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# **Future Selves, Motivational Capital, and Mentoring Toward College: Assessing the Impact of an Enhanced Mentoring Program for At-Risk Youth**

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## **Final Technical Report**

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Most of all, we are grateful to the mentors and mentees who gave their precious time and agreed to participate in the research study. It is hoped that their efforts will contribute to a greater understanding of the mentoring process and of the particular aspects of mentoring that yield the greatest benefit for young people.

## **DISCLAIMER**

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## EXECUTIVE SUMMARY

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### BACKGROUND

This report presents the results of a 4-year evaluation of an enhanced mentoring program developed by Big Brothers Big Sisters of Metro Atlanta (BBBSMA). The evaluation project was sponsored by the Office of Juvenile Justice and Delinquency Prevention (OJJDP).

Prior research indicates that mentoring programs are typically effective and yield positive effects across multiple developmental domains, including socio-emotional development (e.g., self-worth, relationships with parents and peers), academic functioning, and behavior (DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011). The traditional community-based mentoring program delivered by BBBSMA is one of the best examples. The Big Brothers Big Sisters model is nationally-recognized, evidence-based, and seeks to match at-risk youth in the community with positive adult role models who can provide support and guidance. This model has demonstrated the ability to help at-risk youth and reduce problem behavior in controlled evaluations (e.g., Grossman & Tierney, 1998; DuBois et al., 2011).

At the same time, despite some maturation of the mentoring field, the observed effects of mentoring programs on key youth outcomes are typically modest in size (DuBois et al., 2011; Tolan, Henry, Schoeny, & Bass, 2008) and have not increased appreciably in size over time (see DuBois, Holloway, Valentine, & Cooper, 2002). Although the temptation to expand existing programs is understandable, there exists a pressing need to identify specific programs and program characteristics that are associated with higher levels of effectiveness.

Previous studies indicate that mentoring programs with the highest levels of effectiveness tend to enroll youth from higher-risk backgrounds, enroll a high proportion of male youth, and provide structured and purposeful roles for mentors as advocates for youth (DuBois et al., 2011; Kuperminc, Emshoff, Reiner, Secrest, Niolon, & Foster, 2005). As DuBois et al. (2011) observe, these findings “provide youth mentoring programs—many of which have gone to scale with models that lack specificity and nuance—with a useful point of departure in pursuing stronger and more consistent levels of effectiveness” (p. 79).

### THE MENTORING TOWARD COLLEGE PROGRAM

With this goal in mind, BBBSMA developed a new and enhanced mentoring program in 2008 called *Mentoring Toward College* (MTC). This program is designed to add an extra layer of mentoring to their standard community-based program. The extra layer of mentoring focuses on structured mentoring activities and is based on the delivery of a specialized curriculum. The curriculum is delivered through a combination of activity guides, workshops, and seminars.

The age-appropriate activities of MTC are geared towards improving social, emotional, and cognitive development, especially the development of positive attitudes toward self, others, school, and academic achievement. Examples of activities include “Braving the Bully” (the mentor and mentee discuss different types of bullying and how to handle bullying), “Peer Pressure” (mentor and mentee discuss peer pressure and how to say “no”), “R-E-S-P-E-C-T” (mentor and mentee discuss and answer questions about respect, what it means to give and get



respect, and how to respect yourself, others, and society—including people at school). Additional activities could include participation in a formal dining experience, observation and interaction with professionals at their place of work, research on successful public figures, and visiting a college campus.

## **STUDY PURPOSE, DESIGN, & IMPLEMENTATION**

The purpose and design of the current evaluation project was driven by the following research question: “Is MTC any more effective than the standard mentoring program at promoting resilience and reducing problem behavior?” To answer this question, a partnership was formed between BBBSMA and researchers at Georgia State University. Next, a randomized controlled trial was designed and implemented, with a focus on youth from high-risk backgrounds.

Before the study began, approval for the project was obtained from the Institutional Review Board (IRB) of Georgia State University. Further, all project staff completed research ethics certification (CITI Certification).

Recruitment of participants for the study began in January 2013 and was based, in part, on the existing procedures used by BBBSMA. Youth were deemed eligible for the research study if they were 9 years of age or older, between the 4<sup>th</sup> and 10<sup>th</sup> grades in school, and if they were from higher-risk backgrounds (defined as having a parent that was incarcerated, from a single-parent household, being a participant in a free or reduced-cost lunch program, from a family that received public assistance, or from a household that received an annual income of \$30,000 or less).

Recruitment of participants ended in May of 2015. Over the course of the project, a total 1055 mentors and 597 mentees consented to participation in the research study. From this pool of mentors and mentees, a total of 450 matches (mentor-mentee pairs) suitable for inclusion in the evaluation had been created and randomly assigned to a study condition.

As intended, most of the youth included in the research study come from disadvantaged backgrounds. In particular, the mentees possess the following characteristics:

- 79% reside in a single-parent household;
- 64% reside in a household receiving public assistance;
- 86% are participants in a free or reduced-cost lunch program;
- 47% have a parent/guardian that is incarcerated.

Further, a sizable percentage of the mentees reported personal involvement in various problem behaviors during the six months leading up to their participation in the study:

- 22% reported that they had been involved in one or more “physical fights” at school;
- 21% reported that they had been involved in a “serious physical fight”;

- 25% reported that they had been suspended from school.

Tracking of each match began immediately after study enrollment and continued for a period of 12 months. Although a variety of instruments were used to collect baseline and follow-up data, a key instrument used in the evaluation was an extended version of the Youth Outcomes Survey (YOS). This self-report survey allowed us to collect data on a variety of youth outcome domains, such as perceived scholastic competence, social acceptance, relationships with parents and peers, performance in school, self-concept, future expectations, and problem behavior. The YOS was administered at baseline, at 6 months, and then again at 12 months. Another key instrument was the mentoring activities checklist, which was completed by mentors on a bi-monthly basis.

A review of the logs maintained by the match support specialists indicates that a number of challenges were encountered in the administration of MTC. Although all of the mentees in the MTC program received customized match plans, with recommended MTC activities, it was up to the mentors to initiate these activities and complete them with their mentees. As a result, the recommended MTC activities were not always completed as scheduled. For example, some mentors struggled with basic communication issues (or other key challenges) early on in their mentor-mentee relationships. In such cases, the completion of MTC activities was not a priority.

Nevertheless, the match support logs document that at least some of the mentees received the recommended MTC activities on a regular schedule. To determine whether MTC program participants, as a whole, received an additional layer of mentoring, we analyzed the activity checklists. The results of this analysis indicate that MTC influenced the nature and focus of mentoring as intended, although this influence was mainly limited to male matches in the MTC program. Among male matches in the study, participation in MTC was associated with a higher frequency of 6-month mentoring interactions involving life skills development, and a higher frequency of 8-month mentoring interactions involving discussions of academics, attendance, the future, and life skills development.

The match attrition rate was higher than expected. Although an approximate attrition rate of 20% was anticipated, the actual attrition rate was 46% ( $n = 207$ ). Only 54% of the matches survived for the full 12-month duration of the study ( $n = 243$ ). The higher-than-expected attrition rate may be due to the fact that recruitment efforts specifically targeted youth from higher-risk backgrounds.

Importantly, early match closure was unrelated to the assigned study condition; that is, matches assigned to the MTC program were no more likely to succumb to attrition than matches assigned to the standard mentoring program. For various reasons (described in the full report), the current evaluation focuses on “program completers.” It compares the outcomes of youth who completed 12 months in the MTC program with the outcomes of those who completed 12 months in the standard mentoring program.

## OUTCOME EVALUATION

Before summarizing the unique impact of MTC, it is important to note that *both* mentoring programs were successful at promoting resilience and reducing problem behavior. The results of paired samples tests indicate that mentees who completed the study showed significant improvement, regardless of program assignment. Mentees showed improvement, for example, on measures of perceived scholastic competence and future expectations. They also exhibited reductions in the approval of delinquency, aggressive behavior, school delinquency, and general delinquent behavior.

As stated earlier, the main question driving the evaluation is: “Is MTC any more effective than the standard program at promoting resilience and reducing problem behavior?” The results of multivariate regression analyses indicate that, for the sample as a whole, MTC was no more effective than the standard mentoring program. However, we did find some evidence that MTC had a unique impact on male mentees (a fact that is consistent with our earlier finding that male MTC matches, in particular, engaged more frequently in goal-oriented conversations and interactions). Compared to their counterparts in the standard program, male mentees in the MTC program reported lower levels of victimization, aggressive behavior, school delinquency, and general delinquency by the end of the study.

The gender-specific effects of MTC are somewhat mixed however, since we also found that MTC males obtained somewhat lower scores on a self-report measure of grade point average (GPA)—relative to males in the standard program. The latter finding was unexpected and the reason for this effect is unknown. An admittedly post-hoc explanation involves the possibility that MTC males developed a more realistic assessment of their school performance as a result of the higher frequency of academic discussions that occurred within their match relationships. (Prior research suggests that, while self-reported grades are useful in research and have substantial predictive validity, self-reported grades tend to be inflated relative to actual grades, and this is especially true among minority students—see Kuncel, Credé, & Thomas, 2005.)

