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Measuring and Understanding Distal and Proximal Determinants of Mentoring Relationship Quality in Big Brothers Big Sisters Community-based Programs

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A thesis submitted in partial fulfillment of the requirements for the Doctor of Philosophy degree in Epidemiology and Biostatistics
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MEASURING AND UNDERSTANDING DISTAL AND PROXIMAL DETERMINANTS OF MENTORING RELATIONSHIP QUALITY IN BIG BROTHERS BIG SISTERS COMMUNITY-BASED PROGRAMS

(Spine title: Determinants of Mentoring Relationship Quality)

(Thesis format: Integrated Article)

By

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Graduate Program in Epidemiology and Biostatistics

A thesis submitted in partial fulfillment
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WESTERN UNIVERSITY
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The thesis by

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Abstract

Big Brothers Big Sisters (BBBS) community-based mentoring programs have been shown to positively impact children's health and well-being. A fundamental component of these successful mentoring outcomes is mentoring relationship quality (MRQ). While some research has examined the association between MRQ and child outcomes, little research has examined antecedents of MRQ. The mentoring literature suggests that mentor self-efficacy (MSE) may act to mediate the relationship between environmental supports, specifically, parent support of the mentoring relationship and mentor training satisfaction, and MRQ. However, these relationships have not been simultaneously tested in a single model. Furthermore, a necessary prerequisite to examining these relationships involves the evaluation of the measurement properties of measures designed to capture MSE and MRQ.

The primary objectives of this thesis research were to: 1) examine the measurement properties of the scales used to measure global and engagement MRQ; 2) examine the measurement properties of the scale used to capture MSE; and, 3) examine the extent to which MSE mediates the relationship between environmental supports, specifically, parent support of the mentoring relationship and mentor training satisfaction, and MRQ including global and engagement outcomes. Data were drawn from a prospective cohort investigation of 997 families and 477 mentors from 20 BBBS programs across Canada conducted by Dr. David DeWit and colleagues. A total of 272 mentors, 491 children, and 554 parents participated in this research and data were drawn from the 12- and 18-month follow-ups. Principal component analysis, confirmatory factor analysis, correlations, and multiple and logistic regression were used to evaluate the measurement properties of the scales. Structural equation modeling was employed to examine the extent to which MSE mediates the relationship between environmental supports and MRQ.

Results yielded good measurement properties for the MSE, global MRQ, and engagement MRQ scales including dimensionality, reliability, convergent validity, predictive validity (MRQ scales), and external validity across child gender and age sub-

groups (global MRQ scale). MSE was found to partially mediate the association between parent support of the mentoring relationship and mentor reported global and engagement MRQ outcomes. Potential implications of the results are discussed along with opportunities for future research investigating these associations.

Keywords: mentoring relationship quality; mentor self-efficacy; parent support of mentoring relationship; mentor training satisfaction; community-based mentoring programs; measurement evaluation; mediation; factor analysis; structural equation modeling

Co-authorship Statement

The manuscripts contained within this thesis are based upon research that was primarily conceived, designed, and analyzed by the author, Annalise Louisa Ferro, as a component of her doctoral work. The data were obtained from a prospective cohort investigation of the effects of Big Brothers Big Sisters community-based mentoring programs on children's health and well-being that was conducted by the author's supervisor, Dr. David J. DeWit and his research team. Annalise Louisa Ferro was the primary author of each manuscript in the thesis. Dr. David J. DeWit, Dr. Samantha Wells, Dr. Kathy N. Speechley, and Dr. Ellen Lipman were co-authors of the manuscripts in Chapters 5, 6 and 7 and Karen Shaver was an additional co-author of the manuscript in Chapter 7, as indicated in the footnote of the introduction of each of these chapters. Contributions in the form of regular feedback and methodological and statistical advice were provided by the supervisory committee.

Dedication

For my husband, Mark, and our son, Vincent

I will forever cherish our 'epi chats' over dinner and play time with

Thomas the Tank Engine

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This thesis would not have been possible without the support of many people to whom I would like to express my sincerest gratitude.

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List of Abbreviations

BB	Big Brothers
BBBS	Big Brothers Big Sisters
BS	Big Sisters
CFI	Comparative Fit Index
CI	Confidence Interval
CFA	Confirmatory Factor Analysis
FIML	Full-information Maximum Likelihood
G-MeRQS	*Global Mentoring Relationship Quality Scale*
ICC	Intraclass Correlation Coefficient
KMO	Kaiser-Meyer-Olkin
MLR	Maximum Likelihood with Robust Standard Errors
MCQ	*Mentoring Characteristics Questionnaire*
MRQ	Mentoring Relationship Quality
MSE	Mentor Self-efficacy
MSES	*Mentor Self-efficacy Scale*
MGCFA	Multiple Group Confirmatory Factor Analysis
MI	Multiple Imputation
NC	No Change
NS	Non-significant
OR	Odds Ratio
PCA	Principal Component Analysis
QMRES	*Quality of Mentoring Relationship Engagement Scale*
RMSEA	Root Mean Square Error of Approximation
SRMR	Standardized Root Means Square Residuals
SEM	Structural Equation Modeling
TLI	Tucker-Lewis Index
YMS	*Youth Mentoring Survey*

CHAPTER 1

Introduction

Since 1913, Big Brothers Big Sisters (BBBS) community mentoring programs have matched tens of thousands of children to adult mentors in Canada. BBBS community mentoring programs establish and support mentoring relationships between an adult mentor and child within the community setting. This type of program differs from other BBBS programs (e.g., group mentoring, in-school mentoring) in that the child is matched one-to-one with an adult mentor and their shared activities take place in a number of settings throughout the community. Currently, over 27,000 children are matched one-to-one with a BBBS mentor in Canadian communities (Big Brothers Big Sisters, 2012). A goal of BBBS of Canada is to have matched a total of 100,000 children to mentors by 2013 (Big Brothers Big Sisters, 2005). Despite BBBS being in service for close to a century and its overwhelming popularity among Canadians, the first nationwide evaluation of BBBS community mentoring programs began only recently by DeWit and colleagues (DeWit, Lipman, Bisanz, Da Costa, Graham, LaRose, Pepler, & Shaver, 2006).

Previous evaluations of BBBS community mentoring programs demonstrate that BBBS community mentoring relationships are positively associated with various developmental outcomes in children including improvements in mental, social, and academic well-being (DeWit, Lipman, Manzano-Munguia, Bisanz, Graham, Offord, O'Neill, Pepler, & Shaver, 2007; Keating, Tomishima, Fosters, & Alessandri, 2002; Rhodes, Grossman, & Resch, 2000; McLearn, Colasanto, Schoen, & Shapiro, 1999; Tierney, Grossman, & Resch, 1995; Big Brothers Big Sisters, 1994). For example, Tierney and colleagues (1995) conducted one of the most rigorous studies of BBBS community mentoring relationships to date utilizing a randomized controlled trial and illustrated that matched children were 46% less likely to initiate drug use, 27% less likely to initiate alcohol use, 32% less likely to hit someone, and 51% less likely to skip school compared to unmatched children. A pilot study conducted by DeWit and colleagues (2007) also found beneficial effects for children randomly assigned to a BBBS mentor

including reduced emotional problems and social anxiety (i.e., fear of negative peer evaluations, generalized social anxiety, distress) and greater teacher social support and improved social skills (i.e., self-control). A recent meta-analysis demonstrated small-to-moderate benefits of BBBS community mentoring program participation for the average child (DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011). Various smaller BBBS studies have yielded similar results for matched children with respect to improved social and academic competencies and improved mental health compared to unmatched children (Thompson & Kelly-Vance, 2001; Grossman & Johnson, 1999; Achille, Lachance, & Saintonge, 1998; Turner & Scherman, 1996; Nelson & Valliant, 1993; Frecknall & Luks, 1992).

Despite consistent results demonstrating that BBBS community-based mentoring relationships are positively associated with children's health and well-being, less is known about the components of the mentoring relationship that contribute to positive outcomes in children. Theoretical reasoning suggests that mentoring relationship *quality* (MRQ) is a fundamental component of the mentoring relationship. Rhodes, a leading scholar in mentoring research, contends that a necessary condition for mentoring relationships is that the child and mentor form a high quality mentoring relationship before benefits in children are realized (Rhodes, Spencer, Keller, Liang, & Noam, 2006; Rhodes, 2005).

Correspondingly, empirical evidence suggests that MRQ is associated with a variety of positive outcomes in children participating in both BBBS community- and school-based mentoring relationships (e.g., higher MRQ is positively associated with improved child health and social well-being outcomes) (Herrera, Grossman, Kauh, Feldman, McMaken, & Jucovy, 2007; Rhodes, Reddy, Roffman, & Grossman, 2005; Parra, DuBois, Neville, Pugh-Lilly, & Povinelli, 2002; Herrera, Sipe, & McClanahan, 2000; DuBois & Neville, 1997; Morrow & Styles, 1995). A study conducted by Rhodes and colleagues (2005) demonstrated that high MRQ has been associated with a variety of positive psychosocial and academic outcomes in children. Various other studies corroborate these findings (Goldner & Mayseless, 2009; Herrera, et al., 2007, 2000; Parra et al., 2002; DuBois & Neville, 1997). Due to the presence of strong empirical support suggesting that high MRQ is critical in promoting positive child outcomes, it is

imperative that researchers seek a better understanding of factors that are associated with MRQ.

Bandura's social cognitive theory (1977) provides a theoretical framework for understanding an important antecedent hypothesized to be associated with MRQ: mentor self-efficacy (MSE). Bandura's theory focuses on the concept of self-efficacy which is based on the belief that adequate functioning requires the attainment of knowledge, skills, and confidence (Bandura, 1997). Bronfenbrenner's ecological systems model (1979) and Keller's systemic model of the youth mentoring intervention (2005) also provide a theoretical basis for understanding factors that may be associated with MRQ. Bronfenbrenner's model illustrates that children are influenced by various proximal (i.e., personal traits) and distal (i.e., environment) factors in their lives. By extension, the quality of the relationship between the mentor-child dyad is also affected by various proximal (e.g. MSE) and distal (e.g., parent support of the mentoring relationship, mentor training satisfaction) factors in the mentoring relationship. Keller's model complements Bronfenbrenner's model in that it views the mentoring relationship as the focal point of a complex web of existing interpersonal relationships involving the mentor, child, caseworker, and parent within the context of the mentoring agency. Drawing from these theories, MSE, a proximal determinant of the mentoring relationship, may act to mediate the association between distal environmental supports (e.g., parent support of the mentoring relationship, mentor training satisfaction) and MRQ.

To date, no previous study has conducted a formal mediation analysis to examine the associations among environmental supports, MSE, and MRQ. However, findings from previous studies are consistent with the hypothesized mediating relationship described above. In particular, Parra and colleagues (2002) demonstrated that mentor training satisfaction was positively associated with MSE. In turn, MSE was positively associated with mentoring relationship closeness, one facet of MRQ (Parra et al., 2002). Martin and Sifers (2012) demonstrated a positive association between mentor confidence, a characteristic of MSE, and mentoring relationship satisfaction (operationalized as having similar characteristics to MRQ including happiness). Askew (2006) also found that mentor training satisfaction was positively associated with MRQ. Additionally, theoretical reasoning and qualitative research suggest that parent support of the

mentoring relationship is associated with MRQ (Spencer, 2007) due to parents playing a key supportive role in the mentoring relationship beyond the mentor-child dyad (Keller, 2005). While all this previous work taken together suggests that environmental supports may be mediated by MSE in terms of its relationship with MRQ, research is required to confirm this hypothesis.

A necessary prerequisite to examining this hypothesized mediating relationship is a rigorous examination of the measurement properties of the scales intended to capture MSE and MRQ. In the absence of 'gold standard' measures, the present study employed new measures with unknown measurement properties that were developed by DeWit and colleagues (2006). Previous measures of MSE (Askew, 2006; Karcher, Nakkula, & Harris, 2005; Parra, et al., 2002) and MRQ (Elledge, Cavell, Ogle, & Newgent, 2010; Harris & Nakkula, 2010, 2008; Zand, et al., 2009; Cavell, Elledge, Malcolm, Faith, & Hughes, 2009; Sale, et al., 2008; Karcher, et al., 2005; Nakkula & Harris, 2005; Rhodes, 2005; Public/Private Ventures, 2002; Cavell & Hughes, 2000) do exist, but several limitations restrict their utility including irrelevance to adult-to-child mentoring relationships, narrow scope, and/or weak or unknown measurement properties. Evidence of good measurement properties is a necessary component for the accurate estimation of associations among environmental supports, MSE, and MRQ. For example, the use of measures with poor reliability can produce results with attenuated relationships among variables leading to a higher chance of Type II error (Aneshensel, 2002). Overall, confirmation of good measurement properties of the MSE and MRQ scales will allow for a better understanding of the relationships between environmental supports, MSE, and MRQ.

Research Objectives

Guided by the mentoring literature, the three primary objectives of this thesis are to:

1) Examine the measurement properties of the scales used to measure global and engagement MRQ

a) Explore their dimensionality and confirm their factor structure;

        b) Examine their reliability;

        c) Examine their internal validity including convergent[1] and predictive[2] validity;

        d) Examine their external validity across child gender and age sub-groups; and,

        e) Examine reporter concordance of the scales among mentors, children, and parents.

2) Examine the measurement properties of the scale used to capture MSE

        a) Explore its dimensionality and confirm its factor structure;

        b) Examine its item and scale reliability;

        c) Examine its convergent validity by assessing its association with global and engagement MRQ measured at the same time point; and,

        d) Examine its predictive validity by assessing its ability to predict global and engagement MRQ six months later after adjusting for potential confounders.

3) Examine the extent to which MSE mediates the relationship between environmental supports, specifically, parent support of the mentoring relationship and mentor training satisfaction, and MRQ including global and engagement outcomes.

Study Significance

The overarching contributions of this thesis to the mentoring literature are twofold. First, this thesis will provide a scientifically rigorous examination of the measurement properties of the MRQ and MSE scales developed by DeWit and colleagues, which has not been done previously. Second, this study is the first of its kind to examine the extent to which MSE mediates the relationship between environmental supports and MRQ among mentors, children, and parents participating in Canadian BBBS community mentoring relationships. The results of this study lays the foundation

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[1] Convergent validity is the extent to which two or more scales that purport to be measuring similar topics agree with one another (McDowell & Newell, 1996).
[2] Predictive validity is expressed in terms of its ability to predict the outcome (Last, 2001)

for future research cross-validating the scales' measurement properties and examining the extent to which MSE mediates the relationship between environmental supports and global and engagement MRQ utilizing longitudinal data. Ultimately, it is anticipated that this research will assist BBBS community mentoring programs to develop a series of 'best practices' as a means to promote the positive development of mentored children.

Structure of the Thesis Document

In accordance with Western's School of Graduate and Postdoctoral Studies, the work contained within this integrated article thesis totals eight chapters and includes three manuscripts that are briefly outlined below.

Chapter 2 focuses on background information and includes the definition of a mentoring relationship, characteristics of MRQ, and theoretical models that guided the development of the conceptual model.

Chapter 3 provides a literature review and includes theory and research that supports the examination of the extent to which MSE mediates the relationship between environmental supports, specifically, parent support of the mentoring relationship and mentor training satisfaction, and MRQ including global and engagement outcomes.

Chapter 4 contains a complete description of the study methodology, including information on the study design, sample, data collection, measures, analysis, and power calculation.

Chapter 5 presents the first manuscript entitled, "The measurement properties of the *Global Mentoring Relationship Quality Scale* and *Quality of Mentoring Relationship Engagement Scale* among mentors, children, and parents participating in Big Brothers Big Sisters of Canada programs" (Ferro, DeWit, Wells, Speechley, & Lipman, Manuscript under review). This paper examines the measurement properties of the scales used to capture global and engagement MRQ outcomes.

Chapter 6 presents the second manuscript entitled, "An evaluation of the measurement properties of the *Mentor Self-efficacy Scale* among participants in Big Brothers Big Sisters of Canada community mentoring programs" (Ferro, DeWit, Wells,

Speechley, & Lipman, Manuscript under review). This paper examines the measurement properties of the scale used to measure the hypothesized mediator, mentor self-efficacy.

Chapter 7 presents the third manuscript entitled, "Does mentor self-efficacy mediate the relationship between environmental supports and mentoring relationship quality? A study of mentors, children, and parents participating in Big Brothers Big Sisters community mentoring programs" (Ferro, DeWit, Wells, Speechley, Lipman, & Shaver, Manuscript under review). This mediation paper examines the extent to which MSE mediates the relationship between environmental supports, specifically, parental support of the mentoring relationship and mentor training satisfaction, and global and engagement MRQ.

The final chapter, Chapter 8, summarizes the main research findings, presents a discussion of the potential implications and applications of the results including study strengths and limitations, and opportunities for future research.

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CHAPTER 2

Background

In this chapter, information on the mentoring relationship including its definition and types of adult-to-child mentoring relationships are provided. Next, an overview of the characteristics of the outcomes, global and engagement mentor relationship quality (MRQ) is given. The theories that guided the development of the conceptual model for this thesis are presented. Specifically, Bandura's social cognitive theory (1997, 1977), Bronfenbrenner's ecological systems model (Bronfenbrenner & Morris, 1998; Bronfenbrenner, 1979), and Keller's systemic model of the youth mentoring intervention (2005) are discussed. This chapter concludes by providing a description of the conceptual model developed for this thesis.

Definition and Types of Adult-to-Child Mentoring Relationships

MENTOR/National Mentoring Partnership[3] (2003) defines a mentoring relationship as a "structured…relationship that brings young people together with caring [adult mentors] who offer guidance, support, and encouragement aimed at developing the competence and character of the [child]". Big Brothers Big Sisters (BBBS) offers many different types of formal mentoring programs including group, in-school, and one-to-one community mentoring relationships (Big Brothers Big Sisters, 2007; Sipe & Roder, 1999). For the purpose of this thesis, a 'mentoring relationship' involves a one-to-one community mentoring relationship between an adult mentor and child within the context of Canadian BBBS community mentoring programs.

One-to-one community mentoring relationships are a type of mentoring relationship that takes place between one adult mentor and one child aged 5-17 years old within the community setting (Sipe & Roder, 1999). Some well established mentoring programs, such as BBBS, recommend mentors and children meet for at least two to four

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[3] MENTOR/National Mentoring Partnership is an American-based organization that is widely acknowledged as a premier advocate and resource for the expansion of mentoring initiatives.

hours per week (Big Brothers Big Sisters, 2007). A BBBS mentor is required to make a commitment to mentor his or her matched child for a minimum of one year (Big Brothers Big Sisters, 2007). Furthermore, BBBS agencies provide guidelines on what types of shared activities are permitted between the mentor and protégé (e.g., overnight activities are not permitted within the first year of the match relationship) (Big Brothers Big Sisters, 2007). Under these guidelines, the shared activities are usually decided upon together by the mentor and child and may take place in a number of settings throughout their community (Sipe & Roder, 1999).

This thesis examined BBBS community mentoring relationships instead of other types of BBBS programs for two primary reasons. First, BBBS community mentoring programs are the most common type of BBBS program offered to Canadian children (Big Brothers Big Sisters, 2012). Second, evidence suggests that BBBS community mentoring programs are more effective in improving child outcomes than other types of formal mentoring programs, such as school-based initiatives (Bernard & Marshall, 2001; Tierney, Grossman, & Resch, 1995). Therefore, they have the most promise with respect to positively impacting children's health and well-being and consequently warrant continued research.

Characteristics of Mentoring Relationship Quality

As guided by previous mentoring theory and research, MRQ is characterized by *global* and *engagement* traits. Global MRQ captures the 'bond' between the mentor and child and encompasses mutual feelings of trust, warmth, closeness, happiness, and respect as described by Rhodes and colleagues (Rhodes, Spencer, Keller, Liang, & Noam, 2006; Rhodes, 2005; Rhodes, Reddy, Roffman, & Grossman, 2005). Engagement MRQ encapsulates the action-oriented, supportive characteristics of the mentoring relationship. It reflects the mentor and child's sense of degree of interest in one another and the observation of efforts to engage one another such as listening and helping. Currently, a restrictive conceptualization of MRQ exists within the literature. Previous research on BBBS mentoring relationships (both community-based and in-school programs) has often examined one facet of MRQ, such as mutual trust or closeness

between the mentor and child (Herrera, Grossman, Kauh, Feldman, McMaken, & Jucovy, 2007; Parra, DuBois, Neville, Pugh-Lilly, & Povinelli, 2002; Herrera, Sipe, & McClanahan, 2000; Morrow & Styles, 1995). No study has comprehensively examined MRQ based on theory and research guided by Rhodes and colleagues. The work of Rhodes and colleagues has led to the inclusion of a more comprehensive examination of MRQ in this thesis which contributes novel information to the literature on BBBS community-based mentoring relationships.

Theoretical Frameworks Guiding the Conceptual Model

There is no unified theoretical framework that can explain the complexities that exist within BBBS community mentoring relationships. However, three theories that have the potential for advancing the current state of knowledge on the quality of BBBS community mentoring relationships are Bandura's social cognitive theory (1997, 1977), Bronfenbrenner's ecological systems model (Bronfenbrenner & Morris, 1998; Bronfenbrenner, 1979) and Keller's systemic model of the youth mentoring intervention (2005).

Social Cognitive Theory

Social cognitive theory asserts that people's acquisition of knowledge is attained through the observation of others in social interactions and experiences (Bandura, 1977). It focuses on self-efficacy defined as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997). The development of this concept is based on the principle that effective functioning requires the acquisition of knowledge, skills, and confidence (Bandura, 1997). Bandura's theory and research is applied to understanding teachers' self-efficacy and their teaching ability and commitment to teaching. Teachers with a high sense of efficacy operate on the belief that every student is teachable with the use of appropriate techniques (Bandura, 1997). These teachers also confidently approach problems encountered with challenging students and regard these problems as surmountable by ingenuity and additional effort

(Bandura, 1997). In contrast, teachers with a low sense of efficacy believe there is little that can be done to improve unmotivated students and the influence that they exert on these students' intellectual development is restricted (Bandura, 1997). Furthermore, teachers with low self-efficacy show a weak commitment to teaching (Evans & Tribble, 1986) and devote less time to academic matters (Gibson & Dembo, 1984).

These ideas can be used to guide hypotheses on how mentor self-efficacy (MSE) may be associated with MRQ. Since mentors and teachers both act as role models to children, it is reasonable to propose that the impact of MSE on the quality of the mentoring relationship may be viewed similarly to the impact of teacher self-efficacy on the quality of the teaching relationship. For example, mentors with high self-efficacy may be more likely to stay committed to and invest time with their matched children enabling the development of stronger bonds and increased supportiveness between the mentor and child. Similarly, mentors with low self-efficacy may feel less able to surpass problems encountered in the mentoring relationship and invest less time with their matched children lending to weaker bonds and decreased supportiveness between the mentor and child.

Ecological Systems Model

Ecological systems theory is the study of the relationship between the developing child and the environment in which he or she lives and functions (Bronfenbrenner, 1979). Specifically, it is the study of the relationship between a "growing human being and the changing properties of the immediate settings in which the developing person lives, as this process is affected by relations between these settings and by the larger contexts in which the settings are embedded" (Bronfenbrenner, 1979, p. 21). The social-ecological environment is thought to extend beyond the immediate environment that directly affects the developing child and includes more distal environments that act indirectly on the child. Of equal importance are the interconnections among other people present in the child's immediate environment and the nature of these relationships. An important feature of the ecological systems model is that the developing child is viewed to be a dynamic entity that interacts with his or her environment. Likewise, the environment

exerts its influence on the child. The inclusion of social contexts and the active role children play in shaping their environment makes this theory applicable to better understanding the mentoring relationship process between the child and mentor and the distal forces impacting on that relationship.

Figure 2.1 displays Bronfenbrenner's (1979) model adapted by Niederer et al. (2009). Within Bronfenbrenner's model, the child is designated to be in the center of a series of concentric spheres of influence on his or her life, including the microsystem, mesosystem, exosystem, and macrosystem. The first and most proximal level of environment is the *microsystem* and is defined as the, "pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting with particular physical and material characteristics" (Bronfenbrenner, 1979, p. 22). As such, the microsystem involves the direct relationship between the child and his or her immediate physical and social environment that contributes to shaping the course of the child's lived experience.

The second level of environmental influence is the *mesosystem* and consists of the "interrelations among two or more settings in which the developing person actively participates" (Bronfenbrenner, 1979, p. 25). In other words, the mesosystem constitutes the network of relationships involved in the child's life. Figure 2.1 does not illustrate this level of environmental influence because Niederer and colleagues (2009) solely depicted the roles and settings present in the child's life and not the co-existing interrelationships among them.

The third level of environmental influence is the *exosystem* and is, "one or more settings that do not involve the developing person as an active participant, but in which events occur that affect, or are affected by, what happens in the setting containing the developing person" (Bronfenbrenner, 1979, p. 237). This level involves social structures and supports that are associated with the child's lived experience.

