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**Prediction and Prevention of Premature Closures of Mentoring Relationships:
The Study To Analyze Relationships (STAR Project)**

**OJJDP Project # 2012-MU-FX-0001
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**Final Report
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Abstract

The goal of this mixed-methods study was to investigate how participant characteristics, dyadic processes, and program practices contribute to premature endings of youth mentoring relationships so that empirically-based program practices can be implemented to prevent early match closures. Employing a prospective, naturalistic approach, the Study to Analyze Relationships (STAR) followed a sample of new mentoring relationships created in four Big Brothers Big Sisters mentoring programs (n=356). Data regarding the timing of mentoring relationship closures was examined with quantitative methods for analyzing event occurrence to identify factors that predict early closing relationships. Retrospective, forensic approaches generating both qualitative and quantitative data were used to obtain in-depth understanding of exactly what transpired in relationships that closed prematurely. Consistent with a systemic model of the mentoring intervention, multiple participants (mentor, youth, parent/guardian, and program staff specialist) were surveyed prior to match initiation to assess the characteristics and perspectives that each brought to the new mentoring relationship. Likewise, all parties were assessed after the ending of a match to determine the reasons for closure and to understand each individual's perceptions of the mentoring relationship. In addition, program data collected in the normal course of practice was combined with data collected in the study to address the research questions for this project.

Of the matches participating in the STAR study, approximately one third (30%) ended before reaching the initial 12-month commitment specified in the program model, and two thirds (67%) of the matches closed at some point during the extended study period. The majority of match closures (64%) were attributed to the mentor, with the most common being residential moves and time constraints. The pre-match expectations indicated by mentors and parents/guardians regarding the desired length of the mentoring relationship predicted the actual

likelihood of the match continuing over time, with duration corresponding to parent/guardian preferences but in some ways counter to what mentors expressed. In-depth qualitative interviews with participants in a subsample of closed matches illuminated not only the importance of the mentor-youth connection but also the importance of positive relationships among the relevant adults (e.g., mentor-parent/guardian, mentor-staff) involved in supporting the match. In addition, post-closure data indicated that very few matches closed with a formal process, such as an in-person meeting, to end program participation.

Preliminary results from the STAR project have been shared in various forums conducive to discussions with practitioners regarding practical interpretations and practice implications. In addition, the findings have been presented at academic conferences and national mentoring conferences attended by practitioners. The preliminary findings inspired and informed the development and dissemination of resource materials for programs by the OJJDP-funded National Mentoring Resource Center. Multiple manuscripts reporting study results are in preparation for submission to refereed journals.

Background and Review of Relevant Literature

Mentoring is a flexible approach to youth development that has been found to promote positive social, emotional, behavioral, and academic outcomes for children and adolescents, including high-risk youth (Bouffard & Bergseth, 2008; DuBois et al., 2011; Tolan et al., 2008). Unfortunately, the promise of this potent tool for prevention and intervention is often not realized. Too many mentoring relationships established through formal programs end early - as many as a third to a half. Not only are prematurely ended relationships less likely to be effective, they actually may be harmful in some cases. A handful of studies have reported decrements in functioning among youth whose relationships ended before the initial time commitment had been met (Grossman & Rhodes, 2002; Herrera et al., 2011; Karcher, 2005; Slicker & Palmer, 1993). Yet, early match closure has received relatively little attention to date. Information about the individual, dyadic, and programmatic factors that contribute to premature endings is needed so that empirically-based program practices can be developed and disseminated to prevent such endings and to ensure that high-risk youth reap the significant benefits mentoring can provide.

We know surprisingly little about premature endings in youth mentoring relationships. National studies of both community and school based programs have reported that only about half of the relationships lasted to their initial time commitment, whether a calendar or school year (Grossman & Rhodes, 2002; Bernstein et al., 2009). Higher-risk youth appear to be particularly vulnerable to having their mentoring relationships end prematurely (Grossman et al., 2012; Grossman & Rhodes, 2002; Schwartz et al., 2011). These findings are concerning in light of evidence that mentoring relationships with premature endings can have negative consequences for youth participants. Studies of programs that promise youth a mentor for a minimum of either a school or calendar year have reported no gains and even declines in functioning among youth in relationships that ended prematurely, as compared to controls who received no mentoring at

all (Britner & Kraimer-Rickaby, 2005; Grossman et al, 2012; Grossman & Rhodes, 2002).

Attempting to mitigate negative effects, some programs re-match youth to ensure mentoring is received for the amount of time promised, even if that means matching youth multiple times. In a study comparing youth who received mentoring for roughly the same amount of time but had either one intact match or a rematch with a second mentor after an early ending initial match, only youth in intact matches demonstrated improvements in academic functioning (Grossman et al., 2012). This preliminary evidence suggests that, at least in programs seeking to forge longer-term mentoring relationships, re-matching youth with another mentor may not compensate for the consequences of a premature ending. Finally, match length does not appear to be the only critical factor. One study also found a link between mentor attendance and youth outcomes, with youth whose mentors attended sporadically reporting lower levels of self-esteem and physical attractiveness, suggesting mentor consistency may also play an important role (Karcher, 2005).

Current evidence regarding mentoring relationships indicates that they are influenced by complex interacting factors and that premature endings are likely to be multiply determined (Keller, 2005a). Mentor and youth characteristics, dyadic processes within the mentoring relationship, and program factors may all play a significant role. Indeed, some youth and mentor characteristics have been associated with early match closure. Youth age at time of matching, gender, and risk status all appear to play a role, with youth age potentially interacting with program type. Community-based matches with older youth (13-16 yrs of age) tend to be of shorter duration than those with younger youth (Grossman & Rhodes, 2002). Relationships with youth who have more complex problems (e.g., history of abuse) or are referred for mentoring due to psychological or educational difficulties tend not to last as long (Grossman & Rhodes, 2002). Matches between two females tend to end earlier (Grossman & Rhodes, 2002). Also, one

study found that girls were less satisfied than boys in short- and medium-length mentoring relationships, suggesting girls also may be more sensitive to early closures (Rhodes et al., 2008).

On the mentor side of the equation, volunteers have various motivations for taking on the role and may take different approaches to developing and maintaining their relationships (Keller, 2007). In some cases, personal circumstances may affect their ability to continue their program involvement. One study found that adults who had a lower income tended to have shorter matches, as did adults who were married and in their late 20's (Grossman & Rhodes, 2002). However, mentor expectations appear to be important as well. Some research indicates that when mentors' expectations about being a mentor are not met they are less likely to persevere, and the same is true for mentors who believe they underestimated the time commitment and feel burdened by the relationship (Schlafer et al., 2009; Spencer, 2007). Interpersonal skills may matter as well. In one study, mentors' own reports of their capacity for empathy and comfort with relationships at the time of the match were positively associated with mentee ratings of relationship quality 6 months into the match (Spencer et al., 2010). Research on peer-mentoring has found that mentors with more negative attitudes about young people in general can lead to poorer youth outcomes (Karcher et al., 2010). On the other hand, mentors with higher levels of social interest and general caring for the welfare of others are more likely to persist in their relationships, even with more interpersonally challenging protégés (Karcher & Lindwall, 2003).

With regard to the relationship itself, evidence is mounting that youth in closer, more enduring relationships tend to benefit more from mentoring (Herrera et al., 2007; Rhodes & DuBois, 2006). Additionally, studies of natural mentoring relationships associated with positive outcomes find many of these ties to be quite long-lived, with some adolescents reporting on relationships begun in early and middle childhood (DuBois & Silverthorn, 2005; Rhodes et al.,

1994). Yet, building and sustaining a mentoring relationship can be challenging. Qualitative research indicates that a number of relational, or dyadic factors, contribute to the length and strength of relationships. For example, when mentors adopting a prescriptive approach try to address difficult issues and change youth behavior early in the match, they often encounter resistance that leads to frustration and negative feelings on the part of both mentor and youth (Morrow & Styles, 1995). Mentoring relationships can suffer when mentors think the youth is not benefitting from the experience, when mentors sense the youth is unmotivated, or when communication difficulties interfere with making connections over time (Schlafer et al., 2009; Spencer, 2007). Feeling unprepared for the challenges of mentoring and having strong personal reactions to the differences between their own lives and those of their youth protégés have been reported by mentors in early ending relationships (Schlafer et al., 2009; Spencer, 2007).

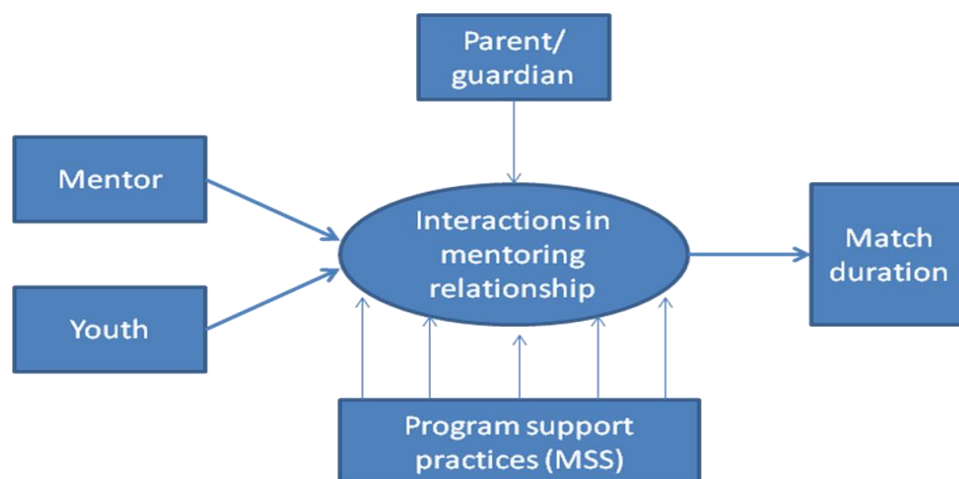
Features of the mentoring program also may affect the chance of relationships ending prematurely. For example, the quality of communication and coordination among the mentor, mentee, parent/guardian, and mentoring program worker may be critical (Keller, 2005b). The youth's parent may either facilitate or hinder the development and maintenance of the mentoring relationship, and youth outcomes are more robust for mentoring programs that specifically address parent involvement (DuBois et al., 2002). Recent research provides insights regarding the roles parents play in youth mentoring relationships, including *collaborators* working with the mentor, *coaches* providing guidance to the mentor, or *mediators* trying to resolve issues in the mentoring relationship (Spencer et al., 2011). Positive and effective mentoring relationships are more likely when the mentor and parent are better acquainted and share understandings and expectations (Meissen & Lounsbury, 1981). However, constructive parent-mentor dialogue and appropriate role definitions may be difficult to achieve. Relations between parent and mentor

frequently pose challenges, and their resolution can be integral to the stability and success of matches (Morrow & Styles, 1995). The agency worker also plays a crucial role throughout the development of the mentoring relationship by providing training, offering advice, monitoring boundaries, making referrals, facilitating communication, and problem-solving through ongoing contacts with both mentor and mentee (Keller, 2005a). In a study that noted the contributions of program staff, Big Brothers Big Sisters (BBBS) volunteers appreciated ideas for activities, guidance on building the mentoring relationship, and advice on dealing with the mentee's family (Morrow & Styles, 1995). A study of unsuccessful mentoring relationships cited cases that ended prematurely when the worker was unable to mediate mentor-mentee conflict or when the worker became over-involved and created indirect communication patterns (Spencer, 2007).

Based on the literature regarding mentoring relationships, a basic conceptual framework for understanding factors contributing to match duration, and specifically early termination, has been developed to guide the proposed research (see Figure 1). The framework represents the contributions of the participants in the mentoring program, primarily the mentor and youth but also the parent/guardian, to the official status of the match relationship at any given time. Each participant brings to the mentoring relationship a distinctive set of factors, including personal characteristics, capacities, needs, and expectations. Establishing a new mentoring relationship “matches” these individuals in certain combinations that may be complementary or problematic. When the mentor and youth meet for activities, relationship processes such as communicating information, negotiating goals, expressing emotions, and influencing behavior are reflected in the series of interpersonal interactions that constitute the match. The nature of these interactions determines whether the bond between the mentor and youth grows stronger, maintains a steady course, or starts to disintegrate. Throughout the match, the mentoring program offers support for

relationship development through the monitoring, guidance, and encouragement of the match support specialist. Thus, the proposed study to understand early match terminations focuses on participant contributions, relationship processes, and program support.

Figure 1: Conceptual framework for relationship duration.



Program setting. The roots of formal mentoring programs for children and youth go back to the beginning of the Big Brothers Big Sisters movement over 100 years ago. Big Brothers Big Sisters of America (BBBSA) now leads a network comprised of numerous local affiliates nationwide. In 2011, the BBBS community-based program was delivered by affiliate agencies in all 50 states and served 117,257 youth between the ages of 6 and 18. These youth included substantial percentages with empirically-identified risk factors for delinquency, including having an incarcerated parent (22%), living in a low-income family (55%), and not living with two parents (75%). The BBBSA National Office serves the critical function of promulgating and ensuring compliance with standards that influence the development, maintenance, and quality of local mentoring relationships. Operating standards for local BBBS affiliates allow agencies to deliver consistent, high quality, research-based mentoring services.

BBBS agencies recruit and carefully screen volunteer applicants for one-to-one matches in the community. To protect the youth served, BBBS programs identify and screen out

applicants who pose safety risks and those not likely to have a positive impact on young people. Programs also assess the youth, who often face a myriad of risk factors. Once participants are accepted in to the program, their training focuses on safety, longevity of the match, and youth outcomes. BBBS programs ask adult volunteers to indicate their preferences in terms of the age and characteristics of youth and types of activities they expect to engage in with the youth for matching purposes. Matches are often based on each volunteer's ability to help meet the needs of a specific youth. Gender, geographic proximity, and availability are just a few of the factors considered when experienced match specialists follow the matching protocol.

At the time of matching, the mentor and youth make an initial commitment to meet an average of three to four times per month for at least one year, with many relationships lasting significantly longer. Each match is monitored by Match Support Specialists (MSS) who contact all parties (volunteer, youth, and parent/guardian) on a regular basis to continually guide the match relationship and assess and address individual training needs focusing on: goal setting, child safety, relationship development, positive youth development, and volunteer satisfaction. If problems or barriers are identified, the MSS attempts to provide support or referrals to address and resolve such issues. The MSS also celebrates the successes of the matches and facilitates individual and group match activities to support ongoing volunteer involvement with the child.

BBBSA standards and practices are incorporated into an integrated service delivery model (SDM) that guides all interactions of staff with mentors, youth, and parents. The SDM focuses efforts on achieving positive outcomes for youth. The SDM is instituted at the direct service level through the Agency Information Management system (AIM), a sophisticated workflow management tool for tracking the progress of every individual and every match within the program. AIM is used on a daily basis by program enrollment staff to record application

information for participants, to see reminders for next steps in the screening process, and to record tasks and contacts completed. Likewise, AIM is used on a daily basis by MSS who have responsibility for supporting a caseload of matches. The MSS is prompted with information regarding each scheduled contact with match participants and then documents in AIM that the support contact was completed, the content of the conversation, and the progress of the match. In addition, the AIM system is used to maintain data generated by research-based assessments conducted with participants on youth outcomes (YOS: Youth Outcome Survey) and the strength of the mentoring relationship (SOR: Strength of Relationship).

