with at least one parent** | **244** | **259** | | | |
| **Children living with at least one parent** | **244** | **258** | | | |
| **Children with parents still in regular contact** | **186** | **208** | | | |

Source: BSF 36-month follow-up surveys, conducted by Mathematica Policy Research.

Notes: Details on the construction of these measures are provided in the technical supplement to this report (Moore et al. 2012).

[a] Among all children.

[b] Among children living with at least one parent.

[c] Among children in regular contact with at least one parent. A child is considered to be in regular contact with a parent if the parent reports living with the child at least some of the time or seeing the child at least a few times per week.

[d] Among children with parents still in regular contact. Couples are considered to be in regular contact with each other if both report seeing or talking to each other at least a few times a month. This analysis does not meet the study's standards for low sample attrition. Although the BSF and control groups for this analysis sample met the study's standards for equivalence on key baseline measures, these estimates should be interpreted more cautiously than other experimental impacts because of the high rate of sample attrition. See the technical supplement for this report for more details (Moore et al. 2012).

***/**/* Impact estimates are statistically significant at the .01/.05/.10 level, two-tailed test.

**Table A.5a. Impacts of Building Strong Families on Relationship and Parenting Outcomes at 36-Month Follow-Up: Florida Counties**

| Outcome | Program Group | Control Group | Estimated Impact | *p*-Value | Effect Size |
|---|---|---|---|---|---|
| **Relationship Status** | | | | | |
| Romantically involved (%)[a] | 54.8 | 67.4 | -12.7*** | 0.002 | -0.325 |
| Living together (married or unmarried) (%)[a] | 39.5 | 51.7 | -12.2*** | 0.003 | -0.300 |
| Married (%)[a] | 15.8 | 20.3 | -4.5 | 0.163 | -0.185 |
| **Relationship Quality** | | | | | |
| Support and affection abbreviated scale (range: 1 to 4)[a] | 3.00 | 3.09 | -0.10 | 0.129 | -0.135 |
| Use of constructive conflict behaviors scale (range: 1 to 4)[b] | 3.20 | 3.26 | -0.06 | 0.318 | -0.099 |
| Avoidance of destructive conflict behaviors scale (range: 1 to 4)[b] | 2.77 | 2.87 | -0.09 | 0.119 | -0.145 |
| Neither member of the couple was unfaithful since random assignment (%)[a] | 61.8 | 65.9 | -4.0 | 0.352 | -0.105 |
| **Co-Parenting** | | | | | |
| Quality of co-parenting relationship scale (range: 1 to 5)[a] | 4.22 | 4.35 | -0.12* | 0.059 | -0.159 |
| **Father's Involvement and Parenting Behavior** | | | | | |
| Father lives with child (%)[a] | 43.4 | 53.3 | -9.9** | 0.017 | -0.242 |
| Father regularly spends time with child (%)[a] | 50.0 | 60.9 | -10.9*** | 0.009 | -0.269 |
| Father's engagement with child (range: 1 to 6)[c] | 4.28 | 4.47 | -0.19 | 0.117 | -0.158 |
| Mother reports that father provides substantial financial support for raising child (%)[d] | 61.5 | 67.7 | -6.3 | 0.137 | -0.166 |
| **Sample Sizes** | | | | | |
| **All couples** | **296** | **301** | | | |
| **Couples in regular contact** | **240** | **266** | | | |
| **Mothers** | **275** | **282** | | | |
| **Fathers** | **223** | **253** | | | |

Source: BSF 36-month follow-up surveys, conducted by Mathematica Policy Research.

Notes: Details on the construction of these measures are provided in the technical supplement to this report (Moore et al. 2012).

[a] Among all couples responding to the 36-month follow-up survey.