## CONCLUSION & RECOMMENDATIONS

It is important to note that the current evaluation compares MTC to the standard Big Brothers Big Sisters program, which has already demonstrated effectiveness in past research (Grossman & Tierney, 1998). As a result, even if MTC were more effective, one would not expect large differences in outcomes between MTC and the standard program. Nevertheless, despite this consideration, we still observe some significant and promising effects.

The observed MTC effects—especially effects pointing to greater reductions in problem behavior for at-risk males—suggest that the program has potential for enhancing the efficacy of the existing community-based Big Brothers Big Sisters program. More generally, the findings are consistent with the suggestion that existing mentoring programs could become more effective if they incorporated structured components (Kuperminc et al., 2005). As such, we believe the MTC program shows some promise and deserves further attention and study.

## I. INTRODUCTION

### BACKGROUND & CONTEXT

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Despite a substantial decline in the national violent crime rate since the mid-1990s, crime and violence remain serious problems in many inner-city communities and exact a disproportionate and devastating toll on low-income, minority youth. Moreover, data indicate that, among certain segments of youth, criminal justice system involvement has become an alternative and even expected path into adulthood. This problem is particularly acute among African American males with low levels of education. Among recent birth cohorts of black males who did not attend college, about 30 percent had served time in prison by their mid-thirties; for black male high school dropouts, the figure was 60 percent—establishing imprisonment as a common life event for such men (Pettit & Western, 2004, p. 164).

Qualitative studies indicate that disadvantaged youth frequently internalize the belief or expectation that they are destined for involvement in the criminal justice system and other negative outcomes. This may be especially true for youth who reside in heavily policed, high-crime neighborhoods and among youth who are surrounded by peers or relatives who have experienced arrest or other criminal justice sanctions (Anderson, 1999; Hirshfield, 2008). Concerning the latter observation, some studies indicate that children of incarcerated parents experience a relatively high risk of failure in school, juvenile offending, and unemployment (Murray & Farrington, 2008). Further, longitudinal studies have documented the self-fulfilling effects of pessimistic future expectations, which increase the likelihood of actual negative outcomes, including crime and violence (Brezina, Tekin, & Topalli, 2009).

At the same time, it is important to note that not all disadvantaged youth succumb to negative expectations or problem behavior. In fact, most disadvantaged youth remain resilient in face of urban stress and strive toward hopeful, positive futures. Prior research has attributed such resilience, in part, to the positive influence of adult mentors or “old heads” in the lives of these youth—mentors who help youth identify pathways to success (Anderson, 1999; Rhodes, 2002). This research has provided support and justification for a variety of youth mentoring initiatives. Accordingly, mentoring programs have been widely used as an intervention strategy for at-risk youth in diverse spheres of policy and practice, including education, juvenile justice, and public health.

### PRIOR RESEARCH ON YOUTH MENTORING PROGRAMS

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Although mentoring programs alone cannot be expected to solve the problems faced by at-risk youth, data indicate that such programs represent a promising intervention strategy. The results of a comprehensive meta-analysis (DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011) reveal that mentoring programs are typically effective across a variety of settings and age groups and that such programs yield positive effects across multiple developmental domains, including socio-emotional development (e.g., self-worth, relationships with parents and peers), academic functioning, and behavior. Tolan and colleagues (2008) focused exclusively on outcomes

associated with juvenile offending (school failure, aggression, substance use, and delinquency) and, based on their meta-analytical review, observe that mentoring programs typically produce desirable effects. Moreover, limited evidence suggests that the positive effects of mentoring are enduring and may continue for a year or more beyond program completion (DuBois et al., 2011).

Yet there is room for improvement. It is important to note that, despite some maturation of the field and increasing acceptance of minimum guidelines for practice (MENTOR/National Mentoring Partnership, 2009), the observed effects of mentoring programs on key youth outcomes are typically modest in size, with evident variation across programs in levels of effectiveness (DuBois et al., 2011; Tolan, Henry, Schoeny, & Bass, 2008). Moreover, typical effects associated with mentoring programs have not increased appreciably in size over time (see DuBois, Holloway, Valentine, & Cooper, 2002). Although the temptation to expand existing programs is understandable, there exists a pressing need to identify specific programs and program characteristics that are associated with higher levels of effectiveness.

In prior research, a number of general characteristics have been associated with relatively high levels of program effectiveness. For example, more effective mentoring programs tend to enroll youth with backgrounds involving high individual or environmental risk, enroll a high proportion of male youth, and provide structured and purposeful roles for mentors as advocates for youth or as teachers (DuBois et al., 2011). As DuBois et al. (2011) observe, these findings “provide youth mentoring programs—many of which have gone to scale with models that lack specificity and nuance—with a useful point of departure in pursuing stronger and more consistent levels of effectiveness” (p. 79).

To advance evidence-based knowledge that may lead to the refinement and strengthening of existing mentoring programs, we seek to evaluate the comparative effectiveness of an enhanced mentoring program for at-risk youth. In particular, we examine a new program called *Mentoring Toward College* (MTC). MTC adds a structured academic-enrichment curriculum to an existing (standard) mentoring program and also provides a more structured and purposeful role for mentors. A review conducted by Kuperminc and colleagues (2005) suggests that the integration of structured components within existing mentoring programs represents a particularly promising, though understudied, approach.

Before turning to the details of the evaluation, we describe the development and characteristics of the new MTC program.

## **THE DEVELOPMENT OF AN ENHANCED MENTORING PROGRAM**

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### **Big Brothers Big Sisters of Metro Atlanta (BBBSMA)**

The *Mentoring Toward College* (MTC) program was developed by Big Brothers Big Sisters of Metro Atlanta (BBBSMA)—one of the largest Big Brothers Big Sisters of America organizations (<https://bbbsatl.org>). BBBSMA has provided services to youth and families in disadvantaged situations for over 50 years. BBBSMA strives to change the lives of disadvantaged children for the better by fostering strong and enduring one-on-one mentoring

relationships. Typically, the agency makes over 1,000 new matches per year between youth and adult mentors. BBBSMA currently serves over 2,000 children in the Atlanta metropolitan area.

Further, BBBSMA has a history of serving children who are exposed to high levels of environmental risk. For example, the agency began serving the children of incarcerated parents in 2003, and later expanded this effort in 2007 to specifically target children who had a parent or guardian in city, county, state, or federal penal institutions. These children represent a particularly vulnerable group and, according to some studies, have an elevated risk of failure in school, drug abuse, juvenile offending, and unemployment (Murray & Farrington, 2008).

### **The Standard Big Brothers Big Sisters Program**

The standard community-based program delivered by BBBSA is based on the evidence-based mentoring program of Big Brothers Big Sisters of America (see <https://www.crimesolutions.gov>). This mentoring program seeks to match at-risk youth in the community with positive adult role models who can provide support and guidance. The goal of the program is to foster the social and emotional development of youth, increase academic engagement, and help them to avoid risky behaviors. In controlled evaluations, this program has demonstrated the ability to help at-risk youth and reduce problem behavior (e.g., Grossman & Tierney, 1998; DuBois et al., 2011).

In the standard community-based program, trained staff process referrals and inquiries from parents, recruit and screen adult volunteers, and seek to create sustainable mentee-mentor pairs, or “matches.” The intake process for children/parents involves interviews and the collection of survey data to allow for an assessment of the child’s strengths, interests, and to identify areas in need of improvement. The processing of adult volunteers involves interviews, background checks, and collection of references to assess the ability of the volunteer to work safely with a child and to form a committed relationship.

Following the creation of a match, the mentee-mentor pair meet for the first time and, with the guidance of a trained match support specialist, they discuss shared interests and plan their initial activities. Such relationship-building activities are influenced by the mutual interests of the mentor and mentee and may include sporting events, plays, movies, and other quality cultural/recreational activities. Match support specialists maintain regular contact with the mentors, mentees, and parents/guardians to monitor the progress of each match and to address any challenges and issues in the developing relationship (<https://bbbsatl.org/how-we-serve>; Big Brothers Big Sisters of America, 2003).

### **The Mentoring Toward College (MTC) Program**

In 2008, BBBSMA designed and implemented a new and enhanced *Mentoring Toward College* (MTC) program (<https://bbbsatl.org/how-we-serve>; BBBSMA, 2012). Youth participants in MTC receive the same high-quality services as youth in the standard community-based program described above, but MTC adds an extra layer of mentoring to the standard program. This extra layer of mentoring focuses on structured mentoring activities and is based on the delivery of a specialized curriculum. This curriculum is designed to support academic success in grades 4-12

to ensure on-time graduation and matriculation to college. The curriculum is delivered through a combination of activity guides, workshops, and seminars.

