Our random assignment evaluation found that this type of mentoring had a significant positive effect on youths ages 10 to 16. Over the 18-month follow-up period, youths participating in Big Brothers Big Sisters Programs were significantly less likely to have started using illegal drugs or alcohol, hit someone, or skipped school. They were also more confident about their school performance and got along better with their families. Mentors were carefully screened, trained, and matched with a youth whom they met, on average, three or four times a month for approximately a year. The program also provides careful professional supervision of these matches.

DOES MENTORING WORK?

An Impact Study of the Big Brothers Big Sisters Program

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The past decade has seen widespread enthusiasm for mentoring as a way to address the needs and problems of youths but no firm evidence that mentoring programs produce results. In this article, we provide solid evidence that mentoring, as done by Big Brothers Big Sisters (BBBS), has many positive and socially important effects on the lives of its young participants.

AUTHORS' NOTE: *Demonstration research is always a team effort. In this case, the team included national- and local-level Big Brothers Big Sisters Program staff—Thomas McKenna, Dagmar McGill, David Schirner, John Hamilton, Frank Ringo, Peggy Turner, Fairan Jones, Linda Anderson, Michael Charland, Tom Weber, Cheryl Thomas, Linda Searfoss, Madeleine Stilwell, Elizabeth Callaghan, John Walker, Lori Vanauken, Sharon Baughman, Kathy Blizzard, Nick Mork, and Janet Rhodes—and Public/Private Venture (P/PV) staff (alphabetically)—Alvia Branch, Carol Dash, Kathryn Furano, Eleanor Hammond, Danista Hunte, Natalie Jaffe, Kristine Morrow, Phoebe Roaf, Cindy Sipe, Melanie Styles, Batia Trietsch, and Chris Welser. P/PV's Nancy Resch deserves special thanks for conducting all the analysis for this article. The research design and written products benefited from the wisdom of (alphabetically): Richard Danzig,*

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1. THE NATURE OF THE PROBLEM

Theory and empirical work have found that support and guidance from adults are critical to the process that allows all adolescents to grow into responsible adults (Haensly and Parsons 1993; Tietjen 1989; Hirsch and Reisch 1985). Young people themselves often attribute their success to an adult who came into their lives and paid attention to them (Levine and Nidiffer 1996; Anderson 1991; Higgins 1988). Of particular interest to the policy community is the growing body of research on youths who live in high-risk environments that suggests that supportive relationships with unrelated adults can mitigate adversities' negative effects on youth development (Rhodes, Ebert, and Meyers 1994; Furstenberg 1993; Werner and Smith 1992; Rutter 1987; Cowen and Work 1988; Garmezy 1985).

Yet, today there is a scarcity of such support, especially for poor youth. The institutions we have historically relied on to provide youths with adult support and guidance—families, schools, and neighborhoods—have changed in ways that reduce their capacity to deliver such support (Scales 1991; Wynn et al. 1987). There are fewer adults in families today; more than one in four children is born into a single-parent home, and half of the current generation of children will live in a single-parent household during some part of their childhood. Cuts in school budgets have resulted in even fewer adults per child. And declining neighborhood safety has led to social isolation and restricted opportunities for intergenerational contact.

Recognizing the needs of youths who lack close adult attention, the number of programs that provide adult support for young people, particularly youths living in poverty, has dramatically increased. Yet, there is no evidence whether artificially created support makes a difference. This article provides the evidence that BBBS—a mentoring program that facilitates meaningful and long-lasting adult/youth relationships—does make a difference.

Before presenting our findings on how BBBS improves the lives of the Little Brothers and Little Sisters, a number of characteristics about the program and the evaluation are described. Section 2 describes the BBBS program model and describes the practices of the eight agencies that participated in this impact study. Section 3 describes the design of the evaluation. Section 4 describes the characteristics of youths who participated in the study.

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Section 5 then presents the evidence on how youths who participated in a BBBS program differed, 18 months later, from similar youths who were randomly assigned to a control group. The final section summarizes the positive impacts that BBBS has on youths and draws some policy implications about mentoring programs in general.

2. THE BIG BROTHERS BIG SISTERS PROGRAM AND STUDY AGENCIES

The BBBS program pairs unrelated adult volunteers with youths from single-parent households with an approach that is intensive in delivery and broad in scope. The time commitment made by both the volunteer and the youth is substantial—the volunteer and youth agree to meet two to four times per month for at least one year, with a typical meeting lasting three to four hours. BBBS is not a program targeted at ameliorating specific problems, but rather at providing a youth with an adult friend. The friendship forged with a youth by the Big Brother or Big Sister creates the framework through which the mentor can support and aid the youth.

Behind the hundreds of matches each agency oversees is a professional staff and national operating standards that guide these professionals in (a) screening volunteers to protect the youths by identifying and screening out applicants who pose a safety risk, are unlikely to honor their time commitment, or are unlikely to form positive relationships with the youths (Roaf, Tierney, and Hunte 1994); (b) screening the youths to ensure they as well as their parents want a mentor;[1] (c) orienting and training of volunteers and youths; and (d) creating and supervising matches.

Unlike many other mentoring programs, BBBS emphasizes supervision in an effort to facilitate effective matches. National requirements specify that contact must be made with the parent, youth, and volunteer within 2 weeks of the match. Monthly telephone contact with the volunteer is required during the first year of the match, as is monthly contact with the parent and/or youth. The youth must be contacted directly at least four times during the first year. Once the first year of the match has concluded, the requirement for case worker contact with the participants is reduced to once per quarter. Case managers also support the match by providing guidance when problems arise in the relationship.