BBBSA has a commitment to continuous program improvement and to enhancing the field of youth mentoring in general through rigorous testing of the BBBS model. BBBSA regularly conducts or collaborates on research projects addressing a variety of programmatic issues, such as a randomized pilot of an enhanced school-based mentoring model and an OJJDP-funded randomized trial of an innovative framework for training and match support. Furthermore, BBBSA has subjected its community-based and school-based programs to independent multi-site randomized trials (Herrera et al., 2011; Tierney, Grossman, & Resch, 1995). Specifically, the large-scale randomized controlled trial of the BBBS community-based model, with 959 youth ages 10-16 sampled from eight agencies, found evidence of positive program effects with respect to both: a) reducing aggression (hitting someone) and the likelihood of initiating alcohol, initiating illicit drug use, or skipping school; and b) improving grades in school, perceptions of scholastic competence, and quality of relationships with parents and peers (Tierney et al., 1995). Thus, the demonstrated effectiveness for prevention of delinquency and related outcomes qualifies the BBBS program as an evidence-based program.

Study Objectives and Research Questions

The current study, referred to as the Study To Analyze Relationships (STAR), represents a collaborative partnership between the researchers and BBBSA to conduct a methodologically rigorous investigation of the factors associated with premature match endings. The project was intended to address one of the important priorities described in the RFP from OJJDP: *“The length of mentoring matches, how often the mentoring pair meet, and the quality of their relationship have been linked to successful mentoring outcomes. Additional research could examine the factors that influence and enhance these elements. For example, environmental factors, such as the location of where the mentoring pair meet; individual characteristics, such as the personal qualities of the mentor or mentee; or organizational factors, such as staff to mentor ratios, may influence the length, quality, and frequency of mentoring matches.”* (OJJDP RFP, 2012, p. 4)

The overall goal of this study was to explain how participant characteristics, dyadic processes, and program practices contribute to the premature ending of mentoring relationships so that empirically-based program policies and practices can be implemented to prevent early closures. The STAR project represents a methodologically rigorous study using a mixed-methods design to understand the factors influencing early closures. A prospective, naturalistic approach employing quantitative methods for analyzing event occurrence was used to identify factors that predict early closing relationships. Retrospective, forensic approaches were employed to obtain in-depth understanding of exactly what transpired in relationships that closed prematurely. The study combines program practice data with data collected to address the research questions for the project. The central research questions, presented in Table 1, are grounded in the conceptual framework described above.

*Table 1: Research questions**What factors (individual, dyadic, and program) predict whether and when a match closes early?**What are the reasons for early match closures?**How is the match closure process managed by programs and participants?*

Study Methods and Analytical Techniques

Study Design Overview

The study involved a collaborative partnership between the research team, the BBBSA national office, and four local BBBS agency affiliates selected for the project. To identify factors that predict early match closure, the study relied on a prospective cohort design in which community-based (CB) mentoring relationships were followed from the time of their initiation until they closed or the study period ended. The personal characteristics and circumstances of the individuals playing a central role in establishing and maintaining the mentoring relationship, including the mentor, mentee, parent/guardian, and MSS, were assessed prior to the creation of the new matches. Once the mentor and mentee were introduced and began meeting, the nature of their interaction and the level of support received from the program was tracked through data entered into the AIM system during regularly scheduled match support contacts and assessments. The occurrence and timing of the primary outcome of interest, match closure, also was derived from records in the AIM system. Event history analysis, also known as survival analysis, is used to model regression equations in which factors assessed prior to matching predict early match closure.

To better understand how combinations of factors contribute to early match closures, the study included two retrospective design components. Immediately following every match closure, key participants (mentor, youth, parent/guardian, MSS) completed surveys assessing various dimensions of the relationship and eliciting reasons for the closure. A subsample including matches that ended within 0-6 months, within 6-12 months, and 12-18 months was selected for in-depth qualitative interviews with key participants in each match (mentor, parent, MSS). The interviews focused on the developmental history of each relationship and the events leading to match closure. The retrospective data provide rich description of the factors and processes associated with the occurrence and timing of match closures.

All study procedures were approved by the Institutional Review Board (IRB) at Portland State University. In addition, the study was granted a privacy certificate from the U.S. Department of Justice.

Selection and Training of BBBS Agency Partners

Four BBBS affiliate agencies providing services in local communities were selected for participation in the study. Pre-determined selection criteria included: a) high rate of compliance in use of the AIM data system; b) capacity to make over 100 new matches within a six month period; c) agency leadership with competence and commitment to ensure performance of research-related tasks. Among agencies meeting these qualifications, attention was given to secondary factors: a) average match length and 12-month match retention rate; and b) geographic diversity. To facilitate the selection process, the research team received detailed information from BBBSA regarding the 33 largest BBBS affiliates in the U.S. This information included the following parameters: number of new CB matches made with youth over 9 years of age in last 6 months, total number of children served in CB matches in last 6 months, completion rates for CB

SOR and YOS assessments in last 12 months, average CB match length, 12-month match retention rate for CB matches, number of MSS serving CB matches, and average CB match caseload. Based on a careful review of these data, ten agencies were identified as candidates for participation in the study. Next, BBBSA staff responsible for direct agency support completed agency readiness surveys for each of the prospective sites with which they were familiar. These surveys generated information about agency stability, financial health, leadership, turnover, implementation of program standards, and participation in other major research projects. Following review of this feedback, final selection of the partnership agencies was made in consultation with leadership at BBBSA.

The researchers and a BBBSA representative contacted the CEO's of the selected agencies to explain the study and invite them to participate. The goal was for each participating BBBS affiliate to consent and enroll 100 new matches to generate a total of 400 matches for the study sample. Agency staff in each program were asked to recruit participants and conduct data collection activities as described below. Each agency that was formally invited to take part in the study agreed to participate. Subcontracts were completed with each of the four partner agencies. As compensation for staff effort devoted to the project, BBBS partner agencies received up to \$23,500 over the course of the study.

Each participating BBBS agency designated a staff member with program management responsibilities to serve as a Research Liaison (RL). The RL was essentially a member of the research team who helped to coordinate the research efforts at the program site. The RLs participated in a 2-day in-person orientation and training with the research team. The RL training involved an overview of the study, discussion of study procedures for participant recruitment and data collection, and training on the REDCap data management system used for the study.

Subsequently, the RLs participated in bi-weekly telephone conferences with the research team throughout the remainder of the project period. In addition, the staff in BBBS affiliates responsible for screening and matching program participants (EMS: Enrollment and Matching Specialists) underwent training in research ethics and in the study protocol. A total of 88 program staff completed both an online training offered by NIH on human subjects protections and a training webinar delivered by the principal investigator that covered the IRB-approved procedures for the study.

Sample Recruitment and Baseline Data Collection Procedures

Given the focus on early match endings, mentoring relationships represented the primary unit of analysis for the proposed research. A primary sample comprised of 356 new relationships formed in the four BBBS community-based mentoring programs was recruited and enrolled into the study. New matches eligible for inclusion in the study were those in which the youth participant was over 9 years old and was at elevated risk for involvement in delinquency due to one of the following risk factors: lives in single parent household, receives free or reduced price school lunch, family receives public assistance, or parent is incarcerated. Individuals participating in the study sample included the mentor, youth, and parent/guardian for each match. Matches were considered to be part of the primary sample only if all three of these individuals (mentor, youth, parent/guardian) consented to participate in the study and completed the baseline assessment for the study. Thus, the primary sample of STAR matches includes 356 mentors, 356 youth, and 356 parent/guardians. The study sample also includes the MSS staff in each BBBS affiliate responsible for ongoing support of these matches.

To obtain informed consent and baseline data from program participants prior to the initiation of study matches, the following procedures were performed in accordance with IRB-approved protocols:

MSS staff. All MSS in participating BBBS affiliates were invited to a webinar explaining the study, and then all MSS were invited via email to participate in the study and provide informed consent. MSS who enrolled in the study were asked to complete a self-administered baseline survey on a secure online survey website. MSS who completed the survey received a gift card valued at \$10.

Mentors. All volunteers going through the regular BBBS intake screening process to become mentors met with a trained EMS staff person, received information about the study, and were invited to participate. The EMS obtained informed consent from volunteers willing to participate in the study. The RLs recorded each invitation to a volunteer as well as the outcome with respect to consent. Using the secure REDCap research database, the RLs transmitted contact information to the research team for the volunteers who consented to enroll in the study. These participants were contacted via email and asked to complete a self-administered baseline survey on a secure online website. Mentors were informed that they would receive a \$15 gift card upon completing a follow-up survey after being matched.

Parents/Guardians. The parent/guardian of each youth who was identified as study eligible and also was being proposed for a match with a mentor already in the study was contacted by the EMS prior to the Match Introduction Meeting (MIM) with information about the study and an invitation to participate. For interested parents, a time was scheduled for an in-person meeting prior to the MIM for the EMS to obtain informed consent and for the parent to complete a baseline survey. The parent/guardian baseline was administered as a paper survey

that the participant sealed in an envelope and then was sent to the research team. The parent/guardian received a gift card worth \$30 upon completion of the baseline survey.

Youth. Following parental consent, youth who assented to study participation were administered a baseline survey prior to the MIM. The survey was sealed in an envelope and sent to the research team. The youth received a \$15 gift card upon completing the survey.

For all participants, giving consent to participate in the study entailed permission for the researchers to have access to all AIM data recorded for their matches as well as permission to contact them for additional data collection if their match ended within the study period.

Sample Recruitment Results

The sample was recruited on a rolling enrollment basis during a 21-month period from October 1, 2013 to June 30, 2015. The total number of volunteer mentors invited to participate in the study was 1286; the number contacted per agency ranged from 164 to 514. Of those invited, a total of 1127 volunteers consented to participate in the study (87.6% consent rate), with agency figures ranging from 147 to 416 and agency consent rates ranging from 81% to 93%. Differential consent rates were noted according to volunteer gender and race, with female (90.9% vs 83.7%, $\chi^2 = 15.1$, $p < .001$) and white (89.7% vs 83.1%, $\chi^2 = 10.7$, $p < .01$) volunteers more likely to consent. Among the volunteer mentors who gave consent, a total of 1000 responded to the baseline survey (88.7% response rate). Agency response figures ranged from 140 to 357, with agency response rates between 86% and 95%. Response rates for the baseline survey did not vary by gender or race.

Of the volunteer mentors responding to the baseline survey, a total of 766 were eventually matched with a youth mentee (76.6%). The probability of a mentor being matched did not differ by gender or race. Of the volunteers enrolled in the study and matched to a mentee, a

total of 357 were in matches that included study consent and participation by the parent/guardian and youth mentee (46.6%). The final sample of STAR study matches was 356 because one match was a “couple” match, with two adults in a partner relationship matched to a single youth. Volunteer mentors who consented for the study, completed the baseline survey, and were paired with a mentee may have been in a match that did not count toward the study sample for a variety of reasons: youth not eligible for study based on age or lack of custodial adult to provide consent (n=164), mentor matched before parent/guardian and youth invited to participate in study (n=111), mentor matched before completing baseline survey (n=48), mentor matched after study enrollment period ended (n=33), parent/guardian declined to give consent (n=33), youth did not complete baseline survey (n=12), and various other reasons (n=8). Volunteers in STAR study matches did not differ from other matched volunteers on the basis of gender or race.

A total of 92 MSS were indicated by the agencies as supporting CB matches during the course of the study (note that an ongoing roster was maintained and new hires were recruited for the study). These MSS were contacted via email with invitations to complete the consent form and to complete the baseline survey. A total of 82 MSS consented to participate in the study and take the initial survey (89.1% consent rate). Five MSS declined to participate, and five did not respond.

Sample Description

The youth ranged in age from 8 to 17 years ($M= 11.3$, $SD= 2.0$). There were more females (57%, n=203) than males (43%, n=153). The youth were racially diverse with 30.8% identifying as Latina/o (n=109), European American/White 25.4% (n=90), African American/Black 19.8% (n=70), and 24% multiracial/other (n=85).

The vast majority of parents/guardians for the study were the youth's mother (79.7%); others were the youth's grandmother (10.3%), father (4.9%), and aunt (1.6%). The parents/guardians were 24-74 years old ($M= 39.8$, $SD= 9.2$). Most parents/guardians reported being a single parent (74.9%). The majority of parents/guardians had not completed a college degree (83.7%), and 87% reported a household income less than \$50,000.

The mentors were 18 to 76 years old ($M= 31.2$, $SD= 9.5$). There were more female mentors (57.5%, $n=199$) than male mentors (42.5%, $n=147$). The majority of mentors identified as European American/White (70.3%) with 10.4% Latina/o, 5% African American/Black, 3.9% Asian/Asian American, and 10.4% multiracial/other. It was most common for mentors to be single (54%, $n=188$) although 20.7% were married ($n=72$), 14.4% were living with a partner ($n=50$), 8.9% were divorced ($n=31$), 1.1% were married but separated, and .9% were widowed. The majority of mentors did not have children of their own (89.6%, $n=310$). Most mentors had completed at least a bachelor's degree (70.9%) and reported a household income above \$50,000 (61.2%). Almost quarter of mentors (24.9%) reported volunteering with another organization in addition to the BBBS program.

The MSS completing the baseline survey ranged in age from 22 to 60 years ($M= 31.6$, $SD= 8.0$). The majority of MSS were female (82.9%) and White (58%). Almost all MSS had completed a bachelor's degree (98.9%). At the time of the baseline survey, more than half of the MSS had been in their current position for less than 1 year (45.6%); 27.8% of MSS had been for 1-2 years; the remainder has been in their current position 3-14 years ($M= 2.1$, $SD= 2.7$). MSS reported working longer in the youth development field: 5 had less than 1 year of experience (15.6%), 11 had 1-2 years of experience (12.2%), and the remainder had more than 3 years of experience, with the maximum being 30 years ($M= 6.7$, $SD= 5.5$).

Follow-up Data Collection Procedures

All STAR study matches (n=356) were monitored until the match had closed or until a minimum of 15 months had elapsed since initiation of the relationship, resulting in an active follow-up period from December 1, 2013 to September 30, 2016. After an additional six months, match records from AIM were used to obtain all information pertaining to match closures occurring prior to final cutoff date of March 31, 2017. Thus, all STAR matches remaining intact as of March 31, 2017 were censored due to completion of the study period. During the active follow-up period, RLs would inform the research team when any STAR match ended and provide relevant information regarding the date and circumstances of the closure. The research team would attempt to collect data regarding the match and the closure from the perspective of each participant. The mentor and the MSS supporting the match were contacted via email with a request to complete an online post-closure survey. The parent/guardian and youth also were invited via email to complete an online post-closure survey. If no response was forthcoming, surveys were sent to mentors, parent/guardians, and youth by mail with return envelopes provided. Gift cards were offered to participants for completion of their follow-up surveys (MSS=\$10; Mentor=\$15; Parent/guardian=\$30; Youth=\$15). If matches remained intact 15 months after initiation, the mentor was asked to complete an online survey reporting on the mentoring relationship. In these cases, surveys were not sought from other match participants (parent/guardian, youth, MSS). Mentors received \$15 gift cards for completing the 15-month follow-up survey.