The fourth level of environmental influence is the *macrosystem* and is the "consistencies, in the form and content of lower-order systems (micro-, meso-, and exo-) that exist, or could exist, at the level of the subculture or the culture as a whole, along with any belief systems or ideology underlying such consistencies" (Bronfenbrenner, 1979, p. 26). This level considers the effects of societal or cultural values and beliefs on

each of the other lower-order systems. The make-up of a macrosystem can vary between socioeconomic, ethnic, religious, and other sub-cultural groups which may reflect contrasting belief systems and lifestyles and, in turn, bring about different social-ecological environments that are specific to each group.
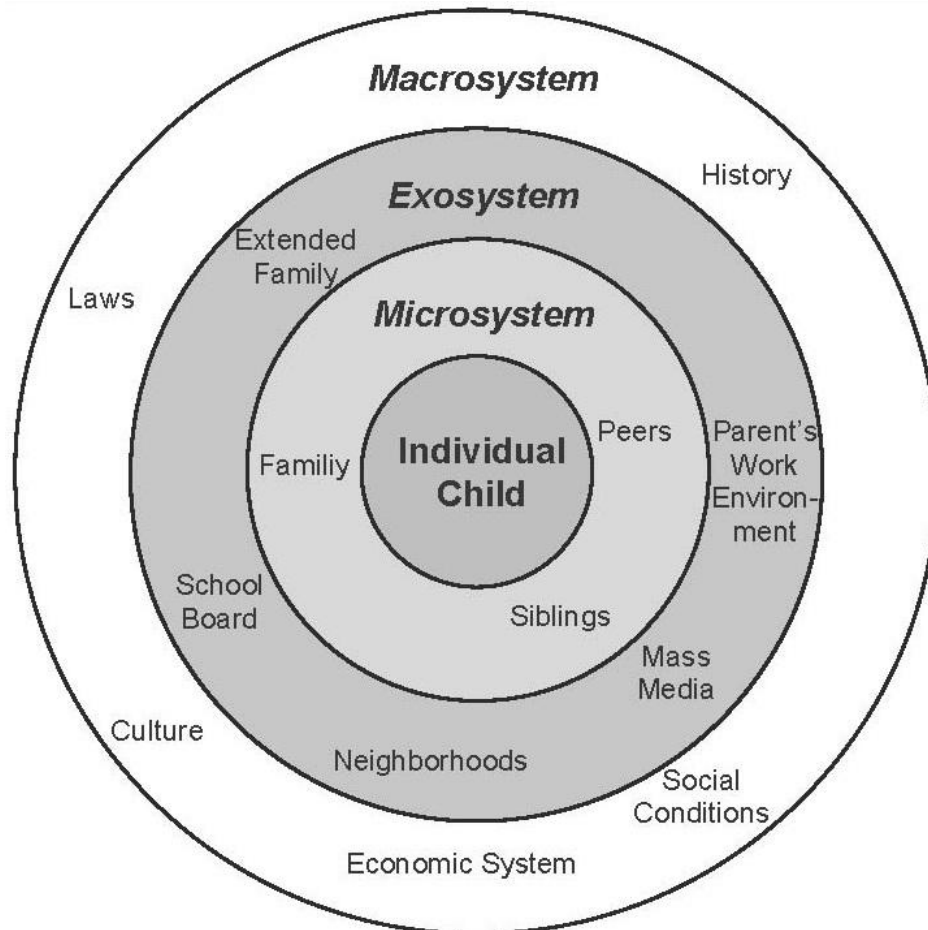
Figure 2.1. Ecological systems model describing the levels of environmental influences on a child. Adapted from Bronfenbrenner (1979) by Niederer et al. (2009).

Finally, the fifth level of environmental influence is the *chronosystem* and is the environmental events that occur throughout the life course of the child (Bronfenbrenner & Morris, 1998). This level allows for the examination of environmental influences on a child's lived experience over time. Figure 2.1 does not include this level because

Niederer and colleagues (2009) did not depict the nature of the roles and settings over time in their adaptation of Bronfenbrenner's model.

Adaptation of Brofenbrenner's Ecological Systems Model to the Mentor-Child Dyad

Although the ecological systems model applies more broadly to child development, it can be applied to the understanding of adult-to-child mentoring programs. Figure 2.2 illustrates an adaptation of Bronfenbrenner's ecological systems model that focuses on the mentor-child dyad and the environmental influences that impact the mentoring relationship, specifically, MRQ. Within the context of the microsystem, the direct relationship between the mentored child and his or her most immediate environment is that of the mentor. The relevant features of the microsystem include not only the objective properties of the child (e.g., gender, age) and the most intimately involved support person (i.e., mentor) and his or her qualities (e.g., MSE), but also the perceived importance of events that comprise the mentoring relationship, particularly, MRQ.

Within the mesosystem, the direct relationships are those formed between the mentor-child dyad and the parent and caseworker. Also captured within the mesosystem are the attributes that the parent and caseworker bring to the mentoring relationship. For example, since the parent and caseworker both interact with the mentor and child on a regular basis, it is reasonable to suggest that their roles are also associated with MRQ. For simplicity, the direct relationships between the mentor-child dyad and parent and caseworker present within the mesosystem are not illustrated in Figure 2.2.

Within the exosystem, the environmental influences consist of the relationships between the parent and caseworker and their indirect associations with MRQ. Additional examples of environmental influences at this level include BBBS agency services such as preliminary family and mentor qualifying assessments, mentor orientation and training, match determination interviews with families and mentors, and other community agencies that may have referred a child to a BBBS community-based mentoring program (e.g., schools, social services).
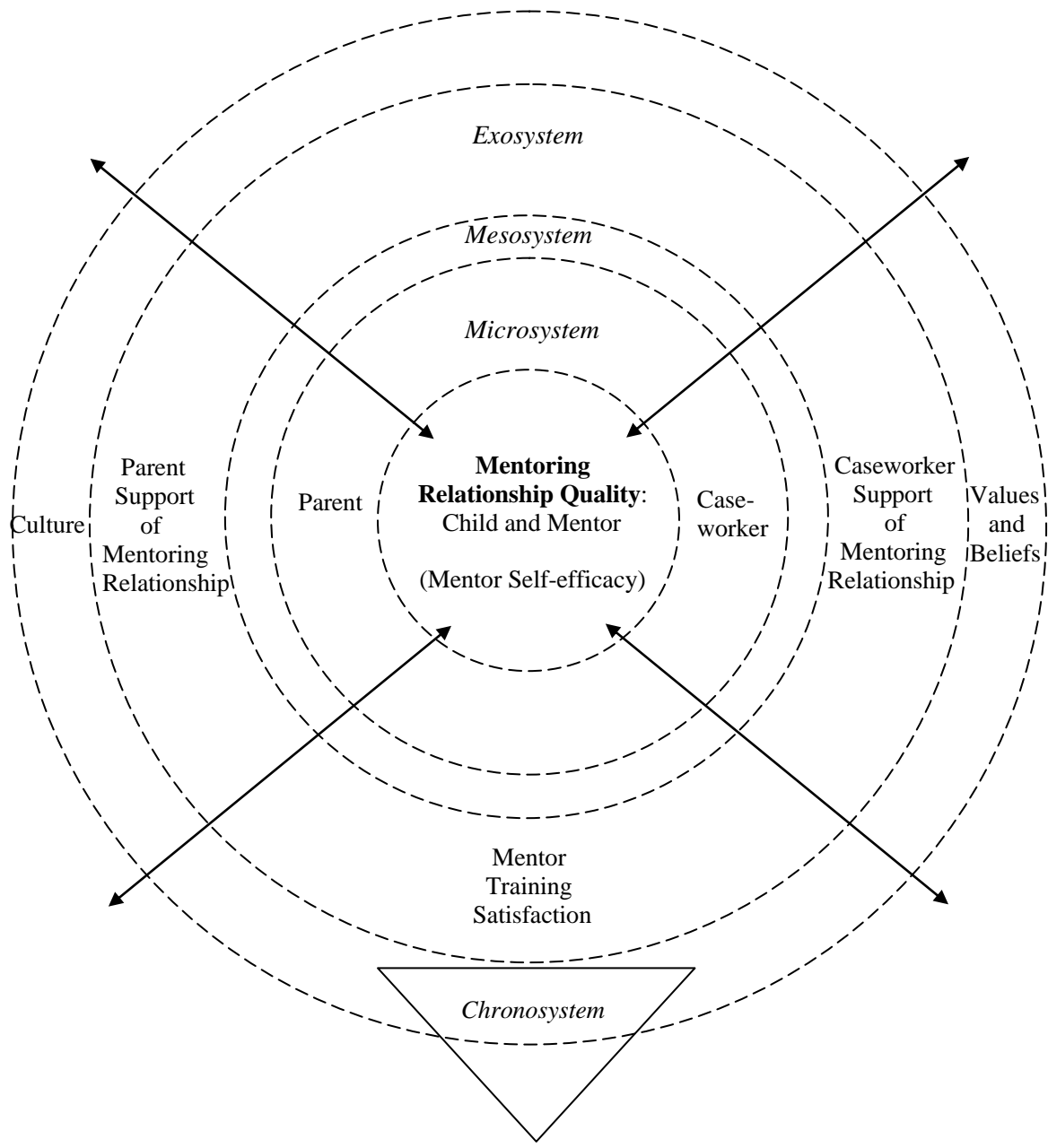
Figure 2.2. Adaptation of Brofenbrenner's ecological systems model to the mentor-child dyad.

Within the macrosystem, the environmental influences at this level are the social values and beliefs as well as the cultural influences that exist at the societal level within which the BBBS community mentoring program is situated. For example, one societal value is that every child is entitled to be nurtured by a loving and caring adult figure, such as a parent or mentor. Finally, within the chronosystem, the environmental influences at

this level are the mentoring experiences that occur throughout the course of the mentored child's life. As such, this level supports the examination of mentoring experiences, such as MRQ, over the life course of the mentoring relationship.

Systemic Model of the Youth Mentoring Intervention

Keller's (2005) systemic model of the youth mentoring intervention views the mentoring relationship as an interdependent network of relationships established among the child, mentor, parent, and caseworker within the context of a mentoring program agency (Figure 2.3). In this model, the child is the central focus of the mentoring relationship. The mentor is found at the top of the model because the primary purpose of the mentoring relationship is to establish a mentor-child connection. Both the parent and caseworker are situated in the bottom corners of the model because they act to support the mentoring relationship. All of these interactions occur within the context of the mentoring program agency (e.g., BBBS community mentoring program services).

Keller's (2005) model draws on a 'family systems perspective' whereby the 'family' (or formal group of people) is viewed as an integrated system that is characterized by reciprocating patterns of interdependent interactions among individual members. More importantly, it is understood that the quality of one relationship within the network can be influenced by other roles within the network (e.g., MRQ between the mentor and child can be influenced by parents, caseworkers, and services offered by BBBS community-based mentoring programs). Therefore, individual behavior, traits, and contributions have repercussions for other individuals in the network and the overall maintenance of the integrated system.

Based on these principles, mentoring relationships are viewed as part of a complex web of existing influences that includes the child, mentor, parent, and caseworker. Each individual within the network may have direct and/or indirect relationships with the three other individuals in the model. For example, direct interactions between the parent and mentor may help or hinder the mentoring relationship (e.g., supportive versus unsupportive actions between the parent and mentor). This is also the case with other direct interactions including those between the parent and child, and

parent and caseworker. Similarly, direct interactions between the caseworker and mentor can also support or obstruct the mentoring relationship (e.g., stronger versus weaker caseworker support of the mentoring relationship). This is also the case with other direct interactions including those between the caseworker and child, and caseworker and parent.

Furthermore, direct interactions between the parent and mentor, and caseworker and mentor, also lend insight into the hypothesized association between MSE and MRQ. For example, parent and caseworker support of the mentoring relationship may help increase mentors' feelings of self-efficacy with respect to their perceived ability to mentor a child which, in turn, may contribute to enhance MRQ. As a result, parent and caseworker support of the mentoring relationship can benefit the child within the mentoring relationship indirectly through mentor's feelings of increased self-efficacy.
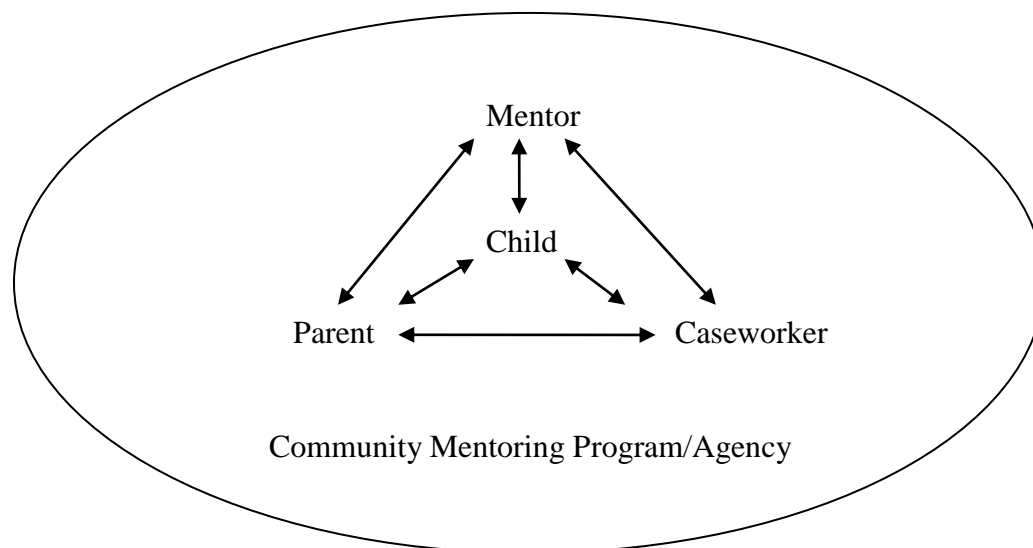
Figure 2.3. Systemic model of the youth mentoring intervention (Keller, 2005).

In addition to the network of relationships that exist alongside the mentoring relationship, the agency context (e.g., BBBS community mentoring program services) may also impact the mentoring relationship (Keller, 2005). Community mentoring program policies are intended to promote a shared understanding of the program's

purpose, procedures for establishing and supporting mentoring relationships (e.g., preliminary family and mentor qualifying assessments, mentor orientation and training, match determination interviews with families and mentors), and the expectations of the roles and responsibilities of participants (Keller, 2005). Overall, the agency context is expected to provide structure to the mentoring relationship and guide the child, mentor, parent, and caseworker to establish a strong working foundation within the network.

Significance of Theoretical Models

Bandura's social cognitive theory (1997, 1977), Bronfenbrenner's ecological systems model (Bronfenbrenner & Morris, 1998; Bronfenbrenner, 1979), and Keller's systemic model of the youth mentoring intervention (2005) provide a theoretical basis for understanding factors that may be associated with MRQ. An important contribution of Bandura's theory is that it highlights self-efficacy as being a fundamental component of the teacher-student relationship. Similarly, MSE may be an important antecedent of the quality of the mentor-child relationship. A significant contribution of Bronfenbrenner's model is that it guides the differentiation between distal (i.e., parents support of the mentoring relationship and mentor training satisfaction) and proximal (i.e., MSE) factors that may influence the quality of the mentoring relationship. Finally, a particular strength of Keller's model compared to other mentoring models is that it highlights the importance of multiple key roles involved in the mentoring relationship beyond the mentor-child dyad (i.e., parent, caseworker). The majority of other mentoring relationship models are limited because they tend to focus on the child and mentor and how their roles and interactions may influence MRQ and they do not look at potentially important distal and proximal influences (DuBois, Neville, Parra, & Pugh-Lilly, 2002; Grossman & Rhodes, 2002; Parra, DuBois, Neville, Pugh-Lilly, & Povinelli, 2002; Rhodes, Grossman, & Resch, 2000; Darling, Hamilton, & Niego, 1994).

Conceptual Model

The development of the conceptual model for the present thesis (Figure 2.4) was guided by Bandura's (1997, 1977), Bronfenbrenner's (Bronfenbrenner & Morris, 1998; Bronfenbrenner, 1979) and Keller's (2005) theoretical frameworks as well as empirical evidence found in the mentoring literature establishing relationships between the model constructs (Martin & Sifers, 2012; Spencer, 2007; Askew, 2006; Parra et al, 2002). As illustrated, parent support of the mentoring relationship, mentor training satisfaction, and MSE are hypothesized antecedents of MRQ. Specifically, MSE, a proximal determinant of the mentoring relationship, may mediate the association between distal environmental supports (i.e., parent support of the mentoring relationship and mentor training satisfaction) and MRQ including global and engagement outcomes.
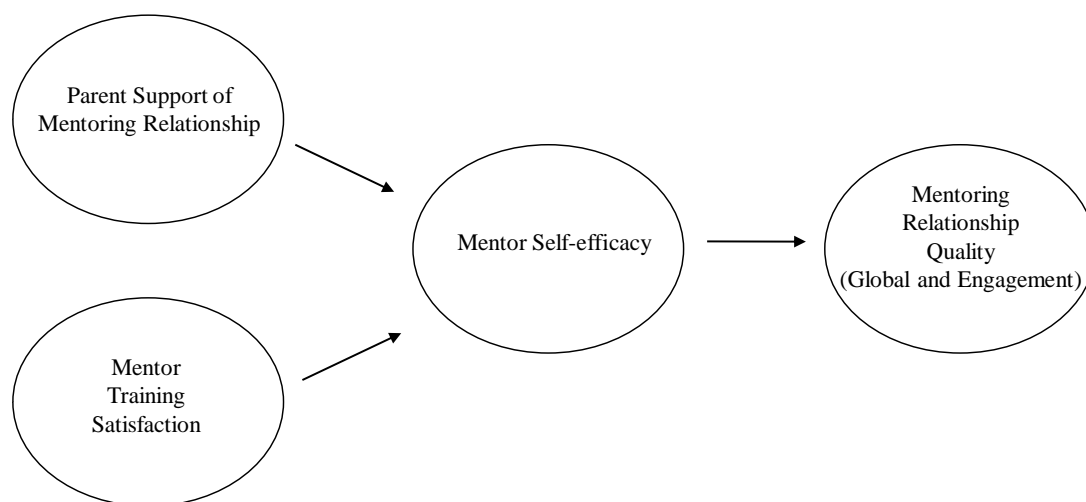
Figure 2.4. Conceptual model hypothesizing mentor self-efficacy mediating the association between distal environmental supports (i.e., parent support of the mentoring relationship and mentor training satisfaction) and mentoring relationship quality including global and engagement outcomes.

There are several strengths of the conceptual model that are worth noting. First, it includes multiple environmental levels of influence that encompass both distal and proximal factors that are hypothesized to be associated with MRQ. Second, it highlights a hypothesized mediating mechanism, MSE, between distal environmental supports and MRQ which contributes novel information to the mentoring literature. Since the bond

between the mentor and child is the central focus of the mentoring relationship, it is reasonable to expect that mentor characteristics (i.e., MSE) are more proximally related to MRQ compared to the more distal environmental supports such as parent support of the mentoring relationship and mentor training satisfaction. Furthermore, mentors who feel more confident in their abilities to mentor a child (i.e., higher MSE) are anticipated to be involved in higher quality mentoring relationships. Finally, the conceptual model includes a comprehensive examination of MRQ that incorporates both global and engagement outcomes. Previous research in this area has often been limited to the examination of either individual global (e.g., closeness) characteristics between the mentor and child (Herrera, Grossman, Kauh, Feldman, McMaken, & Jucovy, 2007; Parra, et al., 2002).

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CHAPTER 3

Literature Review

Introduction

This chapter begins by reviewing the literature on the potential effectiveness of Big Brothers Big Sisters (BBBS) community mentoring relationships in promoting positive health, social, and academic outcomes in children. Next, mentoring relationship quality (MRQ) as a predictor of positive childhood outcomes is reviewed followed by an examination of the determinants of MRQ. Then, theory and research are provided supporting the conceptual model presented in the previous chapter and the hypothesis that the associations between distal environmental supports (i.e., parent support of the mentoring relationship and mentor training satisfaction) and MRQ are mediated by a more proximal antecedent, mentor self-efficacy (MSE). Finally, the limitations of previous MRQ studies and subsequent research opportunities are outlined.

Effectiveness of Big Brothers Big Sisters Community Mentoring Programs in Producing Positive Outcomes in Children

Overall, there is consistent evidence based on experimental and observational designs demonstrating that BBBS community mentoring relationships positively impact children's developmental outcomes. Children in BBBS community mentoring relationships tend to do better than non-mentored children in terms of improved mental health and social well-being (DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011; Eby, Allen, Evans, Ng, & DuBois, 2008; DeWit, Lipman, Manzano-Munguia, Bisanz, Graham, Offord, O'Neill, Pepler, & Shaver, 2007; Tierney, Grossman, & Resch, 1995). Additional research has shown that children in BBBS community mentoring relationships do better academically as well (Herrera, Grossman, Kauh, Feldman, McMaken, & Jucovy, 2007; Thompson & Kelly-Vance, 2001; Herrera, Sipe, & McClanahan, 2000; Tierney et al., 1995; Frecknall & Luks, 1992).

One of the most rigorous studies of BBBS community mentoring relationships was a randomized controlled trial involving 959 children participating in 8 BBBS programs across the United States (Tierney, et al., 1995). Various child outcomes (i.e., antisocial activities, academic performance, family relationships, peer relationships, self-concept, social and cultural enrichment) in children aged 10 to 16 years old randomly assigned to participate in BBBS community mentoring programs (i.e., treatment group) were compared to those assigned to a waiting list to receive a BBBS mentor (i.e., control group). Data were collected from children at baseline and at 18 months follow-up. Matched children were less likely to initiate drug use (β=-0.46, p<0.05), less likely to initiate alcohol use (β=-0.27, p<0.10), less likely to hit someone (β=-0.32, p<0.05), and less likely to skip school (β=-0.51, p<0.05) compared to unmatched children after adjusting for child characteristics and child home environment at baseline.

DuBois and colleagues (2011) conducted a rigorous meta-analysis of 73 independent empirical studies of mentoring programs, including both BBBS community mentoring programs and other adult-to-child mentoring programs. Mentoring programs were associated with positive effects on children including attitudinal/motivational, social/relational, psychological/emotional, conduct problems, academic well-being, and physical health. However, small-to-moderate effect sizes were noted. Nonetheless, program effects were found to be significantly enhanced when program practices were implemented including mentor-youth matching based on common interests. Modest effect sizes were also noted in a previous meta-analysis of mentoring programs (including BBBS programs) for children's outcomes including emotional/psychological, problem/high risk behavior, social competence, academic/educational and career/employment (DuBois, Holloway, Valentine, & Cooper, 2002). These program effects were also found to be significantly enhanced when a larger number of both theory- and empirically-based practices were utilized (e.g., mentor training) and when 'strong' relationships (e.g., relationship longevity, frequent contact) were formed between mentors and children. Another meta-analysis conducted by Eby and colleagues (2008) also reported statistically significant favorable outcomes for matched children (including BBBS community mentoring program participants) with respect to their behavior, attitude, and interpersonal relations. Again, effect sizes were found to be small.

Although several smaller scale studies on BBBS community mentoring relationships have yielded similar results to those conducted by Tierney, Dubois, Eby and colleagues (see Appendix A, Table A.1.) (DeWit, et al., 2007; Thompson & Kelly-Vance, 2001; Achille, Lachance, & Saintonge, 1998; Turner & Scherman, 1996; Nelson & Valliant, 1993; Frecknall & Luks, 1992), there are a few exceptions worth noting. One study reported no differences on self-competence, academic performance, behavioral problems, and parent-child relationships among boys participating in BBBS community mentoring relationships and boys on a waiting list to receive BBBS mentors (Abbott, Meredith, Self-Kelly, & Davis, 1997). Similarly, another study on BBBS community mentoring relationships among African-American children found no significant differences between matched and unmatched waiting list control children on five outcomes: self-esteem, attitudes about drugs and alcohol, grade point average, school absences, and disciplinary infractions (Royse, 1998).

A common feature among all of the studies in Appendix A is the lack of investigation into the *quality* of the mentoring relationship and how it may be associated with children's health and well-being. Mentoring relationship quality (MRQ) is important to understand because is it believed to lie at the core of the mentoring relationship (Rhodes, Spencer, Keller, Liang, & Noam, 2006; Rhodes, 2005). As a result, it may directly determine the extent to which children involved in mentoring relationships experience positive changes in their health and well-being. It is reasonable to expect that higher quality mentoring relationships are likely to lead to better health outcomes in children. Therefore, it is paramount to elucidate factors associated with MRQ as a means to further contribute to the health and social well-being of children participating in BBBS community mentoring programs.

Mentoring Relationship Quality as a Predictor of Positive Outcomes in Children: Theoretical Support

Rhodes proposed a model of the mentoring relationship that illustrated beneficial health outcomes in children are realized by the extent to which the mentor and child form a high quality mentoring relationship (Figure 3.1) (Rhodes, et al., 2006; Rhodes, 2005).