For children in grades 4 through 7, age-appropriate activities are geared towards improving social, emotional, and cognitive development, especially the development of positive attitudes toward self, others, school, and academic achievement. Examples of activities include “Braving the Bully” (the mentor and mentee discuss different types of bullying and how to handle bullying), “Peer Pressure” (mentor and mentee discuss peer pressure and how to say “no”), “R-E-S-P-E-C-T” (mentor and mentee discuss and answer questions about respect, what it means to give and get respect, and how to respect yourself, others, and society—including people at school). Additional activities could include participation in a formal dining experience, observation and interaction with professionals at their place of work, research on successful public figures, and visiting a college campus.

For youth in grades 8 through 12, the activities cover more structured topics in a workshop format, including such topics as “Career Choices” (examining a broad range of career options and determining best fit), “Brand You” (focusing on image and professionalism and the basics of creating a professional persona), “Post-Secondary Choices” (what to do after high school, including college, careers, and the military), and “College 411” (requirements for college admission, application process, and college options).

Each child mentee in the MTC program receives a customized action plan that specifies recommended activities for that particular child. The customized action plan is developed by the match support specialist, who draws on baseline survey data and interviews with the parent/guardian to determine areas of concern or areas where improvement is needed. A set of recommended MTC activities is provided to the mentor at the beginning of the match, and then a new set of MTC activities is provided 6-months later. Most MTC activities involve detailed instructions that are delivered to the mentors via email. Some MTC activities involve on-site workshops conducted at BBBSMA.

Overall, in comparison to the standard community-based program, the MTC program provides a more structured, intentional role for mentors. In MTC, the role of the mentor is to serve as a primary advocate for youth, providing guidance, helping make connections on behalf of the mentee, and holding the mentee accountable for completion of the MTC tasks and activities. To support this role, MTC provides the mentor with directions for helping the mentee accomplish goals and tasks associated with the program.

### **Supporting Theory and Research**

As stated earlier, the integration of structured activities within existing mentoring programs may be key to increasing their effectiveness (Kuperminc et al., 2005). Further, the extant literature on mentoring and positive youth development provides theoretical and empirical support for MTC’s focus on providing mentees with the tools and skills necessary to plan and prepare for future goals.

Youth who succeed in the face of serious obstacles and disadvantage often attribute their success to the influence of an effective mentor in their lives (Williams & Kornblum, 1985). And research suggests that the positive influence of such mentors is due, in part, to the role they play in shaping youths' beliefs about pathways to future success, including beliefs about the connections between educational attainment and career opportunities (Klaw & Rhodes, 1995, p. 553; Hellenga, Aber, & Rhodes, 2003).

Further, there is reason to believe that effective mentoring fosters identity development and influences the mentee's beliefs about the possible future self, including beliefs about "what I might become" or "what I could become" (Markus & Nurius, 1986; Rhodes et al., 2006). In this manner, effective mentoring leads to the refinement of the mentee's imagined future self, which "helps adolescents navigate the transition into early adulthood" (Rhodes et al., 2006, p. 695).

Although there is a clear need for further research on the impact of mentoring on identity development (Rhodes et al., 2006), prior research highlights a consistent and robust connection between beliefs about possible future selves and positive social adjustment. Although children and adults typically exhibit an optimistic bias and are hopeful about their futures, "hoped-for-selves" tend to be abstract or rooted in fantasy and have little connection to future planning. In contrast, *expected* future selves are deemed important because they are more concrete, provide guidelines for actual behavior, and "serve as a focal point for one's energies in striving for the future" (Carver, Reynolds, & Scheier 1994, p. 139). Thus, positive expectations for the future—especially expectations pertaining to specific goals or objectives—have been described as an important type of "motivational capital" or cognitive resource that individuals can draw on in the decision-making process. In effect, positive expectations regarding the future self can enhance motivation and incentivize behavior that is "designed to achieve that 'future me'" (Clinkinbeard & Zohra, 2011, p. 3).

Indeed, previous research indicates positive expectations for the future help to foster resilience and promote positive pro-social attitudes and behaviors (Wyman et al., 1993). Numerous studies observe an association between positive future expectations and positive youth outcomes, including time spent on homework, performance in school, and school completion (e.g., Dubow, Arnett, Smith, & Ippolito, 2001; Oyserman, Bybee, & Terry, 2006; Worrell & Hale, 2001; Wyman, Cowen, Work, & Kerley, 1993).

Conversely, pessimistic future expectations have been linked to school misconduct, truancy, delinquency, and youth violence (e.g., Brezina, Tekin, & Topalli, 2009; Caldwell, Wiebe, & Cleveland, 2006; Dubow, et al., 2001; DuRant, Cadenhead, Pendergrast, Slavens, & Linder, 1994). Youth who become involved in serious violence, in particular, often perceive a very limited future for themselves or perhaps no future at all (Brezina et al., 2009).

Previous studies indicate that children from disadvantaged backgrounds, while often hopeful about the future, frequently possess pessimistic expectations about their likely or *actual* future (Raffaelli & Koller, 2005). Negative expectations about the future appear to be relatively common among young people who reside in high-crime neighborhoods, live in poverty, experience violent victimization, lack family support, lack exposure to conventional success



models, and who have friends or family members with high levels of involvement in the criminal justice system (see Brezina et al., 2009; Dubow et al., 2001; Hirschfield, 2008; Raffaelli & Koller, 2005).

At the same time, it is important to note that many disadvantaged youth are able to maintain positive expectations, including the belief that the “odds can be surmounted.” In longitudinal research that followed a sample of stressed, urban youth, Wyman and colleagues find that positive expectations for the future help to distinguish resilient from non-resilient individuals and influence later outcomes, promoting adjustment in school and an internal locus of control (Wyman et al., 1993). Thus, positive future expectations serve as a protective factor that reduces juvenile delinquency—a finding that has been described as “important for designing programs to promote positive adjustment in at-risk children” (Dubow et al., 2001, pp. 5-6).

Limited data suggest that positive adjustment can be promoted by interventions that are designed to help at-risk youth define their future goals and identify concrete pathways to success (as is the purpose of MTC). For instance, a seven-week “school-to-jobs” intervention that targeted low-income, minority middle-school students used structured class sessions to promote the development of positive future expectations (especially future “academic” selves) and to help youth identify strategies for realizing these expectations. An experimental evaluation revealed that, relative to a control group of non-participants, the intervention was associated with increased school attendance, time spent on homework, class participation, and a reduced risk of classroom misbehavior and depression (Oyserman et al., 2006). Moreover, these effects were sustained over the two-year period of the follow-up study. Subsequent analyses revealed that the intervention also helped to ameliorate the deleterious effects of low parental involvement on youth outcomes (Oyserman, Brickman, & Rhodes, 2007).

## RESEARCH GOALS

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If the enhanced MTC program is found to be particularly effective at promoting resilience and reducing problem behavior, then this finding could be used to strengthen existing Big Brothers Big Sisters programs across the nation, making them even more effective. The purpose of the current study is to evaluate the comparative effectiveness of the MTC program. The current study is guiding by the following research questions:

*Relative to a standard mentoring program, can an enhanced mentoring program, in the form of MTC, improve youth outcomes for at-risk youth? In particular, can MTC substantially improve youth outcomes associated with antisocial behavior and future involvement in the juvenile/criminal justice systems?*

Thus the primary goal of current study is to evaluate the efficacy of the MTC program relative to the standard mentoring program delivered by BBBSMA. Based on theory and research reviewed in the previous section of this report, we hypothesize that, relative to the standard community-based mentoring program, participation in the MTC program will be associated with improved youth outcomes, including improved academic performance, decreased levels of antisocial behavior, and a reduced risk of trouble with the law.

*A second goal of the current study is to identify factors that mediate the potential impact of MTC on youth outcomes.* To strengthen existing programs, there is a need for additional knowledge on the specific aspects of youth development that are impacted by quality mentoring programs and that are responsible for positive outcomes (DuBois et al., 2011). As stated earlier, empirical research lags behind theory development in this area (Rhodes et al., 2006). We are especially interested in the potential impact of MTC on identity formation, including the development of positive future selves and expectations about the future. We hypothesize that, relative to their counterparts in the standard mentoring program, MTC participants will develop more positive future expectations. Furthermore, we hypothesize that such future expectations will serve as a protective factor and partly mediate the anticipated valued-added effect of MTC on youth outcomes.

*A third goal is to examine how the impact of MTC interacts with participants' level of personal and environmental risk.* Existing research indicates that mentoring programs tend to be most effective for youth possessing certain profiles or characteristics, especially youth who are at high risk of future offending. Given limited resources for programming, there is a pressing need to further specify these characteristics so that mentoring efforts can be directed towards youth who are most likely to benefit (DuBois et al., 2011). Based on prior research (Brezina et al., 2009), we hypothesize that youth who present higher levels of risk (e.g., a history of antisocial behavior, parental incarceration) will be most likely to benefit from the enhanced mentoring provided by MTC.