[b] Among couples who are in regular contact at the 36-month follow-up survey. Couples are considered to be in regular contact with each other if both report seeing or talking to each other at least a few times a month. This analysis does not meet the study's standards for low sample attrition. Although the BSF and control groups for this analysis sample met the study's standards for equivalence on key baseline measures, these estimates should be interpreted more cautiously than other experimental impacts because of the high rate of sample attrition. See the technical supplement for this report for more details (Moore et al. 2012).

[c] Among couples in which the father responded to the 36-month follow-up survey. This analysis does not meet the study's standards for low sample attrition. Although the BSF and control groups for this analysis sample met the study's standards for equivalence on key baseline measures, these estimates should be interpreted more cautiously than other experimental impacts because of the high rate of sample attrition. See the technical supplement for this report for more details (Moore et al. 2012).

[d] Among couples in which the mother responded to the 36-month follow-up survey.

***/**/* Impact estimates are statistically significant at the .01/.05/.10 level, two-tailed test.

**Table A.5b. Impacts of Building Strong Families on Child Outcomes at 36-Month Follow-Up: Florida Counties**

| Outcome | Program Group | Control Group | Estimated Impact | *p*-Value | Effect Size |
|---|---|---|---|---|---|
| **Family Stability** | | | | | |
| Both parents have lived with child since birth (%)[a] | 33.4 | 46.6 | -13.2*** | 0.001 | -0.336 |
| **Economic Well-Being** | | | | | |
| Family's monthly income below poverty threshold (%)[b] | 45.3 | 42.5 | 2.8 | 0.533 | 0.069 |
| Family experienced difficulty meeting housing expenses during past year (%)[b] | 49.2 | 50.8 | -1.5 | 0.725 | -0.037 |
| Family receiving TANF or food stamps (%)[b] | 55.0 | 55.7 | -0.7 | 0.876 | -0.017 |
| **Child Socio-Emotional Development** | | | | | |
| Behavior problems index (range: 1 to 3)[c] | 1.33 | 1.37 | -0.04 | 0.109 | -0.147 |
| Emotional insecurity amid parental conflict (range: 1 to 4)[d] | 1.37 | 1.37 | 0.00 | 0.994 | 0.001 |
| **Sample Sizes** | | | | | |
| **All children** | **296** | **301** | | | |
| **Children in regular contact with at least one parent** | **296** | **301** | | | |
| **Children living with at least one parent** | **295** | **301** | | | |
| **Children with parents still in regular contact** | **240** | **266** | | | |

Source: BSF 36-month follow-up surveys, conducted by Mathematica Policy Research.

Notes: Details on the construction of these measures are provided in the technical supplement to this report (Moore et al. 2012).

[a] Among all children.

[b] Among children living with at least one parent.

[c] Among children in regular contact with at least one parent. A child is considered to be in regular contact with a parent if the parent reports living with the child at least some of the time or seeing the child at least a few times per week.

[d] Among children with parents still in regular contact. Couples are considered to be in regular contact with each other if both report seeing or talking to each other at least a few times a month. This analysis does not meet the study's standards for low sample attrition. Although the BSF and control groups for this analysis sample met the study's standards for equivalence on key baseline measures, these estimates should be interpreted more cautiously than other experimental impacts because of the high rate of sample attrition. See the technical supplement for this report for more details (Moore et al. 2012).

***/**/* Impact estimates are statistically significant at the .01/.05/.10 level, two-tailed test.

**Table A.6. Impacts of Building Strong Families at 36-Month Follow-Up: Houston**

Because of differences between the survey response rates of the program and control groups, analyses of Houston data do not meet the study's standards for an acceptable level of risk of bias in estimating impacts. Therefore, Houston results are reported only in the technical supplement to this report (Moore et al. 2012). See the technical supplement for more information.