According to this model, the dynamic through which mentoring relationships promote positive developmental outcomes in children is through a relationship of high quality that is built on mutuality, trust, and empathy between the mentor and child. Mentoring relationships can promote positive outcomes for children through three main processes including social-emotional, cognitive, and identity development. Mentors whose influence extends into more than one of these avenues are assumed to have the greatest impact on child health outcomes.
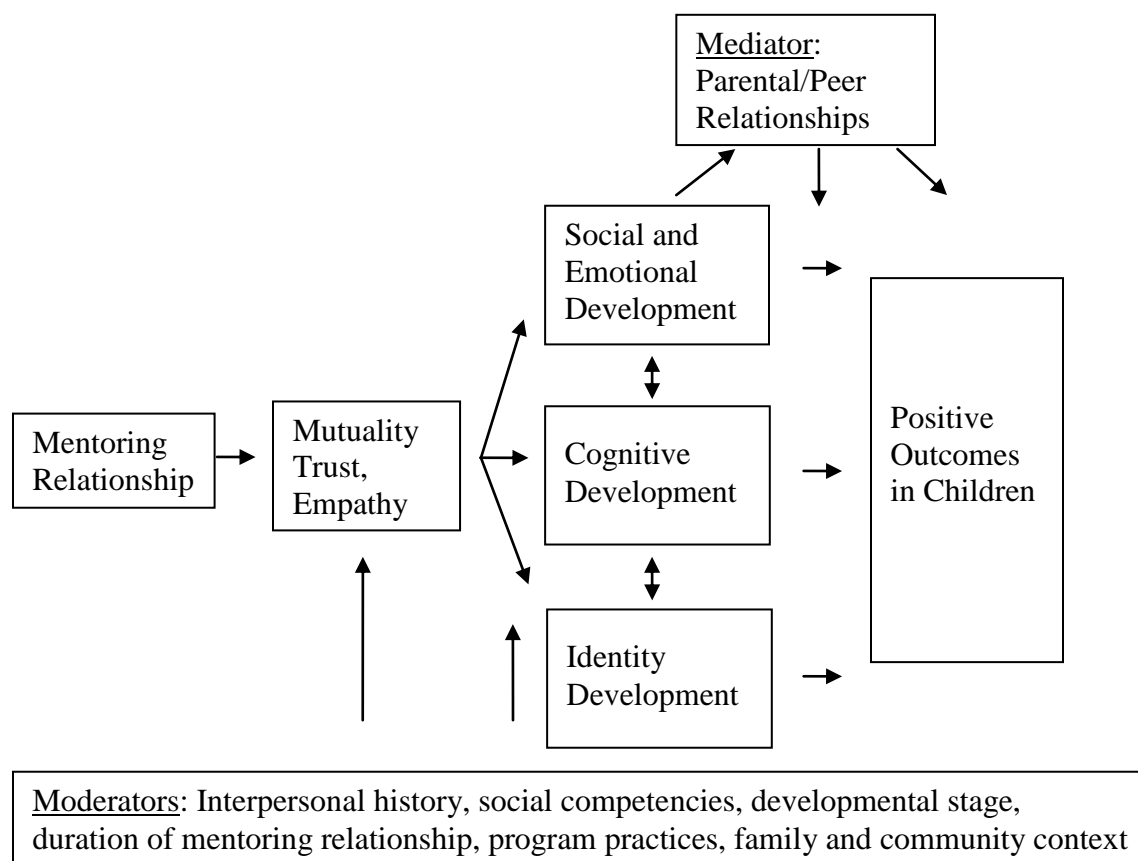
Figure 3.1 Model of youth mentoring (Rhodes, 2005).

The most fundamental assumption underlying Rhodes's model is that the beneficial effects of the mentoring relationship are influenced by the extent to which the mentor and child form a good quality mentoring relationship. As depicted in the model, social-emotional, cognitive, and identity processes are assumed to exist as bi-directional pathways (Rhodes, 2005). For example, cognitive development can enhance children's

abilities to recognize and regulate complicated emotions (Rhodes, 2005). In addition, the model assumes that the strength of trust, empathy, and mutuality (i.e., MRQ) within the mentoring relationship and the pathways linking exposures to outcomes are modified by a wide range of individual, family, and contextual influences, including child's interpersonal history, social competencies, developmental stage, mentoring relationship duration, mentoring program practices, and family context (Rhodes, 2005). Overall, it is important to note that for the social-emotional, cognitive, and identity processes, MRQ is a necessary component in the model pathways.

Next, the three main processes that contribute to positive outcomes in children participating in community mentoring relationships are discussed:

Social and Emotional Development – One primary pathway of the mentoring relationship on positive child outcomes may be through the intermediate improvements in children's social and emotional development that result from good quality mentoring relationships (Rhodes, et al., 2006; Rhodes, 2005). For example, a mentor can model pro-social behavior and positively impact a child's developing social skills (Rhodes, 2005; Denham & Kochanoff, 2002). Furthermore, mentors can challenge negative views children may hold of relationships with other adults (i.e., parents or teachers) and reveal that positive relationships are possible (Rhodes, 2005; Olds, Kitzman, Cole, & Robinson, 1997).

Cognitive Development – A second primary pathway of the mentoring relationship on positive child outcomes may occur via improvements in children's cognitive development that result from a good quality mentoring relationship (Rhodes, et al., 2006; Rhodes, 2005). Positive social interaction has been shown to facilitate cognitive development in children (Rhodes, 2005). For example, cognitive development can occur beyond the independent developmental scope of the child when a mentor teaches the child a skill (Rhodes, 2005).

Identity Development – The final primary pathway of the mentoring relationship on positive child outcomes may occur through the intermediate improvements in children's identity development that result from a good quality mentoring relationship (Rhodes, et al., 2006; Rhodes, 2005). As children identify with their mentors and begin to view them as role models, early internalizations may change and cause a shift in their

sense of identity (Rhodes, 2005). For example, a good quality mentoring relationship can improve a child's self-concept or self-esteem by challenging negative views that he or she may hold of oneself (Rhodes, 2005).

Previous research has provided support for the key assumptions underlying the model developed by Rhodes (Goldner & Mayseless, 2009; Herrera, et al., 2007; Parra, DuBois, Neville, Pugh-Lilly, & Poveinelli, 2002; Herrera, et al., 2000). For example, after investigating 600 mentoring relationships, Herrera and colleagues (2000) suggested that at the core of the mentoring relationship is the "bond that forms between the youth and mentor. If a bond does not form, then youth and mentors may disengage from the mentoring relationship before it lasts long enough to have a positive impact on the youth" (p. 28). Relative to all the other variables examined in the Herrera et al. (2002) study, the extent to which mentoring participants engaged in social activities was the strongest factor associated with the highest levels of MRQ (i.e., closeness and supportiveness) between children and mentors. Furthermore, Parra et al. (2002) found that the perceived benefits of mentoring relationships (e.g., children's self-concept, confidence) were mediated by MRQ between the mentor and child (operationalized as mentoring relationship closeness) as opposed to being directly linked with other variables, including the amount of contact between the mentor and child.

Mentoring Relationship Quality as a Predictor of Positive Outcomes in Children: Empirical Evidence

A growing number of studies on BBBS community- and school-based programs have consistently shown that MRQ is associated with a variety of health outcomes in children, including academic and psychosocial outcomes (Herrera, et al., 2007, 2000; Rhodes, et al., 2005; DuBois, Neville, Parra, & Pugh-Lilly, 2002; DuBois & Neville, 1997; Morrow & Styles, 1995). Other non-BBBS adult-to-child mentoring relationship studies have also demonstrated similar results (Cavell, Elledge, Malcolm, Faith, & Hughes, 2009; Goldner & Mayseless, 2009; Zand, Thompson, Cervantes, Espiritu, Klagholz, LaBlanc, & Taylor, 2009; Cavell & Hughes, 2000). Rhodes and colleagues (2005) explored predictors of "successful" mentoring relationships (operationalized by

MRQ) on children's scholastic competence and school value. The sample was drawn from a previous evaluation of BBBS community mentoring programs that included child data collected at baseline (i.e., prior to participant knowledge of group assignment) and 18-months follow-up (Tierney, et al., 1995). Hierarchical multiple regression analyses examined the contributions of four MRQ scales on scholastic competence and school value: 1) "not dissatisfied" (3 item scale reflecting the youth's global sense of satisfaction with the mentor); 2) "helped to cope" (3 item scale reflecting how well the mentor helped the youth deal with problems); 3) "not unhappy" (6 item scale reflecting the absence of specific negative emotions, such as feeling mad, ignored, betrayed, bored, and disappointed when the youth was with the mentor); and, 4) "trust not broken" (6 item scale reflecting relationship patterns and mentor trustworthiness). Results suggested that "trust not broken" predicted scholastic competence ($\beta=0.18$, $p<0.01$) and "not unhappy" predicted school value ($\beta=0.16$, $p<0.05$).

In a study of BBBS in-school mentoring programs, Herrera and colleagues (2007) examined the impact of MRQ (operationalized by mentoring relationship closeness) on children's academic achievement and school attendance. The study sample included 1,139 children aged 9 to 16 years from 10 BBBS agencies who were randomly assigned to be matched to a BBBS school mentor (i.e., treatment group) or waiting list (i.e., control group). Intent-to-treat analyses[4] suggested that children in very high quality mentoring relationships showed greater improvements in quality of class work ($\beta=0.18$, $p<0.01$) and reduction in truancy ($\beta=-0.12$, $p<0.01$) compared to unmatched children (Herrera, et al., 2007). Furthermore, children in very high quality mentoring relationships were reported to have experienced stronger impacts in quality of class work ($\beta=0.12$; $p<0.10$) and reduction in truancy ($\beta=-0.04$, $p<0.10$) compared to children in lower quality mentoring relationships. Comparable findings were also reported by Herrera et al. (2000) in an earlier study examining MRQ and children's academic outcomes.

With respect to the association between MRQ and children's psychosocial outcomes, Rhodes and colleagues (2005) examined the relationship between MRQ and children's self-esteem in BBBS community mentoring relationships. Hierarchical

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[4] Intent-to-treat analysis is based on the initial treatment intent and not necessarily the treatment eventually administered in a study. This type of analysis is employed to avoid the effects of crossover or drop-out which threatens the randomization of the treatment groups in a study.

multiple regression analyses examined the contributions of four MRQ scales (i.e., "not dissatisfied", "helped to cope", "not unhappy", and "trust not broken") on self-esteem (study mentioned previously). Results suggested that "helped to cope" ($\beta=-0.12$, $p<0.05$), "trust not broken" ($\beta=0.18$, $p<0.05$), and "not dissatisfied" ($\beta=0.18$, $p<0.05$) were found to predict self-esteem.

Similarly, Parra et al. (2002) tested the association between MRQ (operationalized by mentoring relationship closeness) and child benefits (a composite measure of psychosocial items including self-concept and self-confidence). The sample was 50 children aged 7 to 14 years matched to mentors from a BBBS agency. Bivariate correlations suggested that mentoring relationship closeness and benefits as perceived by the mentor were positively correlated at 12-months follow-up ($r=0.56$, $p<0.001$). Likewise, mentoring relationship closeness and child benefits as perceived by the child were positively correlated at 12-months follow-up ($r=0.29$, $p<0.05$). Dubois and Neville (1997) also reported a positive association between mentoring relationship closeness and child benefits ($r=0.66$, $p<0.001$). While both of these studies suggest a positive association between mentoring relationship closeness and child benefits, bivariate correlations were not adjusted for potential confounding effects.

Zand and colleagues (2009) conducted a multi-site evaluation of "Project: Youth Connect", a community-based mentoring program focused on preventing, reducing, and delaying substance use among at-risk children. Although not a BBBS community mentoring program, the authors examined the association between MRQ (operationalized by child-mentor attachment) and school bonding and life skills. Only data from children who had one mentor from the onset of program services and had completed all follow-ups post-baseline were included in the study. The final sample was 219 children aged 9 to 16 years. Hierarchical regression analyses demonstrated similar results of those demonstrated by Parra et al. and Dubois and Neville (Parra et al., 202; DuBois & Neville, 1997). Specifically, MRQ positively predicted life skills (e.g., peer resistance skills) ($\beta=0.33$, $p<0.001$) after controlling for child gender, age, baseline scores, and mentoring hours among children involved in mentoring relationships for eight months.

Environmental Supports as Distal Antecedents of Mentoring Relationship Quality

A substantial amount of theory suggests that environmental supports, specifically, parent and caseworker support of the mentoring relationship, and mentor training satisfaction are positively associated with MRQ (Keller, 2005; Nakkula & Harris, 2005; Rhodes, 2005, 2002; Freedman, 1992; Hamilton & Hamilton, 1992). However, research investigating the associations between environmental supports and MRQ is scarce. This next section reviews this literature.

Parent Support of the Mentoring Relationship

Theoretical reasoning suggests that parent support of the mentoring relationship is positively associated with MRQ (Rhodes, et al., 2006; Keller, 2005; Nakkula & Harris, 2005; Rhodes, 2002). For example, Keller (2005) suggests there are several ways in which parents can influence MRQ between the mentor and child. Parents are often the driving force behind children's involvement in BBBS mentoring relationships and they have the authority to consent or refuse child participation. The mentoring relationship is unlikely to develop into a high quality relationship if the child's parent does little to facilitate its development. For example, parents need to provide opportunities for their child and mentor to regularly meet in order for the mentoring relationship to flourish. Additionally, parental support and appreciation of the mentor may positively influence the self-confidence of the mentor (i.e., MSE) which may in turn influence the development of a high quality relationship between the mentor and the child.

Research on the association between parent support and MRQ is lacking possibly due to the primary focus on the child and mentor dyad rather than other proximal and distal influences. One exception is a qualitative study that examined BBBS community mentoring relationship failures (operationalized as mentoring relationship termination within 12 months) and collected data from 21 mentors including information on "family interference" (Spencer, 2007). The premature termination of the mentoring relationship implied that the relationships were of low quality. In-depth semi-structured interviews were conducted and an inductive approach to data analysis was used to create salient themes. "Family interference" was one such theme found in the data. Some mentors

stated that parents negatively impacted the mentoring relationship by not passing along telephone messages from the mentor to the child. In a few occasions, the children of these parents decided to end the mentoring relationship because they were feeling "less connected" with their mentors. These findings suggest that a lack of parent support of the mentoring relationship can negatively impact MRQ.

Caseworker Support of the Mentoring Relationship

Since the central mission of a caseworker is to promote the development of high quality mentoring relationships between mentors and children, it is reasonable to expect that caseworker support is associated with MRQ. Caseworkers are formally educated in areas such as social work, child and youth work, family studies, and education (Big Brothers Big Sisters, 2007). Due to their high level of skill in areas complementary to mentoring, caseworkers may influence MRQ in several ways. For example, Keller (2005) suggests that the caseworker may provide guidance on how to address sensitive issues in the child's life (e.g., engagement in risky behavior) and share information about the child's developmental capacity. As well, the caseworker may provide guidance on what might be realistically expected in terms of how the child will respond to the mentoring relationship. This kind of information may improve the mentors' confidence (i.e., MSE) in their abilities to engage with their matched child.

A paucity of research exists examining the association between caseworker support and MRQ. Again, the lack of research in this area may be due to previous mentoring relationship research solely focusing on mentors and children. With respect to empirical evidence, Herrera et al. (2007) examined the association between caseworker support and MRQ within the context of BBBS school-based programs. Results suggested that helpfulness of BBBS caseworkers was positively correlated with mentoring relationship closeness as perceived by the mentor (r=0.14, p<0.001). Furthermore, mentors who reported adequate caseworker support reported higher levels of mentoring relationship closeness with their matched child at first and second follow-up (10 and 15 months, respectively). It is important to note that these findings are limited because the

observed positive relationship between caseworker support and MRQ was not adjusted for potential confounding variables.

The findings above are also congruent with previous research. Specifically, Herrera et al. (2000) found that caseworker support was positively associated with 'stronger relationship development' (as operationalized by mentoring relationship closeness). Similarly, in a qualitative study, Spencer (2007) found that inadequate caseworker support contributed to premature relationship termination (a proxy of low MRQ). Specifically, too much or too little support was reported as a challenge in the development of the mentoring relationship. For example, one mentor stated that she had experienced being in a physically unsafe situation and had wanted to discuss this issue with the program agency. Unfortunately, difficulties scheduling a meeting with the agency, child, and parent led to the dissolution of the mentoring relationship as reported by the mentor. In contrast, another mentor reported that an overly involved caseworker led to premature mentoring relationship termination. For example, a caseworker was often found to mediate communications between the mentor and child and the resulting lack of direct communication within the dyad became problematic for the mentoring relationship (as reported by the mentor).

Mentor Training Satisfaction

While there is a lack of consensus in the literature with regard to the optimal amount, frequency, and duration of mentor training (DuBois, et al., 2002; Rhodes, 1994), there is agreement that mentors should be provided with some sort of training prior to the start of the mentoring relationship (Martin & Sifers, 2012; Sale, Bellamy, Springer, & Wang,, 2008; Askew, 2006; Grossman & Bulle, 2006; Cavell & Smith, 2005; Nakkula & Harris, 2005; Rhodes, 2005, 2002; Furano, et al., 1993; Freedman, 1992; Hamilton & Hamilton, 1992). Herrera et al. (2007) examined the association between mentor training satisfaction and MRQ within the context of a BBBS school-based program. Training provided to BBBS mentors helped orient them to program goals, expectations, and policies and procedures. Seventy-one percent of mentors reported that they had received training from BBBS. Of those mentors, 55% stated that they had received <30 minutes of

training, 31% received between 30-59 minutes of training, and 14% received ≥60 minutes of pre-match training. In addition, 68% reported that they received sufficient training while 27% neither agreed nor disagreed. Pre-match training was found to be positively correlated with mentoring relationship closeness as reported by mentors (r=0.17, p<0.001). Similarly, in an earlier study conducted by Herrera et al. (2000), it was found that mentor training satisfaction was positively associated with MRQ (as operationalized by mentoring relationship closeness) in both school-based and community-based BBBS programs.

Mentor Self-efficacy as a Proximal Determinant of Mentoring Relationship Quality

There has been little research on MSE. MSE is the mentor's overall level of knowledge and confidence to establish a connection with his or her matched child (Parra, et al., 2002). The challenging and highly individualized nature of mentoring relationships suggests that high levels of MSE should facilitate the development of high MRQ (Parra, et al., 2002). Furthermore, since the mentor-child dyad is the central focus of the mentoring relationship, the degree of mentor confidence and associated skills to establish a high quality mentoring relationship should be proximally related to MRQ. One study on BBBS community mentoring relationships examined the association between MSE and MRQ (as operationalized by mentoring relationship closeness) (Parra, et al., 2002). MSE exhibited a significant positive association with MRQ. Specifically, MSE was found to predict mentoring relationship closeness as perceived by the child (β=0.26, p<0.05). Martin and Sifers (2012) also demonstrated a positive association between mentor confidence, a characteristic of MSE, and mentoring relationship satisfaction (operationalized as having similar characteristics to MRQ including happiness) (β=0.26, p<0.05). These results suggest that mentors who are more confident and knowledgeable may cultivate closer bonds with their matched child.

Mentor Self-efficacy as a Mediating Mechanism between Environmental Determinants and Mentoring Relationship Quality

Further evidence, although sparse, suggests that MSE may mediate the positive association between distal environmental factors (i.e., parent support, caseworker support and mentor training) and MRQ. In particular, Parra et al. (2002) found that mentor training satisfaction positively predicted MSE ($\beta=0.31$, $p<0.05$). In turn, MSE positively predicted mentoring relationship closeness ($\beta=0.26$, $p<0.05$). These results corroborate that the effects of mentor training satisfaction on MRQ may be mediated by MSE. Mentor training may be an important predictor of MSE because it instills a sufficient level of confidence and skill in mentors to form high quality mentoring relationships with children (Parra, et al., 2002). However, methodological limitations, including the use of a relatively small sample size and a restrictive conceptualization of MRQ (i.e., solely mentoring relationship closeness), placed limitations on the study results and therefore prompts continued research in this area.

Other environmental supports, including parent and caseworker support of the mentoring relationship, have also been suggested to be important in promoting and sustaining high levels of MSE (Keller, 2005; Parra, et al., 2002; Herrera, et al., 2000). It is reasonable to expect that parent support of the mentoring relationship may be associated with MSE. Keller (2005) emphasizes the important role parents play in supporting the mentoring relationship and how they can provide encouragement to mentors. For example, parental appreciation towards the mentoring relationship can instill confidence in the mentor to develop a high quality mentoring relationship with his or her matched child. It is also reasonable to expect that caseworker support can instill confidence and skill in the mentor as a means to promote the development of high quality mentoring relationships similarly to other programmatic supports, such as mentor training satisfaction. Keller (2005) emphasizes the important role caseworkers play in the mentoring relationship and how they can provide guidance to mentors. For example, as noted above, the caseworker can suggest ideas on how the mentor can best interact with the child based on his or her developmental stage.

Limitations of Previous Research on Mentoring Relationship Quality

Previous research investigating the associations among environmental supports, MSE, and MRQ possesses methodological shortcomings that are worth noting. First, a restrictive conceptualization of MRQ exists in the literature. Previous research has often examined either mutual closeness or trust between the mentor and child. No study was found to comprehensively assess MRQ from theory and research guided by leading scholars on MRQ such as Rhodes. This thesis utilized a *global* measure of MRQ that consisted of closeness, trust, warmth, respect and happiness between the mentor and child as guided by Rhodes and colleagues. In addition, this thesis also utilized a measure of engagement MRQ that included supportive characteristics such as listening, accepting, and understanding between the mentor and child. As a result, a comprehensive examination of MRQ was captured that contributes novel information on MRQ to the mentoring literature.

Second, the majority of previous research on MRQ includes data from one type of informant (e.g., mentor or child). This provides a limited understanding of MRQ because different informants may have unique perceptions of the mentoring relationship. Keller's (2005) theory on the youth mentoring intervention also suggests that mentors, children, and parents play important roles in the mentoring relationship. As such, it is important to consider all of their perspectives when examining MRQ because they are all an integral part of the mentoring process. Taken together, this thesis provides a more comprehensive examination of MRQ as guided by mentoring theory including the perspectives of mentors, children, and parents.

Third, little research has been conducted that simultaneously examines multiple distal environmental supports (e.g., parent support of the mentoring relationship and mentor training satisfaction) and a proximal antecedent (e.g., MSE) on MRQ. Only one study was found to have examined the potential mediating effect of MSE on the association between one distal environmental support (i.e., mentor training satisfaction) and mentoring relationship closeness, one facet of MRQ (Parra, et al., 2002). However, this study possessed methodological limitations including the use of a relatively small sample of participants from one BBBS agency and a restrictive measure of MRQ (i.e., closeness) which placed limitations on the external validity of the study findings. This thesis expands the work of Parra and colleagues by including a large sample of BBBS

community mentoring program participants from across Canada and a more comprehensive examination of MRQ including global and engagement outcomes.

Conclusion

There is a substantial amount of empirical evidence suggesting the importance of BBBS community mentoring relationships as a contributing factor to improvements in the health of children, including mental health, social well-being, and academic competencies. In addition, a growing number of studies has shown that MRQ is a fundamental component of the mentoring relationship and is associated with a variety of positive outcomes in children, including academic and psychosocial outcomes. Due to the popularity of BBBS community mentoring programs and the relationship between MRQ and children's outcomes, it is paramount that researchers seek a better understanding of factors associated with MRQ.

Despite the considerable amount of theoretical support suggesting associations among environmental supports, MSE, and MRQ, a limited amount of empirical research has been conducted in this area. Specifically, a paucity of research exists examining the associations among environmental supports, specifically parent support of the mentoring relationship and mentor training satisfaction, MSE, and MRQ. Of the available research in this area, evidence appears to corroborate the hypothesized positive relationships between environmental supports, MSE, and MRQ. Furthermore, evidence supports the hypothesis that MSE acts to mediate the associations among distal environmental factors (i.e., parent support of the mentoring relationship and mentor training satisfaction) and MRQ.

Despite these findings, additional research is required to elucidate the potential mediating effect of MSE on the associations between distal environmental supports and MRQ. For example, a formal mediation analysis has not been previously conducted and it is yet to be understood whether MSE acts to partially or completely mediate the associations among distal environmental supports and MRQ. Research that fills these gaps in the literature will contribute novel information on community mentoring

relationships, and, more importantly, assist to enhance services provided to children participating in BBBS community mentoring programs.