In the next section of this report, we describe the design and implementation of an evaluation based on a randomized controlled trial.

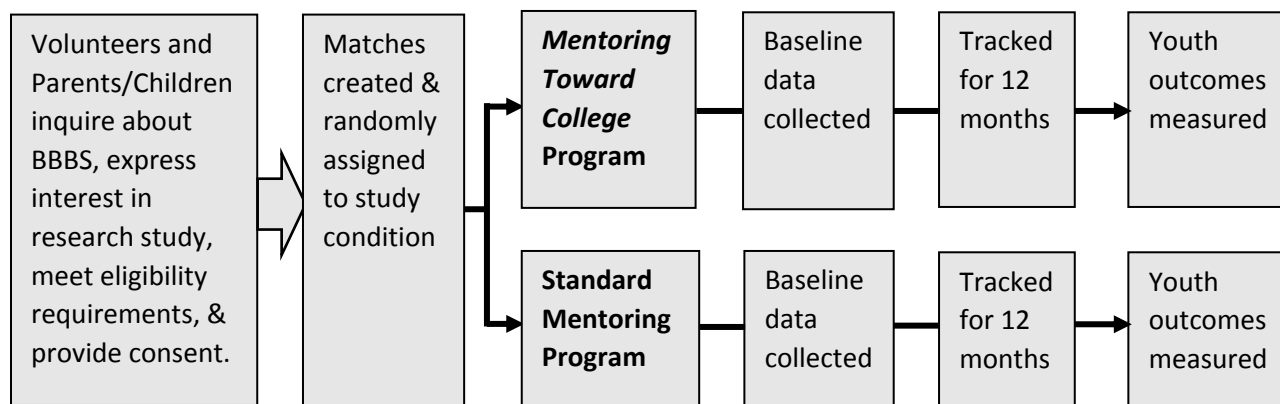
## II. METHODOLOGY

### OVERVIEW OF STUDY DESIGN

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To conduct an evaluation of MTC, a partnership was formed between BBBSMA and researchers at Georgia State University. A randomized controlled trial was designed and executed, allowing the researchers to compare the impact of the enhanced MTC program relative to the standard community-based mentoring program traditionally delivered by the agency. In particular, the evaluation was based on a rigorous experimental design involving the random assignment of at-risk youth to either (1) the standard community-based mentoring program of BBBSMA, or (2) the MTC program (see Figure 1).

**Figure 1. Design of the Randomized Controlled Trial**



## IMPLEMENTATION

A major goal of the study was to create 450 matches (mentor-mentee pairs) and then randomly assign these matches to one of the study conditions (to the standard mentoring program or to MTC). Anticipating that no more than 20% percent of matches would terminate before completion of the study, the results of a power and sensitivity analysis indicated that 450 initial matches would be required to ensure an ability to detect small-to-medium-sized effects in the outcome analyses (Cohen, 1988). (Note: given that the standard mentoring program has already been shown to be effective in past research, we would not expect large differences in outcomes between this program and the enhanced MTC program. Even if MTC proves to be more effective, we would anticipate small-to-medium-sized effects in any evaluation that seeks to compare outcomes across the two programs.)

Before the study began, approval for the project was obtained from the Institutional Review Board (IRB) of Georgia State University. Further, all project staff completed research ethics certification (CITI Certification)—a requirement for full IRB approval.

Recruitment of participants for the study began in January 2013 and was based, in part, on the existing procedures used by BBBSMA. Volunteers and parents/children who expressed interest in the programs being delivered by BBBSMA participated in the normal screening and intake procedures. Volunteers and parents/children who were deemed eligible for the research study received a description of the study and were invited to participate. Those who expressed interest in participating in the research study completed assent/consent forms.

Youth were deemed eligible for the research study if they were 9 years of age or older, between the 4<sup>th</sup> and 10<sup>th</sup> grades in school, and if they were from higher-risk backgrounds (defined as having a parent that was incarcerated, from a single-parent household, being a participant in a free or reduced-cost lunch program, from a family that received public assistance, or from a household that received an annual income of \$30,000 or less).

Recruitment of participants ended in May of 2015. Over the course of the project, a total 1055 mentors and 597 mentees consented to participation in the research study. From this pool of

mentors and mentees, a total of 465 matches had been created and randomly assigned to a study condition. (Note: the *matches*, and not individual participants, were randomized to the study conditions. This fact reduces the likelihood of selection bias related to either mentor or mentee characteristics.) The randomization procedure was based on numbers generated by the computerized information management system utilized by BBBSMA. When each match is created, a unique match identification number is automatically generated by the system. This number was used to guide the randomization process. Matches with identification numbers ending in even digits were assigned to the standard mentoring program (n = 218), while matches with identification numbers ending in odd digits were assigned to the *Mentoring Toward College* program (n = 247).

Fifteen matches were deemed problematic for evaluation purposes and were excluded from all data analyses. These excluded matches involve youth that were matched previously and later “re-matched,” matches in which critical baseline data was not collected, or matches that involved mentors who were matched to more than one mentee.<sup>1</sup> Following the exclusion of these matches, the data analyses focus on the 450 remaining matches.

It was anticipated that the value-added impact of MTC would not appear immediately but would likely surface over time, within the first 12 months of mentoring. For this reason, all matches were tracked for a total of 12 months. Tracking of each match began immediately following the random assignment of the match to a study condition. Match creation and tracking occurred on a rolling basis, with new matches being created and tracked as other matches were completing their participation in the study.

## **INSTRUMENTS, MEASURES, & DATA COLLECTION**

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Data on the study participants were collected at various points during their 12-months of participations in the study. Basic demographic data on the mentors and mentees was collected during the intake process. In addition, the following instruments were used to collect additional baseline and follow-up data:

### **Activities Checklist**

Karcher’s “activity log” was adapted for the study, resulting in a 30-item mentoring activities checklist (Karcher, Herrera, and Hansen, 2010). This checklist was developed to capture the various types of discussions and activities that occurred during mentoring sessions. For example, mentors were asked to rate the frequency with which they and their mentee had engaged in casual conversation (e.g., discussion of sports, what they did over the weekend, holiday plans), played sports, played indoor games, discussed academics (e.g., grades, school, testing), discussed the future (e.g., college, jobs, goals, dreams), or worked on life skills such as “healthy decision making, dealing with stress, and avoiding risky behaviors.” The checklist was also used to detect differences between the study conditions in the types of activities that were

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<sup>1</sup> The re-matched cases included youth who were assigned to one study condition during their first match, and then to the other study condition when matched for a second time. Further, the mentors that were matched to multiple mentees had been assigned to multiple study conditions. Given a strong potential for cross-contamination across study conditions, we decided to exclude such cases from the evaluation.

the focus of mentoring. It was anticipated that mentoring in the MTC program would be more goal-oriented relative to mentoring in the standard program, with a greater focus on the types of activities prescribed by the MTC program (e.g., focusing on academics, working on life skills). Mentors were asked to complete the activities checklist every two months during the course of the study. They were often administered by match support specialists over the phone, but mentors also had the option to complete them via an online survey.

### **The Strength of Relationship Survey (SOR)—Extended Version**

BBBSMA utilizes an existing “Strength of Relationship Survey” (SOR) as part of its regular programming and data collection efforts. The 10-item youth version of the survey indexes the extent to which the mentee feels close to his or her mentor, perceives the mentoring relationship to be important, and is satisfied with the mentoring relationship. The 15-item volunteer version of the survey indexes the extent to which the mentor feels close to the mentee, enjoys the experience of being a mentor, and perceives the match to be a good fit. For the purpose of the research study, 11 additional items were added to both the mentor and mentee versions of the SOR to capture the level of interest and engagement of the mentee in the mentoring relationship (as reported by the mentee, or as perceived by the mentor). The mentor and mentee versions of the SOR were administered at two points in the study—at 3 months and then again at 12 months. These surveys were administered over the phone by match support specialists.

### **The Youth Outcomes Survey (YOS)—Extended Version**

As part of its normal operating procedures, BBBSMA utilizes an existing “Youth Outcomes Survey” (YOS), which is completed by the mentee. This self-report survey includes 33 items that index various attitudes and behaviors, such as relationships with parents and peers, attitudes toward school, grades in school, perceived scholastic competence, and attitudes toward various delinquent behaviors. For the purpose of the research study, the YOS was extended to include an additional 51 items, with a focus on items designed to capture key criminological risk factors, such as violent victimization, association with delinquent peers, and future expectations. The extended version of the YOS also included items measuring a wide range of self-reported delinquent behaviors (see below).

Mentees were asked to complete the extended version of the YOS upon enrollment in the study (at baseline), after 6 months of mentoring, and then again at 12-months following their completion of the study. The baseline version was completed in person, while the 6-month and 12-month versions of the survey were completed over the phone by match support specialists. The 12-month YOS (extended version) was the primary source of outcome data for use in the evaluation, allowing for an examination of youth outcomes in the following domains:

#### **Academic Attitudes, Behavior, & Performance**

- *Perceived Scholastic Competence.* A six-item scale indexing academic self-efficacy (Harter, 1982, 1985). Respondents who obtain high scores on this scale state that they “feel just as smart as other kids,” are “very good” at their schoolwork, “do very well” at their class work, rarely forget what they learn, do not have difficulty

“figuring out the answers in school,” and are not slow in finishing their school work (Cronbach’s alpha = .74).