From the network of more than 500 BBBS local agencies, we selected 8 in which to study the effects of the program on youths. In order to not reduce the number of youths served by the agency during the research intake period,

to not deny service to youths for substantially longer than normal, and to generate the number of youths needed for this study, only agencies with relatively large caseloads and waiting lists were considered. In addition, the agencies were chosen for geographic diversity.

The selected agencies were BBBS of Alamo Area (San Antonio, Texas), BBBS Association of Columbus and Franklin County (Columbus, Ohio), BB&S of Houston, BBBS of Greater Minneapolis, BBBS Association of Philadelphia, Community Partners for Youth (Rochester, New York), BB&S of Sedgewick County (Wichita, Kansas), and Valley BBBS (Phoenix, Arizona).[2] The eight study agencies were among the largest in the BBBS federation, with an average active caseload of 528.[3] There were a total of 4,221 matches in the eight agencies, representing approximately 6% of all BBBS matches during 1992.

3. EVALUATION DESIGN

The effect BBBS had on youths was determined using a random assignment evaluation design. During the study's intake period, half of the applicants to the agencies were randomly selected for the control group and put on the waiting list for a Big Brother or Big Sister for 18 months, whereas case managers attempted to match the other randomly selected group (the treatment group) as soon as possible. The impact of BBBS was determined by comparing the outcomes of these two groups 18 months later.

Between October 1991 and February 1993, the sample intake period, all youths between the ages of 10 and 16[4] who came to the study agencies were required to participate in the research intake procedures.[5] After the youths and their parents agreed to participate in the research, agency staff reviewed each application and determined whether the youth was eligible for the program, using their usual procedures. Once a youth was determined to be eligible, Public/Private Ventures (P/PV) randomly assigned him or her to either the treatment or control group.[6]

Agencies were required to implement the random assignment procedures until they reached their sample size goal or until February 1993, whichever came first. Depending on the size of their caseloads, agencies were assigned varying sample size goals—two agencies had a goal of 230, five had a goal of 150, and one had a goal of 80. Ultimately 1,138 youths from eight agencies were enrolled in the study over a 17-month period.

The primary data sources were the baseline and follow-up questionnaires, which collected background information about sample members' families, as

TABLE 1: Sample Composition

	Treatment	*Control*	*Total*
Number of youths randomly assigned	571	567	1,138
Number of youths with baseline surveys	554 (97.0%)	553 (97.5%)	1,107 (97.3%)
Number of youths in the analysis sample	487 (85.3%)	472 (83.2%)	959 (84.3%)

well as measures of the outcome variables. Case mangers supplemented these data by providing information about the young person and, if applicable, the mentor at the time of random assignment, match, and 18-months after random assignment.

Table 1 shows that among the 1,138 youths who were randomly assigned to either the treatment or control group, 1,107 (97.3%) completed a baseline interview. From April 1993 to September 1994, follow-up interviews were attempted with these 1,107 youths; interviewers completed 959, or 84.3%.

4. THE SAMPLE YOUTHS, THE VOLUNTEERS, AND THE MATCH

Tables 2 and 3 describe the 959 young people who compose the members of the analysis sample. Because there were no meaningful differences in the baseline characteristics of the treatment and control youths,[7] we do not present separate treatment/control percentages when discussing the background characteristics of the youths except in Table 2, which presents the age, race, and gender of the analysis sample. Table 3 contains information for the sample as a whole and for six subgroups: boys, girls, minority boys, minority girls, White boys, and White girls. We examine the impact of the program on these subgroups because the BBBS agencies think of their caseload in these terms.

Table 2 shows the race/gender and age for the 959 youths in the analysis sample (487 treatments and 472 controls). Just over half the analysis sample youths were boys (62.4%), and approximately half were members of a minority group (56.8%). Seventy-one percent of the minority youths were African Americans, 18% Hispanic, and the rest were members of a variety of other racial/ethnic groups. The bulk of the youths (69%) came to the program between the ages of 11 and 13.

More than 40% of the youths lived in households that were receiving food stamps and/or cash public assistance. Minority girls were the most likely to live in homes collecting welfare (62.6%), whereas White boys were the least

TABLE 2: Race/Gender and Age of Youths by Treatment Status

Characteristics	*Treatments*	*Controls*	*Overall*
Race/gender (%)			
Minority girls	21.8	23.6	22.7
White girls	15.6	14.0	14.9
Minority boys	33.1	35.1	34.1
White boys	29.4	27.2	28.3
Age at baseline (%)			
10	10.1	10.8	10.4
11	24.4	24.4	24.4
12	25.5	22.3	23.9
13	20.1	21.2	20.7
14	13.1	15.0	14.1
15	5.5	5.3	5.4
16	1.2	1.1	1.2
Number of youths	487	472[a]	959

a. Three youths did not report their race; thus, the number of youths assigned to the four race/gender groups is 956.

likely (27.0%). Minority boys and White girls were about equally as likely to live in homes receiving public assistance.

A number of study sample youths had experienced difficult personal situations such as the divorce or separation of their parents, a family history of substance abuse or domestic violence, and being the victims of physical, emotional, and/or sexual abuse (Table 3).[8] Approximately half of the White youths and a third of minority youths had experienced the divorce or separation of their parents/guardians. Fifteen percent of all youths had experienced the death of a parent/guardian. More than a quarter of the youths lived in homes with a history of domestic violence, and around 40% resided in homes with a history of substance abuse. In both instances, White youths were more likely to live in such homes than minority youth.