**Table A.7a. Impacts of Building Strong Families on Relationship and Parenting Outcomes at 36-Month Follow-Up: Indiana Counties**

| Outcome | Program Group | Control Group | Estimated Impact | *p*-Value | Effect Size |
|---|---|---|---|---|---|
| **Relationship Status** | | | | | |
| Romantically involved (%)[a] | 58.3 | 62.5 | -4.2 | 0.432 | -0.105 |
| Living together (married or unmarried) (%)[a] | 48.5 | 50.4 | -1.9 | 0.716 | -0.046 |
| Married (%)[a] | 21.2 | 24.3 | -3.1 | 0.449 | -0.106 |
| **Relationship Quality** | | | | | |
| Support and affection abbreviated scale (range: 1 to 4)[a] | 3.01 | 3.03 | -0.02 | 0.826 | -0.023 |
| Use of constructive conflict behaviors scale (range: 1 to 4)[b] | 3.19 | 3.21 | -0.02 | 0.785 | -0.032 |
| Avoidance of destructive conflict behaviors scale (range: 1 to 4)[b] | 2.70 | 2.73 | -0.03 | 0.726 | -0.039 |
| Neither member of the couple was unfaithful since random assignment (%)[a] | 56.4 | 60.4 | -4.0 | 0.441 | -0.099 |
| **Co-Parenting** | | | | | |
| Quality of co-parenting relationship scale (range: 1 to 5)[a] | 4.19 | 4.22 | -0.03 | 0.682 | -0.043 |
| **Father's Involvement and Parenting Behavior** | | | | | |
| Father lives with child (%)[a] | 53.3 | 52.7 | 0.6 | 0.918 | 0.013 |
| Father regularly spends time with child (%)[a] | 53.9 | 60.1 | -6.3 | 0.250 | -0.155 |
| Father's engagement with child (range: 1 to 6)[c] | 4.22 | 4.31 | -0.09 | 0.586 | -0.070 |
| Mother reports that father provides substantial financial support for raising child (%)[d] | 59.8 | 68.7 | -8.9 | 0.105 | -0.235 |
| **Sample Sizes** | | | | | |
| **All couples** | **201** | **197** | | | |
| **Couples in regular contact** | **166** | **171** | | | |
| **Mothers** | **191** | **184** | | | |
| **Fathers** | **177** | **173** | | | |

Source: BSF 36-month follow-up surveys, conducted by Mathematica Policy Research.

Notes: Details on the construction of these measures are provided in the technical supplement to this report (Moore et al. 2012).

[a] Among all couples responding to the 36-month follow-up survey.

[b] Among couples who are in regular contact at the 36-month follow-up survey. Couples are considered to be in regular contact with each other if both report seeing or talking to each other at least a few times a month.

[c] Among couples in which the father responded to the 36-month follow-up survey.

[d] Among couples in which the mother responded to the 36-month follow-up survey.

***/**/* Impact estimates are statistically significant at the .01/.05/.10 level, two-tailed test.

**Table A.7b. Impacts of Building Strong Families on Child Outcomes at 36-Month Follow-Up: Indiana Counties**

| Outcome | Program Group | Control Group | Estimated Impact | *p*-Value | Effect Size |
|---|---|---|---|---|---|
| **Family Stability** | | | | | |
| Both parents have lived with child since birth (%)[a] | 43.2 | 45.9 | -2.8 | 0.601 | -0.068 |
| **Economic Well-Being** | | | | | |
| Family's monthly income below poverty threshold (%)[b] | 49.1 | 38.0 | 11.1* | 0.068 | 0.274 |
| Family experienced difficulty meeting housing expenses during past year (%)[b] | 42.2 | 47.4 | -5.2 | 0.358 | -0.127 |
| Family receiving TANF or food stamps (%)[b] | 72.6 | 60.9 | 11.7** | 0.016 | 0.321 |
| **Child Socio-Emotional Development** | | | | | |
| Behavior problems index (range: 1 to 3)[c] | 1.40 | 1.43 | -0.03 | 0.319 | -0.109 |
| Emotional insecurity amid parental conflict (range: 1 to 4)[d] | 1.48 | 1.50 | -0.02 | 0.820 | -0.030 |
| **Sample Sizes** | | | | | |
| **All children** | **201** | **197** | | | |
| **Children in regular contact with at least one parent** | **199** | **197** | | | |
| **Children living with at least one parent** | **199** | **197** | | | |
| **Children with parents still in regular contact** | **165** | **171** | | | |

Source: BSF 36-month follow-up surveys, conducted by Mathematica Policy Research.