- *Grade Point Average.* Average of four survey items indexing self-reported grades in various subjects, including math, science, language arts, and social studies (alpha = .69).
- *School Absence.* A single self-report survey item indexing the frequency with which the mentee was absent from school during the past 30 days.

### Family Relationships

- *Relationship with Parents Scale.* A 3-item scale adapted from the Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987). This scale indexes the perceived level of communication and respect in the mentee’s relationship with his or her parents (e.g., my parents “respect my feelings,” “accept me as I am,” and “try to be understanding”). Cronbach’s alpha = .73.

### Self-Concept

- *Self-Esteem.* The mentee’s level of self-esteem is measured with a 3-item scale adapted from the self-esteem subscale of the Weinberger Adjustment Inventory (Weinberger & Schwartz, 1990; alpha = .55).
- *Social Acceptance.* A 6-item scale indexing the extent to which the mentee believes other children like him/her, is popular with peers, and has friends (Harter, 1985). Respondents who obtain high scores on this scale state that they are “always doing things with a lot of kids,” “are popular with others my age,” “have a lot of friends,” do not find it hard to make friends, do not wish that more people liked them, and do not wish for more friends (alpha = .69).

### Future Expectations

- *Expectations for Educational Attainment.* A 3-item scale indexing the mentee’s perceived likelihood that s/he will graduate from high school, attend college, and graduate from college (alpha = .90).
- *Future Expectations.* A 6-item scale indexing positive future expectations. High scorers state that they are sure about the following: “I can handle problems that might come up in my life,” “I will stay out of trouble,” “I will have a happy life,” “I will have friends and people that care about me,” “I can handle my school work when I get older,” and “I will have interesting things to do in my life”). Based on the Wyman Future Expectations Scale (Wyman et al., 1993; alpha = .82).

### Risk Factors for Antisocial Behavior

- *Association with Delinquent Peers.* A 6-item scale indexing involvement of close friends in various delinquencies over the past 6 months, including cheating, alcohol

consumption, drug use, vandalism, theft, burglary, and assault (Elliott, Huizinga, & Ageton, 1985). High scorers state that most or all of their close friends have engaged in these behaviors (alpha = .82).

- *Approval of Delinquency Scale.* A summed score indexing approval of 7 different types of delinquent behavior, including skipping school, smoking, alcohol consumption, drug use, truancy, breaking school rules, and physical aggression. Respondents who disapprove of these behaviors indicate that they are “not okay,” while students who approve of these activities indicate that they are “sort of okay,” “mostly okay,” or “perfectly okay.” Scores can range from 0 (respondent does not approve of any of these behaviors) to 7 (respondent approves of all 7 delinquencies). Cronbach’s alpha = .38.<sup>2</sup>
- *Victimization.* A 5-item scale indexing a variety of victimization experiences over the past 6 months, including being “beaten up or mugged,” “having someone pull a knife or gun on you,” “having someone take something from you using force or by threatening to hurt you,” “having someone threaten to hurt you, but not actually hurting you,” and “having someone hurt you physically.”<sup>3</sup>

#### Antisocial Behaviors

- *School Delinquency.* A 3-item scale indexing frequency of delinquency at school during the past 6 months (“got into physical fight with another student at school,” “carried a weapon to school,” or “got suspended from school”) (Elliott, Huizinga, & Ageton, 1985).
- *Aggressive Behavior.* A 4-item scale indexing frequency of aggressive/violent behavior during the past 6-months (“got into physical fight with another student at school,” “got into a serious physical fight,” “used or threatened to use a weapon to get something from someone,” “took part in a fight where my group of friends was against another group”) (Elliott, Huizinga, & Ageton, 1985).
- *Variety of Delinquency.* A summed score indexing self-reported participation across 11 different delinquent behaviors during the past 6 months. Scores can range from 0 (did not commit any of the delinquencies) to 11 (engaged in all 11 delinquencies) (Elliott, Huizinga, & Ageton, 1985).

The reliance on self-report data in the assessment of youth outcomes represents one possible limitation of the current evaluation. One may question the use of self-reports to gather data on

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<sup>2</sup> The low alpha associated with the approval of delinquency measure is likely due to limited variation in some of the individual items. We retain this measure in the analyses with the following caution in mind: the most likely consequence of low reliability is that the effects associated with this variable will be underestimated in the models.

<sup>3</sup> Alpha coefficients are not reported for the victimization and delinquency measures as these measures index the frequency of events/acts that are not necessarily expected to be co-occurring. As such, alpha does not provide the best estimate of reliability.

such sensitive topics as delinquent behavior, in particular. It should be noted, however, that the self-report methodology has been studied extensively by criminologists. In fact, although self-reports are not free from problems, available research indicates, that compared to other data sources, self-report measures of crime and delinquency have reasonable reliability and validity. Based on an extensive review of the self-report methodology, Junger-Tas and Marshall (1999) conclude that “the self-report method is a viable and valuable way to measure criminal involvement, to test theory, and to identify correlates of individual differences in delinquent participation” (p. 355). In fact, self-reports are often superior to official data sources, given that most delinquencies go undetected by officials.

## THE SAMPLE

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### Mentee Characteristics

Table 1 presents the characteristics of the mentees at baseline (n = 450). As seen in Table 1, the mentees range in age from 9 to 15 years old, with an average age of 11.5 years. They are nearly evenly divided by gender (48% male versus 52% female) and are in grades 4 through 10, with an average grade level of 6.0. Seventy-nine percent of the youth are Black, 11% are Hispanic, 7% identify as Multi-Race, and 3% are White.

As intended, the youth included in the research study tend come from disadvantaged backgrounds. In particular, the mentees possess the following characteristics:

- 79% reside in a single-parent household;
- 64% reside in a household receiving public assistance;
- 86% are participants in a free or reduced-cost lunch program;
- 47% have a parent/guardian that is incarcerated.

Approximately 99 percent of the mentees possessed at least one of these background characteristics.

Further, a sizable percentage of the mentees reported personal involvement in various problem behaviors during the six months leading up to their participation in the study:

- 22% reported that they had been involved in one or more “physical fights” at school;
- 21% reported that they had been involved in a “serious physical fight”;
- 25% reported that they had been suspended from school.



**Table 1. Mentee Characteristics at Baseline**

Mentee Characteristic	Frequency	Percentage
<u>Sex</u>		
Male	214	47.6
Female	236	52.4
<u>Age (Mean = 11.5)</u>		
9 yrs.	50	11.1
10 yrs.	93	20.7
11 yrs.	75	16.7
12 yrs.	95	21.1
13 yrs.	95	21.1
14 yrs.	40	8.9
15 yrs.	2	0.4
<u>Race/Ethnicity</u>		
Black	354	79.2
Hispanic	49	11.0
Multi-race	29	6.8
White	15	3.1
<u>Grade Level (Mean = 6<sup>th</sup>)</u>		
4 <sup>th</sup>	88	19.7
5 <sup>th</sup>	89	19.8
6 <sup>th</sup>	97	21.6
7 <sup>th</sup>	79	17.6
8 <sup>th</sup>	87	19.3
9 <sup>th</sup>	9	2.0
10 <sup>th</sup>	1	0.2
<i>Note:</i> frequencies for some variables may not sum to 450 due to a small proportion of missing values on these variables.		

**Table 1 Continued (Mentee Characteristics at Baseline)**

Mentee Characteristic	Frequency	Percentage
<u>Household Income (Mean = \$22,000)</u>		
Less than \$10,000	123	29.1
\$10,000 - \$24,999	166	39.3
\$25,000 – \$49,999	100	23.7
\$50,000 or more	33	7.8
<u>Family Structure/Caregiver</u>		
Single Parent	331	78.6
Two Parents	71	16.9
Grandparents/other relatives	19	4.5
<u>Incarcerated Parent</u>	204	46.9
<u>Public Assistance</u>	287	64.2
<u>Free/reduced-cost lunch program</u>	386	85.8
<i>Note:</i> frequencies for some variables may not sum to 450 due to a small proportion of missing values.		

### Mentor Characteristics

Table 2 presents the characteristics of the adult volunteer mentors in the study (n = 450). As seen in Table 2, most of the mentors are black, college-educated, and single, with an average age of 31.