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CHAPTER 4

Methodology

Data Source

Data were drawn from the 12- and 18-month follow-ups of a prospective cohort investigation of 997 families (i.e., children and parents) and 477 mentors from 20 Big Brothers Big Sisters (BBBS) programs across Canada (DeWit, Lipman, Bisanz, Da Costa, Graham, LaRose, Pepler, & Shaver, 2006). It is important to note that the follow-ups reflect the length of time families were accepted into the DeWit et al. study and *not* the length of time participants were involved in mentoring relationships. As such, the 12-month follow-up included mentors, children, and parents matched between one and 12 months in duration. Likewise, the 18-month follow-up included those matched between 7 and 18 months.

Study Design and Sample

This thesis is composed of three studies (Chapters 5 to 7). The first study (Chapter 5) included a cross-sectional examination of the factor structure, reliability, convergent validity, and reporter concordance of the *Global Mentoring Relationship Quality Scale* and the *Quality of Mentoring Relationship Engagement Scale* among 272 mentors, 491 children, and 554 parents in currently matched (i.e., on-going and re-matched) and terminated mentoring relationships from the 12-month follow-up. This study also included a longitudinal examination of the predictive validity of the scales among 170 mentors, 350 children, and 398 parents from the 12- and 18-month follow-ups. The second study (Chapter 6) included a cross-sectional examination of the factor structure, reliability, and convergent validity of the *Mentor Self-efficacy Scale* among 249 currently matched mentors from the 12-month follow-up. It also includes a longitudinal examination of the predictive validity of the scale among 151 currently matched mentor, child, and parent triads from the 12- and 18-month follow-ups. Finally, the third study

(Chapter 7) included a cross-sectional examination of the hypothesized mediation model among 249 currently matched mentor, child, and parent triads from the 12-month follow-up. Table 4.1 provides a list of the BBBS agencies included in the sample and the number of mentoring participants per BBBS agency.

Study Inclusion Criteria

The inclusion criteria for families (i.e., children and parents) to enter the study were: (1) child was a new admission (i.e., not enrolled in any BBBS service including waitlist programs within the last 12 months); (2) child was 6-17 years of age; and, (3) parent was child's primary legal guardian. For families with more than one eligible child, one was randomly selected to participate. The inclusion criterion for mentors to enter the study was that they were subsequently matched to a study child. For this research, families and mentors must have been involved in a mentoring relationship (i.e., continuously matched, subsequently terminated, and/or re-matched) during the 12-month follow-up. Figures 4.1 and 4.2 illustrate the study hierarchy for mentors and families, respectively.

Study Recruitment and Retention

Study participants (i.e., mentors, children, and parents) from 20 medium-to-large sized BBBS agencies across Canada were recruited by agency staff from May 2007 until the data for this thesis were drawn in July 2011. The BBBS agencies invited to participate were chosen based on their long history of operation, large caseloads, well defined policies and procedures, sufficient number of staff, and cultural diversity of clientele. Each BBBS agency received a pre-determined study quota of families based on their capacity and were provided with a $1,000 stipend to assist staff in processing interested study applicants. Families were invited to participate immediately after they passed the agency's qualifying assessment. Mentors were invited to participate immediately following a match to a study child. When recruiting families and mentors, BBBS staff followed a standardized script describing the study objectives, study questions, and

expectations surrounding the roles and responsibilities (e.g., time commitment) of study participants (Appendix B). Interested study applicants signed and dated the script and recorded their contact information authorizing a field interviewer to contact them for participation. As an incentive to recruit and retain participants, children received two movie passes upon the completion of each follow-up while parents and mentors each received a $5 Tim Hortons gift card. Field interviewers also called participants between each follow-up reminding them of their important role in the study. Thank you cards were also mailed along with brochures providing study updates. The contact information of at least one relative, friend, or work colleague was also asked of each participant in the event that they could not be reached for follow-up.

Due to heavy staff turnover in some BBBS agencies, fewer mentors were recruited compared to matched children and parents at the time the subset of data was drawn. Out of 477 mentors approached to participate in the study, 426 (89%) agreed to participate. Among non-participants, 31 (61%) agreed to provide basic demographic information (e.g., gender, age, marital status, education level, and ethnicity). A comparison between participating and non-participating mentors demonstrated non-significant differences between groups except on age. Participating mentors were more likely to be older compared to non-participants (t=2.57, p=0.011). A comparison between participating and non-participating matched children and parents was not possible because this information was not collected at baseline (i.e., parents and children were not matched to a mentor at baseline).

Of the mentors eligible to complete a follow-up, 70% completed a 12-month follow-up and 77% completed the 12- and 18-month follow-ups. A total of 1233 families were approached to participate in the study. Among those approached, 997 (81%) agreed to participate. Of the eligible families involved in either a currently matched or terminated mentoring relationship, 76% completed a 12-month follow-up and 69% completed the 12- and 18-month follow-ups.
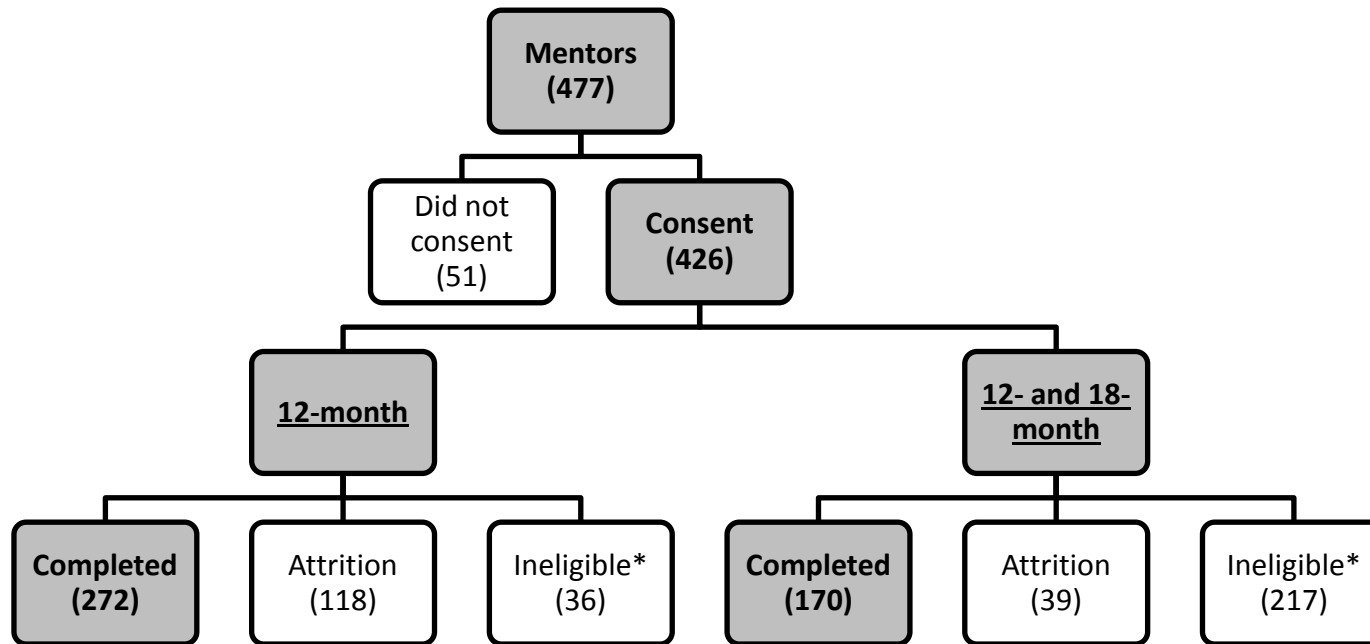
Figure 4.1. Study hierarchy of mentors in the 12-month follow-up and the 12- and 18-month follow-ups. *Mentors who were matched with a study family after the 12-month follow-up.
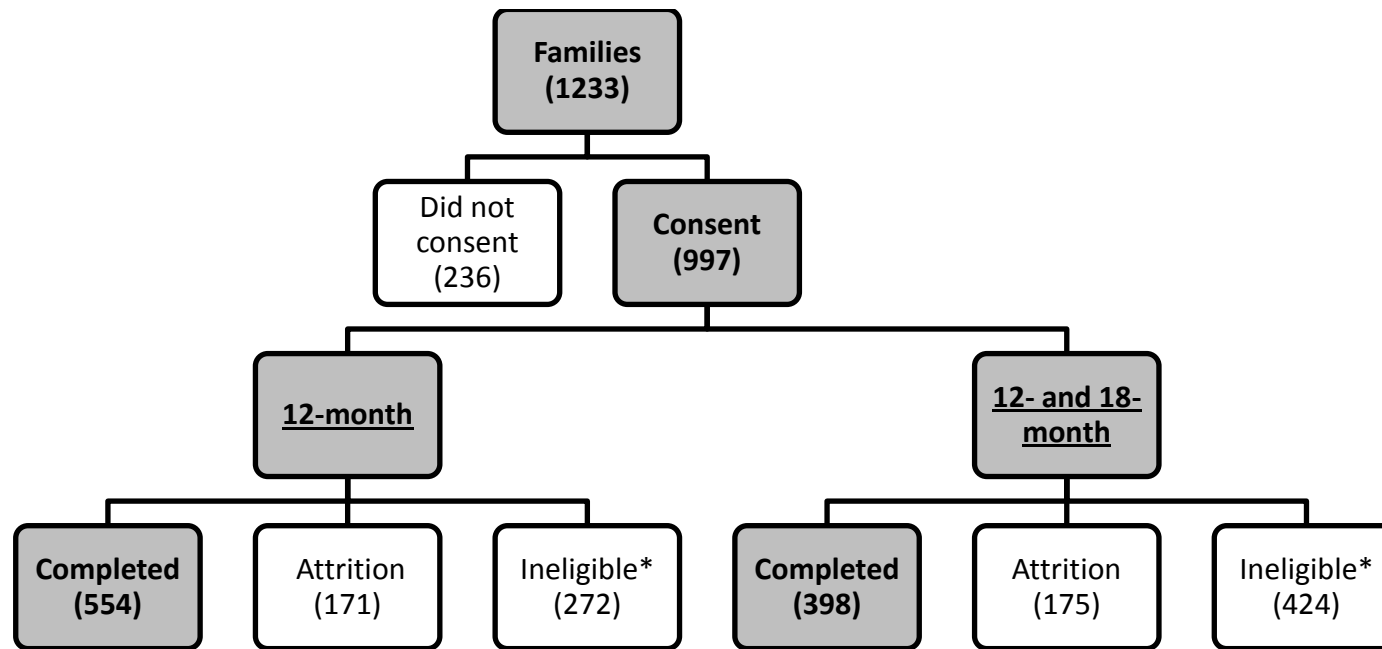
Figure 4.2. Study hierarchy of families in the 12-month follow-up and the 12- and 18-month follow-ups. *Families who were matched to a mentor after the 12-month follow-up.

Data Collection

In accordance with the study protocol, formal consent to participate (i.e., parent consent and child assent) in the study was obtained prior to the completion of the baseline assessment (Appendix C). Data collection occurred at a pre-arranged time in the privacy of the participant's home (or other preferred location). Parents and mentors completed self-administered questionnaires that took approximately 45 minutes to complete. Children completed an in-person interview which took approximately 120 minutes to complete. After the completion of the child's interview, research assistants met with his or her parent to address any difficulties encountered during the completion of the self-administered questionnaire. Similar procedures were followed for mentors. As a form of quality control, participants who recently completed a follow-up were randomly selected to be contacted by the research coordinator and asked to provide an overall impression of their home visit (e.g., clarity of instructions, interview pace).

Measures

Three questionnaires were developed by an expert panel specializing in mentoring relationships and child and family health as part of the *National Survey of the Big Brothers Big Sisters Community Mentoring Programs:* a) *Mentor 12-month Follow-up Questionnaire;* b) *Child 12-month Follow-up Interview*; and, c) *Parent 12-month Follow-up Questionnaire* (Appendix D) (DeWit, et al., 2006).[5] The 18-month follow-up questionnaires and interviews are identical to the 12-month follow-ups. Earlier versions of the questionnaires were evaluated in two separate pilot studies conducted at two Southwestern Ontario BBBS agencies and results were used to refine the questionnaires (e.g., simplification of wording and removal of some study questions) (DeWit, Lipman, Manzano-Munguia, Bisanz, Graham, Offord, O'Neill, Pepler, & Shaver, 2007). A list of the study constructs and their respective items are in Appendix E.

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[5] The measures contained in the questionnaires are copyrighted and should not be used for any purpose without the expressed written permission of the principal investigator, Dr. David DeWit.

Global Mentoring Relationship Quality

This construct was measured using the *Global Mentoring Relationship Quality Scale*, a five-item scale intended to capture the global traits of mentoring relationship quality (MRQ) between the mentor and child as reported by mentors, children, and parents. Global MRQ traits refer to the relational characteristics describing the 'bond' between the mentor and child in the BBBS mentoring relationship. Items are: "Would you say that [the mentoring relationship] is…a) A trusting relationship? b) A warm and affectionate relationship? c) A close relationship? d) A happy relationship? e) A respectful relationship?". This scale was scored using three response options: "not very true", "sometimes true", and "very true". Total scores range from zero to 15 with higher scores indicating greater levels of global MRQ. The measurement properties of the scale were evaluated among a sample of mentors, children, and parents involved in currently matched (i.e., continuously matched or re-matched mentoring relationships) and terminated BBBS mentoring relationships in Chapter 5. The measurement properties of the scale were also evaluated among the sample of currently matched mentor, child, and parent triads included in Chapters 6 and 7 (Appendix F).

Engagement Mentoring Relationship Quality

This construct was measured by the *Quality of Mentoring Relationship Engagement Scale*. This scale was designed to measure the action-oriented, supportive aspects of MRQ, meaning the engaging characteristics of the mentoring relationship, as reported by mentors and children. The mentor scale contained 12 items and the child scale contained 21 items. The mentor scale captured the mentor's perspective of the level of engagement sought out by the matched child and the child scale captured the child's perspective of the level of engagement of the mentor. Example items are: "Please tell me what you think about [the mentor or child]: c) Asks to do things with me; h) Shows an interest in the things [we] do together; j) Asks for [my] opinion…". This scale was scored using three response options: "not very true", "sometimes true", and "very true". Total scores for the mentor scale range from zero to 36 and total scores for the child scale

ranged from zero to 63 with higher scores indicating greater levels of engagement MRQ. The measurement properties of the scale were examined among a sample of mentors and children involved in currently matched BBBS mentoring relationships in Chapter 5. Data on this measure were not collected from parents or mentors and children in terminated mentoring relationships.

Mentor Self-efficacy

This construct was measured using the *Mentor Self-efficacy Scale*, an 11-item scale intended to capture the mentor's level of confidence in his/her knowledge and ability to provide support and guidance to a child in a BBBS community mentoring relationship. Participants were asked to rate their confidence as mentors in a number of areas, including, for example: giving advice on how to deal with a problem that is important to them; helping them achieve or set goals; and providing guidance around their future. This scale was scored using four response options: "not at all confident", "somewhat confident", "confident", and "very confident". Total scores range from zero to 33 with higher scores indicating greater levels of mentor self-efficacy (MSE). The scale's measurement properties were assessed among a sample of mentors exclusively involved in currently matched mentoring relationships in Chapter 5. Data on this measure were not collected from mentors in terminated mentoring relationships.

Parent Support of the Mentoring Relationship

This construct was measured using the *Parent Support of the Mentoring Relationship Scale*, a 6-item scale designed to measure the level of parent support of the mentoring relationship as reported by mentors. Example items are, "Would you say that [the parent]: a) Suggests activities that me and my [matched child] might do together; c) Offers me advice or help to make the match relationship work better; and e) Ensures that there is enough time for me and my [matched child] to meet". The scale was scored using five response options ranging from "strongly disagree" to "strongly agree". Total scores range from zero to 30 with higher scores indicating greater levels of parental support. The

measurement properties of the scale were evaluated among currently matched mentors included in Chapters 6 and 7 (Appendix G). Data on this scale were not collected from mentors in terminated mentoring relationships.

Mentor Training Satisfaction

This construct was measured using the *Mentor Training Satisfaction Scale*, a 13 item scale intended to capture mentors' satisfaction with training provided by BBBS agencies. Example items are, "Please indicate your level of satisfaction with your [BBBS] training/orientation in the following areas: …a) Clarity of rules and responsibilities as a [BBBS] volunteer; f) Effectiveness and competency of trainers/orientation leaders; and, i) Clarity of rules and responsibilities of the [BBBS] agency". This scale was scored using five response options ranging from "not at all satisfied" to "very satisfied". Total scores range from zero to 65 with higher scores indicating greater levels of satisfaction with mentor training. The scale's measurement properties were found to be satisfactory as examined among the sample of currently matched mentors as well as mentors in either current or terminated mentoring relationships (Appendix G).

Mentoring Relationship Characteristics

Mentoring relationship characteristics included mentoring relationship status (i.e., currently matched, re-matched, or terminated mentoring relationships) as reported by mentors, children, and parents; duration (i.e., # months in current mentoring relationship) as reported by mentors; and, frequency of contact between mentors and children (i.e., # hours per week in contact) as reported by mentors.

Participant Characteristics

Mentor characteristics included mentor age, gender, ethnicity, marital status, education level, and annual household income. Child characteristics included age, gender,

ethnicity, living arrangements, and conduct problems (i.e., temperament, obedience). Child conduct was measured as part of the *Strength and Difficulties Questionnaire* and has demonstrated satisfactory internal consistency reliability (α=0.63) (Goodman, 2001). Finally, parent characteristics included age, gender, marital status, education level, and annual household income.

Analysis

Data analyses were conducted using Statistical Package for the Social Sciences (SPSS 16, SPSS Inc., Chicago, IL) and M*Plus* 6.1 (M*Plus* Inc, Los Angeles, CA). SPSS was used to conduct preliminary analyses including the examination of the distributional properties of the constructs (i.e., outliers, non-normality, and multi-collinearity). To address the main thesis objectives, SPSS was used to conduct the principal component analyses (PCA), correlation matrices, zero-order and partial correlations, and multiple and logistic regression (described in detail under each objective). M*Plus* was used to conduct the confirmatory factor analyses (CFA), multiple group CFA, and structural equation modeling (SEM) (described in detail below under each objective). All hypothesis tests were two-sided with a type I error rate of α=0.05.

Nested Data

Due to the presence of nested data (i.e., participants nested within BBBS agencies), the intraclass correlation coefficients (ICCs) for the dependent constructs, specifically mentor, child, and parent reported MRQ outcomes and the hypothesized mediator, MSE, were calculated to determine if a multilevel approach would be required to examine the thesis objectives. The ICC formula is illustrated in Appendix H. There are differing views regarding when an ICC is small enough and therefore may not necessitate the need for multilevel analyses. Kreft and de Leeuw (1998) suggest that an ICC <0.1 may be safely ignored while other researchers such as Barcikowski (1981) note that even a small ICC may have substantial effects on significance tests especially when the sample within a cluster is large. Given these discrepancies, a formal test of the ICC was

conducted including the *F*-test formula to determine the statistical significance of the ICCs for the dependent variables (Appendix H). The ICCs did not suggest a significant clustering effect at the agency level within the sample (Table 4.2). As a result, multilevel analyses were not employed.

Missing Data

Missing data were handled using a combination of multiple imputation (MI) and full-information maximum likelihood (FIML) (Muthen & Muthen, 2010). MI was used on the analyses examined using SPSS. Five datasets were generated and parameter estimates and standard errors were pooled (i.e., averaged) over the set of analyses. A combination of MI and FIML were used on the analyses examined using M*Plus* (i.e., MI was used on the covariates and FIML was used on the constructs). Both MI and FIML were chosen because of their distinct advantages over other methods such as listwise or pairwise deletion. Listwise and pairwise deletion are not recommended in statistical analyses requiring large samples (e.g., SEM) due to the possibility of losing a large number of participants and therefore adversely affecting study power (Kline, 2005; Allison, 2003). Furthermore, case deletion methods may introduce bias due to the exclusion of participants that may differ from those who contributed complete data (Loelin, 2004). For analyses examined using SEM (including CFA), FIML was chosen to fill in values for missing data on the constructs because research has demonstrated that it produces less biased parameter estimates compared to other methods (Duncan, Duncan, & Li, 1998; Arbuckle, 1996). Overall, missing data were minimal with <5.0% for the covariates and ≤6.3% for the constructs. Specifically, the proportions of missing data for mentor and child characteristics and mentoring relationship characteristics were: mentor gender (0.0%) and age (2.6%), child age (0.2%) and conduct problems (3.7%), mentoring relationship duration (1.5%) and frequency of contact between mentors and children (4.0%). For the main constructs of interest, the proportions of missing data were: parent support of the mentoring relationship (3.6%), mentor training satisfaction (1.8%), MSE (4.0%), mentor reported global MRQ (3.3%) and engagement MRQ (3.6%), child

reported global MRQ (6.3%) and engagement MRQ (5.7%), and parent reported global MRQ (4.5%).

Power Calculation

The power calculation was estimated using a Monte Carlo simulation study (Muthen & Muthen, 2002), where data are generated from a population with hypothesized parameter values. A large number of samples are drawn and a model is estimated for each sample. Parameter estimates and standard errors are averaged over the samples. The Monte Carlo simulation study was based on the conceptual model (i.e., mediation model) and guided by previous research used to generate the hypothesized population values (Martin & Sifers, 2012; Askew, 2006; Karcher, Nakkula, & Harris, 2005; Parra, DuBois, Neville, & Pugh-Lilly, 2002). The Monte Carlo study was conducted under the assumptions of 10% missingness and non-normality of data. Based on a power of 80% to detect a medium effect (i.e., d=0.25) (Cohen, 1992), a sample size of 240 was required to examine the mediation model.

Objective One: Examine the Measurement Properties of the Scales used to Measure Global and Engagement MRQ (i.e., Global Mentoring Relationship Quality Scale and Quality of Mentoring Relationship Engagement Scale, respectively)

Dimensionality and Factor Structure

Principal component analysis (PCA) is an exploratory procedure used to examine the dimensionality of a measure and reduce the number of items so that only those accounting for a substantial amount of variance (e.g., ≥10%) are retained (Hatcher, 1994). Four main steps were employed to conduct the PCA as guided by Jolliffe (2002): (1) initial extraction of components; (2) determination of the number of retained components; (3) rotation to a final solution (if necessary); and, (4) interpretation of the rotated solution (if necessary). As part of the initial extraction of components, the

correlation matrix for each measure was examined and items were removed if they were significantly highly correlated ($r \geq 0.8$) with other items suggesting their redundancy. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity were also examined to assess whether the partial correlations among the items were small and whether the correlation matrix was an identity matrix (i.e., scalar matrix; values of "1" across the diagonal and values of "0" everywhere else), respectively. A KMO value ≤ 0.6 or a non-significant Barlett's test ($\alpha = 0.001$) indicated that a principal component model was inappropriate. Determining the number of components to retain was guided by empirical evidence and conceptual reasoning. With respect to empirical evidence, the Kaiser criterion (i.e., eigenvalue ≥ 1.0), scree test (i.e., number of components before the break in the scree plot), total variance accounted for by each component (i.e., $\geq 10\%$), and interpretability criteria (i.e., ≥ 3 items with significant loadings on each component) were utilized. Component loadings that were considered weak (i.e., ≤ 4.0) or items that cross-loaded onto multiple components were removed from subsequent analyses. Factor rotation was not found to be necessary (i.e., constructs demonstrated unidimensionality). Therefore, rotation was not employed.

Confirmatory factor analysis (CFA) was subsequently implemented to confirm if the factor structure conformed to what was found under PCA (Brown, 2006). The CFA models were analyzed using maximum likelihood estimation with robust standard errors (MLR) under the COMPLEX function in M*Plus* because the sample was nested within BBBS agencies and MLR produces estimates that are based on a corrected asymptotic covariance matrix that does not assume independence and normality (Muthen & Muthen 2010). Four standard steps of CFA model building were implemented: (1) identification (i.e., degrees of freedom >0); (2) estimation (i.e., standardized factor loadings, standard errors, 95% confidence intervals, residual variances, and R^2); (3) examination of model fit; and, (4) modification (i.e., re-specifying the CFA model to assess improved fit guided by the modification indices and tested using the χ^2 goodness-of-fit difference test), if necessary (Kline, 2005). The evaluation of CFA model fit included the examination of the normalized residual matrix and five fit indices (Kline, 2005). Values between -2 to +2 in the normalized residual matrix were considered to be small and therefore represented good model fit (Kline, 2005). The five fit indices and their respective cutoff values that

are recommended for good model fit are: (1) χ^2 (p>0.05); (2) comparative fit index (CFI) ≥0.90; (3) Tucker-Lewis index (TLI) ≥0.90; (4) root mean square error of approximation (RMSEA) ≤0.08; and, (5) standardized root mean square residual (SRMR) ≤.05 (Schumacker & Lomax, 2010). The inclusion of numerous fit indices provided a comprehensive examination of model fit by taking into account various aspects of fit including absolute fit, relative fit, noncentrality, parsimony, and residuals. A specification search ensued if the proposed CFA model did not show good fit in the sample data. Specifically, the parameter estimates, residuals, and modification indices were examined. Model re-specification was guided by theoretical considerations and not solely on the values of the modification indices (Brown, 2006).