Notes: Details on the construction of these measures are provided in the technical supplement to this report (Moore et al. 2012).

[a] Among all children.

[b] Among children living with at least one parent.

[c] Among children in regular contact with at least one parent. A child is considered to be in regular contact with a parent if the parent reports living with the child at least some of the time or seeing the child at least a few times per week.

[d] Among children with parents still in regular contact. Couples are considered to be in regular contact with each other if both report seeing or talking to each other at least a few times a month.

***/**/* Impact estimates are statistically significant at the .01/.05/.10 level, two-tailed test.

**Table A.8a. Impacts of Building Strong Families on Relationship and Parenting Outcomes at 36-Month Follow-Up: Oklahoma City**

| Outcome | Program Group | Control Group | Estimated Impact | *p*-Value | Effect Size |
|---|---|---|---|---|---|
| **Relationship Status** | | | | | |
| Romantically involved (%)[a] | 59.2 | 58.3 | 0.9 | 0.802 | 0.021 |
| Living together (married or unmarried) (%)[a] | 51.4 | 48.3 | 3.1 | 0.347 | 0.076 |
| Married (%)[a] | 25.4 | 26.5 | -1.1 | 0.675 | -0.035 |
| **Relationship Quality** | | | | | |
| Support and affection abbreviated scale (range: 1 to 4)[a] | 3.01 | 2.97 | 0.04 | 0.478 | 0.053 |
| Use of constructive conflict behaviors scale (range: 1 to 4)[b] | 3.21 | 3.20 | 0.01 | 0.824 | 0.018 |
| Avoidance of destructive conflict behaviors scale (range: 1 to 4)[b] | 2.76 | 2.74 | 0.02 | 0.741 | 0.026 |
| Neither member of the couple was unfaithful since random assignment (%)[a] | 67.1 | 59.6 | 7.5** | 0.027 | 0.196 |
| **Co-Parenting** | | | | | |
| Quality of co-parenting relationship scale (range: 1 to 5)[a] | 4.16 | 4.11 | 0.05 | 0.375 | 0.061 |
| **Father's Involvement and Parenting Behavior** | | | | | |
| Father lives with child (%)[a] | 55.3 | 51.9 | 3.4 | 0.317 | 0.084 |
| Father regularly spends time with child (%)[a] | 54.1 | 55.6 | -1.4 | 0.684 | -0.035 |
| Father's engagement with child (range: 1 to 6)[c] | 4.15 | 4.30 | -0.15 | 0.138 | -0.122 |
| Mother reports that father provides substantial financial support for raising child (%)[d] | 63.8 | 62.0 | 1.8 | 0.600 | 0.047 |
| **Sample Sizes** | | | | | |
| **All couples** | **420** | **432** | | | |
| **Couples in regular contact** | **337** | **353** | | | |
| **Mothers** | **397** | **411** | | | |
| **Fathers** | **339** | **343** | | | |

Source: BSF 36-month follow-up surveys, conducted by Mathematica Policy Research.

Notes: Details on the construction of these measures are provided in the technical supplement to this report (Moore et al. 2012).

[a] Among all couples responding to the 36-month follow-up survey.

[b] Among couples who are in regular contact at the 36-month follow-up survey. Couples are considered to be in regular contact with each other if both report seeing or talking to each other at least a few times a month.

[c] Among couples in which the father responded to the 36-month follow-up survey.

[d] Among couples in which the mother responded to the 36-month follow-up survey.