A total of 151 STAR matches (42.4%) closed prior to reaching 15 months in match duration and thus were eligible for post-closure surveys during the follow-up period of the study. Post-closure surveys obtained for these matches included the following: 129 MSS surveys

(85.5%); 110 parent/guardian surveys (72.8%); 99 mentor surveys (65.5%); and 73 youth surveys (48.3%). In addition, mentor 15-month follow-up surveys were obtained for 157 of the 205 STAR matches that remained intact at the 15-month mark (76.6%).

To better understand the perspectives and experiences of participants whose relationships ended, a sub-sample of matches that closed during the study period was selected for inclusion in the qualitative portion of the study. The goal was to obtain a subsample of matches evenly distributed across the four agencies that had ended during three different time periods: (1) within the first 6 months, (2) between 6 and 12 months, and (3) between 12 and 18 months. Matches also were chosen to reflect the diversity of match demographics (e.g., gender, mentor/youth age, race/ethnicity) and to represent a wide variety of match experiences and closure reasons based on short summaries provided by agency staff. Matches were excluded if the agency reported that the relationship ended due to factors clearly outside the match (e.g., the mentor or youth moved from the area). For selected matches, the mentor, the youth's parent/guardian, and the MSS working with the match at the time it ended were invited to participate in one-time, in-depth qualitative interviews via phone. The aim was to obtain interviews from all 3 participants in 48 cases (4 cases from each agency ending during three time points: 0-6 months, 7-12 months, 13-18 months; Table 1). For the purpose of sampling, match length was determined using the agency report of the length of the match at the last meeting. In total, participants from 82 matches were contacted for interviews, and a total of 174 interviews were conducted (49 mentors, 53 parents/guardians, 72 MSS) resulting in 36 matches (19 female) that had completed interviews for all three participants (trifectas).

For cases in the qualitative subsample, the mentor, parent/guardian, and MSS were each asked to complete a one-time, in-depth (Johnson, 2002), semi-structured (Seidman, 1991)

interview after the match had ended. All participants were interviewed by telephone. All participants provided consent to participate during the pre-match enrollment process and were reminded at the time of the interview that participation was voluntary. Interviewers informed mentors that their individual responses would not be shared with parents/guardians or the agency and vice versa. Mentors and parents received \$30 gift cards for completing the interview; MSS received a \$15 gift card. Interviews lasted from 15 to 85 minutes (parents/guardians: $M= 40.3$, $SD= 12.7$; mentors: $M= 43.9$, $SD= 12.4$; MSS: $M= 48.3$, $SD= 12.4$). All interviews were audio-recorded and transcribed verbatim. Transcriptions were verified, by listening to the audio recording and making any necessary corrections, and de-identified for analysis.

Mentoring program staff also provided case notes for each triecta including enrollment and matching documents, logs of staff-participant contacts, and closure notes. Paper documents were scanned and electronic files were exported into PDFs, which were transferred to study staff via a secure cloud-based server. All identifying information was removed from the case notes prior to analysis.

Data

Data for the study were obtained through the BBBSA Agency Information Management (AIM) system, participant surveys, and in-depth qualitative interviews.

AIM system. The Agency Information Management (AIM) system is a customized work-flow management system that contains all electronic records pertaining to participants and matches in BBBS affiliate agencies. AIM guides the work of BBBS staff with each participant, and staff members record the date and nature of each interaction with participants in the system. Thus, AIM contains extensive data from participant applications (e.g., demographics), dates of completion of each step in the enrollment process (e.g., screening interviews, training), dates

when matches are made and closed, and the timing and content of match support contacts. For the current study, AIM data was used for the following purposes. First, information from the applications of youth participants was used to determine eligibility for inclusion in the study. Second, AIM provided basic demographic variables for all participants (e.g., age, gender, occupation). Third, because AIM records exact dates on which matches are made and closed, it is possible to determine whether and when a relationship ends and the duration of the relationship, the central outcomes of interest in this study. Finally, the AIM system provides access to two assessments conducted by BBBS staff in the normal course of practice, the Youth Outcome Survey (YOS) and the Strength of Relationship (SOR) survey. The YOS assesses youth attitudes toward risk behaviors, quality of parent and peer relationships, perceived scholastic efficacy, academic performance, school attendance, and academic aspirations using items from established scales in the literature. The YOS is administered to youth at the beginning of the mentoring relationship (within the 30 days preceding a match) and again at the one-year point in the relationship. The youth version of the SOR assesses the quality of the relationship with items adapted from a validated measure used in previous BBBS research (Rhodes et al., 2005) and items assessing safety, closeness, and importance attached to the mentor. The mentor version of the SOR has subscales for connectedness, frustration, and confidence and items on closeness and decision-making. The SOR is administered 3 months and 12 months into the relationship.

Baseline surveys. At baseline, all participants completed surveys to assess factors theorized to be associated with mentoring relationship development and duration. Information regarding the principal constructs, with corresponding measures and citations, represented in each baseline survey are presented in Appendix A, with separate tables for mentor, parent/guardian, youth, and MSS surveys. Examples of measures found in each survey are

highlighted briefly below. In addition to the standard surveys, MSS filled out one-page assessments for each match based on observations of interactions at the match introduction meeting.

Mentor baseline survey. Motivations for volunteering were measured using the Volunteer Motives Scale (Davis, Hall, & Meyer, 2003) Attitudes toward youth will be assessed using a scale (Herrera et al., 2007) that asks mentors how many youth in their community can be characterized by statements such as “work hard at school” and “respect adults.” Orientation toward forming attachment relationships will be assessed with the Experiences in Close Relationships Questionnaire-Revised (Fraley, Waller, & Brennan, 2000), measuring the dimensions of anxiety and avoidance. Empathy was measured by the Interpersonal Reactivity Index (Davis, 1983), a self-report index of *perspective taking* (adopting the psychological view of others), *empathic concern* (sympathy for others), and *personal distress* (personal anxiety in emotionally charged situations). Perceived self-efficacy was assessed with the Mastery Scale (Pearlin et al., 1981). Mentor personality was assessed with the Big Five Inventory (John, Donahue & Kentle, 1991), measuring *extraversion*, *agreeableness*, *conscientiousness*, *emotional stability*, and *openness*.

Parent baseline survey. The parent baseline survey focused on several factors related to youth behaviors and needs as well as parenting practices and family circumstances. Parents responded to the Strengths and Difficulties Questionnaire, with brief scales on *prosocial behaviors* and *peer relationships* as well as *hyperactivity/inattention*, *emotional symptoms*, and *conduct problems* (Goodman, 1997). The level of confusion and disorganization in the child’s home environment was assessed with the Confusion, Hubbub and Order Scale (Matheny et al., 1995). The parent also completed the Alabama Parenting Questionnaire (Shelton et al., 1996) on

parental *involvement*, *positive parenting*, *monitoring/supervision*, and *discipline*. To assess challenges facing the child and family, the parent indicate the presence of various risk factors on an index developed in previous research on mentoring (Herrera, DuBois, & Grossman, 2013).

Youth baseline survey. Youth participants completed the youth-report version of the Strengths and Difficulties Questionnaire (Goodman, 1997). The Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987) measured dimensions of *trust*, *communication*, and *alienation* in relationships with parents and peers. Family context will be assessed with the *supervision/monitoring*, *autonomy-granting*, and *family conflict* subscales of the Family Climate Inventory (Kurdek, Fine, & Sinclair, 1995). Youth personality was assessed with a version of the Big Five Inventory (John & Srivastava, 1999).

MSS baseline survey. MSS were assessed for their educational background, experience in the agency and in the field of youth development, and other personal and organizational factors that may affect performance. MSS self-efficacy and personality were assessed with the instruments described previously. MSS attitudes toward work were measured with the Utrecht Work Engagement Scale (Schaufeli & Bakker, 2003). The level of support MSS experience in their relationships with supervisors was evaluated with the Supervisory Relationship Questionnaire (Palomo, Beinart, & Cooper, 2010), which measures dimensions such as *providing structure*, *demonstrating commitment*, *role modeling*, and *providing constructive feedback*. Finally, MSS perceptions of agency climate were assessed with the Organizational Culture Survey (Glaser et al., 1987), with subscales for *teamwork*, *information flow*, *involvement/input*, and *morale*.

Post-closure surveys. Following the termination of a match, all respondents were asked to complete a post-closure survey, which asked about the reasons for the ending of the mentoring

relationships. In addition, they were assessed with a number of established measures to provide insights into the nature of the mentoring experience and the quality of the relationships formed in the program. Information regarding the principal constructs, with corresponding measures and citations, represented in each post-closure survey are presented in Appendix B, with separate tables for mentor, parent/guardian, youth, and MSS surveys. Examples of measures found in each survey are highlighted briefly below.

Mentor post-closure survey. Mentors were asked to identify which from an established list of mentoring relationship obstacles they encountered (DuBois, Neville, et al., 2002). The mentor's reasoning about ending the mentoring relationship was assessed with an adapted Investment Model Scale for relationships (Rusbult, Martz, & Agnew, 1998), which has subscales reflecting *satisfaction* in the relationship, comparative desirability of *alternatives*, level of *investment* made in relationship, and *commitment* to relationship. The mentor's sense of productive collaboration with the mentoring program, represented by interactions with program staff, was assessed with a modified version of the Working Alliance Inventory (Horvath & Greenberg, 1989). A successful working alliance is predicated on a strong and supportive *bond*, agreement on *goals*, and cooperation on *tasks*. Consequently, this measure indicates whether the mentor felt participation in the program reflected a partnership congruent with the program mission. A scale to assess mentor "burnout" was adapted from the parenting aggravation subscale of the ADD Health Study. The nature and quality of the mentoring relationship from the perspective of the mentor was tapped using the Match Characteristics Questionnaire (Harris & Nakkula, 2003a), which has multiple subscales representing relationship closeness and sharing, theme or focus of activities, and influences on relationship development. In particular, MCQ

relationship development focuses on *compatibility*, *logistical issues*, and *external support* for relationship.

Parent post-closure survey. The parent was asked a parallel set of questions from the mentoring obstacles list, the Investment Model Scale (parents relationship with respect to mentor), and the Working Alliance Inventory (with respect to both mentor and MSS), and the Match Characteristics Questionnaire section on relationship development influences.

Youth post-closure survey. The youth perspective on the nature and quality of the mentoring relationship was assessed with the Youth Mentoring Survey (Harris & Nakkula, 2003b), a youth parallel to the MCQ that includes subscales for *relationship satisfaction*, *mentor support*, *mentor dependability*, and *activity focus*. Youth also completed the Relationship Questionnaire (Lynch & Cicchetti, 1991, 1997), with subscales for *emotional quality* (“When I’m with my mentor, I feel...happy, important, ignored, mad, bored, disappointed, etc.”) and *psychological proximity-seeking* (e.g., “I wish my mentor knew more about how I feel”). Finally, youth feelings about negative or disappointing interactions with the mentor were assessed with subscales reflecting *dissatisfaction*, *unhappiness*, and *broken trust* on the Youth-Mentor Relationship Questionnaire (Rhodes et al., 2005).

Staff post-closure survey. The MSS were asked a set of questions from the mentoring obstacles list, the Working Alliance Inventory (MSS relationship with respect to both mentor and parent), and the Match Characteristics Questionnaire section on relationship development factors.

Qualitative interviews. As described previously, qualitative data was sought from a subsample of matches that had ended after mentoring relationships of various lengths. Interviewers used a semi-structured interview protocol to elicit each participant’s understanding of how and why the relationship ended. The interviews also addressed the role of the agency

during the life of the match and in the closure process. In addition, the interviews asked participants to share their overall perceptions of the nature, quality, and development of the mentoring relationship. Finally, the interviews investigated the impact of the mentoring relationship and the match closure on all parties.

Analysis Plan

Descriptive analyses. Because the STAR study addresses a topic which has not received much attention in previous research, descriptive information about match closures provides important information for the field. Data from baseline and post-closure surveys will be analyzed in the aggregate and reported with appropriate descriptive statistics, such as means, frequencies, and percentages.

Predictive analyses. Event history analysis, also known as survival analysis, represents a methodologically rigorous analytical approach for addressing the research questions about factors predicting whether and when a match ends. Event history methods permit modeling of all cases, including those that do not experience the event of interest (i.e., a match ending) because those observations are censored by the termination of the study period (Allison, 1984). However, one outcome of primary interest in this study, whether a match ends prematurely within its first 12 months, was not subjected to censoring because the follow-up period for all STAR matches was 15 months. Thus, this particular dichotomous outcome can be modeled using logistic regression.

Event history methods will be used when modeling not just the occurrence but also the timing of events. Because dates of match initiation and closure allow measurement of time with precision, Cox proportional hazard models will be employed to estimate a semi-parametric survival model that does not require specification of a baseline hazard function. The hazard can

be thought of as the instantaneous risk of experiencing a match closure at time t , given that a match closure has not already occurred prior to that time. In these analyses, $t = 0$ represents the time at which the match is made. Once a relationship ends, it is removed from the risk set, i.e. the matches still at risk for closure. The general form of the Cox proportional hazard regression equation, where $h_0(t)$ is the baseline hazard function, is: $h(t_i) = h_0(t) \exp(\beta_1 \chi_1 + \beta_2 \chi_2 + \dots + \beta_k \chi_k)$, and the hazard rate for the i th individual is: $h(t_i) = h_0(t) \exp(\beta' \chi)$. Various models will be evaluated with baseline variables for mentor, youth, parent, and MSS as well as particular mentor and youth combinations as fixed independent predictors. AIM data on relationship progress will be modeled as time-varying variables.

Retrospective analyses. Multiple approaches will be used to analyze data from the post-closure interviews of participants. Initially, descriptive statistics summarizing the data in the aggregate will be used to provide important information about the reasons for closures and the nature of early ending relationships. Next, the distinctions between relationships that end after different lengths of time together will be identified through exploratory comparisons. For example, techniques for testing associations, such as ANOVA, may be applied with the length of relationship (0-6 mos, 6-12 mos, 12+mos.) as the classification factor. In addition, pattern-analytic approaches may be employed to identify and describe how multiple relational or situational factors associated with early match closure combine to form distinctive profiles defining these relationships. Depending on the nature of the data, these analyses may involve two-stage cluster analysis, in which solutions derived from hierarchical clustering methods are enhanced through adjustments in cluster membership during a K-means procedure (Huberty, DiStefano, & Kamphaus, 1997). Alternatively, these analyses may employ latent class analysis to model a latent categorical variable that represents a mixture of subpopulations differentiated

by their particular patterns on multiple indicators (McCutcheon 1987). In either case, the emphasis is on identifying organized configurations of interactive factors that distinguish qualitatively different groups of matches that share a common profile.

Qualitative analyses.