Item and Scale Reliability

Based on the CFA results, the item reliabilities were assessed by examining the R^2, which indicates the percentage of variance in each item accounted for by its assigned factor (Brown, 2006). The scale reliabilities (i.e., internal consistencies) were examined using Cronbach's α and α ≥0.70 was considered desirable (Hatcher, 1994).

Internal Validity: Convergent and Predictive Validity

Convergent validity is the extent to which two or more scales that purport to be measuring similar constructs agree with one another (McDowell & Newell, 1996). Convergent validity was evaluated by examining the correlations between global and engagement MRQ. Good convergent validity was demonstrated if the correlations were at least moderate in magnitude (i.e. r≥0.40) (Kline, 2005).

Predictive validity is expressed in terms of a measure's ability to predict an outcome of interest (Last, 2001). Predictive validity was evaluated using logistic regression to examine the ability of the global and engagement MRQ scales at the 12-month follow-up to predict mentoring relationship status (coded as "0" for terminated and "1" for matched mentoring relationship) at the 18-month follow-up. Mentoring relationship status was chosen as the outcome based on guidance from previous

mentoring research. Specifically, Parra and colleagues (2002) demonstrated that mentor and child reported relationship closeness positively predicted relationship continuation (mentor report: $\beta=0.51$, $p<0.001$; child report: $\beta=0.29$, $p<0.05$). Predictive validity was initially demonstrated if the unadjusted odds ratio (OR) was statistically significant. Predictive validity was confirmed if the adjusted OR remained statistically significant after potential confounders were entered into the models. Based on guidance from the mentoring literature, the choice of potential confounding variables were MRQ, mentoring duration (Keller, 2005; Rhodes, 2005; Stukas & Tanti, 2005; Grossman & Rhodes, 2002; Parra, et al., 2002), mentor age and gender (Parra et al., 2002), child age (Grossman & Rhodes, 2002) and parent support of the mentoring relationship (Spencer, 2007; Keller, 2005) at 12 months.

External Validity: Examination of Measurement Invariance across Child Gender and Age Sub-groups

External validity of the scales was evaluated by employing multiple-group CFA (MGCFA) to examine the degree of measurement invariance across mentored children's gender and age. Measurement invariance was evaluated using three steps: (1) no measurement invariance (i.e., configural invariance); (2) measurement invariance of factor loadings (i.e., metric invariance); and, (3) measurement invariance of factor loadings and intercepts (i.e., scalar invariance) (Byrne, 2008). The χ^2 goodness-of-fit difference test (χ^2_D) was employed to examine if the χ^2 value significantly increased once constraints were imposed (Byrne, 2008). If the χ^2_D test was statistically significant, the previous MGCFA model was retained as the final model.

Reporter Concordance

Reporter concordance was examined by evaluating the intraclass correlation coefficient (ICC) among mentors, children, and parents. ICCs ≥ 0.70 demonstrated good concordance. When examining reporter concordance, the use of the ICC is the superior option because it is centered and scaled using a pooled mean and standard deviation

(Scheffe, 1959). The use of other correlation statistics such as the Pearson correlation coefficient can be misleading because there may be a strong correlation between two variables with poor concordance (McAlinden, Khadka, & Pseudovs, 2010).

Objective Two: Examine the Measurement Properties of the Scale used to Capture MSE (i.e., Mentor Self-efficacy Scale)

Dimensionality and Factor Structure

PCA and CFA were employed to explore the dimensionality and confirm the factor structure of the scale. Identical procedures were followed as described in Objective 1.

Item and Scale Reliability

Item reliabilities were assessed by examining the R^2 and the scale's internal consistency reliability was examined using Cronbach's α. Identical procedures were followed as described in Objective 1.

Convergent Validity

Convergent validity was first evaluated by assessing the unadjusted correlations between MSE and mentor, child, and parent reported global MRQ, as well as, MSE and mentor and child reported engagement MRQ using data from the 12-month follow-up. Convergent validity was initially demonstrated if the unadjusted correlations were statistically significant. Convergent validity was further evaluated by examining the partial correlations between MSE and global and engagement MRQ, respectively, after controlling for potentially important confounders. Guided by the mentoring literature, the choice of potential confounders included parent support of the mentoring relationship (Karcher et al, 2005; Keller, 2005), mentor training satisfaction (Askew, 2006; Keller, 2005; Parra et al., 2002), mentoring relationship duration and frequency of contact (Rhodes, et al., 2005), mentor gender and age (Parra et al., 2002), and child age and

conduct problems (Karcher, et al., 2005). Adequate convergent validity was demonstrated if the correlations remained statistically significant after adjusting for controls.

Predictive validity

Predictive validity was evaluated using logistic regression to examine if 12-month MSE predicted 18-month global MRQ. Due to heavy skewness, global MRQ was dichotomized as "low-to-moderate" (<12) and "high" (12-15). Linear regression was used to examine whether MSE at 12-months predicted engagement MRQ at 18-months. Predictive validity was initially demonstrated if the unadjusted regression models yielded MSE as a statistically significant predictor. Adequate predictive validity was demonstrated if the adjusted regression models demonstrated that MSE remained a significant predictor after adjusting for controls including MRQ, parent support of the mentoring relationship (Karcher, et al., 2005; Keller, 2005), mentor training satisfaction (Askew, 2006; Keller, 2005; Parra et al., 2002), mentoring relationship duration and frequency of contact (Rhodes, et al., 2005), mentor gender and age, and child age and conduct problems at 12-months (Karcher et al., 2005; Parra et al., 2002).

Objective Three: Examine the Extent to which MSE Mediates the Relationship between Environmental Supports, Specifically, Parent Support of the Mentoring Relationship and Mentor Training Satisfaction, and MRQ including Global and Engagement Outcomes

Structural Equation Modeling

SEM was used to conduct the mediation analysis. SEM involves the simultaneous estimation of a series of regression equations including both a measurement model (i.e., confirmatory factor analysis model) and a structural regression model (i.e., structural pathway) (Schumacker & Lomax, 2010). A distinct advantage of SEM over more traditional techniques (e.g., multiple or logistic regression) is that it removes the potentially biased effects of random and correlated measurement error (Schumacker, &

Lomax, 2010). In doing so, SEM provides a more accurate assessment of the structural pathways linking the constructs of interest (Schumacker, & Lomax, 2010).

SEM model building included four steps: (1) identification (i.e., degrees of freedom >0), (2) estimation (i.e., standardized factor loadings), (3) model fit (i.e., fit indices as described below), and (4) modification (i.e., re-specifying the model to assess improved fit as guided by modification indices), if necessary (Kline, 2005). The SEM models were analyzed using MLR due to the study sample being nested within BBBS agencies. In an effort to preserve statistical power, items loading onto the constructs were parceled (i.e., item couplets summed together) in order to reduce the number of parameters estimated in each SEM model (Kline, 2005). All SEM model pathways were adjusted for potential confounding variables as guided by the mentoring literature: mentoring relationship duration and frequency of contact (Martin & Sifers, 2012), mentor age and gender (Parra et al., 2002), and child age and conduct problems (e.g., temperament, obedience) (Karcher et al., 2005).

Mediation Analysis: Overview of Baron and Kenny Steps (1986)

The mediation analysis was guided by steps outlined by Baron and Kenny (1986). First, the independent variable (X) must cause the dependent variable (Y), as indicated by coefficient $\hat{c}$. The purpose of the first step is to establish that there is an effect to mediate. If the effect is not statistically significant, then the mediation analysis cannot be conducted.

$$Y = i_1 + cX + e_1$$

Second, the independent variable (X) must cause the mediator (M), evaluated by coefficient $\hat{a}$. The purpose of the second step is to establish that the independent variable is significantly related to the mediator.

$$M = i_2 + aX + e_2$$

Third, the mediator (M) must affect the dependent variable (Y) when the independent variable (X) is controlled, coefficient $\hat{b}$. The purpose of the third step is to establish a significant relationship between the mediator and the dependent variable.

$$Y = i_3 + c'X + bM + e_3$$

Partial mediation is supported if the association between the independent variable and dependent variable is larger when the mediator is not controlled compared to when it is controlled (i.e., $\hat{a}\hat{b} > 0$). Complete mediation is supported if the relationship between the independent variable and dependent variable reduces to zero after controlling for the mediator.

Mediation Analysis: Testing the Hypothesized Relationships in the Conceptual Model

As a preliminary step to conducting the mediation analysis, the unadjusted correlations between the constructs were examined. Specifically, the associations between environmental supports and MRQ; environmental supports and MSE; and, MSE and MRQ were examined. Statistically significant associations between the constructs suggested their retention in the subsequent mediation analysis.

Separate mediation analyses were conducted for both MRQ outcomes. Specifically, in the first step, MRQ was regressed onto environment supports (i.e., parent support of the mentoring relationship and mentor training satisfaction). In the second step, MSE was regressed onto environmental supports. In the third step, MRQ was regressed onto MSE controlling for environmental supports. Partial mediation was supported if the association between environmental supports and MRQ attenuated once controlling for MSE. Complete mediation was supported if the association between environmental supports and MRQ reduced to zero after controlling for MSE.

The χ^2 difference test was employed to compare the fit of the partial versus complete mediation models. Since the data were nested within BBBS agencies, the χ^2 difference test was adjusted by a correction factor (Muthen, & Muthen, 2010). In the

event that model fit significantly improved after including the direct pathway between environmental supports and MRQ, partial mediation was confirmed. If model fit did not significantly improve after the introduction of the direct pathway, complete mediation was confirmed.

The indirect effect (i.e., product of direct effects: $\hat{a}\hat{b}$) and total effect (i.e., sum of direct and indirect effects: $\hat{a}\hat{b} + \hat{c}'$) for the final mediation models were calculated as guided by MacKinnon (2008). Statistical significance of the mediated effect was tested by dividing both the indirect effect and total effect by their respective standard errors and comparing these results to the standard normal distribution as well as constructing 95% confidence intervals. The standard errors were calculated using the Sobel (1982) method (i.e., multivariate delta method).

Model fit of the final mediation models was examined using five fit indices: (1) χ^2 (p>0.05); (2) comparative fit index (CFI) $\geq$0.90; (3) Tucker-Lewis index (TLI) $\geq$0.90; (4) root mean square error of approximation (RMSEA) $\leq$0.08; and, (5) standardized root mean square residual (SRMR) $\leq$.05 (Schumacker & Lomax, 2010). The inclusion of multiple fit indices comprehensively examined model fit of the mediation models by taking into account various aspects of fit including absolute fit, relative fit and parsimony (Kline, 2005).

Ethical Considerations

Ethics approval was obtained from the Western University Research Ethics Board (Appendix I) and the Centre for Addiction and Mental Health Research Ethics Board (Appendix J).

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Table 4.1. The number of mentoring participants per Big Brothers Big Sisters agency.

BBBS Agency	Mentors[*] (n=272)	Children[*] (n=491)	Parents[*] (n=554)	# Triads[**] (n=249)
BB of Greater Vancouver	13	27	29	13
BS of British Columbia Lower Mainland	44	67	74	38
BBBS of Victoria	16	25	30	13
BBBS of Edmonton and Area	60	82	101	53
BBBS of Calgary and Area	14	43	48	13
BB of Regina	0	4	3	0
BS of Regina	7	10	11	6
BBBS of Saskatoon	7	11	15	7
BBBS of Winnipeg	3	6	9	3
BBBS of Guelph	6	11	11	6
BBBS of London	11	29	30	1
BBBS of Niagara Falls	14	19	21	14
BBBS of Ottawa	8	13	14	7
BBBS of Peel	6	8	8	6
BBBS of Toronto	5	36	37	5
BBBS of York	5	14	16	5
BBBS of Windsor Essex	10	13	17	10
BBBS of Greater Montreal	16	26	27	15
BBBS of Moncton	14	14	16	14
BBBS of Greater Halifax	13	33	37	10

BB, Big Brothers; BBBS, Big Brothers Big Sisters; BS, Big Sisters; [*]Participants involved in currently matched or terminated mentoring relationships; [**]Mentor, child, and parent triads involved exclusively in currently matched mentoring relationships.

Table 4.2 Intraclass correlation coefficients of the dependent constructs (n=272 mentors; n=491 children; and, n=554 parents).

Construct	ICC	F-Test
Global Mentoring Relationship Quality		
Mentor	0.012	1.26^{ns}
Child	0.001	1.02^{ns}
Parent	0.017	1.33^{ns}
Engagement Mentoring Relationship Quality		
Mentor	0.001	1.02^{ns}
Child	0.006	1.12^{ns}
Mentor Self-efficacy	0.002	1.02^{ns}

^{ns}Not significant at $p \geq 0.05$.

Chapter Five

The Measurement Properties of the *Global Mentoring Relationship Quality Scale* and *Quality of Mentoring Relationship Engagement Scale* among mentors, children, and parents participating in Big Brothers Big Sisters of Canada Programs[6]

Adult-to-child community mentoring programs such as Big Brothers Big Sisters (BBBS) have been shown to have positive effects on children's health and social well-being (for meta-analyses see DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011; Eby, Allen, Evans, Ng, & DuBois, 2008). At the crux of understanding how mentoring relationships work is the concept of mentoring relationship quality (MRQ). Research has pointed towards MRQ as being one of the fundamental components associated with positive child outcomes (Herrera, Grossman, Kauh, Feldman, McMaken, & Jucovy, 2007; Rhodes, 2005; Rhodes, Reddy, Roffman, & Grossman, 2005; Parra, DuBois, Neville, Pugh-Lilly, & Povinelli, 2002; Herrera, Sipe, & McClanahan, 2000; DuBois & Neville, 1997). MRQ has also been found to be associated with other variables including mentoring relationship status (i.e., matched versus terminated mentoring relationships) (Parra, et al., 2002).

Despite the fundamental importance of MRQ in understanding the efficacy of child mentoring programs, relatively little research has been conducted on the development and validation of its measurement. MRQ has commonly been operationalized as *closeness* between the mentor and child (Herrera, et al., 2007; Parra, et al., 2002; Herrera, et al., 2000). However, theory suggests that it involves multiple components including global (e.g., relational) (Nakkula & Harris, 2005) and engagement (e.g., action-oriented, supportive) traits. Some empirical work has examined a few global traits of MRQ (Cavell, Elledge, Malcolm, Faith, & Hughes, 2009; Zand, Thompson, Cervantes, Espiritu, Klagholz, LaBlanc, & Taylor, 2009; Karcher, Nakkula, & Harris, 2005; Rhodes, et al., 2005). However, there is a paucity of research that comprehensively

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[6] A version of this chapter was co-authored by Dr. David DeWit, Dr. Samantha Wells, Dr. Kathy Speechley, and Dr. Ellen Lipman. The primary author was Mrs. Annalise Ferro. This section is currently under review (Manuscript number: PREV780).

examines MRQ using multiple items measuring global and engagement traits from the perspective of mentors, children, and parents.

This manuscript reports the measurement properties of two new scales designed to encompass global and engagement traits of MRQ: *Global Mentoring Relationship Quality Scale* (G-MeRQS) and Quality of Mentoring Relationship Engagement Scale (QMRES) (DeWit, Lipman, Bisanz, Da Costa, Graham, LaRose, Pepler, & Shaver, 2006). In order to obtain a clear and unobstructed view of the relationship between MRQ and other mentoring variables, it is necessary to undertake a comprehensive examination of the psychometric properties of these scales. Moreover, the present research makes an important step towards improving the measurement of MRQ as a means to better understand the effectiveness of mentoring programs and, ultimately, enhance programs supporting children's development.

Background

Currently there are 11 measures of MRQ in the mentoring research literature (Harris & Nakkula, 2010, 2008; Elledge, Cavell, Ogle, & Newgent, 2010; Cavell, et al., 2009; Zand, et al., 2009; Sale, et al., 2008; Karcher, et al., 2005; Nakkula & Harris, 2005; Rhodes, et al., 2005; Public/Private Ventures, 2002; Cavell & Hughes, 2000). Appendix K provides a summary of these measures including information on their number of items, measurement properties (if available), and strengths and limitations. Perhaps the most noteworthy measures listed in this table are the *Mentoring Characteristics Questionnaire* (MCQ) (Harris & Nakkula, 2008) and *Youth Mentoring Survey* (YMS) (Harris & Nakkula, 2010) because they examine MRQ including global and engagement traits from mentors' and children's perspectives. The MCQ (version 2.22) is composed of 69 items designed for mentor self-report and includes three subscales: *Internal Quality* (e.g., compatibility), *Structure* (e.g., fun), and *External Quality* (e.g., program support). An earlier version of the MCQ (version 2.0, 62 items) demonstrated adequate internal consistency (α=0.70-0.88) and had a high overall scale reliability (α=0.94) based on data from 63 high school aged mentors (Karcher, et al., 2005). Evidence of predictive validity was also demonstrated, with mentee support-seeking found to be associated with

mentors' perception of MRQ 6 months later (β=0.43, p<0.001) (Karcher, et al., 2005). The YMS (version 1.23) is composed of 50 items designed for child self-reports and includes two subscales: *Internal Quality* (e.g., happy, close) and *Structure* (e.g., fun). The measurement properties have not been published, but preliminary information on the subscales' internal consistency reliabilities was made available on-line by the authors (α=0.61-0.84) (Harris & Nakkula, 2010).

An important strength of the MCQ and YMS is they include global and engagement traits of MRQ reported by mentors and children. However, there are also a few limitations worth noting. First, neither measure captures the parent's perspective of MRQ. Obtaining parent reported MRQ is informative because parents are an integral part of the mentoring process (Keller, 2005). They participate in the match determination interview, approve the BBBS agency's choice of mentor, and are in regular contact with the BBBS agency caseworker throughout the course of the mentoring relationship. Therefore, parents are in a strong position to provide insight into MRQ. Second, there is no published information on the measurement properties of the YMS and only published information on an older version of the MCQ. As such, the measurement properties of the current versions of the scales are unknown. Third, the examination of the measurement properties of the MCQ included a restricted sample. Specifically, the small sample was derived from one school-based mentoring program and included high school-aged mentors who were all Caucasian and predominantly female (79%). Therefore, it may not be possible to generalize the results to participants in community-based mentoring programs, such as BBBS, which include adult-aged male and female mentors from diverse ethnic backgrounds. As a result, the stability of the scales' measurement properties among participants in broader-based community mentoring programs is unknown. Fourth, neither scale has undergone rigorous testing of their respective factor structures and, therefore, the dimensionality and model fit of the scales are unknown. As such, it is unclear whether the items on these measures are strong indicators of MRQ. Finally, the scales have not been tested on children's sub-groups including gender and age. Therefore, it is unknown whether their measurement properties may be generalizable to these sub-groups. This information is important because some mentoring programs serve children of diverse ages and include gender specific programming. Therefore,

information on the validity of the scales across sub-groups has important practical implications.

Similar to the MCQ and YMS, the remaining nine measures of MRQ listed in Appendix K have limitations worth mentioning. Although information on reliability (i.e., internal consistency) is available for most measures, a rigorous examination of the scales' measurement properties including dimensionality, internal validity, and external validity is not provided. Specifically, no information is provided on their dimensionality, and just over half of the studies provided information on internal validity, and none provided information on external validity. Additionally, the measures do not clearly distinguish their items as representing traits of global and engagement MRQ. Arguably, these facets of MRQ are theoretically distinct and, therefore, warrant their separation. Overall, due to the absence of a measure capturing the parent's perspective of MRQ, the lack of distinction between global and engagement traits, and incomplete information on the measurement properties of the scales, new measures designed to examine global and engagement MRQ from multiple informants were developed.

Objectives

The aim of this study is to test the measurement properties of two new scales: *Global Mentoring Relationship Quality Scale* (G-MeRQS) and *Quality of Mentoring Relationship Engagement Scale* (QMRES) administered to adult mentors, children, and parents participating in a nation-wide study of BBBS community-based mentoring relationships (DeWit, et al., 2006). Using data from the study, five study objectives pertaining to the two scales were addressed: 1) Explore scale dimensionality and factor structure; 2) Examine scale reliability; 3) Examine their internal validity of the scales, including convergent and predictive validity; 4) Evaluate the external validity of the scales across child gender and age sub-groups; and, 5) Examine reporter (mentor, child, parent) concordance.

Methodology

Study Design and Sample

This study used 12- and 18-month follow-up data from a longitudinal investigation of BBBS community mentoring relationships across Canada (DeWit, et al., 2006). Participants were recruited from 20 BBBS agencies and a total of 491 children, 554 parents and 272 mentors completed the 12-month follow-up used in the present study. Furthermore, a total of 350 children, 398 parents, and 170 mentors completed both the 12- and 18-month follow-ups. Due to heavy staff turnover in some BBBS agencies, fewer mentors were recruited into the study compared to children and parents. The sample included parents and children involved in continuous, terminated, or re-matched mentoring relationships and mentors involved in continuous or re-matched mentoring relationships. A continuous mentoring relationship was operationalized as an uninterrupted relationship between a child and mentor throughout the study period (i.e., the child remained in a relationship with the same mentor). A terminated mentoring relationship was operationalized as a relationship between a child and mentor that dissolved during the study period (i.e., the relationship between the child and mentor dissolved and the child was not re-matched with another mentor). Finally, a re-matched mentoring relationship was operationalized as a terminated relationship in which a study child had been subsequently re-matched to a second (new) mentor (i.e., child had more than one mentoring relationship). It is important to note that while children in the sample could enter a mentoring relationship with a second mentor following the termination of their first mentoring relationship, mentors in terminated relationships were obliged to leave the study (i.e., they could not re-enter the study to form a new match). The sample, therefore, includes a unique set of mentors matched to children and their respective parents.

Study Procedures

In accordance with the DeWit et al. study protocol, formal consent to participate (i.e., parent consent and child assent) in the study was obtained prior to participation. Data collection occurred at a pre-arranged time in the privacy of the participants' homes

(or other preferred location). Data were collected from mentors and parents via self-administered questionnaires and from children via in-person interviews. Mentors completed their follow-ups in conjunction with their matched child and respective parent's follow-ups. The study was approved by the research ethics boards at Western University and the Centre for Addiction and Mental Health.

Missing data were handled using multiple imputation (MI) and full-information maximum likelihood (FIML) (Muthen & Muthen, 2010). MI was used for the principal component analyses, correlation analyses, and regression analyses and FIML was used for the confirmatory factor analyses. Both MI and FIML were chosen because of their distinct advantages over other methods such as case deletion including the preservation of data as a means to protect study power (Kline, 2005; Allison, 2003). Overall, missing data were minimal with <5.0% for the covariates and ≤6.3% for the constructs.

Measures

Due to the absence of measures that distinctly capture global and engagement MRQ and, assess parent support of the mentoring relationship, members of the national study research team experienced in the field of mentoring undertook a careful examination of the mentoring literature to develop measures intended to reflect the content of these constructs. Both the *Global Mentoring Relationship Quality Scale* (G-MeRQS) and the *Quality of Mentoring Relationship Engagement Scale* (QMRES) evaluated in the current study had been previously piloted-tested by the team in a randomized controlled trial of BBBS community match program effectiveness (De Wit et al., 2007).

Global Mentoring Relationship Quality Scale (G-MeRQS)

The G-MeRQS contains five items designed to measure the global traits of MRQ and was administered to mentors, children, and parents. Global traits refer to the relational characteristics describing the 'bond' between the mentor and child. Items included in the measure are: "Would you say that [the mentoring relationship] is a…a)

Trusting relationship? b) Warm relationship? c) Close relationship? d) Happy relationship? e) Respectful relationship?" This scale was scored using three response options: "not very true", "sometimes true", and "very true".

Quality of Mentoring Relationship Engagement Scale (QMRES)

The QMRES was designed to measure engagement MRQ which refers to the action-oriented, supportive characteristics of the mentoring relationship. The child scale contains 22 items and the mentor scale contains 13 items. Items include: "Please tell me what you think about [the mentor or child]: a) Asks to do things with me; b) Shows an interest in the things [we] do together; c) Asks for [my] opinion". The scale items capture mentor-child supportiveness because they include engaging interactions between mentors and children (i.e., asking to do things together, showing interest in shared activities, and asking for each other's opinions). This scale was scored using three response options: "not very true", "sometimes true", and "very true". Data were utilized from mentors and children in continuous or re-matched mentoring relationships.

Mentoring Relationship Status

This variable measured the status of the mentoring relationship at the 18 month follow-up and was constructed based on self-report data provided by mentors, children, and parents. Children in current match relationships at the 18 month follow-up were assigned a valued of "1". These included children in a first or second match relationship (i.e., continuous or re-matched relationships) at the 12 month follow-up and who were in the same relationship at the 18 month follow-up. Children in terminated mentoring relationships at the 18 month follow-up were assigned a value of "0". These included children in a first or second match relationship at the 12 month follow-up whose relationship had dissolved by the 18 month follow-up. The resulting binary variable was used as the outcome for the predictive validity analyses.