***/**/* Impact estimates are statistically significant at the .01/.05/.10 level, two-tailed test.

**Table A.8b. Impacts of Building Strong Families on Child Outcomes at 36-Month Follow-Up: Oklahoma City**

| Outcome | Program Group | Control Group | Estimated Impact | *p*-Value | Effect Size |
|---|---|---|---|---|---|
| **Family Stability** | | | | | |
| Both parents have lived with child since birth (%)[a] | 48.9 | 41.4 | 7.5** | 0.025 | 0.185 |
| **Economic Well-Being** | | | | | |
| Family's monthly income below poverty threshold (%)[b] | 42.5 | 42.1 | 0.5 | 0.909 | 0.012 |
| Family experienced difficulty meeting housing expenses during past year (%)[b] | 44.2 | 41.8 | 2.4 | 0.509 | 0.059 |
| Family receiving TANF or food stamps (%)[b] | 55.8 | 59.2 | -3.3 | 0.292 | -0.083 |
| **Child Socio-Emotional Development** | | | | | |
| Behavior problems index (range: 1 to 3)[c] | 1.40 | 1.40 | 0.00 | 0.950 | 0.005 |
| Emotional insecurity amid parental conflict (range: 1 to 4)[d] | 1.39 | 1.40 | -0.01 | 0.825 | -0.020 |
| **Sample Sizes** | | | | | |
| **All children** | **420** | **432** | | | |
| **Children in regular contact with at least one parent** | **416** | **427** | | | |
| **Children living with at least one parent** | **414** | **421** | | | |
| **Children with parents still in regular contact** | **334** | **351** | | | |

Source: BSF 36-month follow-up surveys, conducted by Mathematica Policy Research.

Notes: Details on the construction of these measures are provided in the technical supplement to this report (Moore et al. 2012).

[a] Among all children.

[b] Among children living with at least one parent.

[c] Among children in regular contact with at least one parent. A child is considered to be in regular contact with a parent if the parent reports living with the child at least some of the time or seeing the child at least a few times per week.

[d] Among children with parents still in regular contact. Couples are considered to be in regular contact with each other if both report seeing or talking to each other at least a few times a month.

***/**/* Impact estimates are statistically significant at the .01/.05/.10 level, two-tailed test.

**Table A.9a. Impacts of Building Strong Families on Relationship and Parenting Outcomes at 36-Month Follow-Up: San Angelo**

| Outcome | Program Group | Control Group | Estimated Impact | *p*-Value | Effect Size |
|---|---|---|---|---|---|
| **Relationship Status** | | | | | |
| Romantically involved (%)[a] | 62.6 | 61.2 | 1.5 | 0.810 | 0.037 |
| Living together (married or unmarried) (%)[a] | 52.0 | 51.9 | 0.1 | 0.989 | 0.002 |
| Married (%)[a] | 20.3 | 21.1 | -0.8 | 0.863 | -0.029 |
| **Relationship Quality** | | | | | |
| Support and affection abbreviated scale (range: 1 to 4)[a] | 3.09 | 3.05 | 0.04 | 0.655 | 0.056 |
| Use of constructive conflict behaviors scale (range: 1 to 4)[b] | 3.32 | 3.24 | 0.08 | 0.329 | 0.139 |
| Avoidance of destructive conflict behaviors scale (range: 1 to 4)[b] | 2.84 | 2.77 | 0.07 | 0.398 | 0.115 |
| Neither member of the couple was unfaithful since random assignment (%)[a] | 56.2 | 62.9 | -6.7 | 0.269 | -0.168 |
| **Co-Parenting** | | | | | |
| Quality of co-parenting relationship scale (range: 1 to 5)[a] | 4.24 | 4.19 | 0.05 | 0.644 | 0.065 |
| **Father's Involvement and Parenting Behavior** | | | | | |
| Father lives with child (%)[a] | 54.4 | 55.9 | -1.5 | 0.814 | -0.036 |
| Father regularly spends time with child (%)[a] | 56.5 | 58.3 | -1.8 | 0.774 | -0.044 |
| Father's engagement with child (range: 1 to 6)[c] | 4.37 | 4.44 | -0.07 | 0.684 | -0.059 |
| Mother reports that father provides substantial financial support for raising child (%)[d] | 70.2 | 69.0 | 1.2 | 0.851 | 0.033 |
| **Sample Sizes** | | | | | |
| **All couples** | **141** | **141** | | | |
| **Couples in regular contact** | **116** | **113** | | | |
| **Mothers** | **128** | **126** | | | |
| **Fathers** | **113** | **110** | | | |