More than one in four of the youths had themselves experienced either physical, emotional, or sexual abuse. White youths were more likely than were minority youths to have experienced some form of abuse. The most prevalent form of abuse was emotional abuse, with approximately 30% of the White youths experiencing emotional abuse, compared to approximately 15% of the minority youths. White girls were the most likely to be victims of sexual abuse (15.5%).

The only systematic difference between the treatment and control group youths was that the treatment youths had the opportunity to be matched with a Big Brother or Big Sister. At the conclusion of the study period, agency staff had been able to find an appropriate volunteer for 378 (78%) of the

TABLE 3: Characteristics of the Study Youths, Their Households, and Parents/Guardians

Characteristics	*Total*	*Boys*	*Girls*	*Minority Girls*	*White Girls*	*Minority Boys*	*White Boys*
Youths living in households receiving public assistance (%)	43.3	37.1	53.5	62.6	40.1	45.8	27.0
Youths experiencing (%)							
Death of a parent/guardian	14.6	15.9	12.5	14.3	9.9	13.2	18.8
Divorce or separation of parent/guardian	39.9	40.0	40.0	29.5	56.3	30.8	50.9
Serious illness/injury of youth or significant other	6.1	9.0	6.1	3.7	9.9	7.7	10.7
Arrest of youth or significant other	7.1	6.0	8.9	10.1	7.0	4.0	8.1
Family history of substance abuse	40.3	41.5	38.3	36.9	40.9	33.2	51.9
Family history of domestic violence	28.3	28.1	28.6	26.3	32.4	23.7	33.7
Significant physical disability	2.6	2.9	3.1	1.4	5.6	2.5	3.3
Significant learning disability	15.5	18.3	11.2	7.9	16.2	14.2	22.9
Significant health problems	9.0	9.8	7.8	7.4	8.5	9.6	10.0
Youths experiencing physical, emotional, or sexual abuse (reported by case manager) (%)							
Any form of abuse[a]	27.1	26.3	28.6	22.1	38.7	19.4	34.7
Physical abuse	11.2	11.5	10.6	9.2	12.7	10.5	12.9
Emotional abuse	21.3	21.2	21.4	16.1	29.6	14.2	29.9
Sexual abuse	7.3	4.9	11.4	8.8	15.5	2.8	7.4
Number of youths	959	599	360	217	142	326	271

NOTE: Three youths did not report their race; thus, the number of youths assigned to the four race/gender groups is 956.
a. Some youths had suffered multiple forms of abuse.

treatment youths in the analysis sample. Only one fifth of those not matched did not have a mentor because a suitable match could not be found.[9] Consistent with the experience of all BBBS agencies, girls were far more likely to be matched than boys; about 90% of the girls and 75% of the boys had been matched. Recruiting a sufficient number of male volunteers to meet the demand for Big Brothers is universally difficult.

The adults who volunteered to be Big Brothers and Big Sisters were generally well-educated young professionals (Table 4). Only 13% of the Big Brothers and Big Sisters had a high school education or less, and more than 60% (60.7%) had a college or graduate degree. The average age of the men who were matched with Little Brothers in the study sample was 30; the average age for the women was 28. About half (48.7%) of the volunteers worked in professional or managerial positions and another 25% held technical, sales, or administrative jobs. Almost 40% lived in homes with incomes of $40,000 and over. About three quarters of the volunteers were White, thus approximately 60% of the minority youths were matched with a White Big Brother or Big Sister.

Table 5 shows that, on average, agencies needed 6 months to match minority boys, 5 months for White boys, almost 4 months for minority girls, and 3.5 months for White girls. As a result, 18 months later at the time of follow-up, girls tended to have been matched longer than boys. The average length of match for those treatments who had been matched was almost 12 months, with White girls having met with a Big Sister for the longest period (12.4 months) and minority boys the shortest period (10.8 months).[10] Approximately 40% of the matches were no longer meeting at the time of the follow-up interview. Among these closed matches, the pairs met an average of 9.0 months. Among the ongoing matches, they had been meeting an average of 12.9 months.

Little Brothers and Little Sisters met with their Big Brothers and Big Sisters on a regular basis. More than 70% of the youths met with their Big Brother or Sister at least three times a month, and approximately 45% met one or more times per week. An average meeting lasted 3.6 hours.

5. THE IMPACT ON YOUTHS OF HAVING A BIG BROTHER OR BIG SISTER

Impacts were estimated using multivariate techniques (regressions and logits) to control for variations in the youth's baseline characteristics.[11] The coefficient on the treatment status dummy variable is interpreted as the

TABLE 4: Demographic Characteristics of Volunteers by Gender (In percentages)

	Big Brothers	*Big Sisters*
Age		
16-19	1.7	1.2
20-24	22.8	38.0
25-29	37.8	31.6
30-34	16.3	13.5
35-39	6.9	6.4
40 +	14.6	9.4
Race		
White	71.9	75.4
Minority	28.1	24.6
Have own children	19.0	13.7
Household income		
< $10,000	4.6	5.1
$10,000-24,999	18.4	42.4
$25,000-39,999	40.1	34.8
$40,000-54,999	19.8	12.0
$55,000 +	17.0	5.7
Completed years of education		
High school diploma or equivalent	11.1	14.6
Some college	24.4	29.8
College graduate	50.4	43.3
Graduate education	14.1	12.3
Occupation		
Unemployed	0.4	0.0
Student	8.3	13.7
Retired	0.4	0.6
Managerial/professional	51.7	44.6
Technical/sales/administrative	23.5	30.4
Service	10.0	7.7
Other	5.6	3.0
Previously served as Big Brother or Big Sister	13.2	11.1
Number of volunteers	236	173