Mentoring Relationship Duration

Mentoring relationship duration was entered as a control variable in the predictive validity analyses and was measured based on mentor reports of the number of months spent in the mentoring relationship with the study child at the time of the 12-month follow-up.

Participant Demographics

Demographic controls included mentors' age and gender, and children's age in the predictive validity analyses. Children's gender was not controlled for in the analyses as it is highly correlated with mentors' gender ($r=0.91$, $p=0.01$). In the external validity analyses children's gender and age were used to define the demographic sub-groups. Children's age was dichotomized as 'younger' and 'older' sub-groups (i.e., 6-11 and 12-17 years). The groups were chosen based on previous research and reflect elementary and middle/high school children (Herrera, et al., 2007).

Parent Support of the Mentoring Relationship Scale

This scale contains 6 items designed to capture support of the mentoring relationship provided by the primary legal guardian of the mentored child. The following items were included in the measure, "Would you say that she/he: a) Suggests activities that me and my [matched child] might do together; b) Makes me feel welcome; c) Offers me advice or help to make the match relationship work better; d) provides words of encouragement to me as a [mentor], e) Ensures that there is enough time for me and my [matched child] to meet, and f) Respects and trusts my views on ways to improve my [matched child's] life". The scale was scored using five response options: "strongly disagree", "disagree", "neither agree nor disagree", "agree", and "strongly agree". Data were utilized from mentors in continuous and re-matched mentoring relationships. The scale's internal consistency reliability was good ($\alpha=0.80$). This variable was entered as a control in the predictive validity analyses.

Analysis

Objective 1: Explore their dimensionality and confirm their factor structure

PCA and CFA were employed using the same observations for both analyses to examine the dimensionality and factor structure of the scales. PCA provided an exploratory examination of scale dimensionality while CFA confirmed if the factor structure conformed to what was found under PCA with the inclusion of adequate model fit. Four steps were employed to conduct the PCA as guided by Jolliffe (2002): (1) initial extraction of components; (2) determination of the number of retained components; (3) rotation to a final solution (if necessary); and, (4) interpretation of the rotated solution (if necessary). As part of the initial extraction of components, the correlation matrices were examined and items were removed if they were significantly highly correlated ($r \geq 0.8$). The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity were also examined to assess whether the items correlations were small and whether the correlation matrix was an identity matrix (i.e., scalar matrix), respectively. Determining the number of components to retain was guided by empirical evidence and conceptual reasoning. With respect to empirical evidence, the Kaiser criterion (i.e., eigenvalue ≥ 1.0), scree test (i.e., number of components before break in scree plot), total variance accounted for by each component (i.e., $\geq 10\%$), and interpretability criteria (i.e., ≥ 3 items with significant loadings on each component) were utilized. Component loadings that were considered weak (i.e., ≤ 4.0) or items that cross-loaded onto multiple components were removed from subsequent analyses.

Four standard steps of CFA model building were implemented as guided by Kline (2005): (1) identification; (2) estimation; (3) examination of model fit; and, (4) modification (if necessary). The evaluation of CFA model fit included the examination of the normalized residual matrix and five fit indices. Values between -2 to +2 in the normalized residual matrix are considered to be small and therefore represent good model fit (Kline, 2005). The five fit indices and their respective cutoff values that are recommended for good model fit are: (1) χ^2 (p>0.05); (2) comparative fit index (CFI) ≥ 0.90; (3) Tucker-Lewis index (TLI) ≥ 0.90; (4) root mean square error of approximation

(RMSEA) ≤0.08; and, (5) standardized root mean square residual (SRMR) ≤.05 (Schumacker & Lomax, 2010). A specification search ensued if the proposed CFA model did not show good fit in the sample data including the review of parameter estimates, residuals, and modification indices. Model re-specification was guided by theoretical considerations and not solely on the values of the modification indices. The CFA models were analyzed using maximum likelihood estimation with robust standard errors (MLR) since the sample was nested within BBBS agencies and MLR produces estimates that are based on a corrected asymptotic covariance matrix that does not assume independence and normality (Muthen & Muthen, 2010).

Objective 2: Examine their reliability

Based on the CFA results, the item reliabilities were assessed by examining the R^2, which indicates the percentage of variance in each item accounted for by its assigned factor (Brown, 2006). The scale reliabilities (i.e., internal consistencies) were examined using Cronbach's α and an α ≥0.70 was considered desirable (Hatcher, 1994).

Objective 3: Examine their internal validity including convergent and predictive validity

Convergent validity was evaluated by examining the correlations between the global and engagement scales. Good convergent validity was demonstrated if the correlations were at least moderate in magnitude (i.e. r≥0.40) (Kline, 2005).

Predictive validity was evaluated using logistic regression to examine the ability of the scales at the 12-month follow-up to predict mentoring relationship status at the 18-month follow-up (coded as terminated=0 and matched=1). Predictive validity was initially demonstrated if the unadjusted odds ratio (OR) was statistically significant. Predictive validity was confirmed if the adjusted OR remained statistically significant after controls were entered into the models including mentoring relationship status and mentoring relationship duration, mentor age and gender, child age, and parent support of the mentoring relationship at 12 months.

Objective 4: Evaluate their external validity across children's gender and age sub-groups

External validity of the scales was evaluated by employing multiple group confirmatory factor analysis (MGCFA) to examine the degree of measurement invariance across mentored children's gender and age. Measurement invariance was evaluated using three steps: (1) no measurement invariance (i.e., configural invariance), (2) measurement invariance of factor loadings (i.e., metric invariance), and (3) measurement invariance of factor loadings and intercepts (i.e., scalar invariance) (Byrne, 2008). The χ^2 goodness-of-fit difference (χ^2_D) test was implemented to examine if the χ^2 value significantly increased as constraints were imposed (Byrne, 2008).

Objective 5: Examine reporter concordance

Reporter concordance was examined by evaluating the intraclass correlation coefficient (ICC) among mentors, children, and parents. ICCs ≥0.70 were deemed good concordance. The ICC is the superior option for examining reporter concordance because it is centered and scaled using a pooled mean and standard deviation (Scheffe, 1959). Furthermore, the use of other correlation statistics such as the Pearson correlation coefficient can be misleading when examining reporter concordance because there may be a strong correlation between two variables but with poor concordance (McAlinden, Khadka, & Pseudovs, 2010). This can occur because the Pearson correlation coefficient does not assess the nature of the relationship beyond its linearity (McAlinden, et al., 2010).

Results

Sample Characteristics

Descriptive characteristics of the participants are shown in Table 5.1. Mentors had a mean age of 30 years and a large percentage were female (64%). Children had a mean age of 11 years and over half were female (56%). Parents had a mean age of 41 years and the majority were female (93%). Table 5.2 summarizes the descriptive characteristics of the mentoring relationships. Of the mentoring relationships, the majority were 7 to 12 months in length (63%) and of the same mentor/child gender composition (95%). Seventy-nine percent of the relationships were continuous, 15% were terminated and 6% were re-matched.

Dimensionality and Factor Structure

Global Mentoring Relationship Quality Scale (Mentor)

When PCA was performed, one factor emerged (eigenvalue=2.82) and accounted for 61.6% of the variance. All items had moderate-to-strong factor loadings (0.54-0.86). A CFA was subsequently run with model fit initially found to be poor [χ^2=31.5(5), p<0.001; CFI=0.93; TLI=0.85; RMSEA=0.14, 90% CI (0.10, 0.19); SRMR=0.05] and a moderately sized normalized residual (1.7) noted between two items, "warm relationship" and "close relationship". Upon examining the modification indices, a substantial decrease in χ^2 was noted if the error terms of the two items were permitted to covary. The model was re-examined to include this modification and model fit significantly improved [χ^2_D=29.10(1), p<0.001; CFI=0.99; TLI=0.97; RMSEA=0.06, 90% CI (0.00, 0.13); SRMR=0.03] (Figure 5.1).
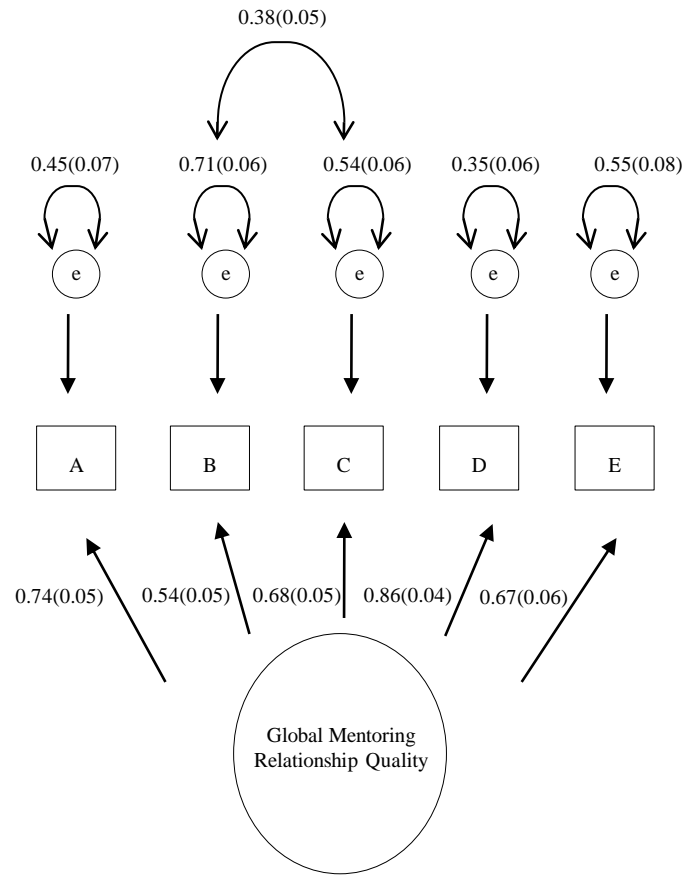
Figure 5.1. Confirmatory factor analysis model for the *Global Mentoring Relationship Quality Scale* (mentor report). A, trust; B, warm; C, close; D, happy; E, respect; e, error term; Standardized estimate (standard error); All parameters p<0.0001.

Global Mentoring Relationship Quality Scale (Child)

Under PCA, one factor emerged (eigenvalue=3.62) and accounted for 75.5% of the variance. All items had moderate-to-strong factor loadings (0.75-0.91). Next, a CFA was run and the model fit was good [χ^2=11.05(5), p=0.05; CFI=0.99; TLI=0.98; RMSEA=0.05, 90% CI (0.00, 0.09); SRMR=0.02] (Figure 5.2).
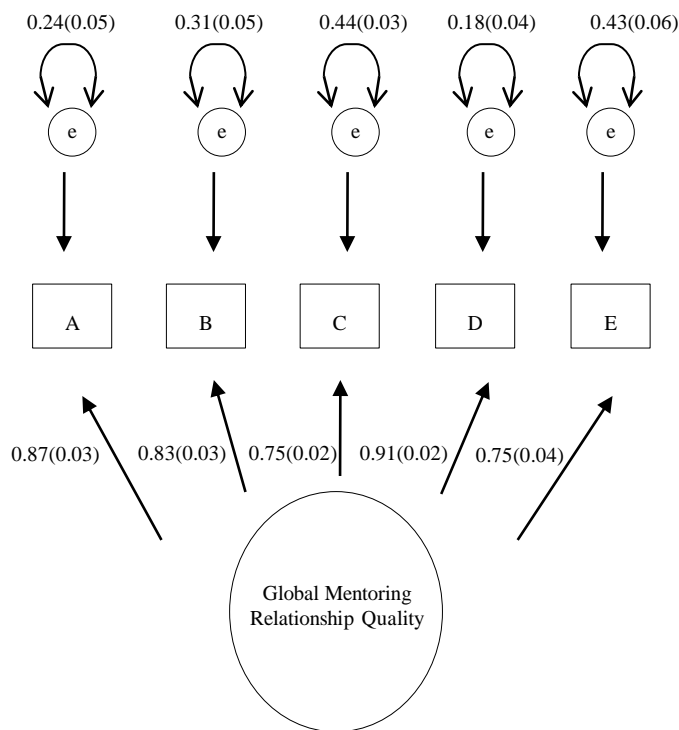
Figure 5.2. Confirmatory factor analysis model of the *Global Mentoring Relationship Quality Scale* (child report). A, trust; B, warm; C, close; D, happy; E, respect; e, error term; Standardized estimate (standard error); All parameters p<0.0001.

Global Mentoring Relationship Quality Scale (Parent)

Using PCA, one factor emerged (eigenvalue=3.90) and accounted for 78.1% of the variance. All items had strong factor loadings (0.94-0.97). A CFA was subsequently

run and model fit was fair [χ^2=44.68(5), p<0.01; CFI=0.96; TLI=0.93; RMSEA=0.09, 90% CI (0.08, 0.10); SRMR=0.01] (Figure 5.3).
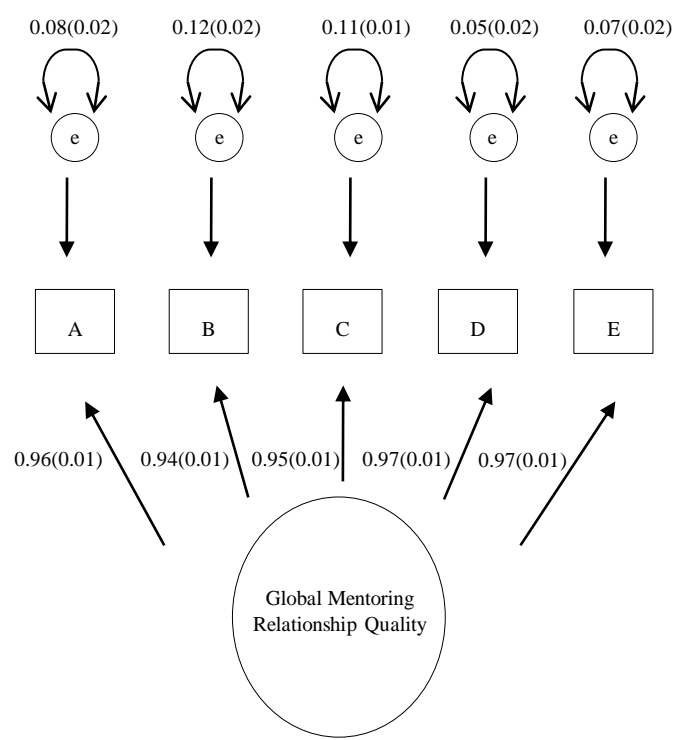
Figure 5.3. Confirmatory factor analysis model for the *Global Mentoring Relationship Quality Scale* (parent report). A, trust; B, warm; C, close; D, happy; E, respect; e, error term; Standardized estimate (standard error); All parameters p<0.0001.

Quality of Mentoring Relationship Engagement Scale (Mentor)

When PCA was performed, three factors emerged in the initial solution. However, factor one was the only factor to have an eigenvalue >1 (eigenvalue=4.88). It also explained a substantially greater amount of variance (38.3%) compared to subsequent factors (<10.0%) and the scree plot supported a unidimensional solution (i.e., break in plot after factor one). Furthermore, the items loading onto factor one were deemed to be cohesive based on conceptual grounds that they described support sought out by the child from the mentor (e.g., asks opinion, trusts advice). Therefore, a one factor solution was retained for further study. PCA was subsequently re-examined by extracting a one factor solution to evaluate which items had relatively large loadings ($\geq$0.40). All items were retained except one, "follows through on planned activities" (factor loading=0.38) which was removed from subsequent analyses. The factor loadings of the retained items were strong (0.40-0.68). A CFA was subsequently run on the 12 items. Model fit was initially poor [χ^2=214.76(54), p<0.0001; CFI=0.81; TLI=0.81; RMSEA=0.11, 90% CI (0.10, 0.13); SRMR=0.06] with a large residual (4.01) between the items, "enjoys time" and "happy". A substantial decrease in χ^2 was noted if the error terms between these two items were permitted to covary. The model was re-examined to include this modification and model fit significantly improved [χ^2_D=93.87(1), p<0.001; CFI=0.91; TLI=0.90; RMSEA=0.08, 90% CI (0.06, 0.09); SRMR=0.05] (Figure 5.4).
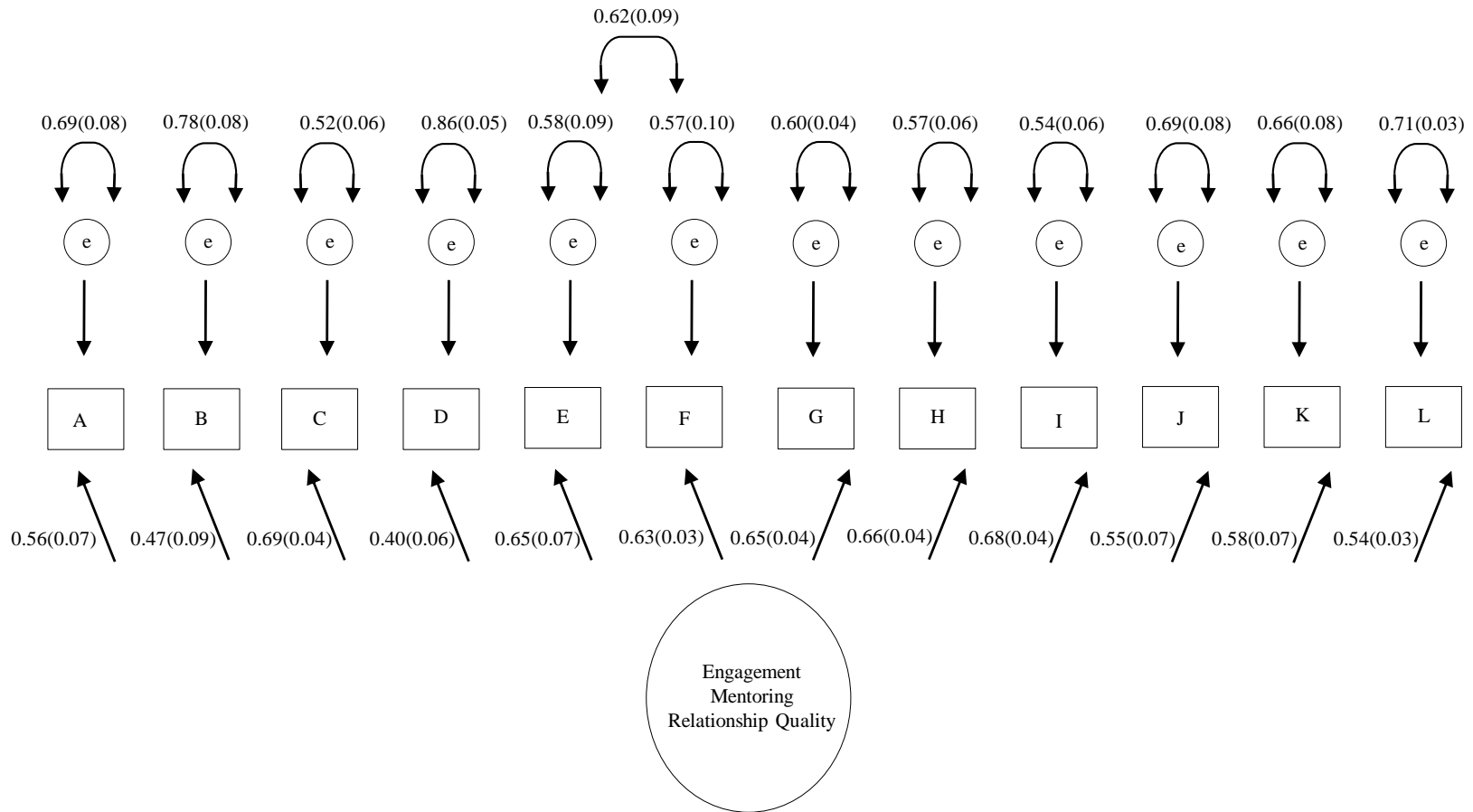
Figure 5.4. Confirmatory factor analysis model for the *Quality of Mentoring Relationship Engagement Scale* (mentor report).

A, confides; B, listens; C, asks to do things; D, calls; E, enjoy time; F, happy; G, expresses freely; H, shows interest; I, trusts advice; J, asks opinion; K, laughs; L, plans activities; e, error terms; Standardized estimate (standard error); All parameters p<0.0001.

Quality of Mentoring Relationship Engagement Scale (Child)

Under PCA, eight factors emerged in the initial solution. However, factor one was the only factor to have an eigenvalue >1 (eigenvalue=5.93). It also explained a substantially greater amount of variance (29.9%) compared to subsequent factors (≤8.8%), and the scree plot supported a unidimensional solution. Furthermore, the items loading onto the first factor were conceptually cohesive in terms of reflecting support provided by the mentor to the child (e.g., understands, accepts). Therefore, a one factor solution was retained for further study. PCA was subsequently re-examined by extracting a one factor solution and all items were retained except one, "does not force me to tell private/personal things" (factor loading=0.28) which was removed from subsequent analyses. The factor loadings of the retained items were strong (0.40-0.61). A CFA was run next on the 21 items. However, model fit was initially poor [χ^2 412.13(189), p<0.0001; CFI=0.85 TLI=0.83; RMSEA=0.06, 90% CI (0.05, 0.06); SRMR=0.06] and moderate-to-large sized residuals were noted between four sets of items, "sees things same way" and "like me" (5.13), "there for me" and "understands" (2.3), "tells me" and "understands" (1.8), and "interest in family" and "tells me" (2.6). Examining the modification indices, a substantial decrease in χ^2 was noted if the error terms between the items were allowed to covary. The model was re-examined to include these modifications and model fit significantly improved [χ^2_D=119.66(4), p<0.001; CFI=0.91; TLI=0.90; RMSEA=0.05, 90% CI (0.04, 0.05); SRMR=0.05] (Figure 5.5).
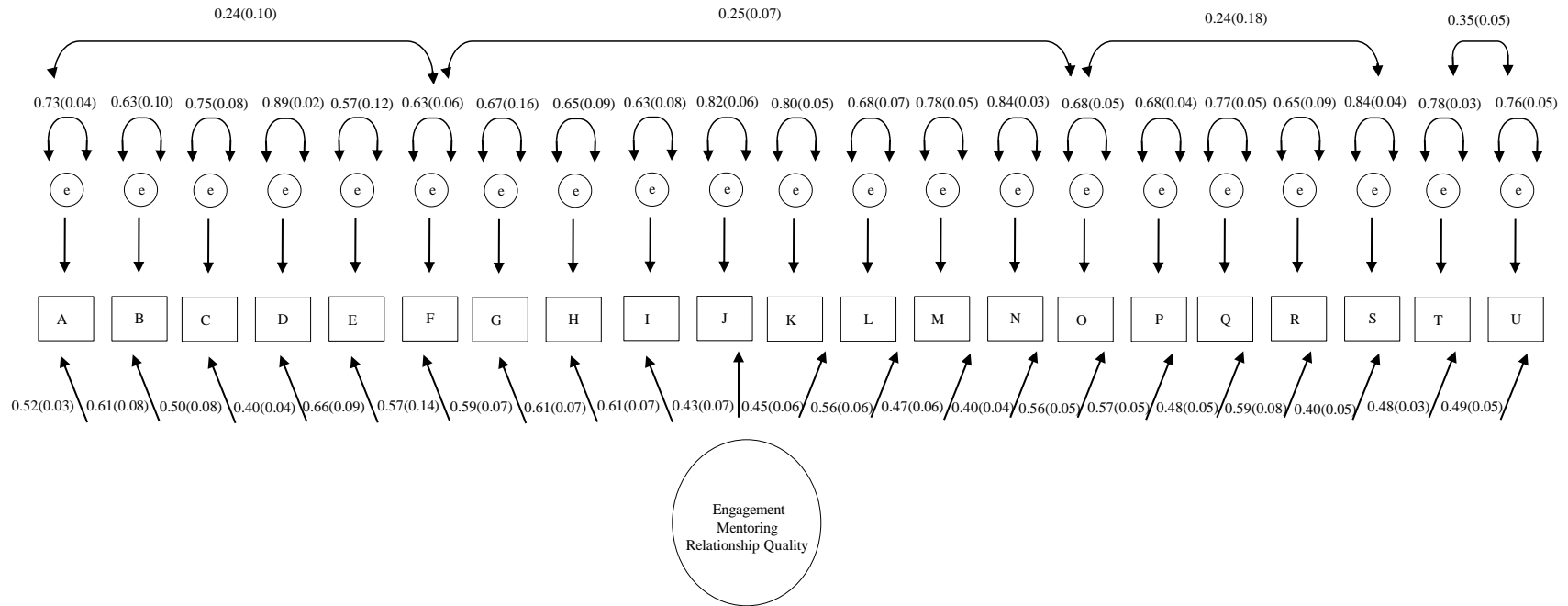
Figure 5.5. Confirmatory factor analysis model for quality of mentoring relationship engagement scale (child report). A, there for me; B, listens; C, asks to do things; D, calls; E, enjoy; F, understands; G, accepts; H, interest in things; I, trusts; J, asks opinion; K, laughs; L, follows through; M, teaches; N, helps; O, tells me; P, takes seriously; Q, tries; R, patient; S, interest in family; T, sees things same way; U, like me; e, error terms; Standardized estimate (standard error); All parameters p<0.0001.