Source: BSF 36-month follow-up surveys, conducted by Mathematica Policy Research.

Notes: Details on the construction of these measures are provided in the technical supplement to this report (Moore et al. 2012).

[a] Among all couples responding to the 36-month follow-up survey.

[b] Among couples who are in regular contact at the 36-month follow-up survey. Couples are considered to be in regular contact with each other if both report seeing or talking to each other at least a few times a month.

[c] Among couples in which the father responded to the 36-month follow-up survey.

[d] Among couples in which the mother responded to the 36-month follow-up survey.

***/**/* Impact estimates are statistically significant at the .01/.05/.10 level, two-tailed test.

**Table A.9b. Impacts of Building Strong Families on Child Outcomes at 36-Month Follow-Up: San Angelo**

| Outcome | Program Group | Control Group | Estimated Impact | *p*-Value | Effect Size |
|---|---|---|---|---|---|
| **Family Stability** | | | | | |
| Both parents have lived with child since birth (%)[a] | 43.9 | 43.5 | 0.4 | 0.945 | 0.010 |
| **Economic Well-Being** | | | | | |
| Family's monthly income below poverty threshold (%)[b] | 36.9 | 45.2 | -8.3 | 0.183 | -0.209 |
| Family experienced difficulty meeting housing expenses during past year (%)[b] | 48.1 | 36.9 | 11.1* | 0.080 | 0.277 |
| Family receiving TANF or food stamps (%)[b] | 58.5 | 61.0 | -2.4 | 0.666 | -0.061 |
| **Child Socio-Emotional Development** | | | | | |
| Behavior problems index (range: 1 to 3)[c] | 1.38 | 1.40 | -0.02 | 0.531 | -0.078 |
| Emotional insecurity amid parental conflict (range: 1 to 4)[d] | 1.46 | 1.43 | 0.03 | 0.680 | 0.065 |
| **Sample Sizes** | | | | | |
| **All children** | **141** | **141** | | | |
| **Children in regular contact with at least one parent** | **141** | **141** | | | |
| **Children living with at least one parent** | **140** | **140** | | | |
| **Children with parents still in regular contact** | **116** | **113** | | | |

Source: BSF 36-month follow-up surveys, conducted by Mathematica Policy Research.

Notes: Details on the construction of these measures are provided in the technical supplement to this report (Moore et al. 2012).

[a] Among all children.

[b] Among children living with at least one parent.

[c] Among children in regular contact with at least one parent. A child is considered to be in regular contact with a parent if the parent reports living with the child at least some of the time or seeing the child at least a few times per week.

[d] Among children with parents still in regular contact. Couples are considered to be in regular contact with each other if both report seeing or talking to each other at least a few times a month.