**Table 2. Mentor Characteristics at Baseline**

Mentor Characteristic	Frequency	Percentage
<u>Sex</u>		
Male	214	47.6
Female	236	52.4
<u>Age (Mean = 31.2)</u>		
21-29 yrs.	242	53.8

30-39 yrs.	132	29.3
40-49 yrs.	59	13.1
50-59 yrs.	16	3.5
60-64 yrs.	1	0.2
<u>Race/Ethnicity</u>		
Black	237	52.7
White	167	37.1
Hispanic	16	3.6
Multi-Race	15	3.3
Asian	11	2.4
Other	4	0.9
<u>Education Level</u>		
High School Graduate	5	1.2
Some College	63	14.5
Associate Degree	24	5.5
Bachelors Degree	231	53.2
Masters Degree	101	23.3
Doctorate	10	2.3
<u>Marital Status</u>		
Single	319	72.8
Married	90	20.5
Divorced	17	3.9
Living with partner/other	12	2.7
<i>Note: frequencies for some variables may not sum to 450 due to a small proportion of missing values.</i>		

## Match Attrition

Table 3 presents data on the number of matches that were created for inclusion in the study, the number of matches that closed prior to study completion, and the number of matches that were sustained over the full 12-month duration of the study.

As seen in Table 3, the match attrition rate was higher than expected. As described earlier, an approximate attrition rate of 20% was anticipated. However, the actual attrition rate was 46% (n = 207). Only 54% of the matches survived for the full 12-month duration of the study (n = 243). The higher-than-expected attrition rate may be due to the fact that recruitment efforts targeted youth from higher-risk backgrounds.<sup>4</sup>

<sup>4</sup> In retrospect, the expectation of a 20% attrition rate was overly optimistic. Recent national data from Big Brothers Big Sisters of America indicates that average 12-month retention rates across agencies increased from 54.4% in 2007 to 68.7% in 2015 (J. Mitchell, personal communication 11/29/2016).

<b>Table 3. Match Creation and Attrition</b>	
Activity	Final Project Total
Youth mentees consented for participation in the study	597
Adult volunteers consented for participation in the study	1,055
Matches created and randomly assigned to a study condition	465
Matches suitable for inclusion in the evaluation	450
Matches that terminated before 12 months	207
Matches retained for full 12 months of study participation	243

Importantly, early match closure is unrelated to the assigned study condition; that is, matches assigned to the MTC program were no more likely to succumb to attrition than matches assigned to the standard mentoring program ( $p > .10$ ).

It is important to note that the tracking system in place at BBBSMA was not equipped to track mentors or mentees after matches were officially closed by agency, nor were adequate resources available to revise this system. As a result, when a match closed, no further attempts were made to collect follow-up data. Consequently, 12-month follow-up data was collected only for those mentors and mentees who had completed the full 12 months of participation in the study. *As a result, the current evaluation focuses on “program completers.” It compares the outcomes of youth who completed 12 months in the MTC program with the outcomes of those who completed 12 months in the standard mentoring program.* Had follow-up data been collected on the full sample of mentees, it would have been possible to conduct an intent-to-treat analysis, allowing us to assess the impact of MTC regardless of program completion. However, since we are primarily interested in differences in program effectiveness across the MTC and standard mentoring programs, the current focus on program completers is still useful.

Multivariate logistic regression analyses (not shown) were conducted to examine the predictors of early match closure. Four variables emerged as significant predictors of match termination, including baseline measures of mentee depression, poor relationship with parents, school delinquency, and perceived scholastic competence ( $p < .10$ ). Conversely, compared to mentees in early-closing matches, mentees in surviving matches were somewhat less likely to be depressed, less likely to report delinquent behaviors in school, and more likely to report higher levels of perceived scholastic competence. They were also more likely to report stronger relationships with their parents.

## Response Rates

Table 4 presents the overall response rates obtained for key instruments and measures, while Table 5 presents the response rates for those participants who completed the 12-month study and who are the focus of the outcome evaluation. As seen in these tables, the collection of follow-up data was a challenge for the agency. A frequent problem involved the fact that, at times, mentors or mentees simply could not be reached by match support specialists (despite repeated attempts to make contact) or, if they could be reached, they were not available at the time to complete the surveys.

<b>Table 4. Response Rates for Key Surveys—Full Sample (n = 450)</b>		
Activity	Frequency	Percent
Mentors completing 6-month activities checklist	219	48.7
Mentors completing 12-month activities checklist	129	28.7
Mentees completing 12-month SOR	173	38.4
Mentors completing 12-month SOR	174	38.7
Mentees completing baseline YOS	447	99.3
Mentees completing 12-month YOS	192	42.7

<b>Table 5. Response Rates for Key Surveys among Program Completers (n = 243)</b>		
Activity	Frequency	Percent
Number of mentors completing 6-month activities checklist	219	70.0
Number of mentors completing 12-month activities checklist	129	53.1
Number of mentees completing 12-month SOR	173	70.8
Number of mentors completing 12-month SOR	174	71.2
Number of mentees completing baseline YOS	447	99.6
Number of mentees completing 12-month YOS	192	78.6

### III. RESULTS

#### IMPLEMENTATION ANALYSES

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##### Balance Tests

In an analysis of balance between the treatment and control characteristics among mentors, we found no statistically significant differences across the major demographic characteristics listed in Table 2. Some differences emerged in an analysis of balance in mentee characteristics between the treatment and control groups, however. Across the two study conditions, the mentees share similar profiles, with no significant differences appearing on most baseline demographic and youth outcome characteristics. However, our analysis reveals that the mentees in the MTC program and the standard program are not identical. In particular, in comparison to those in the standard program, the mentees in the MTC program are slightly older (an average age of 11.6 years versus 11.4 years) and are somewhat more likely to be from a single-parent household (83% in the MTC group versus 76% in the standard group), to have an incarcerated parent (52% versus 41%), and to score higher on the baseline measure of self-esteem ( $p < .10$ ). In addition, mentees in the MTC program are less likely to be Hispanic and tend to obtain lower scores on the baseline measure of depression ( $p < .10$ ).

We also conducted similar balance tests for that portion of the sample that completed the full 12-month duration of the study ( $n = 243$ ). These analyses produced an identical pattern of results. (Note: as stated earlier, study completion/attrition was unrelated to study condition.)

It was expected that the randomization procedure would mitigate group differences across the two study conditions. The reasons for the group differences we observe are unknown. However, we are confident of the integrity of the randomization process. Therefore, the aforementioned differences are likely due to random factors and would have disappeared if we had collected more data. Furthermore, these differences are not a source of concern for our analysis since we control for all of these demographic characteristics along with baseline measures of self-esteem and depression in our empirical models.

##### The Delivery of MTC

A review of the logs maintained by the match support specialists indicates that a number of challenges were encountered in the administration of MTC. Although all of the mentees in the MTC program received customized match plans, with recommended MTC activities, it was up to the mentors to initiate these activities and complete them with their mentees. As a result, the recommended MTC activities were not always completed as scheduled. For example, when match support specialists followed up with mentors to make sure they had received activity instructions via email, some mentors claimed they had not checked their email for long periods of time. In other cases, mentors struggled with basic communication issues early on in their mentor-mentee relationships. In such cases the completion of MTC activities was not a priority. Further, because they were unavailable during particular days, mentors frequently declined

invitations to bring their mentee along to MTC workshops held at the agency. As a result, the MTC workshops were poorly attended.

Nevertheless, the match support logs document that at least some of the mentees received the recommended MTC activities on a regular schedule. Unfortunately, the documentation of MTC activity completion was inconsistent across the match support specialists. While some match support specialists documented MTC-related correspondence on a consistent basis, others did not. (It is worthy to note that the current grant funded the evaluation project but was not designed to enhance the overall programming capacity of the agency). As a result, it is impossible to determine with any certainty which mentees in the MTC program actually received their recommended MTC activities.

To determine whether MTC program participants, as a whole, received the additional layer of mentoring that was intended, we turn to an analysis of the activity checklists.

We examine how assignment to the MTC program affected the types of activities that were the focus of mentoring sessions. For this examination, we draw on the bi-monthly activities checklists that were completed by the mentors. Given the goal- and skill-oriented focus of MTC activities, our examination focuses on the following checklist activities: frequency of goal-oriented conversations involving academics (discussion of grades, school, testing, etc.), behavior (discussion of youth's misbehavior), attendance (discussion of the importance of showing up for school or work), the future (discussion of college, jobs, goals, dreams, etc.), and the frequency with which the mentor worked with the mentee on life skills, such as healthy decision-making, dealing with stress, and avoiding risky behavior. If MTC influenced the nature of mentoring sessions, we would expect MTC mentors to report more frequent conversations and interactions in these areas relative to mentors in the standard mentoring program.

In preliminary analyses, we observed that males responded in unique ways to MTC, so we also examine whether the impact of MTC on activities was stronger for males versus females. In particular, we test for an MTC-by-gender interaction effect.

Table 6 presents the results of these analyses, focusing on periods covered by 6-month and 8-month activity checklists. These were the only periods of mentoring in which significant effects were observed. As seen in Table 6, main effects of MTC are largely absent, except for a single main effect on 6-month discussions of the mentee's misbehavior ( $p < .10$ ). However, among males in the study, participation in MTC was associated with a higher frequency of 6-month mentoring interactions involving life skills development, and a higher frequency of 8-month mentoring interactions involving discussions of academics, attendance, the future, and life skills development.