Thematic coding. A multi-step thematic analysis (Braun & Clarke, 2006) of the 36 trifactas was conducted to examine the nature and development of each of the mentoring relationships as well as why and how it ended. Two research team members developed an initial codebook representing the interview protocols, previous research on match endings, and consideration of key research questions. Codes highlighted: early relationship expectations and motivation; the quality and development of the youth-mentor relationship over time; the relationship between the parent/guardian and mentor; agency support and interactions with match parties; and participants' understanding of how and why the relationship ended, and the impact of the ending. The codebook was evaluated and revised based on topics and themes that emerged throughout the coding process. All interviews associated with a particular trifacta were coded together by one research assistant using NVivo.

Narrative summaries. Once all three interviews from a trifacta were coded, the coder produced a narrative summary (Way, 1998) integrating the coded interviews with the agency-provided case notes. Coders first explained the nature and development over time of the four main relationships examined in the interviews: youth-mentor, parent/guardian-mentor, parent/guardian-agency, and mentor-agency. Coders then described the relationship ending from each participants' perspective including: the reason for closure; the process leading to the match end, including the agency handling of the closure; and the impact of the match ending on the youth, parent/guardian, mentor and MSS. Subsequently, coders reflected on the mentor

engagement, impressions of the participant's experiences with the mentoring relationship, and their evaluations of the match ending. Finally, the coder documented their thoughts and reflections on the match closing.

One team member served as the master coder, supervising all coding and narrative summary writing to ensure consistency and quality across cases. Coders met weekly during the coding process to discuss questions and challenges in the coding and narrative summary process, and to examine cases and identify emerging themes.

Systemic modeling. In order to summarize individual characteristics and the multiple relationships associated with a case, identify why the match ended using a transactional relational lens, and to facilitate comparison across matches, triangle models were created for each case based on Keller's (2005) systemic model of youth mentoring. The triangle model included a circle representing each match party (i.e., youth, parent/guardian, mentor and MSS) connected by lines representing the dyadic relationships between all match parties. The youth is located in the center of the triangle with the mentor on the apex to signify the dyadic relationship, which is the primary focus of the mentoring relationship. The parent/guardian and MSS are located in the bottom corners, representing their role in supporting the primary relationship.

First, the coder assigned to the case and two other master coders independently reviewed the narrative summary. Each reader used the information in the narrative summary to create a triangle model for the case. In each party's circle, the reader noted the characteristics and qualities of the person as well as any contextual factors that were at play in the match. Information about the family context was included in the parent/guardian circle, and agency details or information about previous staff members associated with the match were included in the MSS circle. The triangle model also included boxes corresponding to the key relationships

of interest (youth-mentor, parent/guardian-mentor, parent/guardian-MSS, and mentor-MSS) where the reader recorded information on the nature of the relationship, communication between parties and the types of support offered between the two parties. In cases where either the youth-parent or youth-MSS relationship was discussed in the interviews as playing an important role in the mentoring relationship development, a box was added describing this relationship.

Once all circles and boxes on the triangle model were filled in, each reader used the relevant information to make designations regarding the quality and level of functioning of the four key relationships (and the additional one if a box was added). The line representing the relationship was colored green if the coder evaluated the overall relationship as positive or functional meaning that the parties were engaging as expected by agency norms, had regular communication, had a good working relationship, and were happy with the relationship. The line was colored red when the relationship was not functional and was determined to be negative for the match and may have contributed in some way to the match ending. If the relationship in the triangle was not important to the match or unanalyzed (typically the youth-parent and youth-MSS relationships), the line was colored blue.

After each reader completed a triangle model for the case, the reader and two team members serving as “master readers” for all of the triangles met to discuss and come to consensus on a final triangle model for the case. Through a collaborative process, the readers considered the content of each individual’s circle and each dyadic relationship box to determine which content was relevant to the match. Then, the readers discussed the color of each line until all three agreed on the color choice. Once the content of the triangle model was finalized, the readers identified what aspect of the match, either a relationship or individual, they thought was

ultimately responsible for the termination of the relationship. This was indicated by an asterisk in the circle or box corresponding with the person or relationship.

Sorting cases and identifying themes. Once all 36 cases were coded and narrative summaries and triangle models were constructed, the first three authors met to review the triangle models for all cases and identify major themes related to why the mentoring relationships had ended. Printed copies of the triangle models were physically sorted into piles based on patterns in relationship line coloring and then based on common characteristics of the match parties (e.g., mentor had unrealistic expectations, gap in MSS support) or dyadic relationships (e.g., MSS judges parent/guardian, mentor unsatisfied with agency/MSS support).

Integration of quantitative and qualitative data. The quantitative and qualitative data for the study intentionally overlap in addressing research questions. The data from each approach will be examined in conjunction to develop explanations for how certain combinations of factors contribute to early match closures. For example, the reasons for early match closure identified through analysis of the survey data will be further elaborated by rich descriptions in the qualitative data of the circumstances surrounding some of the relationship endings from multiple perspectives (mentor, youth, parent and MSS). Significant predictors of early match closure from the event history analysis will be compared with any evidence or descriptions of these in the qualitative data to identify possible processes through which the identified factors may contribute to premature endings. The ways that personal characteristics of mentors and youth and the support from the agency, or lack thereof, may come together to influence the nature and timing of early endings will also be explicated.

Findings

The STAR study generated a large amount of data regarding the factors that may influence the development and duration of youth mentoring relationships, the circumstances of match endings, the management of the closure process, and the effects of closure on participants. The findings presented here are based on analyses conducted under the OJJDP-funded study. Given the breadth and depth of the data collected, many additional analyses are planned to more fully utilize the data and to build on the results highlighted here. The authors intend to publish findings from these additional analyses in academic journals and other publications. The presentation of the results here reflects the range of potential findings that may emerge from the study when additional analyses are conducted.

Pre-match Expectations

The baseline surveys contained several questions regarding the prospective match to assess the expectations of participants prior to the initiation of the mentoring relationship. For example, both the mentor and the parent/guardian were asked how long they wanted the match to last. The responses to this question are reported in Table 2. A relatively small number of respondents anticipated a match length equal to the one-year commitment requested by BBBS programs. Interestingly, some parents/guardians wanted matches less than one year in duration. Although some respondents specified a certain number of years, the majority expressed a desire for longer-term relationships lasting until the child is grown up (to adulthood) or forever. A sizable proportion were not sure how long they wanted the match to last.

Table 2: Desired match length indicated by mentor and parent/guardian

Duration	Mentor		Parent/guardian	
	Frequency	Percentage	Frequency	Percentage
Less than 1 yr	0	0%	8	2.3%
1 yr	15	4.2%	16	4.7%
2-3 yrs	27	7.6%	19	5.6%
4-5 yrs	7	2.0%	7	2.0%
6-10 yrs	0	0%	16	4.7%

Until child is grown up	64	18.0%	96	28.1%
Forever	125	35.2%	107	31.3%
Not sure	117	33.0%	73	21.3%

Another indicator of initial expectations regarding a new match comes from a brief assessment that MSS completed immediately after conducting the Match Introduction Meeting creating a new STAR match. MSS were asked how confident they were that the match would become a strong relationship. Responses were indicated on a number line ranging from 0%=not at all confident to 100%=100% confident, with markers at intervals of 10. The results are presented in Figure 2. Overall, MSS had fairly high confidence in the relationships being created, with 80% as the mode and 81% as the mean probability of a strong relationship. Perhaps recognizing the complexity of human relationships, relatively few MSS were entirely confident that the new match would be strong. Another question asking MSS to estimate how likely the new match would still be together in one year yielded similar results, although the mean was again 81% the mode was 90% (see Figure 3).

Figure 2: MSS confidence in development of strong relationship

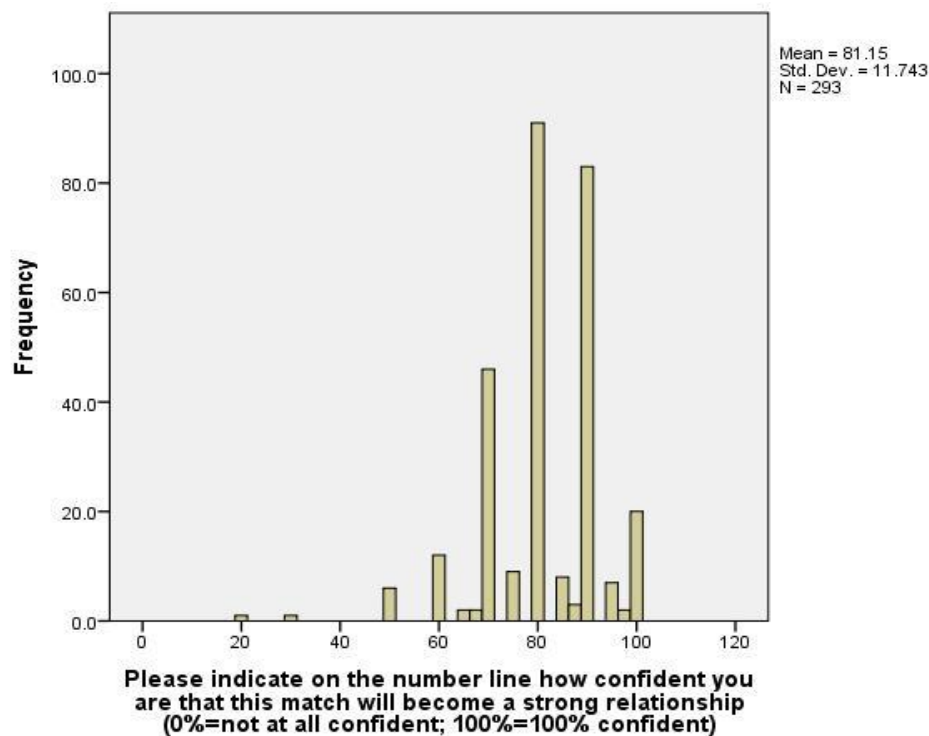
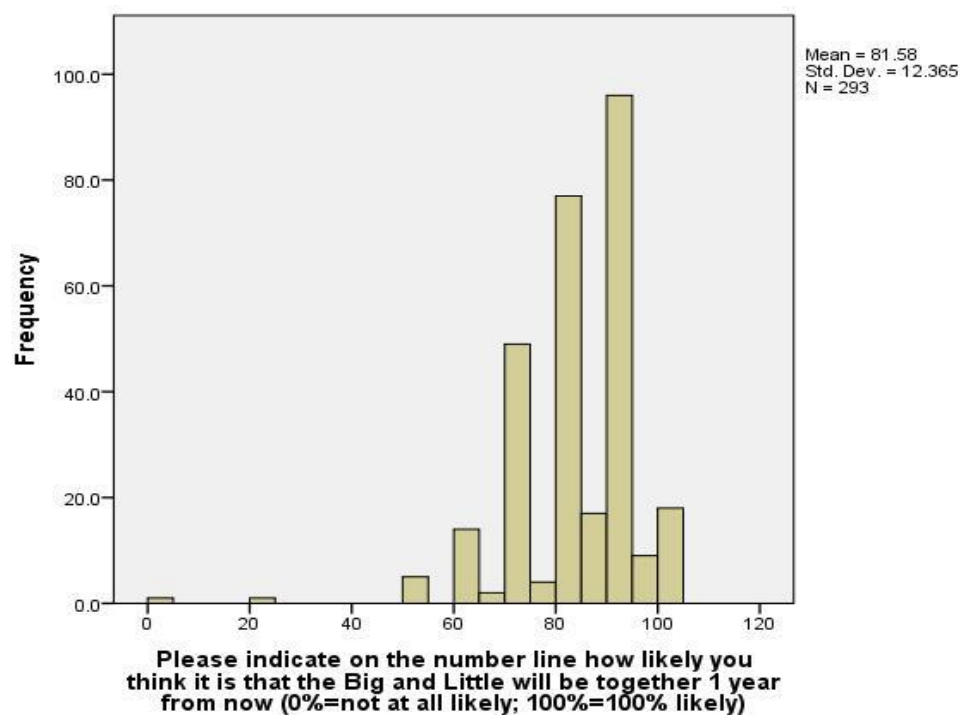


Figure 3: MSS prediction of likelihood for 1 year



Match Closures

According to the official match dates and match closure dates recorded in the AIM data system, a total of 109 STAR matches (30.6%) ended before the 12 month anniversary of the match. As noted previously, a total of 151 STAR matches (42.4%) ended prior to 15 months. During the entire 40 month window of study observation (Dec 1, 2013 to Mar 31, 2017), a total of 237 match closures occurred, representing 66.6% of all STAR matches. The remaining 119 matches (33.3%) were still intact, and consequently were censored, at the end of the study period. A Kaplan-Meier survival analysis was conducted with the data reflecting the timing of match closures. The survival function is represented in Figure 4, with months on the horizontal axis and the proportion of matches surviving to a specified length of time on the vertical axis. The estimated mean survival time was 21.83 months (95% CI: 20.38—23.28), and the estimated median survival time was 18.41 months (95% CI: 15.60—21.23). The Kaplan-Meier survival functions for each of the BBBS program sites are shown in Figure 5. There were no statistically significant differences in the survival functions across programs, so site was used only for sensitivity analyses rather than as a control variable in subsequent models.