NOTE: 19 men and 14 women did not answer the household income question. On the remaining questions, each group had fewer than 10 missing responses per item.

program's impact.[12] To estimate subgroup impacts, a set of subgroup-treatment interaction terms replaced the dichotomous treatment variable. For ease of presentation, we refer to the treatment group as "Little Brothers and Little Sisters," even though this group includes some treatment youths who were never matched. In the text, we discuss only the impacts that are statistically significant at a minimum of a 90% level of confidence.

TABLE 5: Characteristics of the Matches

Characteristics	*Total*	*Boys*	*Girls*	*Minority Girls*	*White Girls*	*Minority Boys*	*White Boys*
Time to match and length of match by gender and race							
Average time to match (months)	4.7	5.4	3.6	3.9	3.4	5.9	4.9
Average total exposure[a] (months)	11.4	10.9	12.0	11.8	12.3	10.7	11.2
How often Little Brother or Little Sister met with Big Brother or Big Sister (%)							
Two times per week	4.5	5.8	2.6	2.2	3.1	4.2	7.6
Once a week	41.7	41.2	42.6	39.6	46.9	35.8	47.2
Three times per month	24.4	22.6	27.1	29.7	23.4	27.5	17.0
Two times per month	24.2	25.2	22.6	24.2	20.3	24.2	26.4
Once per month	5.3	5.3	5.2	4.4	6.3	8.3	1.9
Number of matched youths	378	221	157	90	67	115	106

a. Combined length of all matches, including closed first matches and those still meeting at time of follow-up interview. The figure is based only on the ever-matched sample.

ANTISOCIAL BEHAVIORS

We hypothesized that by providing youths with good role models, helping them to cope with peer pressures, to think through the consequences of their actions, and to become involved in socially acceptable activities, volunteers would inhibit youths from initiating alcohol or drug use and delinquent behavior.

We found, as shown in Table 6, that Little Brothers and Little Sisters were significantly less likely than their control counterparts to start using illegal drugs and alcohol during the study period. During the 18-month follow-up period, 11.47% of the control youths started using drugs. Little Brothers and Little Sisters, on the other hand, were 45.8% less likely to start using illegal drugs than were their control counterparts. The impact was largest for minority Little Brothers and minority Little Sisters, who were approximately 70% less likely to have started using illegal drugs. Put differently, for every 100 minority boys, similar to the control youths who start using illegal drugs, only 33 similar minority boys who have a Big Brother will start using drugs. For every 100 minority girls, similar to the control youths who start using illegal drugs, only 28 similar girls who have a Big Sister will start using illegal drugs.[13]

The results for initiating alcohol use were not as large as those for initiating drug use, but were still impressive: Little Brothers and Little Sisters were 27.4% less likely to start using alcohol than were control youths. The impact was greatest among the minority Little Sisters, who were less than half as likely to start drinking alcohol. Put differently, for every 100 minority girls in this age group who start to use alcohol, only 46 similar girls who have a Big Sister will start using alcohol.

Big Brothers and Big Sisters also had an effect on youth's hitting behavior. On average, the number of times Little Brothers and Little Sisters reported hitting others during the previous 12 months was 32% less than that of the control youths.[14] In particular, we found that whereas 41% of both the treatment and the control youths reported hitting at least one person during the previous year, the average number of times "hitting" Little Brothers and Little Sisters resorted to violence was significantly less than that of control group youths (4.2 vs. 6.4).

The other indicators of antisocial behavior we explored and for which there were no impacts included how often the youths stole or damaged property over the past year.

ACADEMIC ATTITUDES, BEHAVIOR, AND PERFORMANCE

By showing that they value education, take an interest in the youths' school progress, and demonstrate the importance of education to later success,

TABLE 6: Net Impact of Participation in BBBS on Various Antisocial Behaviors

	Change in the Likelihood of Initiating Illegal Drug Use (%)		*Change in the Likelihood of Initiating Alcohol Use (%)*	
	Net Impact	*Follow-Up Control Mean*	*Net Impact*	*Follow-Up Control Mean*
Overall	–45.8**	11.47	–27.4*	26.72
Gender				
Male	–55.0**	11.54	–19.2	26.48
Female	–26.6	11.36	–38.8	27.08
Race/gender				
Minority male	–67.8**	13.41	–11.4	21.60
Minority female	–72.6*	11.50	–53.7*	26.97
White male	–32.7	9.09	–34.5	33.33
White female	49.5	11.29	–8.4	27.78

	Number of Times Hit Someone		*Number of Times Stole Something*		*Number of Times Damaged Property*	
	Net Impact	*Follow-Up Control Mean*	*Net Impact*	*Follow-Up Control Mean*	*Net Impact*	*Follow-Up Control Mean*
Overall	–.85**	2.68	–.05	.26	–.03	.20
Gender						
Male	–.67	2.67	–.07	.27	–.04	.24
Female	–1.17*	2.69	–.02	.24	–.03	.13
Race/gender						
Minority male	–.09	2.13	.01	.24	.02	.30
Minority female	–1.45	3.04	–.07	.27	–.02	.13
White male	–1.54*	3.39	–.16	.30	–.10	.16
White female	–.37	1.85	.06	.20	–.05	.14