It is interesting to note that the 8-month activity checklist (which covers months 7 and 8) followed on the heels of a fresh set of recommended MTC activities. Recall that MTC mentors received an initial set of recommended MTC activities at baseline and then another set after 6-

months. This fact may help to explain why differences across the mentoring programs are evident mainly in responses to the 8-month activity checklist.

<b>Table 6. The Impact of MTC on Mentoring Activities</b>		
Dependent Variables	MTC Condition	MTC X Male
6-Month Activity Checklist: Discussed Academics	-.159 (.170)	.219 (.329)
6-Month Activity Checklist: Discussed Misbehavior	.394* (.230)	.001 (.445)
6-Month Activity Checklist: Discussed Attendance	-.093 (.235)	.258 (.454)
6-Month Activity Checklist: Discussed the Future	-.209 (.201)	-.179 (.388)
6-Month Activity Checklist: Worked on Life Skills	.085 (.216)	.887** (.411)
8-Month Activity Checklist: Discussed Academics	-.017 (.175)	.594* (.333)
8-Month Activity Checklist: Discussed Misbehavior	.072 (.257)	.536 (.499)
8-Month Activity Checklist: Discussed Attendance	.108 (.268)	1.346** (.507)
8-Month Activity Checklist: Discussed the Future	-.122 (.230)	.852* (.440)
8-Month Activity Checklist: Worked on Life Skills	.018 (.234)	.848* (.448)
<p><i>Notes:</i> Unstandardized regression coefficients, with standard errors in parentheses. Analyses control for all mentee baseline demographic characteristics along with baseline self-esteem and depression. The <i>n</i> for the 6-month activities checklist = 164. The <i>n</i> for the 8-month activities checklist = 135.</p> <p>*<i>p</i> &lt; .10; **<i>p</i> &lt; .05.</p>		

## OUTCOME ANALYSES

### “Before and After” Differences in Mentee Outcomes

To assess the overall impact of program participation on mentee development, we conducted a series of paired-sample t-tests (variables that were highly skewed were transformed prior to analyses). These analyses allow us to determine if the mentees in the study showed significant improvement in various developmental domains following 12-months of participation in the



BBBSMA mentoring programs. These analyses are limited to mentees who completed the study (“program completers”) and who also completed both the baseline and 12-month versions of the extended YOS survey.

Table 7 presents the results of the paired sample tests for mentees assigned to the standard mentoring program.

<b>Table 7. “Before and After” Analyses of Mentee Outcomes (Paired Samples Tests)—Standard Community-Based Mentoring Program</b>				
Outcome Variables	At Baseline	At 12 Months	T-Value	n
Perceived Scholastic Competence	3.00 (.571)	3.27 (.581)	-3.71**	91
Grade Point Average (GPA)	2.92 (.681)	2.98 (.687)	-0.55	90
School Absence	2.14 (1.01)	1.91 (.694)	1.74*	91
Relationship with Parents <sup>t</sup>	13.34 (3.23)	14.54 (3.09)	-2.79**	91
Self-Esteem <sup>t</sup>	10.59 (4.90)	14.00 (3.39)	-4.75**	53
Social Acceptance	2.97 (.644)	3.08 (.590)	-1.40	91
Expectations for Educational Attainment <sup>t</sup>	14.86 (2.47)	14.78 (2.85)	0.23	91
Future Expectations <sup>t</sup> (Wyman Scale)	12.74 (2.87)	14.37 (2.49)	-3.32**	58
Association with Delinquent Peers <sup>t</sup>	.060 (.110)	.039 (.094)	1.60	58
Approval of Delinquency	.542 (.917)	.176 (.411)	3.90**	91
Victimization <sup>t</sup>	.062 (.109)	.025 (.075)	2.56**	59
Aggressive Behavior <sup>t</sup>	.062 (.124)	.018 (.054)	3.02**	59
School Delinquency <sup>t</sup>	.064 (.118)	.020 (.060)	2.92**	59
Variety of Delinquency <sup>t</sup>	.190 (.289)	.090 (.196)	3.01**	58
<p><i>Notes:</i> Means shown, with standard deviations in parentheses. Variables with highly skewed distributions were transformed prior to analyses (Log10 or squared) and are designated with a “t” superscript.</p> <p>*p &lt; .10; **p &lt; .05.</p>				

As seen in Table 7, these mentees showed significant improvement on measures of perceived scholastic competence, the strength of the relationship with their parents, self-esteem, and future expectations. These mentees also exhibited significant reductions in school absences, approval of delinquency, victimization, aggressive behavior, school delinquency, and general delinquency.

**Table 8. “Before and After” Analyses of Mentee Outcomes (Paired Samples Tests)—*Mentoring Toward College (MTC) Program***

Outcome Variables	At Baseline	At 12 Months	T-Value	n
Perceived Scholastic Competence	2.99 (.549)	3.29 (.516)	-5.01**	100
Grade Point Average (GPA)	2.78 (.763)	2.86 (.696)	-0.85	100
School Absence	2.06 (1.03)	2.08 (.696)	-0.17	97
Relationship with Parents <sup>t</sup>	13.97 (2.88)	14.46 (2.65)	-1.44	100
Self-Esteem <sup>t</sup>	12.92 (3.78)	13.53 (3.51)	-1.06	69
Social Acceptance	3.01 (.643)	3.28 (.516)	-3.76**	100
Expectations for Educational Attainment <sup>t</sup>	14.84 (3.15)	15.00 (2.71)	-0.41	100
Future Expectations <sup>t</sup> (Wyman Scale)	12.98 (2.54)	13.72 (2.69)	-1.92*	73
Association with Delinquent Peers <sup>t</sup>	.043 (.078)	.018 (.044)	2.33**	70
Approval of Delinquency	.575 (.709)	.180 (.539)	5.72**	100
Victimization <sup>t</sup>	.044 (.088)	.011 (.041)	3.21**	74
Aggressive Behavior <sup>t</sup>	.045 (.090)	.014 (.047)	3.17**	75
School Delinquency <sup>t</sup>	.054 (.100)	.018 (.057)	3.51**	75
Variety of Delinquency <sup>t</sup>	.194 (.264)	.075 (.171)	4.11**	75

*Notes:* Means shown, with standard deviations in parentheses. Variables with highly skewed distributions were transformed prior to analyses (Log10 or squared) and are designated with a “t” superscript.

\*p < .10; \*\*p < .05.

Table 8 presents the results of the paired sample tests for mentees assigned to the MTC program. As seen in Table 8, the mentees in the MTC program showed significant improvement on measures of perceived scholastic competence, social acceptance, and future expectations. In addition, they exhibited significant reductions in delinquent peer associations, approval of delinquency, victimization, aggressive behavior, school delinquency, and general delinquency.

The results of these “before and after” analyses suggest that both mentoring programs were effective at promoting resilience and reducing problem behavior, although mentees in each program benefitted in slightly different ways. We now turn to the question that is the main focus of the current study: “Is the MTC program any more effective than the standard mentoring program?”

### **The Impact of MTC on Mentee Outcomes**

The main goal of the current study was determine if MTC is any more effective than the standard mentoring program at promoting resilience and reducing problem behavior among at risk youth. If the evaluation results favor MTC, then such findings could be used to strengthen existing mentoring programs, making them even more effective.

As stated earlier, the evaluation focuses on those mentees who completed 12-months of participation in either the MTC program or the standard mentoring program; that is, the evaluation focuses on “program completers” (recall that attrition was unrelated to study condition). Table 9 presents the results of multivariate regression analyses that estimate the impact of MTC on 12-month mentee outcomes (relative to the standard program). As described earlier, we observed gender differences in the execution and response to MTC, so in addition to main effects we also examine MTC-by-gender interactions.

As seen in Table 9, no significant main effects of MTC were observed, suggesting that, for the sample as whole, MTC was no more effective than the standard mentoring program. However, turning to the MTC-by-gender interaction effects, the results indicate that MTC exerts a unique impact on male mentees. The direction of these gender-specific effects is somewhat mixed. Compared to their counterparts in the standard program, male mentees in the MTC program tended to report a *lower* GPA, but they also reported lower levels of victimization, aggressive behavior, school delinquency, and general delinquency. Although the negative impact of MTC on self-reported GPA (relative to the standard program) is of concern and was an unexpected result, the findings suggest that MTC may have unique potential to reduce problem behavior among at-risk male youth. The finding of gender-specific effects is in line with prior research, which indicates that mentoring programs in general tend to have a greater impact on the outcomes of males versus females (DuBois et al., 2011).