***/**/* Impact estimates are statistically significant at the .01/.05/.10 level, two-tailed test.

# APPENDIX B

# IMPACTS ON KEY OUTCOMES AT 15- AND 36-MONTH FOLLOW-UPS

**Table B.1. Impact of BSF on Relationship and Parenting Outcomes at 15- and 36-Month Follow-Ups**

| Outcome | 15-Month Follow-Up | | | | | 36-Month Follow-Up | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Program Group | Control Group | Impact | *p*-Value | Effect Size | Program Group | Control Group | Impact | *p*-Value | Effect Size |
| **Relationship Status** | | | | | | | | | | |
| Romantically involved (%) | 76.0 | 77.1 | -1.1 | 0.418 | -0.038 | 57.4 | 60.5 | -3.2* | 0.053 | -0.079 |
| Living together (married or unmarried) (%) | 61.5 | 61.5 | 0.0 | 0.998 | 0.000 | 46.9 | 49.5 | -2.6* | 0.100 | -0.064 |
| Married (%) | 16.6 | 17.9 | -1.3 | 0.201 | -0.057 | 20.6 | 20.9 | -0.3 | 0.817 | -0.011 |
| **Relationship Quality** | | | | | | | | | | |
| Relationship happiness scale (range: 0 to10) | 8.37 | 8.32 | 0.06 | 0.257 | 0.040 | 8.29 | 8.30 | -0.01 | 0.868 | -0.008 |
| Support and affection scale (range: 1 to 4) | 3.46 | 3.45 | 0.01 | 0.398 | 0.029 | 3.43 | 3.43 | 0.00 | 0.989 | 0.001 |
| Use of constructive conflict behaviors scale (range: 1 to 4) | 3.26 | 3.23 | 0.03 | 0.139 | 0.048 | 3.22 | 3.22 | -0.01 | 0.770 | -0.011 |
| Avoidance of destructive conflict behaviors scale (range: 1 to 4) | 2.76 | 2.75 | 0.01 | 0.765 | 0.010 | 2.75 | 2.78 | -0.03 | 0.130 | -0.054 |
| Neither member of the couple was unfaithful since random assignment (%) | 74.8 | 73.0 | 1.8 | 0.215 | 0.056 | 58.2 | 59.0 | -0.8 | 0.628 | -0.020 |
| **Intimate Partner Violence** | | | | | | | | | | |
| Mother reports any severe physical assault (%) | 9.9 | 10.1 | -0.2 | 0.888 | -0.007 | 8.5 | 7.0 | 1.5 | 0.115 | 0.130 |
| Father reports any severe physical assault (%) | 11.2 | 12.2 | -1.0 | 0.380 | -0.060 | 9.3 | 7.8 | 1.5 | 0.147 | 0.115 |
| **Attitudes Toward Marriage** | | | | | | | | | | |
| Mothers' attitudes toward marriage scale (range: 1 to 4) | 3.07 | 3.02 | 0.05** | 0.039 | 0.068 | 3.06 | 3.00 | 0.06** | 0.015 | 0.083 |
| Fathers' attitudes toward marriage scale (range: 1 to 4) | 3.18 | 3.17 | 0.01 | 0.726 | 0.013 | 3.16 | 3.11 | 0.05** | 0.044 | 0.076 |
| **Sample Size** | **2,217** | **2,207** | | | | **2,129** | **2,118** | | | |

Source: BSF 15- and 36-month follow-up surveys, conducted by Mathematica Policy Research.

Notes: At 15-month follow-up, 77 percent of couples were still romantically involved with their BSF partner; at 36-month follow-up, this figure was 59 percent. Only these couples were included in the analysis of relationship happiness and support and affection. At 15-month follow-up, 91 percent of couples were still in regular contact; at 36-month follow-up, this figure was 79 percent. Only these couples were included in the analysis of conflict management measures. Analyses indicated that the two research groups had similar initial characteristics for the samples used to estimate these impacts. See the technical supplements to this report (Moore et al. 2012) and to the 15-month report (Wood et al. 2010) for more details. All couples were included in the analysis of fidelity, intimate partner violence, and marriage attitudes.