Figure 4: Kaplan-Meier survival function for study matches over time

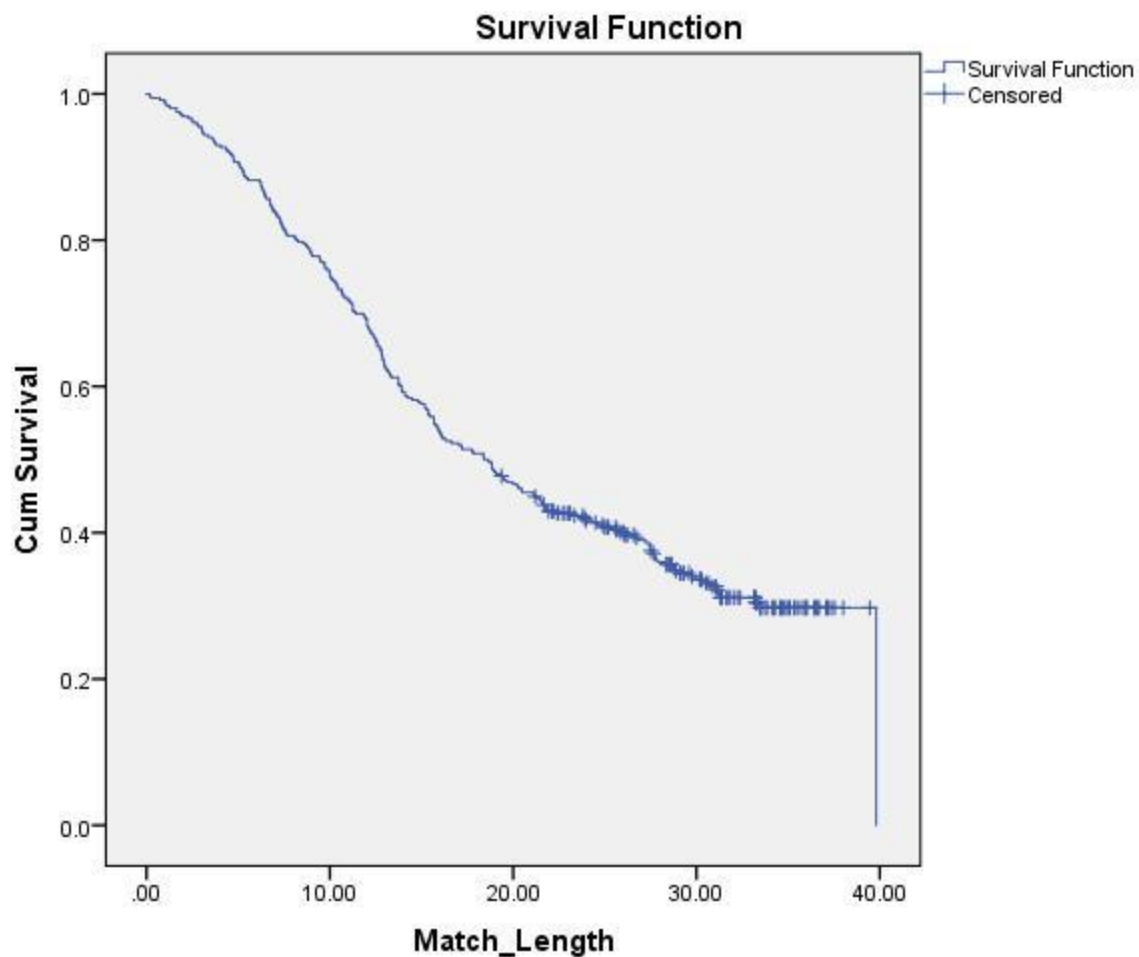
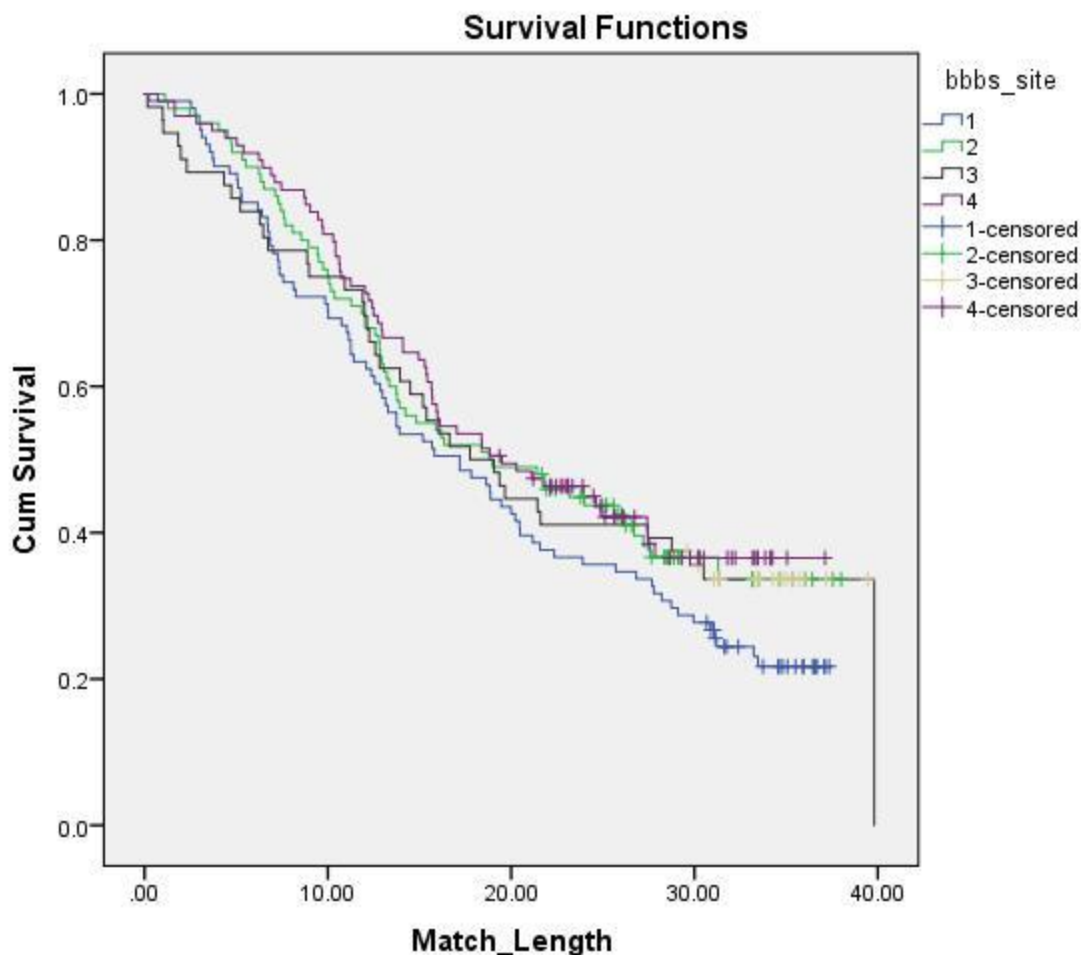


Figure 5: Kaplan-Meier survival functions by BBBS agency



The official reason for the closure of a match is recorded in the AIM data system, with the MSS managing the match selecting one of 24 options. The explanations provided for STAR matches that closed either before or after the one-year anniversary appear in Table 3. Overall, the majority of match closures (63.5%) were attributed to a volunteer-oriented reason. Volunteer-oriented reasons were somewhat more likely for closures occurring after the 12 month anniversary (66.7%) than for premature closures (59.8%), but this difference was not statistically significant. The most frequently cited reason for match closure was a time constraint on the part of the mentor. Overall, a quarter of the matches ended for this reason, although mentor time constraints were less likely to be the explanation for premature closures (18.7%) than for later

closures (30.2%). Residential moves were the cause of roughly a quarter of all closures, when both mentor and child/family moves are considered (26.6%). Likewise, a sizable percentage of match closures (20.1%) were attributed to a loss of contact with either the mentor or the child/family. Taken together, these three reasons (time constraints, moves, lost contact) were responsible for 75% of all closures. One other notable observation is that it was much more likely for a closure to be attributed to the youth losing interest in the first year than in later years.

Table 3: Official reasons for match closures

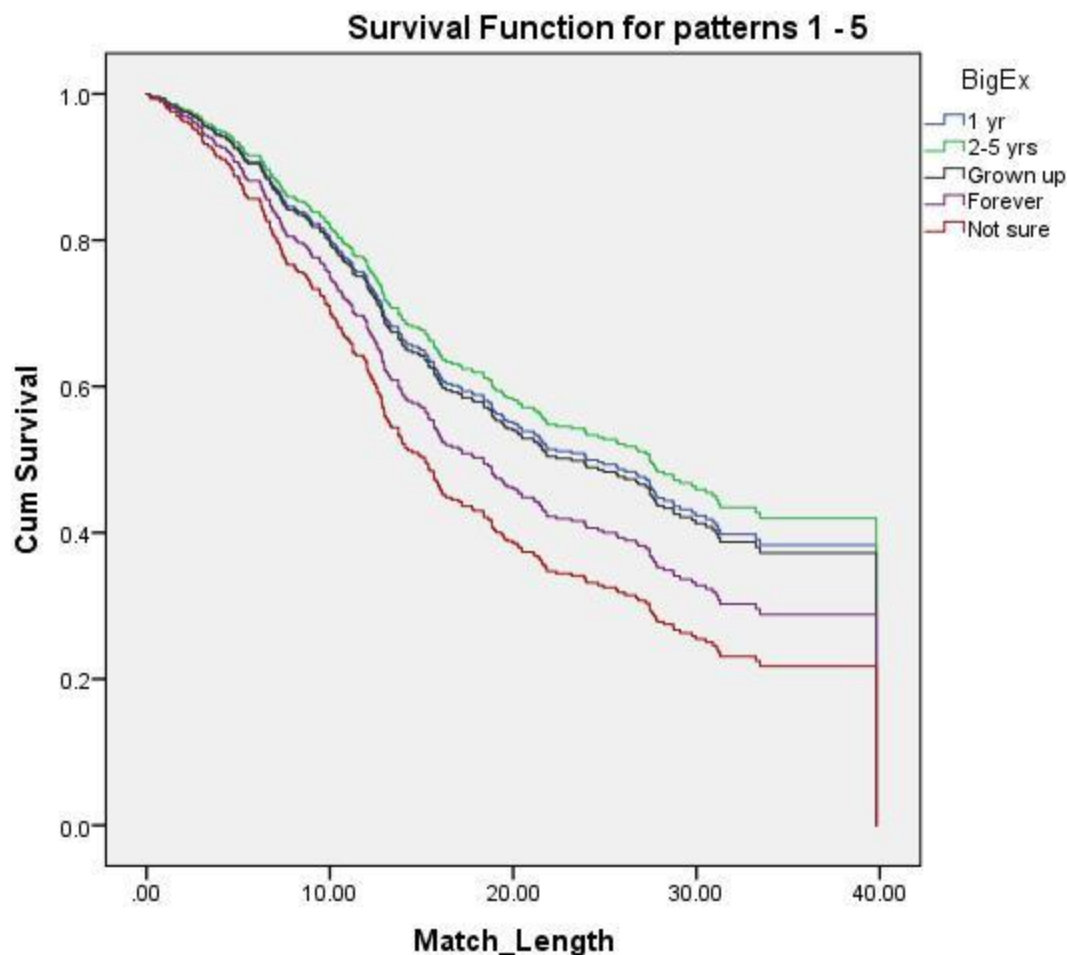
	Matches closing under 12 months (n=107)		Matches closing over 12 months (n=126)		All match closures (n=233)	
	N	%	N	%	N	%
Child: Family structure changed	3	2.8	1	0.8	4	1.7
Child: Graduated			4	3.2	4	1.7
Child: Lost interest	13	12.1	4	3.2	17	7.3
Child: Severity of challenges	1	0.9			1	0.4
Child/Family: Feels incompatible w/ volunteer	5	4.7	3	2.4	8	3.4
Child/Family: Infraction of match rules/agency policies			1	0.8	1	0.4
Child/Family: Lost contact w/ volunteer/agency	7	6.5	11	8.7	18	7.7
Child/Family: Moved	13	12.1	11	8.7	24	10.3
Child/Family: Time constraints	1	0.9	7	5.6	8	3.4
Volunteer: Feels incompatible with child/family	9	8.4	6	4.8	15	6.4
Volunteer: Health	2	1.9	3	2.4	5	2.1
Volunteer: Infraction of match rules/agency policies	2	1.9	1	0.8	3	1.3
Volunteer: Lost contact w/ child/agency	13	12.1	16	12.7	29	12.4
Volunteer: Moved	18	16.8	20	15.9	38	16.3
Volunteer: Time constraints	20	18.7	38	30.2	58	24.9

Prediction of Match Duration

Many participant factors assessed at baseline will be examined for their association with match duration as described in the analysis plan. The results presented here are illustrative of the attempt to use information available at baseline to predict whether and when matches close. This analysis focuses on the expectations of mentors, parents/guardians, and MSS that were reported above. The responses of mentors to the question asking how long they wanted the match to last

were collapsed into five categories (1 yr, 2-5 yrs, grown up, forever, not sure). This variable was used as a categorical predictor in a Cox proportional hazards regression model with the survival function as the outcome. The larger category defining the range of the spectrum was used as the reference category for comparisons with other groups. As depicted in Figure 6, the matches with mentors who had been ‘not sure’ how long they wanted the relationship to last were the least likely to continue over time (reference category). In contrast, the matches with the greatest chances for longevity during this 40 month period were those in which the mentor anticipated a match of 2-5 years. The analysis revealed statistically significant differences between the ‘not sure’ group and two other groups that had lower likelihood of closure, including the ‘2-5 year’ group (OR=.569, $p=.029$) and the ‘grown up’ group (OR=.647, $p=.025$). It is interesting to note that the mentors wanting their matches to last ‘forever’ had a greater risk of closure relative to all others except those who were ‘not sure.’

Figure 6: Mentor expectations for match length predicting survival functions

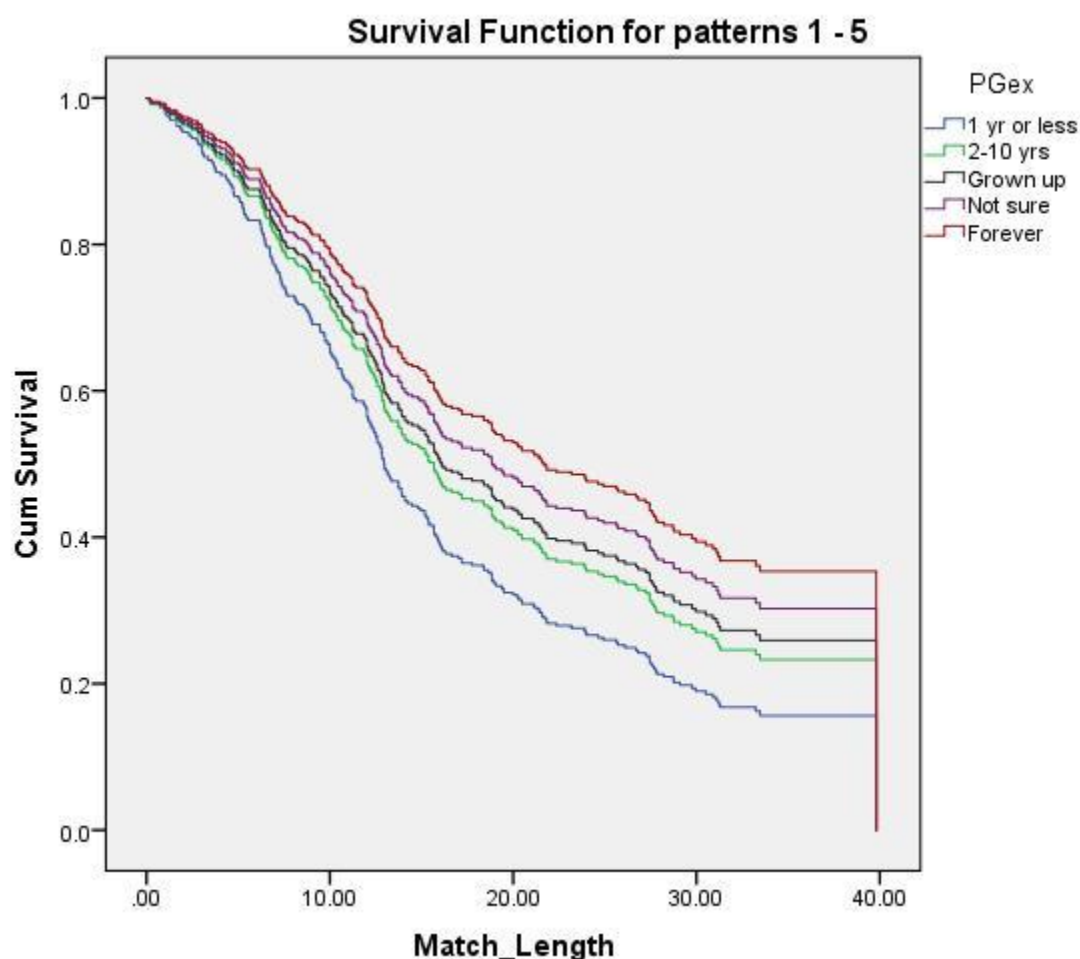


A parallel analysis was conducted with the responses of parents/guardians regarding how long they wanted the match to last. The responses of parents/guardians were collapsed into five slightly different categories based on the frequencies (1 yr or less, 2-10 yrs, grown up, forever, not sure). As depicted in Figure 7, the matches most likely to survive over time were those in which the parent/guardian had wanted the match to last ‘forever’ (reference category). In contrast, the matches least likely to survive were those in which the parent had wanted the match to last only ‘1 yr or less.’ There was a statistically significant difference between these two groups defining the spectrum (OR=1.78, $p=.026$). Interestingly, the ordering of the survival functions corresponded with the specified durations ranging from ‘forever’ to “1 yr or less.” Compared to

the results for mentors, matches in which the parent/guardian had been ‘not sure’ how long they wanted the relationship to last had relatively good chances of continuing.