NOTE: BBBS = Big Brothers Big Sisters. The regression analysis of initiating drug use was based on the experiences of the 934 youths who had not used drugs at baseline. The analysis of initiating alcohol use was based on the 742 youths who had not used alcohol at baseline. The analysis sample size of the other analyses was 959: 217 minority girls, 142 White girls, 326 minority boys, 271 White boys, and 3 youths who did not give their race. The control variables included were the characteristics of the youths such as age, gender, race/ ethnicity; whether the youth had repeated a grade and had been a victim of physical, emotional, or sexual abuse at baseline; dummy variables for the agency; and variables that describe the youth's home environment at baseline, such as household income, whether the household received cash welfare payments or food stamps, and number of siblings. The baseline value of the outcome was also included.
*Indicates that the impact differs statistically from zero at the .10 level.
**Indicates that the impact differs statistically from zero at the .05 level.

volunteers may influence their Little Brothers' and Little Sisters' attitudes toward school and their school performance. Therefore, we hypothesized that Little Brothers and Little Sisters would value school more, have better attendance, and get better grades. We were not optimistic, however, that having a Big Brother or Big Sister would improve a Little Brother or Little Sister's grades during the study period because other research has shown that grades are fairly stable over time and are generally not affected by noninstructional interventions such as BBBS. However, given the importance of school performance to later success and a desire to identify programs that do improve school performance, we collected data on academic performance by asking the study sample youths what types of grades they typically received, ranging from "mostly Ds and Fs" to "mostly As."[15]

Table 7 shows that at the conclusion of the study period, Little Brothers and Little Sisters reported slightly better grades than did control youths. Whereas controls reported a grade point average (GPA) of 2.63, Little Brothers and Little Sisters reported, on average, a GPA of 2.71. The grades of Little Sisters, especially minority Little Sisters, were the most responsive to participation in the program. The average GPA for girls in the control group was 2.67; for Little Sisters it was 2.83. The difference was even greater for minority Little Sisters, who had an average GPA of 2.83, compared to 2.62 for minority girl controls. Thus, we can infer that being involved with BBBS begins to improve the youth's school performance.[16]

Underlying the improvement in grades, we found improvement in school attendance. At the end of the study period, Little Brothers and Little Sisters had skipped 52% fewer days. Little Brothers and Little Sisters were 30% less likely to skip a day of school at all, and of those who did skip at least 1 day during the previous 12 months, youths with a Big Brother or Big Sister skipped significantly fewer days (2.2 days versus 4.5 days).

As with the other academic outcomes, the impact was larger for girls. On average, Little Sisters skipped 84% fewer days of school than did control girls—being half as likely to skip at all and, if they did skip school, skipping 5.5 fewer days. Minority Little Sisters skipped 78% fewer days than their control counterparts did, and White Little Sisters skipped 90% fewer days than did their control counterparts.

Research shows that youths who feel more competent in school tend to be more engaged and perform better (Harter 1982). Therefore, we examined changes in Harter's scale of perceived scholastic competence (1985) to determine if participating in the program increased a student's expectations

TABLE 7: Net Impact of Participation in BBBS on Academic Outcomes

	Grade Point Average (GPA)		*Number of Times Skipped a Day of School*	
	Net Impact	*Follow-Up Control Mean*	*Net Impact*	*Follow-Up Control Mean*
Overall	.08*	2.63	−.47***	.90
Gender				—†
Male	.03	2.60	−.02	.57
Female	.17**	2.67	−1.22***	1.45
Race/gender				—†
Minority male	.06	2.58	.22	0.51
Minority female	.20*	2.62	−.98***	1.26
White male	.01	2.63	−.31	0.66
White female	.10	2.74	−1.66***	1.80

NOTE: BBBS = Big Brothers Big Sisters. The size of the analysis sample was 959: 217 minority girls, 142 White girls, 326 minority boys, 271 White boys, and 3 youths who did not give their race. The control variables included were the characteristics of the youths such as age, gender, race/ ethnicity; whether the youth had repeated a grade and had been a victim of physical, emotional, or sexual abuse at baseline; dummy variables for the agency; and variables that describe the youth's home environment at baseline, such as household income, whether the household received cash welfare payments or food stamps, and number of siblings. The baseline value of the outcome was also included.
*Indicates that the impact differs statistically from zero at the 0.10 level.
**Indicates that the impact differs statistically from zero at the 0.05 level.
***Indicates that the impact differs statistically from zero at the 0.01 level.
†Indicates that the impact was not the same across subgroups at a 0.01 level of significance.

for school success.[17] At the conclusion of the study period, we found that treatment youths felt more confident of their ability to complete their schoolwork than did control youths. The effect was particularly strong for the Little Sisters, especially minority Little Sisters, whose perceived scholastic competence score was .71 points higher than the 15.67 score of the minority girls in the control group. The program also increased the perceived scholastic competence of White Little Brothers by .11 points.

FAMILY AND PEER RELATIONSHIPS

We hypothesized that having one successful relationship would carry over to a youth's other relationships by helping him or her to trust others, express anger more productively, and generally become able to relate to others more effectively. To examine youths' relationships with their custodial parents, we

used the mother scale of the Inventory of Parent and Peer Attachment, IPPA (Armsden and Greenberg 1987). Because 86% of the parents/guardians were the youths' mothers, we were primarily measuring the relationship between study sample youths and their mothers.[18] The IPPA measures three components of the parent/child relationship—trust, communication, and anger and alienation.