**Table 9. Effects of *Mentoring Toward College* (MTC) on 12-Month Mentee Outcomes (Relative to Standard Community-Based Mentoring Program)**

Dependent Variables	MTC Condition	R <sup>2</sup>	MTC X Male	R <sup>2</sup>	n
Perceived Scholastic Competence	-.063 (.093)	.131	-.102 (.182)	.133	160
Grade Point Average (GPA)	-.137 (.118)	.105	-.435* (.236)	.126	159
School Absence	.146 (.129)	.103	.109 (.230)	.104	159
Relationship with Parents	-.019 (.068)	.159	-.155 (.141)	.165	160
Self-Esteem	-.143 (.113)	.208	.276 (.223)	.221	106
Social Acceptance	.086 (.101)	.148	.003 (.182)	.148	160
Expectations for Educational Attainment	-.057 (.072)	.103	-.088 (.142)	.105	160
Future Expectations (Wyman Scale)	-.045 (.085)	.168	.156 (.196)	.175	108
Association with Delinquent Peers	-.071 (.053)	.160	-.064 (.116)	.163	104
Approval of Delinquency	-.014 (.073)	.075	.008 (.140)	.075	160
Victimization	-.042 (.042)	.235	-.181* (.097)	.274	108
Aggressive Behavior	-.030 (.040)	.134	-.154** (.077)	.182	108
School Delinquency	-.021 (.040)	.188	-.136* (.080)	.222	108
Variety of Delinquency	-.207 (.235)	.165	-1.044** (.459)	.221	108

*Notes:* Unstandardized regression coefficients, with robust standard errors in parentheses. Analyses control for all mentee baseline demographic characteristics along with baseline self-esteem and depression.

\*p < .10; \*\*p < .05.

Given the future-oriented focus of MTC, we anticipated that MTC would have a unique impact on future expectations. It was also anticipated that future expectations, in turn, would mediate the impact of MTC on youth outcomes. Unexpectedly, MTC failed to exert a unique impact on future expectations, nor did it exert a unique impact on other likely mediators. It is possible that the unique impact of MTC on problem behavior is mediated by factors that were not measured in the current study. For instance, as suggested by the activity checklists, life-skills development was a more frequent focus of mentor-mentee interactions in the MTC program relative to the standard program (at least among males). Indeed, specific MTC activities include exercises that teach youth “how to deal with bullies and bullying” and “how to deal with peer pressure.” In hindsight, it would have been good to include measures of behavior- or problem-specific measures of self-efficacy related to mentees’ perceived ability to deal with bullying and peer pressure. Had such measures been included, it would have been possible to examine whether they mediate the unique impact of MTC on victimization and problem behavior.

We were also interested in examining whether the impact of MTC interacts with mentees’ level of personal and environmental risk. It was anticipated that youth who present higher levels of risk (e.g., a history of antisocial behavior, parental incarceration) would be most likely to benefit from the enhanced mentoring provided by MTC. To examine this possibility, we tested for various MTC-by-risk interaction effects (e.g., “MTC x parental incarceration” and “MTC x prior delinquency”). We found little evidence of such interaction effects.

## IV. SUMMARY, CONCLUSIONS, & RECOMMENDATIONS

### SUMMARY AND INTERPRETATION OF MAJOR FINDINGS

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The main purpose of the current study was to evaluate the efficacy of the enhanced *Mentoring Toward College* (MTC) relative to the standard community-based mentoring program delivered by Big Brothers Big Sisters of Metro Atlanta (BBBSMA). MTC is a new program developed by BBBSMA and is designed to add an extra layer of mentoring to the standard program. The extra layer of mentoring focuses on structured mentoring activities and is based on the delivery of a specialized curriculum. The curriculum is delivered through a combination of activity guides, workshops, and seminars.

To evaluate the impact of MTC relative to the standard high-quality program, a randomized controlled trial was designed and implemented, with a focus on youth from high risk backgrounds. A total of 450 matches (mentor-mentee pairs) were created, randomly assigned to either MTC or the standard program, and then tracked for a period of 12 months. The current evaluation focuses on the 243 matches that were retained for the full 12-month duration of the study (i.e., the “program completers”). As described earlier, a full intent-to-treat analysis was not possible given limitations of the data. As such, it was not possible to assess the impact of MTC regardless of program completion. However, since we are primarily interested in differences in program effectiveness across the MTC and standard mentoring programs, the current focus on program completers is still useful. (Note: program completion/attrition was unrelated to study condition.)

Before summarizing the unique impact of MTC, it is important to note that *both* mentoring programs were successful at promoting resilience and reducing problem behavior. The results of paired samples tests indicate, for example, that across both programs mentees showed significant improvement on measures of perceived scholastic competence and future expectations as well as reductions in the approval of delinquency, aggressive behavior, school delinquency, and general delinquent behavior. The main question we seek to answer is: “Is MTC any more effective than the standard program at promoting resilience and reducing problem behavior?”

The results of the main evaluation indicate that, for the sample as a whole, MTC was no more effective than the standard mentoring program. However, we did find some evidence that MTC had a unique impact on male mentees (a fact that is consistent with our earlier findings indicating that male MTC matches, in particular, engaged more frequently in goal-oriented conversations and interactions). Compared to their counterparts in the standard program, male mentees in the MTC program reported lower levels of victimization, aggressive behavior, school delinquency, and general delinquency at the end of the study.

The gender-specific effects of MTC are somewhat mixed however, since we also found that, relative to males in the standard program, MTC males obtained lower scores on a self-report measure of grade point average (GPA). The latter finding was unexpected and the reason for this effect is unknown. An admittedly post-hoc explanation involves the possibility MTC males developed a more realistic assessment of their school performance as a result of the higher frequency of academic discussions that occurred within their match relationships (see Table 6). Prior research suggests that, while self-reported grades are useful in research and have substantial predictive validity, self-reported grades tend to be inflated relative to actual grades, and this is especially true among minority students (Kuncel, Credé, & Thomas, 2005). One reason for self-reported grade inflation is that students—especially low-performing students—may not have an accurate or realistic perception of their academic standing. It is possible that, relative to males in the standard program, MTC males developed a more accurate assessment.

The results of the evaluation are noteworthy for several reasons. First, it should be noted that the evaluation presented in this report could be described as fairly conservative in nature. Although we are comparing the impact of MTC relative to the standard mentoring program, it cannot be assumed that all MTC mentees actually received their recommended MTC activities. In effect, we are examining the impact of MTC as it was implemented, in its imperfect form. Further, it is important to note that the evaluation compares MTC to the standard Big Brothers Big Sisters program, which has already been shown to be effective in past research (Grossman & Tierney, 1998). As a result, even if MTC were more effective, one would not expect large differences in outcomes between MTC and the standard program. Nevertheless, despite these considerations, we still observe some significant and promising effects.

Unfortunately, given challenges in the implementation of MTC, it was not possible to determine with any certainty which MTC mentees actually received their recommended activities—although the completion of MTC activities was documented in some cases. As a result, it was not possible to assess the impact of MTC with greater precision. Had it been possible to do so, MTC might have yielded a larger number of effects across the various outcome domains.

Second, the observed MTC effects—especially effects pointing to greater reductions in problem behavior for at-risk males—suggest that the program has potential for enhancing the efficacy of the existing community-based Big Brothers Big Sisters program. Third, mentoring researchers have suggested that existing mentoring programs could become more effective if they were to incorporate structured components (Kuperminc et al., 2005). The results of the current evaluation lend further empirical support to this idea.

## LESSONS LEARNED

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During the course of the current project, we observed a number of challenges associated with the implementation of MTC. In the end, it was up to the mentors to initiate recommended MTC activities and to complete them with their mentees. As a result, the recommended MTC activities were not always completed as scheduled, in part because some mentors faced more pressing concerns in their match relationship. For example, some mentors struggled with basic communication issues early on in their mentor-mentee relationships. In such cases the completion of MTC activities was not a priority.

The early execution of MTC—with MTC activities being recommended at the outset of match relationships—was partly forced by the demands of the study design. In practice, however, it makes more sense to introduce MTC activities later in the match relationship, after match relationships have had a chance to become established (e.g., after the first six months).

At same time, it should be noted that we find no evidence in the current study that the early execution of MTC interfered with the development of match relationships. As stated earlier, early match closure was unrelated to program assignment. Further, supplemental analyses (not shown) reveal that overall satisfaction with the match relationship—from the standpoint of either the mentor or the mentee—was also unrelated to program assignment.

Future evaluations of MTC should strive to find more creative and effective ways to document the delivery of MTC activities, ideally in ways that do not place an undue burden on program staff. In addition, future research on MTC should collect data that is specifically designed to assess how MTC impacts mentee skill development and problem-specific self-efficacy, especially in areas related to bullying and peer pressure (e.g., mentee's perceived ability to deal with bullying and peer pressure in a prosocial manner). Such data should help to increase the precision of future evaluations.

In conclusion, the overall results of the evaluation suggest that MTC may represent a promising strategy for enhancing the effectiveness of existing Big Brother Big Sisters mentoring programs. In particular, it may be a promising approach for reducing problem behavior among at-risk male youth. We believe the program deserves further attention and study.

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