The MSS predictions regarding the prospects for new matches to become strong relationships or to stay together for one year also were analyzed with Cox regression models, but no associations with match duration were found.

Figure 7: Parent/guardian expectations for match length predicting survival functions



Qualitative Analysis of Reasons for Closure

The in-depth qualitative interviews with matches closed after differing lengths of time generated a wealth of data regarding the distinctive circumstances contributing to each closure. It should be noted that the cases involved in this subsample represent a special set of closed matches. Closed matches were excluded from the subsample if either the mentor or youth moving out of the area was the primary reason for the closure of the match. Despite this restriction designed to focus on closures that had more complex dynamics, a few cases had significant and largely unpredictable changes in the mentor's life circumstances, other than moving, as the main reason for the end of the match. This was in fact the case for 8 of these matches. For the remainder of the matches, the demise of the mentoring relationship was multiply determined and often the result of breakdowns in the interactions between match participants, as would be anticipated by a systems approach. Each case also proved to be somewhat unique, in that the specific circumstances and dynamic interactions between the individuals were different for each match. However, three discernable patterns did emerge. First, it was observed that the quality of the mentor-youth relationship appeared to matter greatly. When mentors and youth did not feel a shared sense of connection, the matches ended, even when the relationships surrounding the mentor-youth dyad were strong and functioning well. It was also observed that among matches in which the mentor and youth had been able to form a connection, such connections were difficult to sustain when there were disruptions in the other relationships surrounding the mentor-youth relationship. Finally, agency support of the matches appeared to also matter greatly, as expectable challenges and relational disruptions experienced by some of these matches may have been navigable and repairable with adequate assistance from program staff.

Centrality of the mentor-youth relationship. In 17 of these cases, the mentors and youth relationship was coded as troubled, when taking both participants' reported experiences of the relationship into account, indicating that some form of a workable connection had not formed. These cases fell into three groups: (a) lack of youth engagement, (b) mentor dissatisfaction, and (c) mentor struggles with the youth/relationship.

Youth engagement. In several cases, the youth showed little sign of engagement with the relationship and some even initiated the end of the match. A few had been on the waiting list for a mentor for quite a long time (as long as 1-2 years). By the time they were matched, they had lost interest and expressed a preference to spend time with peers rather than with an adult with whom they had no other relationship. In other cases, the youth were dissatisfied with their match. This dissatisfaction was fueled by comparisons of their relationship either to one they had with a previous mentor they liked better or to the mentoring relationship they were observing their sibling enjoying, which looked more favorable than their own.

Mentor dissatisfaction and struggles. In the remainder of the cases, the lack of a connection between the mentor and youth was due to the mentor either being dissatisfied or to the mentors' struggles with their own life circumstances interfering with their capacity to connect with the youth. What distinguished the latter cases from the life circumstances described in the section above is that these seemed to have the potential to be surmountable.

Among those cases in which the mentor was dissatisfied, some mentors did not feel connected to the youth because they perceived a lack of engagement or disinterest on the part of the youth. Others felt like they were not making much of a difference, and this made the experience unsatisfying to them. In some of these cases, mentors thought the youth did not appear to need a mentor, which led to their questioning how much of a difference they were

making. Others felt that the needs of the youth were too great, which contributed to them feeling defeated by the experience of being a mentor and questioning whether what they were doing really mattered in any way. A final set of mentors within this group thought that the “fit” with their mentee was poor and they struggled to find a way to connect with them. For all of these mentors, these experiences contributed to them not feeling much of a connection with the youth, feeling dissatisfied with the experience of being a mentor and ultimately disengaging from the relationship.

The other group were mentors who struggled with juggling the mentoring relationship along with the other competing demands in their lives. This appeared to interfere with their capacity to connect with the youth.

Influential role of the supporting relationships. Although the quality of the mentor-youth relationship seemed to matter greatly, the other relationships surrounding this dyad were influential as well (i.e., parent-mentor, parent-MSS, mentor-MSS). Disconnections and disruptions in these other relationships appeared to contribute to the match closures, even among those matches in which the mentor-youth relationship was quite strong.

Parent/Guardian-Mentor Relationship. Disruptions in the parent/guardian-mentor relationship were observed in just over half of the matches (53%) in this sample. For many, the difficulties in this relationship seemed to be a major contributor to the match closure. One of the most common forms of disruption in this relationship was the mentor’s negative judgments and deficit-based views of the parent/guardian. These judgments were manifest in the mentors’ descriptions of the parenting style and the family home. These kinds of judgments did not go unnoticed by the parents/guardians. Another common disruption to the parent/guardian-mentor relationship was some mentors’ responses to the instability in the youth’s lives. Many of the

families had complicating circumstances that made consistent communication difficult, such as phones being disconnected and frequent moves. Some of the mentors became so frustrated by these kinds of circumstances that they decided to end the match.

Parent/Guardian-Match Support Specialist Relationship. In 11 cases (31%), there were disruptions in the relationship between the parent/guardian and the MSS. As was observed with the mentors, negative judgements and an emphasis on deficits dominated some of the MSSs' views of the families. The focus of these concerns tended to be the parent/guardian's communication skills or investment in the program. Another challenge observed in these relationships was misalignment between the parent/guardian's and agency's expectations for what a match should look like and how it should function. These expectations were around communication and frequency of visits between the mentor and youth, and issues such as the role the parent/guardian played in communication between the mentor and youth, the amount of notice a mentor needed to give in order to make plans with the youth, the amount of notice a parent/guardian needed to give in order to cancel plans between mentor and youth, and the role of the mentor within the family. In a number of these cases, the expectations of the current match held by the parent were influenced by experiences with a previous mentor of that child or another of their children. These parents/guardians seemed to have some clear expectations that this new match would function in a similar way, and these notions were not aligned with those of the MSS.

Mentor-Match Support Specialist Relationship. In nearly half of the cases in our sample (42%), disruptions in the mentor-MSS relationship were observed. As with the Parent/Guardian-MSS relationship, these disruptions were sometimes the result of mentors having unrealistic expectations that were not addressed by the MSS. Other disruptions were mentors feeling angry at the agency. These mentors either did not perceive the experience of mentoring to have been

accurately portrayed to them or they did not see the value and relevance of agency support and felt annoyed by the required contacts with the MSS.

Some of the mentors (28%) talked about feeling they had been misled by the agency with regard to the needs of the youth. The mentors were equally divided, with half feeling that the youth did not need them and they were wasting their time by volunteering in this way, either because the youth did not seem to need a mentor or because they thought the youth's needs were too great. In the latter case, some mentors felt misled by the agency and were angry about that. Some other mentors (14%) expressed frustration that they did not feel that the MSS had been particularly helpful. Others described agency support as “robotic,” “repetitive,” and “weird.” This perception of support from the MSS not being helpful resulted in some of these mentors not reporting to the agency when an issue did come up in the relationship. This is ultimately how a mentor not feeling supported by the agency led to match closure.

Contribution of agency context. The context of the mentoring agency, including its staffing, monitoring practices, and participant enrollment decisions, also appeared to matter. As with the four dyadic relationships involved in the systemic model of mentoring, the larger context within which these relationships are situated, namely the agency policies and procedures, were also observed to have played a role some of the match closures.

Enrollment Decisions. In nearly one-third of matches (31%), evidence suggests that either the mentor (17%) or the youth (14%) should not have been enrolled and matched when the match began. The youth in these matches had severe mental health and/or social concerns that hindered their ability to engage in a match. All of these matches ended very quickly, typically because the youth refused to participate in the match. Some mentors should not have been matched due to the personal circumstances in their life at the time, such as an ongoing divorce,

of which the agency was unaware. These mentors may have been suitable volunteers had the timing of the match not been hindered by their personal life.

Staff turnover. Nearly half of matches (42%) experienced a change in their MSS during the course of the match, with some of these matches having their MSS change 2 or 3 times. In a small number of these cases (8%), interviewees discussed that there was a gap in coverage where no MSS was checking in with the mentor or family and the mentor and guardian would not have known who to contact had there been a question or concern. These support changes were often due to staff leaving their job for new work or school opportunities, or being on personal leave for reasons such as maternal leave.

Staff training and support. Closely examining the narratives of these participants' experiences shed light on areas of difficulty that raise questions about MSS preparation to support the development of these complex relationships. As discussed above, some MSS demonstrated a lack of understanding of the family contexts, particularly in regard to family stress and the context of poverty, which manifested as MSS interpreting the parent/guardian's behavior as a lack of investment in the match instead of an attempt to manage within their financial and contextual circumstances. This seemed to contribute to some of the challenges observed in a number of the MSS-parent/guardian relationships and hindered the MSSs' abilities to adequately support mentors who were themselves struggling with bridging these divides.

In addition, several mentors and parents/guardians questioned the agencies' approach to supporting matches suggesting that they felt like MSS were "robotic" during calls, asking the same set of questions with little variation or responsiveness to the specifics of the match. This resulted in mentors and parents/guardians feeling that the agency was more concerned about how many people the MSS contacted than about the quality of support. If issues arose in these

matches, the mentors or parents/guardians did not feel the MSS would be able to help, which left many issues unaddressed.

Monitoring of Matches. In many cases, inconsistent or insufficient monitoring of matches by agency staff appeared to contribute to the match ending. As noted above, there were often logistical challenges in monitoring matches due to staff turnover or to the MSS having trouble reaching the parent/guardian or mentor for scheduled check-ins. However, even when the MSS had regular contact, the monitoring sometimes did not help to maintain the match.

In six of the cases examined (17%), the mentor ended the match at the 1-year mark saying they believed this was expected as they had fulfilled their 12 month commitment to the program. This is in contrast to the agencies' hope that successful matches will continue beyond the initial commitment. We also noted several cases where the MSS did not track or follow-up with known changes developing in the family's life, such as evictions or a parent being released from prison. In such cases it seemed that the MSS had been made aware of what was happening and missed an opportunity to proactively intervene, potentially saving the match from an early ending or at least facilitating a more positive closure.

Management of Match Closures

One of the distinctive features of the STAR study was the emphasis on collecting extensive post-closure data from multiple parties, including the staff supporting matches. The analyses conducted thus far of data from the perspective of MSS responsible for matches provide insights about how the ending of mentoring relationships was handled. As noted, MSS post-closure surveys were completed for a total of 129 STAR matches that closed (85%). According to MSS report, 95 of these matches (73.6%) had ended before completing their initial 12-month time commitment. MSS indicated that an in-person final meeting between the mentor and youth

at the time of match closure took place for only 26% of the cases. For another 11% of the closures, a final meeting was planned but never occurred. In a majority of cases (63%), a final meeting was never planned to end the match. It was extremely rare for an MSS to play a role in arranging or facilitating a match closure meeting, as indicated by the responses shown in Table 4. A more common role was for the MSS to coach the mentor, parent/guardian, or youth on how to manage the ending of the relationship and say goodbye.

Table 4: MSS role in match closure process

	N	%
Arranged a match closure meeting between mentor and youth	4	3.1
Attended a match closure meeting	0	0.0
Facilitated match closure meeting between mentor and youth	1	0.8
Coached mentor on how to end the match/say goodbye	57	44.2
Coached youth on how to end the match/say goodbye	13	10.1
Coached parent/guardian on how to help child say goodbye	37	28.7
None - no direct contact between mentor and youth at closure	67	51.9

When asked about anticipating the match to close, a majority of MSS indicated that they were either somewhat surprised (37%) or very surprised (21%), while the remainder were not at all surprised (42%) by the closure. A majority said that they were either somewhat disappointed (50%) or extremely disappointed (35%) by the early termination of the relationship. In addition, the MSS were asked how satisfied they were with the way the ending of the match was handled, yielding a fairly even distribution of responses: not at all satisfied (21%), not very satisfied (30%), somewhat satisfied (26%), and extremely satisfied (23%).

MSS responses on the survey indicated that continuing contact between the mentor and youth was anticipated for about one fifth of the matches that had ended (21%). MSS indicated that many (31%) of the youth would be re-assessed for potential re-matching, although they were not sure about that possibility for another 12% of the cases. Mentors were less likely to be re-assessed for potential re-matching (12%), although there was an uncertain possibility for about 13%.

Discussion

The initial findings from the STAR study provide multiple insights regarding the development and duration of BBBS matches. A majority of new matches in the study (69%) attained their one-year anniversary, meeting the initial commitment for relationship duration asked of them by the mentoring program. According to the Kaplan-Meier analysis, the average match length for the sample was approximately 22 months. However, a significant proportion of relationships ended prematurely within the first 12 months (31%), and a similar proportion of matches were observed to close after 12 months but within the extended study period (35%). According to program records, the reasons for match closure were attributed to mentors almost twice as often as to mentees or their families. Mentors having time constraints, moving, or failing to maintain contact with the program were the most prevalent reasons for match closures. Other commonly cited reasons were the family moving or the mentee losing interest in the match, particularly in the first year of the relationship. Although some changes in life circumstances that affect continuation of a match might be unpredictable or unavoidable, other situations challenging a mentoring relationship may have the potential to be addressed with the aim of preventing a closure. The predictive and retrospective analyses in this study suggest some possibilities for program intervention to reduce the chances of a match closure.

A question asked of mentors and parents/guardians regarding the desired duration of the anticipated match proved to be a predictor of actual match duration. Mentors indicating they wanted the match to last 2-5 years were the most likely to maintain their mentoring relationships over time, closely followed by those who wanted 1 year matches or wanted to stay matched until the mentee was grown up. In contrast, mentors who wanted their matches to last forever or who were not sure about their intentions were more likely to experience closures. It may be that

mentors forecasting matches between 1-10 years (i.e., until grown up) are more realistic in their expectations going into their relationships, focusing on their role of supporting the mentee during childhood and adolescence. In contrast, mentors expecting a match to last forever could be idealizing the experience and could become more easily disenchanted if their lofty ambitions are cast into doubt by the reality of the relationship. When mentors report being unsure about how long they want the match to last, they may be entering the relationship with a lack of commitment or with a tentative, contingent attitude, and consequently they may be more inclined to abandon the match upon encountering challenges.