Using the summary measure of the parent-child relationship, we found that Little Brothers and Little Sisters scored higher than did control youths (Table 8). The effect was strongest for Little Brothers, especially White Little Brothers, whose scores were .14 higher than the 27.62 score of White boys in the control group. In examining the components of this scale, we found that the overall effect was driven primarily by an increase in Little Brothers' and Little Sisters' trust in their parents. Again the impact was greatest for White Little Brothers who scored .18 higher than their control counterparts (who scored 23.68). For the sample as a whole, the subscales measuring communication and anger and alienation were not affected by participation in the program. However, White Little Brothers felt that they communicated better with their parent or guardian than did their control counterparts.

We also examined the number of times youths said that they lied to their parent. At the conclusion of the study period, Little Brothers and Little Sisters reported lying to their parent 37% less than did control group youths.

To examine the youths' relationships with their peers, we used five scales from the Berndt and Perry (1986) Features of Children's Friendship battery—Intimacy in Communication, Instrumental Support, Emotional Support, Conflict and Relationship Inequality. We found that among the Little Brothers and Little Sisters, emotional peer support was higher than it was among the controls, especially for minority Little Brothers, where it increased .10, from 11.84 to 11.94 (see Table 9). When we examined impacts within subgroups, we found that minority Little Brothers scored somewhat higher on Intimacy in Communication, whereas minority Little Sisters scored somewhat lower. Although we do not have evidence as to why minority Little Sisters scored lower on this scale, we could hypothesize that minority Little Sisters may be sharing their problems with their Big Sisters rather than with their peers. There were no impacts overall for the other peer relationships scales.

SELF-CONCEPT

Naturally occurring supportive relationships with adults have been linked with adolescents' self-esteem, self-concept, and sense of self-competence (Haensly and Parsons 1993; Scales 1991; Tietjen 1989; Hirsch and Reisch

TABLE 8: Net Impact of Participation in BBBS on Family and Peer Relationships Outcomes

	Summary Parental Relationship Measure		*Parental Trust*		*Parental Communication*		*Parental Anger and Alienation*	
	Net Impact	*Follow-Up Control Mean*	*Net Impact*	*Follow-Up Control Mean*	*Net Impact*	*Follow-Up Control Mean*	*Net Impact*	*Follow-Up Control Mean*
Overall	1.5**	70.65	.64**	23.79	.53	27.76	.33	21.82
Gender								
Male	1.83*	71.53	.67**	24.22	.67	28.08	.48	21.98
Female	.99	69.21	.60	23.08	.30	27.23	.06	21.56
Race/gender			—†					
Minority male	.43	72.25	−.05	24.64	−.02	28.44	.33	21.96
Minority female	.63	70.39	.39	23.54	.35	27.67	−.02	21.88
White male	3.54**	70.52	1.55***	23.68	1.55**	27.62	.68	21.95
White female	1.35	67.45	.82	22.43	.20	26.55	.14	21.11

Overall	.21	11.18	−.09	12.98	.29*	12.51	−.20	11.61
Gender								
Male	.41	10.63	.03	12.70	.41*	12.11	−.15	11.55
Female	−.13	12.10	−.27	13.43	.09	13.17	−.29	11.69
Race/gender	—†							
Minority male	.58*	10.31	.31	12.35	.72**	11.84	−.31	11.49
Minority female	−.75*	11.98	−.51	13.30	−.28	13.18	−.24	11.45
White male	.19	11.07	−.29	13.16	.02	12.47	.08	11.61
White female	.83	12.24	.02	13.70	.64	13.14	−.45	12.15

NOTE: BBBS = Big Brothers Big Sisters. The size of the analysis sample was 959: 217 minority girls, 142 White girls, 326 minority boys, 271 White boys, and 3 youths who did not give their race. The control variables included were the characteristics of the youths such as age, gender, race/ethnicity; whether the youth had repeated a grade and had been a victim of physical, emotional, or sexual abuse at baseline; dummy variables for the agency; and variables that describe the youth's home environment at baseline, such as household income, whether the household received cash welfare payments or food stamps, and number of siblings. The baseline value of the outcome was also included.

*Indicates that the impact differs statistically from zero at the 0.10 level.

**Indicates that the impact differs statistically from zero at the 0.05 level.

***Indicates that the impact differs statistically from zero at the 0.01 level.

†Indicates that the impact was not the same across subgroups at a 0.10 level of significance.

TABLE 9: Net Impact of Participation in BBBS on Self-Concept

	Global Self-Worth		*Social Acceptance*		*Self-Confidence*	
	Net Impact	*Follow-Up Control Mean*	*Net Impact*	*Follow-Up Control Mean*	*Net Impact*	*Follow-Up Control Mean*
Overall	.29	18.57	.37	18.19	.18	28.44
Gender						
Male	.24	19.12	.54	18.23	.01	28.70
Female	.37	17.67	.09	18.12	.46	28.02
Race/gender						
Minority male	.23	19.13	.34	18.68	−.27	29.01
Minority female	.42	17.79	−.03	18.45	.22	28.00
White male	.31	19.09	.85*	17.66	.43	28.33
White female	.32	17.52	.10	17.65	.68	28.08

NOTE: BBBS = Big Brothers Big Sisters. The size of the analysis sample was 959: 217 minority girls, 142 White girls, 326 minority boys, 271 White boys, and 3 youths who did not give their race. The control variables included were the characteristics of the youths such as age, gender, race/ ethnicity; whether the youth had repeated a grade and had been a victim of physical, emotional, or sexual abuse at baseline; dummy variables for the agency; and variables that describe the youth's home environment at baseline, such as household income, whether the household received cash welfare payments or food stamps, and number of siblings. The baseline value of the outcome was also included. *Indicates that the impact differs statistically from zero at the 0.10 level.