Reliability

For the G-MeRQS, the item reliabilities were moderate-to-high ranging from R^2=0.29-0.74 (mentor); R^2=0.56-0.83 (child); and R^2=0.90-0.94 (parent). The scale reliabilities were also high: α=0.81 (mentor, 5 items), α=0.90 (child, 5 items), and α=0.93 (parent; 5 items). For the QMRES (mentor), the majority of the item reliabilities were moderate ranging from R^2=0.29-0.48. A couple of items were found to have low reliabilities, "listens" (R^2=0.22) and "calls" (R^2=0.16). For the QMRES (child), the majority of the item reliabilities were also moderate ranging from R^2=0.20-0.44 but a few also had low reliabilities, "calls" (R^2=0.16), "helps" (R^2=0.16), and "patient" (R^2=0.16). Due to the theoretical contribution each item provided to the scales (i.e., supportive traits) and the high overall scale reliabilities [QMRES (mentor): α=0.85, 12 items; QMRES (child): α=0.88, 21 items] a decision was made to retain them in subsequent analyses.

Internal Validity

Convergent Validity

The G-MeRQS and QMRES scales demonstrated good convergent validity. Specifically, the G-MeRQS and QMRES were found to be moderately correlated with one another for both the mentor (r=0.65, p=0.01) and child (r=0.52, p=0.01) scales. The moderate correlations provide empirical evidence suggesting that the scales are capturing similar (but not identical) underlying constructs (i.e., global and engagement MRQ).

Predictive Validity

In the logistic regression models, the G-MeRQS (mentor and parent) at 12-months demonstrated good predictive validity in its ability to predict mentoring relationship status at 18-months. Specifically, the G-MeRQS (mentor) was found to predict mentoring relationship status among 170 mentors [unadjusted OR=1.48, 95% CI (1.16, 1.88)]. In other words, for each unit increase in mentor reported global MRQ at 12-months, the

likelihood that the relationship remained matched (rather than terminated) at the 18-month follow-up increased by 48%. After controlling for 12-month mentoring relationship status and duration, mentor gender and age, child age, and parent support of the mentoring relationship, the G-MeRQS (mentor) remained a significant predictor [OR=1.57, 95% CI (1.13, 2.17)]. The G-MeRQS (parent) at 12 months was also found to predict mentoring relationship status at 18 months among 398 parents [unadjusted OR=1.16, 95% CI (1.04, 1.30)]. After adjusting for potential confounding variables, the G-MeRQS (parent) remained a significant predictor [OR=1.20, 95% CI (1.01, 1.42)]. The G-MeRQS (child) at 12-months did not predict mentoring relationship status at 18 months among 350 children [unadjusted OR=1.17, 95% CI (0.97, 1.41)].

In the logistic regression analyses, the QMRES (mentor) at 12 months demonstrated good predictive validity as it was found to predict mentoring relationship status among 170 mentors at 18 months [unadjusted OR=1.16, 95% CI (1.06, 1.28)]. After adjusting for potential confounding variables, the QMRES (mentor) remained a significant predictor [OR=1.15, 95% CI (1.03, 1.29)]. The QMRES (child) at 12 months did not predict mentoring relationship status among 350 children at 18 months [unadjusted OR=1.04, 95% CI (0.99, 1.09)].

External Validity

Good external validity of the G-MeRQS (mentor, child, and parent) was demonstrated across children's gender and age (younger versus older) (Table 5.3). Specially, the G-MeRQS (mentor) demonstrated metric invariance across boys and girls as demonstrated by a non-significant increase in the χ^2_D test once constraints were imposed across the factor loadings. The G-MeRQS (mentor) demonstrated scalar invariance across younger and older children as observed by a non-significant increase in the χ^2_D test once constraints were imposed across the factor loadings and intercepts. In addition, the G-MeRQS (child and parent) demonstrated scalar invariance across children's gender and age sub-groups. It was not possible to employ MGCFA on the QMRES due to insufficient sample sizes.

Reporter Concordance

Concordance of the G-MeRQS scales across reporters was moderate as demonstrated by relatively low ICCs (mentor and child: ICC=0.43, p<0.0001; child and parent: ICC=0.50, p<0.0001; and mentor and parent: ICC=0.50, p<0.0001). These results suggest a moderate level of agreement between reporters for the G-MeRQS. Concordance of the QMRES (including common items) was not found between mentors and children (ICC=0.07, p=0.33). This result suggests that there was no agreement between reporters for the QMRES.

Discussion

To better understand and improve mentoring relationships, it is essential that better measurement of MRQ is obtained. To this end, the present study evaluated the measurement properties of scales designed to capture global and engagement MRQ (i.e., G-MeRQs and QMRES, respectively) among mentors, children, and parents participating in Canadian BBBS community mentoring relationships. These unidimensional scales were found to exhibit good internal consistency reliability, moderate convergent validity, good predictive validity of the mentor and parent MRQ scales, and good external validity of the global MRQ scale (all reporters) across categories of child age and gender. These findings demonstrate that the scales can be used for the accurate measurement of MRQ in order to make inferences about relationships between MRQ and other mentoring constructs that can guide mentoring programs in policy development.

The G-MeRQS and QMRES scales were developed to measure the dimensional components of MRQ. The moderate correlations among the scales provided empirical evidence supporting the theoretical distinction between global and engagement MRQ. The results support that these two dimensions represent distinct facets of MRQ and therefore should be used separately by researchers investigating the relationship between MRQ and developmental outcomes in children.

In terms of internal consistency, the G-MeRQS and QMRES performed equally or better compared with appropriate benchmark scales. In particular, the scales were found

to have similar or higher internal consistencies compared to the MCQ and YMS (Harris & Nakkula, 2010, 2008). These latter scales are most comparable to the current measures as they examine global and engagement traits of MRQ from mentors' and childrens' perspectives, respectively and do include similar items (e.g., closeness, asks for opinions/advice) (Harris & Nakkula, 2010, 2008).

Mentor and parent reports of MRQ (G-MeRQS and QMRES) at the 12-month follow-up were found to predict mentoring relationship status at the 18-month follow-up (i.e., being in a current versus terminated mentoring relationship). These findings are consistent with a study conducted by Parra and colleagues (2002) that demonstrated mentor reported relationship closeness was positively associated with relationship continuation at 12-months. However, it is important to note that the Parra et al. study operationalized MRQ as 'relationship closeness' (one facet of global MRQ) and did not include parent informants so the comparability of results is limited. Nonetheless, the predictive ability of the mentor and parent scales is meaningful to mentoring programs because mentors' and parents' perspectives on global and engagement MRQ can help identify matches vulnerable to termination. An implication of this finding is that agency services might be improved by providing additional caseworker support to help promote mentoring relationship continuation among participants.

In contrast to the results for parents and mentors, child reported MRQ (G-MeRQS and QMRES) at the 12-month follow-up did not predict mentoring relationship status at 18 months. The study conducted by Parra and colleagues (2002) yielded inconsistent results which demonstrated that children's ratings of relationship closeness was positively associated with relationship continuation at 12-months. The difference in results may be partially attributable to the difference in operationalization of MRQ between studies. Unfortunately, due to the slow emergence of research in this area, a meaningful comparison of results across studies is limited. It is conceivable that children's perspectives of global and engagement MRQ may have relatively little influence on mentoring relationship status because their parents may hold the decision-making power in determining whether the match continues or ends. It is also possible that children who are dissatisfied or unhappy with their mentoring relationship may be more hesitant than mentors or parents to express their concerns. Future research investigating the

relationship between global and engagement MRQ (including child, mentor, and parent informants) and mentoring relationship status will provide a more thorough assessment of predictive validity and also provide a greater context to interpret results across studies.

Good external validity of the G-MeRQS (mentor, child, and parent) scales was demonstrated across mentored children's gender and age sub-groups. Specifically, the G-MeRQS (mentor) demonstrated metric invariance across child gender. Metric invariance suggests that the items included the G-MeRQS have the same meaning across boys and girls (Steinmetz, Schmidt, Tina-Booth, Wieczorek, & Schwartz, 2009). The G-MeRQS (mentor) also demonstrated scalar invariance across child age sub-groups and the G-MeRQS (child and parent) demonstrated scalar invariance across child gender and age sub-groups suggesting that the item intercepts and degree of systematic bias for these scales were equal across sub-groups (Steinmetz, et al., 2009). These results have important implications for the measurement of MRQ in future mentoring research as we can be confident about estimates of the relationships between global MRQ and other mentoring variables among mentored child gender and age sub-groups. In addition, the scales can be utilized to measure global MRQ in mentoring relationships involving boys and girls and children of different ages to enhance practices supporting mentored children.

Moderate reporter concordance among mentors, children, and parents for the G-MeRQS and discordance between mentors and children for the QMRES may be attributable to a few factors. First, decreased concordance between adult (i.e., mentors and parents) and child participants may be reflective of maturation. Researchers suggest that a child's level of social and cognitive maturation may affect reporter concordance between children and parents (Holmbeck, Li, Schurman, Friedman, & Coakley, 2002) and by extension, children and mentors. Second, it can be speculated that there may be differential levels of motivation to positively rate MRQ among informants. For example, social desirability may influence mentors to overrate MRQ because they are volunteer role models and therefore may be inclined to present the relationship more positively. Third, discordance between mentors and children for the QMRES may be due to the presence of non-identical scales. Although only common items were included in the ICC estimation, slightly different wording of these items may have contributed to the

discordance. Overall, relatively low ICCs among mentors, children, and parents emphasize the importance of incorporating multiple perspectives in future research on MRQ.

This study has several strengths that contribute novel information on the measurement of MRQ. First, this study examines the measurement properties of two new scales, G-MeRQS and QMRES that encompass global and engagement traits of MRQ from the perspectives of mentors, children, and parents. The inclusion of global and engagement MRQ scales as reported by multiple informants provides a more comprehensive evaluation of the measurement of MRQ compared to previous research. Second, no previous study has evaluated a global measure of MRQ from the perspective of the parent. Parents are an integral part of the mentoring process (Keller, 2005) and as such are well positioned to contribute information on MRQ. Third, the inclusion of a large sample of participants from numerous Canadian BBBS agencies contributed data to the mentoring scales. The results, therefore, may be generalizable to participants of medium-to-large sized BBBS agencies across Canada. Fourth, the availability of longitudinal data allowed for the assessment of predictive validity. Finally, no previous study has examined the external validity of the measurement properties of global MRQ across sub-groups of matched children. Information on the generalizability of the scales across child gender and age sub-groups is particularly valuable to BBBS agencies since gender specific programs exist within the organization and its programs accommodate children aged 6 to 18 years.

There are also a few limitations worth noting. First, this study was restricted to include data obtained from the 12- and 18-month follow-ups. These follow-up periods were selected based on sample size considerations and a sufficient number of mentoring relationships matched for a considerable length of time (i.e., ≥6 months). Future research is required to replicate the results based on additional follow-up periods that extend to 24 and 30 months from baseline. Extended follow-ups will provide an opportunity to evaluate the stability of the measurement properties of the scales for children and mentors involved in long-term mentoring relationships. Second, the QMRES was not rated by mentors and children in terminated mentoring relationships. Therefore, the measurement properties of these scales are unknown for these groups. Third, the items for the G-

MeRQS and QMRES scales only included a three-point Likert scale. Unfortunately, between-individual variation for each of these items may be underestimated. However, a simplified scale was chosen in an effort to reduce the response burden on participating children.

This novel study provided a comprehensive examination of the measurement properties of two new scales, G-MeRQS and QMRES, informed by mentors, children, and parents participating in Canadian BBBS community mentoring relationships. The results provided preliminary evidence demonstrating good reliability and validity among multiple informants. Continued research on their measurement properties is warranted with the inclusion of follow-up periods involving mentoring relationships of longer duration. Ultimately, a cross-validation study involving a different sample of mentors, children, and parents would provide more conclusive evidence on reliability and validity. We believe the current evaluation should contribute to continued work on the measurement of MRQ with an aim to better understand mentoring program effectiveness in order to facilitate the positive development of children.

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Table 5.1. Demographic characteristics of mentors, parents, and children.[*†]

Variable	Mentors (n=272)	Parents (n=554)	Children (n=491)
Age, years	30 (8.2)	41(8.4)	11(2.2)
Gender, n			
Male	98	34	217
Female	174	450	274
Ethnicity, n			
Caucasian	209		226
African Canadian	4		56
Aboriginal	3		57
Asian	21		41
Hispanic	5		20
Canadian	12		35
Other	18		56
Living Arrangements, n			
Two Parents			49
One Parent			345
One Parent and Partner			40
Other			57
Marital Status, n			
Married/Common-law	99	106	
Divorced/Separated/Widowed	8	264	
Never Married	165	184	
Education, n			
Up to Secondary School Completed	26	192	
Some College or University	65	156	
Completed College or University	181	206	
Annual Household Income, n			
<$10,000	17	80	
$10,000 - $39,999	52	275	
$40,000 - $59,999	65	119	
≥$60,000	138	80	

[*]12-month follow-up data for mentors in continuously matched or terminated mentoring relationships and parents and children in continuously matched, terminated, or re-matched mentoring relationships; [†]Reported as a mean (standard deviation) unless otherwise stated.

Table 5.2. Mentoring relationship characteristics (n=272).[*]

Variable	n
Mentoring Status[*]	
Continuous	249
Terminated	23
Duration, Months[*]	
≤3 months	26
3 to 6 months	53
7 to 12 months	193
Frequency of Contact, # Hrs/Wk	
<2	27
2-3	205
4	24
≥5 hours	16
Mentoring Gender Composition[‡]	
Same Gender	259
Mixed Gender (female mentor, male child)	13
Mentor Training, Total # Hrs*	
≤3	122
4-8	133
≥9	17

[*]Mentor reported 12-month follow-up.

Table 5.3. Measurement invariance of the *Global Mentoring Relationship Quality Scale* across children's age and gender.

Informant	Sub-group	Model	χ^2 (df) [a]	χ^2_D (df) [b]	CFI	TFI	RMSEA (90% CI)	SRMR
Mentor	Gender	A	14.01 (8)[ns]		0.98	0.96	0.08 (0.00, 0.15)	0.04
		B	**22.94 (12)[*]**	**5.10 (4)[ns]**	**0.97**	**0.95**	**0.08 (0.03, 0.15)**	**0.08**
		C	34.02 (17)[†]	11.96 (5)[‡]	0.96	0.95	0.09 (0.05, 0.14)	0.09
	Age	A	13.91 (8)[ns]		0.98	0.95	0.08 (0.00, 0.15)	0.03
		B	15.67 (12)[ns]	1.25 (4)[ns]	0.99	0.98	0.05 (0.00, 0.12)	0.05
		C	**24.63 (17)[ns]**	**6.80 (5)[ns]**	**0.97**	**0.97**	**0.06 (0.00, 0.11)**	**0.06**
Child	Gender	A	11.12 (10)[†]		1.00	1.00	0.02 (0.00, 0.08)	0.02
		B	33.66 (14)[†]	4.94 (4)[ns]	0.96	0.95	0.08 (0.05, 0.11)	0.03
		C	**53.55 (19)[‡]**	**6.25 (5)[ns]**	**0.93**	**0.93**	**0.09 (0.06, 0.12)**	**0.04**
	Age	A	14.26 (10)[ns]		1.00	0.99	0.04 (0.00, 0.09)	0.02
		B	16.32 (14)[ns]	4.42 (4)[ns]	1.00	1.00	0.03 (0.00, 0.07)	0.10
		C	**21.70 (19)[ns]**	**7.84 (5)[ns]**	**1.00**	**0.99**	**0.03 (0.00, 0.07)**	**0.10**
Parent	Gender	A	22.99 (10)[*]		0.99	0.97	0.08 (0.04, 0.12)	0.02
		B	24.57 (14)[*]	3.86 (4)[ns]	0.99	0.98	0.06 (0.01, 0.10)	0.06
		C	**34.02 (19)[*]**	**7.51 (5)[ns]**	**0.98**	**0.98**	**0.06 (0.03, 0.09)**	**0.07**
	Age	A	23.10 (10)[*]		0.99	0.97	0.08 (0.04, 0.12)	0.02
		B	25.55 (14)[*]	5.89 (4)[ns]	0.99	0.98	0.06 (0.02, 0.10)	0.07
		C	**32.58 (19)[*]**	**5.04 (5)[ns]**	**0.98**	**0.98**	**0.06 (0.02, 0.09)**	**0.08**

Model A, tests no constraints; Model B, tests constraints across factor loadings; Model C, tests constraints across factor loadings and intercepts; Final model depicted in bold font; [a]χ^2 values are estimated using maximum likelihood estimation with robust standard errors; [b]χ^2_D test is calculated by examining the difference in χ^2 values using maximum likelihood estimation; [*]$p<0.05$, [†]$p<0.01$, [‡]$p<0.001$, [ns]Not significant at $p>0.05$.

CHAPTER SIX

An Evaluation of the Measurement Properties of the *Mentor Self-efficacy Scale* among Participants in Big Brothers Big Sisters of Canada Community Mentoring Programs[7]

There is consistent evidence in the mentoring literature suggesting that Big Brothers Big Sisters (BBBS) community mentoring relationships are associated with positive child outcomes including improved mental health and social well-being (DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011; Sale, Bellamy, Springer, & Wang, 2008; DeWit, Lipman, Manzano-Munguia, Bisanz, Graham, LaRose, Pepler, & Shaver, 2007; Tierney, Grossman, & Resch, 1995). A key factor that may contribute to positive outcomes is mentor self-efficacy (MSE), defined as the mentor's level of confidence, knowledge and skill in establishing a positive relationship with a matched child (Parra, DuBois, Neville, Pugh-Lilly, & Povinelli, 2002). Studies have found a positive association between MSE and mentoring relationship quality (MRQ) (Askew, 2006; Karcher, Nakkula, & Harris, 2005; Parra, et al., 2002). High MRQ, in turn, has been identified by mentoring researchers as a key predictor of positive developmental outcomes in children (Zand, Thomson, Cervantes, Espiritu, Klagholtz, LaBlanc, & Taylor, 2009; Rhodes, Reddy, Roffman, & Grossman, 2005; Langhout, Rhodes, & Osborne, 2004).

In light of these findings, it is imperative to develop a better understanding of MSE and its relationship with key outcomes, including MRQ, as a means to augment policies aimed to support the positive development of mentored children. However, a necessary prerequisite of this work includes the examination of the measurement properties of instruments assessing MSE. The purpose of this manuscript is to evaluate the measurement properties of a newly created scale, the *Mentor Self-efficacy Scale* (MSES), which is designed to capture mentors' level of confidence in their knowledge and ability to provide support and guidance to children in BBBS community mentoring

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relationships (DeWit, et al., 2006). Due to the absence of a 'gold standard' measure of MSE, it is imperative that the measurement properties of the MSES are evaluated. With improved measurement of this construct, a better understanding of the relationship between MSE and other mentoring outcomes such as MRQ will be obtained.

Background

To date, three measures of MSE have been used in the mentoring literature (Askew, 2006; Karcher, et al., 2005; Parra, et al., 2002), one of which is no longer available from the authors (i.e., Karcher et al.). The Parra et al. (2002) measure contains 19 items derived from BBBS of America program materials and as such is geared towards MSE specifically within the context of BBBS programs. The scale examines mentors' confidence in their abilities and knowledge in areas including helping children and BBBS practices. One study demonstrated the scale had good internal consistency reliability (α=0.90) and good convergent validity, with a positive correlation found with youths' perceptions of relationship closeness (β=0.26, p<0.05), an important attribute of MRQ (Parra, et al., 2002). The MSE measure developed by Askew (2006) contains 18 items and examines MSE in the area of promoting student academic achievement and personal growth (e.g., personal awareness of learning style). The measure was adapted from the *Mentor Efficacy Scale* that captured mentoring teachers' beliefs in their self-efficacy to train novice teachers (Riggs, 2000). One study demonstrated that this scale had good internal consistency reliability (α=0.83) and good convergent validity as it was found to correlate with mentors' perceptions of MRQ (r=0.50, p=0.02) (Askew, 2006).

Despite their contributions to our understanding of MSE and its association with MRQ, the measures developed by Parra et al. (2002) and Askew (2006) suffer from important limitations that warrant further research on the measurement of MSE. Specifically, the items in the scales may be considered redundant and too narrowly focused. For example, five of the 19 items in the Parra et al. measure were dedicated to whether mentors felt they had the ability to help mentored children 'feel good' about themselves. In the Askew (2006) measure, a substantial portion of items were relevant to academic learning or growth. Therefore, a more comprehensive scale of MSE is needed

that includes a broader assessment of mentoring attributes including goal setting, problem solving, and activity planning. In the present study, a new measure that comprehensively measures MSE was developed and tested in terms of its measurement properties.

Objectives

The overall aim of this study was to rigorously test the measurement properties of a newly created scale, MSES. Specifically, there were four study objectives regarding the MSES:

1) Explore dimensionality and confirm the factor structure;

2) Examine item and scale reliability;

3) Examine convergent validity by assessing the scale's association with global and engagement MRQ measured at the same time point; and,

4) Examine predictive validity by assessing the scale's ability to predict global and engagement MRQ six months later after adjusting for potential confounders.

Methodology

Study Design and Sample

Data were drawn from the 12- and 18-month follow-up assessments as part of a prospective cohort study of Canadian BBBS community mentoring relationships (DeWit, et al., Manuscript under review). Participants were recruited from 20 BBBS agencies across Canada. The BBBS agencies invited to participate were chosen based on their long history of operation, large caseloads, well-defined policies and procedures, sufficient number of staff, and cultural diversity of clientele. Data were collected from mentors via self-administered questionnaires, from matched children via in-person interviews and from their parents via self-administered questionnaires. A total of 249 mentor, child, and parent triads contributed 12-month follow-up data and 151 mentor, child, and parent triads contributed 18-month follow-up data as well that are used in the predictive validity analyses.

Measures

Mentor Self-efficacy Scale (MSES)

This 11-item scale measured mentors' level of confidence in their knowledge and ability to provide support and guidance to a child in a BBBS community mentoring relationship. Participants were asked to rate their confidence as a mentor to their matched child in a number of areas, including, for example: giving advice on how to deal with a problem that is important to them; helping them achieve or set goals; and providing guidance around their future. This scale was scored using four response options: "not at all confident", "somewhat confident", "confident", and "very confident". Total scores range from zero to 33 with higher scores indicating greater levels of MSE. Data from the 12-month follow-up were used to examine the measurement properties of this scale.

Global Mentoring Relationship Quality Scale

This five-item scale measured the global traits of MRQ between the mentor and child as reported by mentors, children, and parents. Global MRQ traits refer to the relational characteristics that describe the 'bond' between the mentor and child in the BBBS mentoring relationship. Items include, "Would you say that [the mentoring relationship] is…a) A trusting relationship? b) A warm and affectionate relationship? c) A close relationship? d) A happy relationship? e) A respectful relationship?". This scale was scored using three response options: "not very true", "sometimes true", and "very true". Total scores range from zero to 15 with higher scores indicating greater levels of global MRQ. Data from the 12-month follow-up were used in the convergent validity analyses and as control variables in the predictive validity analyses. Data from the 18-month follow-up were used as an outcome in the predictive validity analyses. The measurement properties of this scale were rigorously tested and demonstrated good reliability (mentor scale: $\alpha=0.81$; child scale: $\alpha=0.90$; and parent scale: $\alpha=0.93$), internal validity, external validity among child demographic sub-groups, and weak-to-moderate

reporter concordance (Ferro, DeWit, Speechley, Wells, & Lipman, Manuscript under review).

Quality of Mentoring Relationship Engagement Scale

This scale was designed to measure the action-oriented, supportive aspects of MRQ meaning engaging characteristics of the mentoring relationship, as reported by both mentors and children. This measure was developed for both mentors and children. The mentor scale contains 12 items and the child scale contains 21 items. Example items include, "Please tell me what you think about [the mentor or child]: c) Asks to do things with me; h) Shows an interest in the things [we] do together; j) Asks for [my] opinion…". This scale was scored using three response options: "not very true", "sometimes true", and "very true". Total scores for the mentor scale range from zero to 36 and total scores for the child scale ranges from zero to 63 with higher scores indicating greater levels of engagement MRQ. Data from the 12-month follow-up were used in the convergent validity analyses and as a control variable. Data from the 18-month follow-up were used as an outcome in the predictive validity analyses. The measurement properties were previously tested and established good reliability (mentor scale: $\alpha=0.85$ and child scale: $\alpha=0.88$), internal validity, and external validity among child demographic sub-groups (Ferro, et al., Manuscript under review).