The responses of parents/guardians to the same question prior to the match yielded a different pattern of results. In the case of parents/guardians, their expressed preferences for match length were reflected in the relative order of the respective survival curves for match duration. In other words, the risk of match closure was greatest for those who wanted short matches (less than one year), and the risk decreased incrementally as parents/guardians indicated they wanted longer matches. Accordingly, the parents/guardians who wanted “forever” matches were most likely to have matches that remained intact. These findings may suggest that wishing for a longer match means parents are more determined to support the long-term success of the mentoring relationship.

The extensive qualitative data obtained for a subset of closed matches provided insights on multiple factors that can contribute to match closures. Even though sampling for this subset excluded matches that ended due to residential moves, a number of the matches closed for similar major changes in life circumstances that disrupted the mentoring relationship. In general, however, the findings highlighted the importance of the mentor-youth experience, the network of

relationships surrounding the match, and the nature of program services. Several of the findings point to opportunities for programs to address issues that can derail a mentoring relationship.

Some matches ended because either the youth or the mentor failed to appreciate the relationship. Sometimes a long period on the waiting list dissipated a youth's interest and enthusiasm for a match, resulting in youth disengagement from the outset. Sometimes comparison to another match made a youth feel dissatisfied with their own mentoring experience. Dissatisfaction in matches was noted on the part of mentors when, based on their interpretation, they sensed a lack of interest or engagement from the youth or they thought the youth did not have a need for a mentor. In other cases, mentors became frustrated with the match when they felt they were not having as much impact as they expected or they felt overwhelmed by the needs and circumstances of the youth. These findings underline the value of assessing and addressing participant motivations and expectations prior to the match. In addition, ongoing support from the program could help to challenge or reframe the conclusions mentors may draw based on their impressions of the youth or the relationship.

The findings also indicated that, even if a strong mentor-youth relationship existed, match closures could occur when the relationships between adults in the mentoring system became problematic. Problems in the relationship between mentor and parent-guardian could arise when mentors had difficulty coping with inconsistent communication and instability on the part of parents/guardians, particularly those with economic pressures affecting housing or phone service. Sometimes mentors expressed judgmental views about family circumstances or parenting practices, which were not received positively by the parent/guardian. These dynamics were mirrored in some of the relationships between MSS and parents/guardians, with MSS sensing inconsistent communication or commitment from the parent/guardian or expressing judgments

about parenting decisions. Another source of tension could be discrepancies between parent/guardian expectations and program guidelines. Similarly, the relationship between MSS and mentor could become strained when mentors had unrealistic expectations about what the mentoring relationship would be like. In addition, mentors could become irritated with the routine check-in calls from the MSS. To address these types of relationship difficulties, programs could strive to make sure mentors and staff clearly understand the challenging circumstances faced by many parents/guardians to avoid assumptions, misinterpretations, and judgments if difficulties arise. Most importantly, regular match support should proactively anticipate these potential challenges and give attention to the functioning of each relationship in the system so that issues and frustrations can be identified and resolved.

The effects of program support and agency context on match closure also were among the findings. As just discussed, staff should be adequately prepared to interpret and respond to the needs of families and also convey an understanding of those situations to the mentor. Likewise, programs should help MSS conduct effective conversations with participants during regular match support contacts to avoid being “robotic” and to obtain relevant and detailed information regarding any new developments or obstacles that could threaten the match. In addition, constant refinement of the assessment of participants prior to matching should involve efforts to determine which personal circumstances or characteristics are most likely to hobble a match. Perhaps most crucially, agencies should strive to retain well-trained and experienced MSS to minimize the disruptions to matches that can result from staff turnover.

A final set of findings focused on the manner in which the process of closing a match was managed. A minority of closures involved a final meeting for the mentor and youth to say goodbye. Half of the matches had no contact between mentor and youth at the time of closure.

MSS very rarely organized or facilitated a closure meeting. The most common role for MSS was to advise participants on how to end the match. A majority of MSS reported that they were surprised by the match closure, and approximately half indicated that they were not satisfied with the way the match ending was handled. These findings suggest the opportunity for programs to develop and implement new protocols to enhance the closure process.

Limitations

The STAR study generated rich data representing multiple perspectives on the development and ending of matches, permitting the investigation of many research questions. However, certain limitations of the research must be acknowledged. The first limitation concerns the accuracy of certain data. Specifically, match closure information utilized in the quantitative analyses was based on the official dates documented in the AIM system, but these records may not reflect the actual date when the last meeting between mentor and mentee occurred. Qualitative interview data and some quantitative survey data not yet analyzed suggest the potential for considerable time to elapse between the last outing and the official closure of the match, particularly in cases when one of the participants became non-responsive to program contacts or when the MSS attempted unsuccessfully to resurrect the relationship after a lapse in match outings. Further analyses will explore the extent to which the official closure dates may inflate the length a match beyond its actual duration.

Another limitation is the completeness of the data. Because the surveys used in the study were extensive, comprehensive, and lengthy, not all participants responded to the entire set of questions, with drop-off more likely at the end of the survey. Missing data procedures will be employed in certain analyses as needed. Missing data on the follow-up surveys due to attrition is another shortcoming. In particular, obtaining surveys after match closure proved a challenge. In

some cases, the reason for closure was a move or the agency's loss of contact with the participant, which often translated to similar difficulties when the research team attempted contact for surveys. In addition, matches that ended with disappointment, anger, or guilt might have made participants reluctant to revisit their experiences by completing a survey. Consequently, study results may be skewed by higher response rates from participants who had more favorable mentoring experiences. Another type of limitation concerns specific analytical challenges. For example, with the prevalence of MSS turnover, analyses evaluating MSS effects on match development will need to overcome the difficulty of linking a particular MSS with a particular match.

Finally, it must be remembered that the STAR study focuses on relationships participating in the BBBS community-based model. Although this traditional open-ended, one-to-one mentoring model is the prototype for many mentoring programs, the findings may not apply to the mentoring experiences associated with other program models or formats. In particular, the questions and concerns about match endings may be very different for programs that have a defined duration (e.g. a school-based program ending with the school year) or that typically involve transitions from one mentor to another to provide continuous mentoring over an extended period (e.g., programs with paid, professional mentors).

Implications for Policy, Practice, and Future Research

A fundamental goal for the STAR project was to bring attention to the issue of premature match closures in the field of youth mentoring and to provide insights that inspire the development and implementation of program practices to address match closures. Throughout the project, the research team forged connections with mentoring programs and mentoring

professionals to explore how the observations and lessons of the study are relevant to practice. Similarly, efforts were made to share preliminary findings from the study with the practice community and to elicit the interpretations and responses of experienced practitioners. These conversations with mentoring professionals prompted by the findings of the study yielded several ideas regarding policies and practices that could be adopted to prevent closures and/or provide a better closure experience. After discussion of general implications for practice, sections below describe the STAR research-practice dialogues, the resource materials developed for practice, and the research dissemination efforts.

Implications for Practice. The enthusiasm with which mentors, youth, families and mentoring program staff begin new matches can be quickly dampened by what are in many ways expectable challenges. Although the systemic qualitative analysis of the interview data highlighted multiple factors at play in premature endings, many of the challenges centered around the mentor (moves, loss of contact, time constraints). When the matches ended, it was most often because the mentor opted out, either directly or indirectly. These findings point to the need for greater attention to mentors at all phases of the mentoring process – recruitment, screening, training, support and closure. For example, during the period of assessment and training prior to making a new match, programs might seek additional information to determine suitability for participation, such as a request for a residential history to look for patterns of frequent moves or a time study to determine whether making a program commitment is reasonable given time constraints.

With youth and family interest outpacing volunteer recruitment efforts, recruiting enough mentors to meet the demand is a persistent problem for many mentoring programs. In fact, in a recent national survey, mentor recruitment was identified as the top challenge faced by programs

(Garringer, McQuillin, & McDaniel, 2017). One consequence is that youth may spend a lengthy time on a waitlist. Unfortunately, there may be a window of opportunity when participants are motivated to engage in mentoring, and enthusiasm for entering a new match may wane with waiting, making initiation of the relationship more difficult. Although admittedly easier said than done, reducing the wait time might improve chances for match success. However, the pressure to get more mentors creates the potential for programs to “oversell” mentoring to get volunteers in the door and to relax requirements for time commitments, training, and follow-up support. Yet, the findings here suggest the importance of mentors having realistic expectations going in to the mentoring relationships and a willingness to make a long-term, but not necessarily a forever, commitment. The qualitative data indicated that some mentors quickly became frustrated by what might be considered fairly expectable bumps in the road for a community-based mentoring relationship. In several closed matches, the mentors expressed frustration due to disappointed expectations regarding the closeness of the relationship, the perceived needs of the youth, the perceived lack of impact on the youth, or the level of support from the parent/guardian. For example, communication and scheduling challenges put many mentors off and contributed to them interpreting the youth and/family as not interested or not invested enough. However, the qualitative data revealed the complexity of the lives of the families as they juggled significant financial struggles and health and transportation issues. Mentor training could help mentors develop understanding and sensitivity about the anticipated challenges of relating to a youth or working with a family experiencing economic pressures. Likewise, ongoing and proactive match support could help mentors navigate these frustrating but predictable challenges to building and sustaining their mentoring relationships.

The findings also point to the importance of addressing the sociodemographic distance between the mentors and mentoring program staff on the one hand and the youth mentees and their families on the other. Volunteer mentors and mentoring program staff tend to share similar social class and educational backgrounds (middle- to upper-class and college educated), whereas the youth served tend to reside in low-income households with a parent who has not completed college. This likely contributed to a deficit view of the families served on the part of mentors and MSS observed in some of the cases in the qualitative sample. These findings lend further support to calls for greater attention to aspects of class and race within youth mentoring relationships (Deutsch, et al., 2014; Sanchez et al., 2014) and suggest that program staff could benefit from training in cultural awareness and strengths-based approaches to work with families, to inform their own work as well as to better support mentors in also developing a more strengths-based approach in their interactions with the youth and their families. Furthermore, because tensions in the relationship between mentor and parent/guardian can jeopardize the match, programs could provide explicit guidelines for the functioning of that relationship and train both mentors and parents/guardians accordingly.

Also evident in the findings was a need for greater investment in the training and support of the program staff who are in the position of supporting the mentoring matches. Because staff instability as well as unengaged match support were cited as factors in some match closures, these areas also could be priorities for program improvement. Given the turnover common in many mentoring programs, the onboarding of new staff could include the type of training noted above focusing on anticipated challenges in working with families enduring stressful circumstances. In addition, the STAR study points to the utility of a systemic approach for assessing and analyzing the network of relationships affecting a match to understand and

potentially anticipate risks to match longevity. This approach could be central to staff training on match support. As noted below, a program resource for employing this framework has been developed and disseminated through MENTOR's National Mentoring Resource Center.

Because formal mentoring matches eventually close, programs could structure this stage of the mentoring process as an opportunity for young people to learn about ending relationships and saying goodbye in a constructive fashion. Even when a closure occurs due to difficulties and is accompanied with disappointment or guilt, it could be valuable for participants to provide explanations, express apologies, and experience a sense resolution or closure. In particular, programs should guard against youth misinterpreting the match closure as a negative reflection on themselves. Thus, although each closure situation is unique, it may be advisable for programs to institute a set of standard procedures for managing closures. Programs could make it an expectation that the majority of matches would participate in those steps for closure, and participants could be informed of this expectation from their initial orientation to the program. Likewise, programs could begin discussions of the causes and consequences of match endings during early training sessions to prepare participants for their eventual occurrence. Another idea is to schedule conversations on match anniversaries when the participants in a match could celebrate meeting their yearlong commitment, share their opinions about the relationship, and explicitly indicate whether they want to continue in the program for another year. Much effort goes into getting matches off to a great start but less attention appears to get paid to bringing matches to a good conclusion. Greater commitment to positive closures on the part of programs could involve training staff in the importance of positive closure, having clear policies and expectations for how closures will be handled that are communicated to mentors, youth and their families from the beginning, and dedicating sufficient staff time to facilitating positive closures.

Research-Practice Dialogue. The STAR research team has pursued several opportunities for dialogue with leading practitioners to solicit feedback and commentary regarding the topic of match closures. For example, in June 2016, the STAR Investigators participated in a webinar on match closures for OJJDP grantees that was organized and hosted by MENTOR's National Mentoring Resource Center (NMRC). In this webinar, the Investigators provided an overview of the study, noted some initial findings, and engaged in a question and answer session with webinar attendees. On another occasion, one of the Investigators was featured in a similar webinar organized by a MENTOR affiliate, Mentoring Works Washington.

The 2016 Summer Institute on Youth Mentoring at Portland State University offered a unique opportunity for an in-depth exchange with leading mentoring professionals on the topic of match closures. Organized annually by the PI, the Summer Institute is an intensive four-day seminar in which researchers and experienced practitioners engage in highly interactive discussions on recent developments in research and theory to examine its implications for program policies and practices. As a general theme, the 2016 Summer Institute focused on the ending of mentoring relationships, particularly early match closures, with special attention to how programs manage both planned and unplanned closures. During the Summer Institute, STAR research team members presented four two-hour sessions featuring data from the study and encouraging discussion regarding program practices. Following these presentations, institute attendees participated in informal focus group discussions to generate program recommendations for training, support, and healthy closure processes. Each of the five focus groups contained a mixture of researchers, program leaders, and practitioners. The focus groups were facilitated by doctoral students from the STAR research team. Summary notes from the focus groups have provided ideas for recommendations for the field and the development of resource materials.

General themes and specific content emerging from the Summer Institute were summarized and disseminated as a report on the NMRC blog by Michael Garringer of MENTOR

(<http://www.mentoring.org/2016/09/making-effective-match-support-closure-practices-bigger-priority-youth-mentoring-programs/>).

As a culmination to our partnership with the four BBBS agencies participating in the STAR project, we scheduled a site-visit for each agency. These visits provide an opportunity to express our appreciation for their involvement in the study, to recognize the contributions of the Research Liaison and other staff members, and to have a discussion regarding the interpretation of findings and their implications for practice. The visits include a presentation with an overview of the study and the research results at this stage of the analysis. Program staff are invited to apply the strategy used for analyzing qualitative case examples to assess the reasons for match closure and examining the way in which matches were closed. The discussion typically involves brainstorming local program practices that might reduce the potential for early closure. The site visits give opportunities to hear practitioner ideas and concerns that surface in response to the findings. Finally, the site visits have revealed evidence that due to their participation in the STAR project the agencies have undertaken program innovations and improvements to more effectively prevent and manage match closures. The PI conducted site visits with BBBS of San Diego County on June 29, 2017 and BBBS Columbia Northwest on September 11, 2017. A PSU doctoral student on the research team conducted a site visit with BBBS of Colorado on September 26, 2017. The PI completed the final site visit with BBBS of Central Arizona on November 1, 2017.