1985). Thus, we investigated whether similar effects had started to occur with a programmatically facilitated relationship.

Overall, by the time of the follow-up interview, Little Brothers and Little Sisters did not score significantly higher than did youths in the control group on the scales measuring global self-worth, social acceptance, or self-confidence (Table 10). There was, however, a significant impact for one race/gender subgroup. White Little Brothers scored significantly higher on the social acceptance scale, which taps the respondents' perceived popularity among their peers.

SOCIAL AND CULTURAL ENRICHMENT

We found no overall differences between the Little Brothers and Little Sisters and the control youths in the frequency of social and cultural enrichment activities that the youths reported participating in. This was surprising in that one attraction of the BBBS program cited by many Little Brothers and Little Sisters, as well as by their parents and agency staff, is that participation in the program provides youths with more opportunities to experience social

TABLE 10: Net Impact of Participation in BBBS on Social and Cultural Enrichment Outcomes

	Total Weekly Hours Spent in Social and Cultural Activities		*Total Attended Social and Cultural Events*	
	Net Impact	*Follow-Up Control Mean*	*Net Impact*	*Follow-Up Control Mean*
Overall	.25	5.03	−.32	6.54
Gender				
Male	−.22	5.46	−.42	7.14
Female	1.04*	4.33	−.17	5.57
Race/gender				
Minority male	.27	5.39	.61	5.53
Minority female	.76	4.85	−.59	4.69
White male	−.77	5.58	−1.87**	9.26
White female	1.39	3.52	.48	7.00

NOTE: BBBS = Big Brothers Big Sisters. The size of the analysis sample was 959: 217 minority girls, 142 White girls, 326 minority boys, 271 White boys, and 3 youths who did not give their race. The control variables included were the characteristics of the youths such as age, gender, race/ ethnicity; whether the youth had repeated a grade and had been a victim of physical, emotional, or sexual abuse at baseline; dummy variables for the agency; and variables that describe the youth's home environment at baseline, such as household income, whether the household received cash welfare payments or food stamps, and number of siblings. The baseline value of the outcome was also included.
*Indicates that the impact differs statistically from zero at the 0.10 level.
**Indicates that the impact differs statistically from zero at the 0.05 level.

and cultural events such as going to museums or attending plays and sporting events. To examine whether the study sample youths benefited in this way, we asked them how many times they engaged in particular activities and how many hours per week they spent doing other activities during a typical school week. The specific social and cultural activities that we gathered data about were taking part in organized sports or recreation programs outside of school hours; doing volunteer or community service; taking music, art, language, or dance lessons outside of school; participating in school clubs; participating in youth groups; going to sporting events; attending plays or performances; going to a museum; and doing outdoor activities such as hiking.

Table 10 presents two summary measures of these activities, the total weekly hours spent in social and cultural activities and total attendance at these activities. We found that there was no significant difference between the treatment and control youths in the number of hours spent per week engaged in social and cultural activities. Similarly, the total number of events

attended was not significantly different for treatment and control group youths.

The only differences we found were that Little Brothers and Little Sisters reported participating in fewer outdoor activities (particularly White Little Brothers) and Little Brothers (especially minority Little Brothers) reported attending more sporting events than did their control counterparts.

6. DISCUSSION

Taken together, the results presented here show that having a Big Brother or Big Sister offers tangible benefits for youths. At the conclusion of the 18-month study period, we found that Little Brothers and Little Sisters were less likely to have started using drugs or alcohol, felt more competent about doing school work, attended school more, got better grades, and had better relationships with their parents and peers than they would have had they not participated in the program. This study does not provide evidence that any type of mentoring works, but rather that mentoring programs that facilitate the types of relationships we observed in the BBBS program work. In our judgment, the positive impacts observed are unlikely to have occurred without both the relationship with the mentor and the support the program provided the match.

The study sample youths and their Big Brothers and Big Sisters had a high level of contact. A typical Big Brother or Big Sister met with his or her Little Brother or Little Sister approximately three times a month for 3 to 4 hours per meeting over the course of a year, totaling 144 hours of direct contact. The relationships were also built using an approach that defines the mentor as a friend, not a teacher or a preacher. The mentor's role is to support the youth in his or her various endeavors, rather than explicitly to change the youth's behavior or character.

We believe the intensity of the mentoring experience was critically facilitated by the extensive infrastructure BBBS has. This infrastructure included

- thorough volunteer screening that weeds out adults who are unlikely to keep their time commitment or who may pose a safety risk to the youths;
- matching procedures that take into account the preferences of the youth, his or her family, and the volunteer, and that use a professional case manager to analyze which volunteer would work best with which youth;
- close supervision and support of each match by a case manager who makes frequent contacts with the parent/guardian, volunteer, and youth, and provides assistance, when requested, as difficulties arise; and

- training that includes communication and limit-setting skills, tips on relationship-building, and recommendations on the best way to interact with a young person.