***/**/* Impact estimates are statistically significant at the .01/.05/.10 level, two-tailed test.

**Table B.2. Impact of BSF on Parenting, Family Stability, and Economic Stability at 15- and 36-Month Follow-Ups**

| Outcome | 15-Month Follow-Up | | | | | 36-Month Follow-Up | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Program Group | Control Group | Impact | *p*-Value | Effect Size | Program Group | Control Group | Impact | *p*-Value | Effect Size |
| **Co-Parenting** | | | | | | | | | | |
| Quality of co-parenting relationship scale (range: 1 to 5) | 4.37 | 4.37 | 0.00 | 0.963 | 0.001 | 4.19 | 4.21 | -0.02 | 0.510 | -0.022 |
| **Father's Involvement and Parenting Behavior** | | | | | | | | | | |
| Father lives with child (%) | 64.0 | 63.1 | 0.9 | 0.550 | 0.024 | 50.1 | 51.8 | -1.7 | 0.308 | -0.040 |
| Father regularly spends time with child (%) | 66.1 | 68.6 | -2.5 | 0.105 | -0.069 | 52.4 | 56.1 | -3.6** | 0.032 | -0.089 |
| Father's engagement with child (range: 1 to 6) | 4.87 | 4.89 | -0.03 | 0.419 | -0.028 | 4.22 | 4.26 | -0.04 | 0.429 | -0.031 |
| Mother reports father provides substantial financial support for raising child (%) | 75.5 | 76.3 | -0.8 | 0.578 | -0.026 | 62.8 | 65.6 | -2.8* | 0.096 | -0.073 |
| **Mother's Parenting Behavior** | | | | | | | | | | |
| Engagement in cognitive and social play (range: 1 to 6) | 5.16 | 5.12 | 0.04 | 0.128 | 0.053 | 4.91 | 4.95 | -0.04 | 0.281 | -0.041 |
| **Parent Emotional Well-Being** | | | | | | | | | | |
| Father's CES-D scale of depressive symptoms (range: 0 to 36) | 4.09 | 4.69 | -0.60*** | 0.003 | -0.101 | 4.05 | 4.28 | -0.23 | 0.284 | -0.038 |
| Mother's CES-D scale of depressive symptoms (range: 0 to 36) | 4.80 | 5.48 | -0.68*** | 0.001 | -0.103 | 4.48 | 4.82 | -0.34 | 0.116 | -0.053 |
| **Family Stability** | | | | | | | | | | |
| Both parents have lived with child since birth (%) | 50.3 | 49.4 | 0.9 | 0.565 | 0.021 | 42.3 | 42.7 | -0.4 | 0.810 | -0.010 |
| **Economic Well-Being** | | | | | | | | | | |
| Family's monthly income below poverty threshold (%) | 51.3 | 52.3 | -1.0 | 0.568 | -0.025 | 46.5 | 46.9 | -0.4 | 0.824 | -0.010 |
| Family experienced difficulty meeting housing expenses during past year (%) | 44.9 | 44.1 | 0.8 | 0.612 | 0.020 | 44.1 | 44.0 | 0.1 | 0.956 | 0.002 |
| Family receiving TANF or food stamps (%) | 56.1 | 55.3 | 0.8 | 0.599 | 0.020 | 66.4 | 65.4 | 0.9 | 0.564 | 0.025 |
| **Sample Size** | **2,217** | **2,207** | | | | **2,129** | **2,118** | | | |

Source: BSF 15- and 36-month follow-up surveys, conducted by Mathematica Policy Research.

Notes: The measures of economic stability combine responses from mothers and fathers and are defined if at least one residential parent responded. The measure of father engagement at 15-month follow-up is the mean of fathers' responses to items pertaining to engagement in care-giving activities and in cognitive and social play; the analogous measure at 36-month follow-up includes these items as well as items related to physical play that were not collected at 15-month follow-up. See the technical supplements to this report (Moore et al. 2012) and to the 15-month report (Wood et al. 2010) for more details on variable construction.

.***/**/* Impact estimates are statistically significant at the .01/.05/.10 level, two-tailed test.


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