Resource Materials for Practice. Following the 2016 Summer Institute on Youth Mentoring, the STAR Investigators collaborated with two colleagues affiliated with MENTOR,

Michael Garringer and Meghan Perry, to support their development of practical resources for programs to address match closures. Recently, OJJDP and NMRC released a collection of tools for programs on match support and successful closure processes entitled “Tools to Strengthen Match Support and Closure.” These practitioner-friendly tools include: Starting Relationships Right – Aligning Participant Expectations; Staffing Calculator for Match Support; Examining Mentoring Relationship Health; and Match Support Check-in Questions. The materials are available at: http://www.nationalmentoringresourcecenter.org/index.php/learning-opportunities/tools-to-strengthen-match-support-and-closure.html#_blank

In a recent OJJDP TTA Network Message (dated September, 22, 2017), these materials were highlighted. As stated in this message:

“The Office of Juvenile Justice and Delinquency Prevention (OJJDP), in collaboration with the National Mentoring Resource Center (NMRC), has released a suite of tools to help programs give mentors and mentees the guidance they need to thrive and sustain their relationships by receiving enhanced support of matches and a successful closure process. These tools were inspired and informed by research and practitioner insights from the 2016 Summer Institute on Youth Mentoring, as well as early data from the OJJDP-supported *Study to Analyze Relationships (STAR)*. ”

A second practitioner-friendly resource resulting from the STAR study is the work of one of the agencies participating in the study, Big Brothers Big Sisters of Central Arizona. The STAR RL representing BBBS of Arizona produced a MSS training webinar on how to more effectively address match closure processes throughout the life of a mentoring relationship, beginning with mentor training prior to the match. This webinar video (at

<https://attendee.gotowebinar.com/recording/5476276374126605831>) is an excellent example of how participation in the STAR study motivated greater attention to match closure procedures. This translation of the research experience into a program resource reflects agency learning and the development of practical approaches with immediate utility for staff.

Dissemination. The STAR research team has disseminated early findings from the study through a variety of venues. Two presentations were delivered at a national academic conference. Several presentations have been given at national mentoring conferences for researchers and practitioners, including MENTOR’s National Mentoring Summit, the Big Brothers Big Sisters of America National Conference, and the Summer Institute on Youth Mentoring. Additional dissemination activities have included the webinars noted previously as well as a blog post on the NMRC website. The research team also is in the process of preparing multiple manuscripts for submission to refereed academic journals. The first manuscript, tentatively entitled, “It Takes a Village to Break Up a Match: Understanding Early Match Closure in Youth Mentoring Relationships” is nearing completion. In addition, data from the STAR project will be used in at least two doctoral dissertations. Finally, a practitioner-friendly report describing study findings and offering recommendations for practice will be prepared and distributed. A listing of all presentations to date is presented below.

Academic Conferences

Spencer, R., Gowdy, G., Drew, A. L., McCormack, M., Horn, J. P., & Keller, T.E. (2017, January). *Understanding and preventing premature closures of youth mentoring relationships: Mentor, parent and program staff perspectives*. Paper presented at the Annual Conference of the Society for Social Work and Research, New Orleans, LA.

Miranda-Diaz, M., Keller, T. E., & Spencer, R. (2017, January). *Volunteering for youth: Motivations of adults becoming mentors to youth*. Paper presented at the Annual Conference of the Society for Social Work and Research, New Orleans, LA.

National Mentoring Conferences

Keller, T.E., Spencer, R., Gowdy, G., Drew, A. L., & McCormack, M., Horn, J. P., & Miranda-Diaz, M. (2017, June). *Understanding and preventing premature closures of youth mentoring relationships: Mentor, parent and program staff perspectives*. Workshop presented at Big Brothers Big Sisters of America National Conference, San Diego, CA.

Keller, T.E., & Spencer, R. (2017, February). *A systemic view of youth mentoring relationship closures: Preliminary findings from the STAR project*. Workshop presented at MENTOR National Mentoring Summit, Washington, D.C.

Keller, T.E., Miranda-Diaz, M., Clark-Shim, H., & Spencer, R. (2016, August). *Learning more about match closures: New questions and new perspectives*. Workshop presented at Summer Institute on Youth Mentoring, Portland, OR.

Spencer, R., Drew, A., Gowdy, G., Horn, J. P., & Keller, T.E. (2016, August). *It takes a village...to break up a match*. Workshop presented at Summer Institute on Youth Mentoring, Portland, OR.

Spencer, R., Gowdy, G., Drew, A., Horn, J. P., & Keller, T.E. (2016, August). *It takes a village...to end a match well*. Workshop presented at Summer Institute on Youth Mentoring, Portland, OR.

Gowdy, G., Spencer, R., Keller, T.E., Drew, A., & McCormack, M. (2016, June). *Preventing early match closures*. Workshop presented at Big Brothers Big Sisters of America National Conference, Orlando, FL.

Spencer, R., McCormack, M., Gowdy, G., Drew, A., Abrams, E., & Keller, T.E. (2016, January). *STAR Study: Investigating matching and relationship development*. Workshop presented at MENTOR National Mentoring Summit, Washington, D.C.

Webinars

Keller, T.E., & Spencer, R. (2016, July). *Study To Analyze Relationships (STAR)*. MENTOR-OJJDP Webinar Series.

Spencer, R. & Keller, T. (2017, June). *Why and how matches end matters - a lot*. Webinar presentation for Mentoring Works Washington.

Blog Posts

Keller, T.E. (2017, March). *STAR Project: A Systemic View of Youth Mentoring Match Closures*. National Mentoring Resource Center Blog available at:
<http://www.nationalmentoringresourcecenter.org/index.php/nmrc-blog/249-star-project-a-systemic-view-of-youth-mentoring-match-closures.html>

Future Research. As previously noted, many additional analyses using data generated by the STAR project are planned. Initially, the research team will continue to focus on the central research questions presented above.

What factors predict whether and when a match closes? A series of analyses will use the baseline assessments of individual factors outlined in appendix A (for mentor, youth, parent/guardian, MSS) as predictors of match duration survival curves as well as a dichotomous indicator of 12-month retention. To investigate the significance of match-making decisions, additional analyses will evaluate interactions and combinations of mentor, youth, and parent-guardian factors.

What are the reasons for early match closures? This question will be investigated further using mixed methods approaches drawing from the post-closure surveys and the in-depth qualitative interviews.

How is the match closure process managed by programs and participants? This question also will be investigated using mixed methods approaches. The qualitative interviews are expected to highlight the complexities and nuances encountered in the closure process.

Data generated from the STAR project also provides the opportunity to investigate several other important questions. For example, future analyses will focus on the consequences of closure for match participants based on post-closure survey questions eliciting participant reactions and feelings about the experience. Another planned analysis will examine how the presence of a youth mental health condition may influence the development of a match. In addition, future analyses will compare the nature and quality of mentoring relationships among matches that close for different reasons. As a final example, analyses will investigate how the

reasons for ending the mentoring relationship may vary according to the timing of the match closure.

Beyond the STAR project, it would be fruitful for new studies to investigate questions regarding the endings of mentoring relationships as they occur in different program settings, such as school-based programs, group mentoring programs, and time-limited mentoring programs.

Conclusion

The STAR project was a comprehensive multi-method study obtaining detailed information about the development and duration of BBBS youth mentoring relationships from the multiple perspectives of mentors, youth, parents/guardians, and program staff. Based on the analyses conducted to date, the following overall conclusions can be drawn from this research.

- The various relationships involving parents, mentees, mentors, and program staff can each have an influence on the success of the mentoring relationship.
- Analyzing the network of relationships among parents, mentees, mentors, and program staff is important for identifying the factors that determine early match closure.
- Parents, mentees, mentors, and program staff may have different perceptions regarding the expectations, goals, and effectiveness of the match.
- A relationship between any of the parties (parents, mentee, mentors, and program staff) strained due to miscommunication, cultural insensitivity and misunderstanding, or misaligned expectations can threaten the match and lead to early closure, with the potential for disappointment and negative outcomes.

The STAR project has incorporated several strategies to facilitate interaction with the practice community regarding study results, interpretations, and implications. As an indication of

the potential for this research to improve program practice, resource materials inspired by the findings have been developed and disseminated by the OJJDP-funded National Mentoring Resource Center. Forthcoming publications based on the research will highlight findings with direct relevance for enhancing program delivery and improving the experiences of participants in youth mentoring programs.

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Appendix A: STAR Baseline Survey Constructs and Measures

Mentor Baseline Survey

Construct	Title	Source	Items
Motivations for volunteering	Volunteer Motives Scale	Davis, Hall, & Meyer, 2003	24
Motivations for mentoring	Mentor Motivations Scale	Original	11
Experience with youth		Herrera, DuBois & Grossman, 2013	6
Mentoring goals/strategies		Herrera, DuBois & Grossman, 2013	14
Matching preferences		Original	8
Mentoring relational efficacy		Original	14
Match focus/approach	Match Characteristics Questionnaire	Harris & Nakkula, 2003	20
Personality	Big Five Inventory (BFI-44)	John, Donahue, & Kentle, 1991	44
Perceived self-efficacy	Mastery scale	Pearlin et al., 1981	7
Entity mindset	Entity Mindset Scale	Dweck, 1999	4
Grit	Short Grit Scale	Duckworth & Quinn, 2009	8
Attachment dimensions	Experiences in Close Relationships Questionnaire-Revised	Fraley, Waller & Brennan, 2000	24
Safe haven/secure base	Network Relationships Inventory	Furman & Buhrmester, 2009	6
Secure base in childhood	Parent as Secure Base Scale	Woodhouse, Dykas & Cassidy, 2009	16
Empathy	Interpersonal Reactivity	Davis, 1983	17
Conflict resolution style	Rahim Organizational Conflict Inventory—II	Rahim, 1983	20
Psychological well-being	Scales of Psychological Well-Being	Ryff, 1989	34
Anticipated difficulties		Original	10
Attitudes toward youth		Herrera et al., 2007; Karcher et al., 2010	7
Attitudes toward parents		Original (DuBois, Keller & Chehade, 2011)	11
Attitude toward poverty	Short Form of Attitudes Toward Poverty Scale	Yun & Weaver, 2010	12
Ethnocultural empathy	Scale of Ethnocultural Empathy	Wang et al., 2003	12
Program support	Staff Support Scale	Karcher, 2004	7
Training quality		Herrera, DuBois & Grossman, 2013	9

Parent/Guardian Baseline Survey

Construct	Title	Source	Items
Parent motivations for mentoring		Original	10
Mentoring history		Original	12
Mentoring goals/strategies		Herrera, DuBois & Grossman, 2013	14
Parent match focus	Match Characteristics Questionnaire	Harris & Nakkula, 2003 (adapted and extended)	25
Anticipated difficulties		Original	10
Parent-child relationship quality	Parent-Child Relationship Scale	Pianta, 1992	15
Parent-child relationship dimensions	Network Relationships Inventory	Furman & Buhrmester, 2009	18
Home environment	Confusion, Hubbub & Order Scale	Matheny, Wachs, Ludwig, & Phillips, 1995	13
Caregiver strain	Caregiver Strain Questionnaire	Brannan, Heflinger, & Bickman, 1997	9
Parenting practices	Alabama Parenting Questionnaire	Shelton, Frick & Wootton, 1996	12
Child's personality	Big Five Inventory (BFI-46AP)	John & Srivastava, 1999	46
Child's behavior	Strengths & Difficulties Questionnaire	Goodman, 1997	25
Risk factors	Risk Factor Index	Herrera, DuBois & Grossman, 2013	38
Material hardship		Mistry et al, 2002	7
Community risks and resources		Forehand et al, 2000, Dahlberg et al., 2005, SCDRC, 2010.	16
Conflict resolution style	Rahim Organizational Conflict Inventory—II	Rahim, 1983	20
Entity mindset	Entity Mindset Scale	Dweck, 1999	4

Youth Baseline Survey

Construct	Title	Source	Items
Extracurricular activities		Original	5
Youth motivations for mentoring		Original	10
Parent-child relationship	Inventory of Parent & Peer Attachment-Revised (IPPA-R)	Armsden & Greenberg, 1987 Gullone & Robinson, 2005	28
Family Climate	Family Climate Inventory	Kurdek, Fine & Sinclair, 1995	17
Child Behaviors	Strengths & Difficulties Questionnaire	Goodman, 1997	25
Personality	Big Five Inventory (BFI-46A)	John & Srivastava, 1999	46
Self-efficacy	Self-efficacy Scale	Walker & Arbretton, 2002	8
Hope	Children's Hope Scale	Snyder et al., 1997	6
Peer group antisocial behavior		Latendresse et al., 2011	6
Loneliness	Loneliness and Social Dissatisfaction Scale	Asher, Hymel & Renshaw, 1984	11
Peer victimization		Orpinas & Kelder, 1995	6
Student-teacher relationship	People in My Life Questionnaire	Murray & Greenberg, 2000	11
School bonding	People in My Life Questionnaire	Murray & Greenberg, 2000	11
School misbehavior		Herrera, DuBois & Grossman, 2013	3
Adult support		Herrera, DuBois & Grossman, 2013	10
Special adult		Herrera, DuBois & Grossman, 2013	2

Match Support Specialist Baseline Survey

Construct	Title	Source	Items
Education/training/work experience		Original	6
Experience with youth		Herrera, DuBois & Grossman, 2013	6
Mentoring goals/strategies		Herrera, DuBois & Grossman, 2013	14
Time/task distribution		Original (DuBois, Keller & Chehade, 2011)	
Match focus/approach	Match Characteristics Questionnaire	Harris & Nakkula, 2003	20
Match support calls		Original (DuBois, Keller & Chehade, 2011)	33
Supervisory style with mentors		Original (DuBois, Keller & Chehade, 2011)	43
Self-efficacy for match support		Original (DuBois, Keller & Chehade, 2011)	23
Conflict resolution style	Rahim Organizational Conflict Inventory—II (adapted)	Rahim, 1983	32
Attitudes toward youth		Herrera et al., 2007; Karcher et al., 2010	7
Attitudes toward mentors		Original (DuBois, Keller & Chehade, 2011)	11
Attitudes toward parents		Original (DuBois, Keller & Chehade, 2011)	11
Personality	Big Five Inventory (BFI-44)	John, Donahue, & Kentle, 1991	44
Attitude toward poverty	Short Form of Attitudes Toward Poverty Scale	Yun & Weaver, 2010	12
Ethnocultural empathy	Scale of Ethnocultural Empathy	Wang et al., 2003	12
Empathy	Interpersonal Reactivity	Davis, 1983	13
Perceived self-efficacy	Mastery scale	Pearlin et al., 1981	7
Entity mindset	Entity Mindset Scale	Dweck, 1999	4
Task management	Environmental Mastery Subscale of Scales of Psychological Well-Being	Ryff, 1989	4
Job stress/burnout	Oldenberg Burnout Inventory	Demerouti, Mostert & Bakker, 2010	14
Job satisfaction		Gardiner, 2005	3
Intention to leave		Mor Barak et al., 2006	5
Work engagement	Dedication subscale of Utrecht Work Engagement Scale	Schaufeli et al., 2002	4
Quality of supervision	Supervisory Relationship Questionnaire	Palomo, Beinart & Cooper, 2010	24
Organizational culture	Organizational culture survey	Glaser, Zamanou & Hacker, 1987	15

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