If such standards and supports can be duplicated, the expansion and replication of mentoring initiatives for early adolescents would appear to be a strong and sensible investment.

NOTES

1. Other youth eligibility criteria are age (from 5 to a maximum of 18 years old), residence in agency catchment area, a minimum level of social skills, and the agreement of the parent and child to follow agency rules.

2. No agencies on the West Coast met the first two criteria (large waiting list and large active caseload) at the time that site selection decisions were made.

3. The data reflect agency operations in 1992 because 1992 was the main enrollment period for sample members. We define active caseload size as the number of currently meeting pairs in a one-to-one match.

4. The minimum age at one agency was 11. The maximum age for participation varied from 13 to 16. The difference in the maximum age reflected the agencies' policies regarding the matching of older youth. Several study agencies do not match 15- to 17-year-old youths. Because the agencies wanted to offer control group youths a realistic chance of being matched at the conclusion of the study period, we lowered the maximum age for these agencies.

5. If a parent or youth refused to participate in the research study, the agency placed the youth on the waiting list for 12 months. Only 32 youths and/or parents (2.7%) refused to participate in the research.

6. Three groups of age-eligible youths were excluded from the research: youths with physical or learning disabilities so severe that they could not complete a telephone interview (13); youths who were a part of a special program (50) such as a college mentoring program; or youths being served under a contractual obligation (60) such as a Child Protective Services contract.

7. Using a 90% level of confidence, we could not reject the hypothesis that the treatment and control groups were the same at baseline.

8. Data on these difficult personal situations were gathered by case workers.

9. Agency staff reported three major reasons for the failure to match the 109 treatment youths during the study period. Thirty-three of the unmatched treatment youths became ineligible during the study period because the parent remarried, the youth got too old, or the youth's place of residence changed. Thirty-one were not matched because the youth no longer wanted a Big Brother or Big Sister. Twenty-one were not matched because a suitable volunteer could not be found during the study period. The 24 remaining treatment youths were not matched for a variety of reasons, most commonly because the parent or youth did not follow through with the intake process.

10. Of the 171 matches that ended during the study period, 31 youths were matched with a second Big Brother or Big Sister. The normal procedure when a match ends is to review the reason that it ended and, if that reason does not suggest that the Little Brother or Little Sister is

no longer appropriate for the program (for example, if the match ended because the volunteer moved to another state), then the case manager has the option of matching the Little Brother or Little Sister with another Big Brother or Big Sister. We instructed agency staff to follow their normal matching and supervision practices during the course of the study. Total exposure, therefore, is defined as the total length of time that a treatment youth had been meeting with a Big Brother or Big Sister (first and, if applicable, second one) at the time of the follow-up interview.

11. The control variables included in the models were the characteristics of the youth such as age, gender, race/ethnicity, whether the youth had repeated a grade and had been a victim of physical, emotional, or sexual abuse at baseline; dummy variables for the agency; and variables that describe the youth's home environment at baseline, such as household income, whether the household received cash welfare payments or food stamps, and number of siblings. The baseline value of the outcome was also included in the regression or logit models.

12. The effects reported in the tables are estimates of the average program's effects on all treatment youths. These estimates are the most robust, unbiased estimates of the program's effects. In future work, we will examine how the impacts of the program vary by mentoring intensity and quality. However, to obtain unbiased estimates of the program's impact by, for example, hours met, we must jointly model mentoring outcomes and the intensity and quality of the mentoring youths receive, because the youths who had the more positive change may also be the youths who are able to develop better, more intensive mentoring relationships.

13. The antisocial outcomes are all based on self-reported data. Methodological research on the validity of self-reported delinquent behavior consistently supports the conclusion that these measures are acceptable by conventional social science standards (Huizinga and Elliot 1986; Sampson 1985; Hindelong, Hirschi, and Weis 1981).

14. To put the estimated impacts in terms of percentage change, we divide the estimated impact of the program on an outcome by the average of that outcome among the control group youths. Thus, for example, from Table 6, the regression analysis indicates that treatment group youths reported hitting someone .85 fewer times over the past 12 months than similar control group youths. Because in the absence of the program, the treatment group members would have reported hitting someone on average 2.68 times over the past 12 months (i.e., the average reported at follow-up by the control group members), the impact represents a .85/2.68 (32%) reduction.

15. We converted this information into the more familiar grade point average (GPA) scale, which runs from 0 to 4. Mostly Ds and Fs were assigned 0.5; mostly Ds were 1.0; mostly Cs and Ds 1.5; mostly Cs 2.0; mostly Bs and Cs 2.5; mostly Bs 3.0; mostly Bs and As 3.5; mostly As 4.0. Research has shown that self-reported grades are a reasonably accurate gauge of a student's school performance (Sawyer, Laing, and Houston 1989; Fetter, Stowe, and Owings 1984; Armstrong et al. 1976).

16. To gauge if Little Brothers and Little Sisters were inflating their grades to make their mentors "look good," we examined whether self-reported grades differed between the unmatched treatments, the still matched treatments, and the once-but-not-now matched treatments. We found no significant differences.

17. All the scales had reliability coefficients over .60, with most of them above .70 at both the baseline and follow-up.

18. In 5% of the cases, the guardian was the grandmother, and in 2% it was some other female relative. In only 4% of the cases was the father the custodial parent. The remaining 3% of the sample lived in a variety of other arrangements.

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