Control Variables

Based on guidance from the mentoring literature, parent support of the mentoring relationship (Karcher, et al., 2005; Keller, 2005), mentor training satisfaction (Askew, 2006; Keller, 2005; Parra, et al., 2002), mentoring relationship characteristics (Rhodes, et al., 2005), and participant characteristics (Parra, et al., 2002; Karcher, et al., 2005) were included as control variables in the convergent and predictive validity analyses (see below). Keller (2005) theorizes that parents play a key supportive role in the mentoring relationship and therefore increased parent support likely contributes to mentors feeling more confident in their abilities and enhances MRQ. Karcher and colleagues (2005)

corroborate this claim by demonstating a positive association between parental involvement and MRQ. Keller (2005) further suggests that the mentoring agency also plays a key supportive role in the mentoring relationship by means of training and supervision. Research supports this theory demonstrating a positive association between mentor training satisfaction and MSE (Parra et al., 2002) as well as a positive association between mentor training satisfaction and MRQ (Askew, 2006). Mentoring relationship characteristics, such as frequency of contact between the mentor and child and duration of the match, are also potentially important covariates. Common sense dictates that mentors who feel confident in their roles are more likely to meet with their matched children on a frequent basis and remain in their mentoring relationships for longer durations compared to those who are less confident. Furthermore, since mentors and children were matched at various follow-up periods in the DeWit et al. (2006) investigation, the duration of those included in the 12-month follow-up vary from one to 12 months. Therefore, duration was also included as a control variable because the present sample includes newly matched and more mature mentoring relationships. With respect to participant characteristics, age and gender are common demographic controls in mentoring research since they are theorized to be associated with various mentoring variables including MSE and MRQ (for example see Parra et al., 2002). Regarding child conduct, Karcher and colleagues (2005) demonstrated that children's conduct (operationalized as 'disposition' with a higher score indicating fewer conduct problems) is positively associated with both MSE and MRQ.

Parent Support of the Mentoring Relationship Scale

This 6-item scale measured level of parental support of the mentoring relationship provided by the primary legal guardian of the mentored child. Example items include, "Would you say that she/he: a) Suggests activities that me and my [matched child] might do together; c) Offers me advice or help to make the match relationship work better; and e) Ensures that there is enough time for me and my [matched child] to meet". The scale was scored using five response options: "strongly disagree", "disagree", "neither agree

nor disagree", "agree", and "strongly agree". Using the present data, the internal consistency reliability of the scale was high (α=0.80).

Mentor Training Satisfaction Scale

This 13-item scale measured the mentors' satisfaction with training provided by BBBS agencies. Example items include, "Please indicate your level of satisfaction with your [BBBS] training/orientation in the following areas: …a) Clarity of rules and responsibilities as a [BBBS] volunteer; f) Effectiveness and competency of trainers/orientation leaders; and, i) Clarity of rules and responsibilities of the [BBBS] agency". This scale was scored using five response options: "not at all satisfied", "not very satisfied", "somewhat satisfied", "satisfied", and "very satisfied". Total scores range from zero to 52 with higher scores indicating a greater level of satisfaction with mentor training. With the present data, the internal consistency reliability was high (α=0.92).

Mentoring Relationship Characteristics

In the predictive validity analyses, frequency of contact (# hours/week mentor and child in contact) and duration (# months in mentoring relationship) were entered as control variables using 12-month follow-up data.

Participant Characteristics

In the predictive validity analyses, demographic controls included mentors' age and gender, and children's age and conduct problems (e.g., temper, obedience) using 12-month follow-up data. Child conduct was measured as part of the *Strength and Difficulties Questionnaire* and has demonstrated satisfactory psychometric properties ($α = 0.63$) (Goodman, 2001). Children's gender was not controlled for in the analyses due to it being highly correlated with mentor gender ($r=0.92$, $p<0.01$).

Analysis

Statistical Package for the Social Sciences (SPSS 16, SPSS Inc., Chicago, IL) was used to conduct univariable analyses to describe the sample and mentoring relationship characteristics as well as conduct principal component analysis (PCA), correlation analyses, and regression analyses. M-Plus 6.1 (M-Plus Inc., Los Angeles, CA) was used for confirmatory factor analysis (CFA). All hypothesis tests were two-sided with $\alpha =$ 0.05.

Objective 1: Explore dimensionality and confirm the factor structure

PCA was employed to examine scale dimensionality and reduce the number of items so that only those accounting for a substantial proportion of variance ($\geq 10\%$) were retained (Hatcher, 1994). Four steps of PCA were implemented: (1) initial extraction of factors; (2) determination of number of retained factors; (3) rotation to a final solution (if necessary); and, (4) interpretation of rotated solution, if necessary (Jolliffe, 2002).

CFA was implemented to confirm if the factor structure and respective loadings conform to what was found under PCA. Four standard steps of CFA model building were implemented: (1) identification (i.e., degrees of freedom>0), (2) estimation (e.g., standardized factor loadings), (3) testing (i.e., model fit), and (4) modification, if necessary (Kline, 2005). The CFA models were analyzed using maximum likelihood estimation with robust standard errors (MLR) under the COMPLEX function in M-Plus (Muthen & Muthen, 2010). The COMPLEX function was used to account for data being nested within BBBS agencies. MLR produces estimates that are based on a corrected asymptotic covariance matrix that is not dependent on the assumptions of independence and normality (Muthen & Muthen, 2010).

Objective 2: Examine item and scale reliability

Based on the CFA results, the item reliabilities were assessed by examining the R^2 (i.e., squared standardized factor loadings), which denotes the percent of item variance that is accounted for by the factor to which it is assigned (Brown, 2006). The scale's

internal consistency reliability was examined using Cronbach's α with α ≥0.70 considered desirable (Hatcher, 1994).

Objective 3: Examine convergent validity

Convergent validity was first evaluated by assessing the unadjusted correlations between MSE and global MRQ (mentor, parent, and child scales), and MSE and engagement MRQ (mentor and child scales) using data from the 12-month follow-up. Convergent validity was initially demonstrated if the unadjusted correlations were statistically significant. Convergent validity was further evaluated by examining the partial correlations between MSE and global and engagement MRQ, respectively, after controlling for potentially important confounders of this relationship. Adequate convergent validity was demonstrated if the correlations remained statistically significant after adjusting for controls.

Objective 4: Examine predictive validity

Predictive validity was evaluated using logistic regression to examine if 12-month MSE predicted 18-month global MRQ. Due to heavy skewness, global MRQ was dichotomized as "low-to-moderate" (< 12) and "high" (12-15). Linear regression was used to examine whether MSE at 12-month s predicted engagement MRQ at 18-months. Predictive validity was initially demonstrated if the unadjusted regression models yielded MSE as a statistically significant predictor. Adequate predictive validity was demonstrated if the adjusted regression models demonstrated that MSE remained a significant predictor after adjusting for controls.

Results

Sample Characteristics

The descriptive characteristics of participants and mentoring relationships are shown in Tables 6.1 and 6.2, respectively. Briefly, mentors' mean age was 30 years with the majority being female (62%) and Caucasian (77%). Parents' mean age was 40 years with the vast majority being female (91%). Children had a mean age of 11 years, approximately half were female (51%), and less than half were Caucasian (41%). Of the mentoring relationships, the majority was between 7 and 12 months in duration (70%), in contact 2-3 hours per week (74%), and of the same mentor/child gender composition (95%).

Dimensionality and Factor Structure

When PCA was performed on the 11 items of the MSES, two factors emerged in the initial solution. The first factor (11 items; eigenvalue=4.82) accounted for 43.78% of the variance. The second factor (3 items; eigenvalue=0.98) accounted for 8.94% of the variance. Since the proportion of variance explained for the second factor was relatively low compared to the first factor and the eigenvalue was less than the recommended cutoff value of 1.0, a unidimensional solution was retained for subsequent analyses. Next, PCA was re-examined by extracting a one factor solution to evaluate which items had strong loadings ($\geq$0.40). All items were found to have large loadings (0.55-0.78) and the inter-item correlation matrix suggested moderate associations ($r = 0.23$-0.59, $p<0.0001$) (Table 6.3). Therefore, all items were retained in subsequent analyses.

A CFA was run next on the 11 items and the factor loadings were found to be comparable to those found in the PCA (0.49-0.75). Model fit was satisfactory [χ^2=101.43(44), $p<0.0001$; CFI=0.92 TLI=0.90; RMSEA=0.07, 90% CI (0.06, 0.09); SRMR=0.05] and no modification indices were identified. As such, the CFA model was retained as the final model (Figure 6.1).
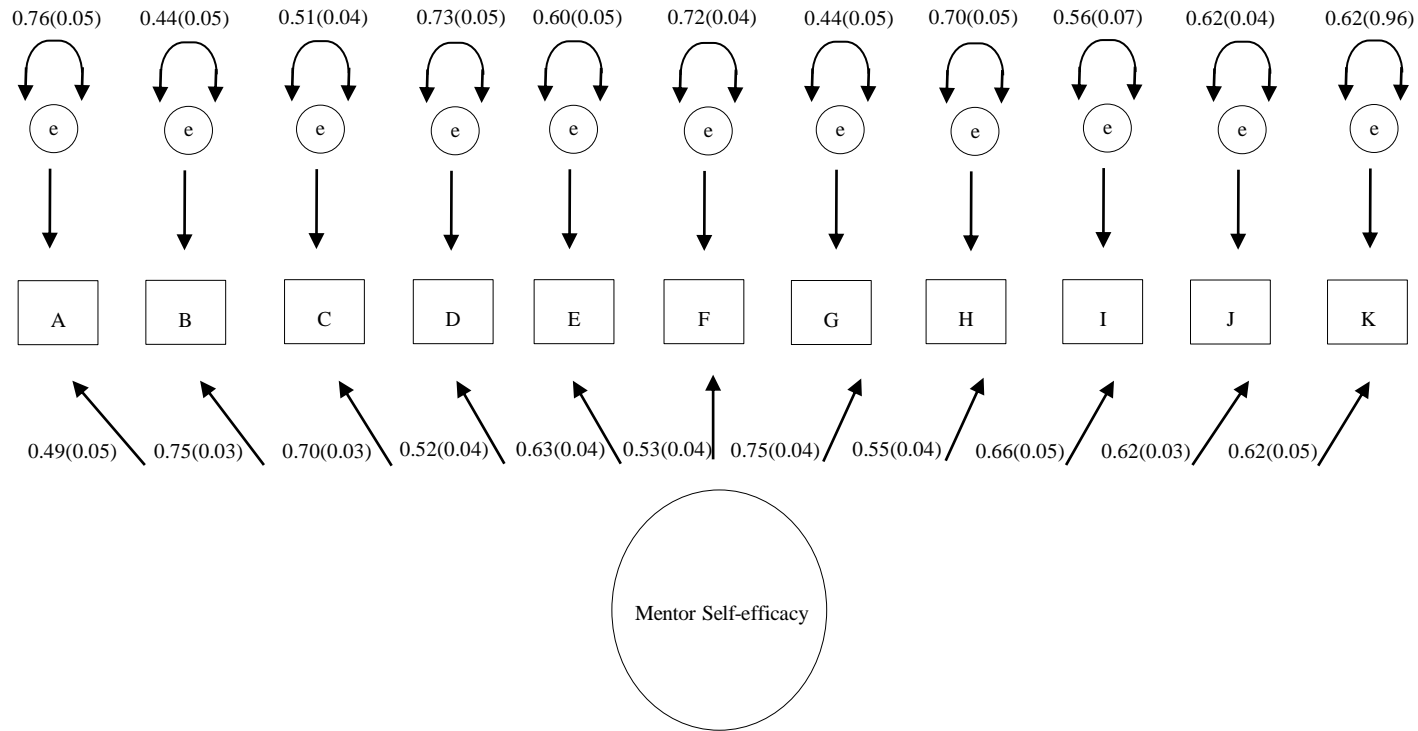
Figure 6.1. Confirmatory factor analysis model for the *Mentor Self-efficacy Scale* (n = 249). Standardized estimate (standard error); A, sharing personal experience; B, giving advice; C, help achieve goals; D, feel good about themselves; E, discuss issues in family; F, plan activities; G, provide guidance; H, teach skill; I, help get along; J, educate; K, convince importance of school; e, error term; All parameters p<0.0001.

Reliability

Based on the CFA results, the item and scale reliabilities of the MSES were found to be moderate ranging from R^2=0.24-0.56 (Table 6.4). The internal consistency of the MSES was also found to be good (α=0.81).

Convergent Validity

The convergent validity of the MSES was evaluated by examining the correlations between MSE and global MRQ, and MSE and engagement MRQ, among a sample of 249 mentor, parent, and child triads contributing 12-month follow-up data. Among mentors, the unadjusted correlations between MSE and global MRQ (r=0.45, p<0.001) and MSE and engagement MRQ (r=0.56, p<0.001) suggested good convergent validity. After adjusting for mentor gender and age, child age and conduct, parent support of the mentoring relationship, mentor training satisfaction, duration, and frequency of contact, the correlations remained statistically significant [MSE and global MRQ: r=0.28, p<0.001; MSE and engagement MRQ: r=0.44, p<0.001]. The unadjusted correlations between MSE and global MRQ as reported by children (r =0.09, p=0.12) and parents (r=0.12, p=0.08) did not suggest good convergent validity. As well, the unadjusted correlation between MSE and engagement MRQ as reported by children (r=0.05, p=0.55) did not suggest good convergent validity.

Predictive Validity

The predictive validity of the MSES was evaluated by examining the relationship between MSE and global MRQ, and MSE and engagement MRQ, among a sample of 151 mentor, parent, and child triads contributing 12- and 18-month follow-up data. Table 6.5 summarizes the results of the unadjusted logistic regression models examining the ability of the MSES to predict global MRQ as reported by mentors, children and parents six months later. Overall, results demonstrated that MSE did not predict global MRQ among all informants six months later.

Table 6.6 illustrates the unadjusted and adjusted linear regression models examining the ability of the MSES to predict engagement MRQ as reported by children and mentors six months later. The unadjusted analysis demonstrated that MSE did not predict engagement MRQ as reported by children six months later. In contrast, MSE predicted engagement MRQ as reported by mentors six months later. However, after adjusting for controls, MSE was not found to predict engagement MRQ as reported by mentors. The only significant predictors of mentor perceived engagement MRQ were 12-month engagement MRQ and frequency of contact.

Discussion

This study examined the measurement properties of a newly created scale, MSES, which was designed to measure mentors' confidence regarding their ability to provide guidance and support to mentored children involved in BBBS community mentoring programs. The unidimensional scale demonstrated acceptable item and scale reliability. Good convergent validity was demonstrated with respect to its association with global and engagement MRQ as reported by mentors. The unadjusted linear regression model yielded that MSE predicted engagement MRQ as reported by mentors six months later. However, upon adjusting for controls this association became non-significant.

The unidimensional solution provided empirical evidence that the MSES is tapping into one underlying theoretical construct reflecting mentors' confidence in providing guidance and support to matched children. Furthermore, the presence of adequately strong factor loadings among all of the items and moderate correlations between each of the items provides empirical evidence corroborating their retention. Future research examining the dimensionality of the MSES with the inclusion of additional follow-up periods (e.g., 18-, 24-, and 30-months) will provide a more comprehensive examination of this scale's dimensionality.

Evidence of good reliability of the MSES is a necessary component for the estimation of relationships among variables in mentoring research. Specifically, poor reliability results in attenuated relationships among variables leading to a higher chance of Type II error (Aneshensel, 2002). The MSES demonstrated good item and scale

reliability in the present study and therefore provides support for utilizing this scale in future mentoring research on the measurement of MSE as well as understanding relationships between MSE and other key mentoring constructs.

The reliability of the MSES was found to be similar to but slightly lower than a previous measure of MSE (Parra, et al., 2002). However, it is important to note that the MSES (11 items) contained substantially fewer items than the Parra et al scale (19 items), likely contributing to its lower reliability. In light of this difference, the acceptable reliability of the MSES highlights its good performance while measuring MSE more efficiently.

A strength of the present paper is that mentor, child and parent reports of MRQ were collected and examined in relation to MSE. Our cross-sectional analyses indicated that MSE was positively correlated with mentor reports of global and engagement MRQ, even after controlling for potentially important confounders. The positive correlations between these theoretically related variables are suggestive of good convergent validity of the MSES. These findings are consistent with a study conducted by Askew (2006) who found that MSE was positively correlated with mentor reports of relationship closeness, a characteristic of global MRQ. Inconsistent with previous research, however, was the finding that MSE was not correlated with child reports of global MRQ. Parra et al. (2002) found that MSE was positively correlated with child reports of relationship closeness after controlling for mentor age and quality of mentor training. A possible explanation for this inconsistent finding is that the study conducted by Parra et al. (2002) included a relatively small sample (n=50) from one BBBS agency and therefore the results may not be generalizable to the greater BBBS population.

The positive association between MSE and mentor reports of MRQ alongside an absence of evidence supporting an association between MSE and child and parent reports of MRQ warrants discussion. First, a possible explanation for the null finding among children and parents is that child and parent perceptions of MRQ are simply not influenced by how confident mentors feel in their mentoring abilities. Second, differences in results across informants may be partly explained by low-to-moderate reporter concordance of the MRQ scales. In a previous study examining the measurement properties of the MRQ scales, reporter concordance was not found to be high (Ferro et

al., Manuscript under review). Therefore, parents, children, and mentors may evaluate MRQ based on different criteria. Third, it is possible that mentors' ratings of MRQ may be biased by their own levels of self-efficacy. Specifically, mentors who are confident in their mentoring abilities may be naturally inclined to report positively on MRQ. Overall, it is difficult to determine whether the positive association between MSE and mentor reported MRQ together with the absence of an association between MSE and child and parent reported MRQ is due to poor convergent validity or other factors. A cross-validation study is needed examining the convergent validity of the MSES to shed light on the present results and the results of previous studies.

The predictive validity analyses revealed that MSE predicted mentor reported engagement MRQ six months later. However, this association became non-significant when controlling for other variables. Additionally, MSE was not found to predict global and engagement MRQ among informants six months later in the remaining predictive validity analyses. These findings are inconsistent with previous research (Karcher, et al., 2005). There are a few possible explanations for the differences in findings and overall lack of association in the predictive validity analyses. First, the present study used a generalized sample of participants from medium-to-large sized BBBS community mentoring programs whereas Karcher et al. (2005) used a small sample of high school-aged mentors from a single school-based mentoring program. Therefore, the results from these two studies are not directly comparable. Second, the Karcher et al. (2005) measure for MSE included items that may have captured a different underlying construct, such as mentor's perception of matched children's satisfaction with mentoring (e.g., "it is hard to tell whether my mentee is getting anything out of mentoring"), rather than mentors' confidence in their ability as mentors. As such, the inconsistency in results may be attributable to these potential differences in the underlying constructs. Third, the exclusion of terminated mentoring relationships in the present sample may have contributed to lower variability in both MSE and MRQ reducing the likelihood of detecting a positive effect. Finally, it is possible that factors other than MSE better predict global and engagement MRQ. Continued research examining other hypothesized constructs associated with MSE and MRQ, such as frequency of contact (as discussed below), will provide an important contribution to the mentoring literature.

Although not the focus of the present paper, significant predictors of MRQ in the predictive validity analyses were 12-month engagement MRQ and frequency of contact. These findings are consistent with previous research (Zand, et al., 2009; Karcher, et al., 2005; DuBois, & Neville, 1997). It is not surprising that MRQ at an earlier time point predicts later MRQ. This might be expected because earlier reports of MRQ may set the tone in the relationship and subsequently predict later reports of MRQ. It is also unsurprising that frequency of contact would play an important role in predicting higher engagement MRQ because increased opportunities for mentors and children to meet may enable supportive mentoring relationships to develop in the longer term.

There are several strengths of this study that contribute novel information on the measurement of MSE. First, the MSES includes a broader range of items than previous measures allowing for a more thorough examination of MSE including mentors' confidence regarding goal setting, problem solving, and activity planning. Second, this is the only study to have rigorously examined the measurement properties of a MSE scale including dimensionality, reliability, and internal validity. The MSES was shown to be a unidimensional construct with good reliability and convergent validity with respect to its relationship with global and engagement MRQ as reported by mentors. Third, the inclusion of a relatively large sample of mentors, children, and parents from numerous BBBS agencies across Canada contributed to results that can be generalized to participants of medium-to-large sized BBBS community mentoring programs.

There are also a few limitations to highlight. First, data on the MSES were only collected from mentors in currently matched mentoring relationships. Therefore, the measurement properties of the scale may not be generalizable to mentors in terminated mentoring relationships. Additionally, as mentioned above, the exclusion of terminated mentoring relationships may have decreased variability and therefore reduced the ability to detect potentially important relationships. Second, since 12-month follow-up data were used to examine the dimensionality, reliability, and convergent validity of the MSES, these measurement properties are unknown across other follow-up periods. The measurement properties of the scale may be different at subsequent follow-ups because the mentoring relationships would have existed for longer periods. In turn, mentors may have a better sense of their confidence in mentoring children or may evaluate their

mentoring abilities in different ways at a later time point. Third, an underlying assumption of the predictive validity analyses is that there is a unidirectional pathway leading from MSE to MRQ. However, it is possible that feedback loops or mediating mechanisms exist (i.e., MRQ may also predict MSE or MRQ may be mediated by MSE in relation to subsequent MRQ). The direction of the relationship may also change as a function of the duration of the mentoring relationship. Future work investigating the possibility of feedback loops will provide a more comprehensive understanding of the relationships examined herein.

This novel study provided a thorough examination of the measurement properties of a newly created scale, MSES, informed by mentors, children, and parents participating in BBBS community mentoring programs across Canada. The results provided preliminary evidence demonstrating good reliability and convergent validity of the MSES. Continued research further investigating the properties of the scale is warranted including the use of additional follow-up periods in order to more thoroughly examine its reliability and validity. In addition, a cross-validation study involving a different sample of BBBS mentoring participants including those in both current and terminated mentoring relationships will provide more conclusive evidence on its measurement properties. We believe the current evaluation should contribute to subsequent research utilizing the MSES in an effort to better understand relationships between MSE and other key mentoring constructs. Ultimately, with continued research in this area, findings can assist BBBS agencies to augment practices aimed at enhancing MSE among mentors.

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Table 6.1. Description of characteristics of mentors, parents, and children.[*†]

Variable	Mentors	Parents	Children
Age, years (standard deviation)	30 (8)	40 (8)	11 (2)
Gender, n			
Male	94	22	122
Female	155	227	127
Ethnicity, n			
Caucasian	191		102
African Canadian	6		21
Aboriginal	3		29
Asian	18		19
Hispanic	5		21
Canadian	9		26
Other	17		31
Living Arrangements, n			
Two Parents			41
One Parent			159
One Parent and Partner			26
Other			23
Marital Status, n			
Married/Common- law	94	62	
Divorced/Separated/Widowed	7	107	
Never Married	148	80	
Education, n			
Up to Secondary School Completed	25	80	
Some College or University	54	79	
Completed College or University	170	90	
Annual Household Income, n			
< $10,000	15	33	
$10,000 - $39,999	48	108	
$40,000 - $59,999	65	51	
≥$60,000	121	57	

[*]Including 12-month follow-up data for n=249 mentor, parent, and child triads participating in continuous mentoring relationships; [†]Reported as a percentage, unless otherwise stated.

Table 6.2. Description of mentoring relationship characteristics (n=249).

Variable	n
Duration, Months[*]	
≤3 months	23
3 to 6 months	51
7 to 12 months	175
Frequency of Contact, # Hrs/Wk[*]	
<2	25
2-3	183
4	26
≥5 hours	15
Mentoring Gender Composition[†]	
Same Gender	236
Mixed Gender (female mentor, male child)	13
Mentor Training, Total # Hrs*	
≤3	112
4-8	123
≥9	14

*As reported by mentors; [†]As reported by mentors and children.

Table 6.3. Item reliabilities of the *Mentor Self-efficacy Scale* (n=249).

Items	R^2
A	0.24
B	0.56
C	0.49
D	0.27
E	0.40
F	0.28
G	0.56
H	0.30
I	0.44
J	0.38
K	0.38

A, sharing personal experience; B, giving advice; C, help achieve goals; D, feel good about themselves; E, discuss issues in family; F, plan activities; G, provide guidance; H, teach skill; I, help get along; J, educate; K, convince importance of school; All parameters p<0.0001.

Table 6.4. Inter-item correlation/covariance matrix for the *Mentor Self-efficacy Scale* (n=249).

Items	A	B	C	D	E	F	G	H	I	J	K
A	0.49	0.22	0.13	0.12	0.24	0.12	0.16	0.17	0.10	0.17	0.12
B	0.47	0.43	0.24	0.14	0.29	0.17	0.27	0.15	0.23	0.19	0.20
C	0.27	0.53	0.50	0.19	0.24	0.19	0.30	0.23	0.20	0.17	0.21
D	0.25	0.33	0.42	0.43	0.16	0.17	0.17	0.15	0.15	0.12	0.16
E	0.41	0.53	0.40	0.30	0.70	0.15	0.33	0.14	0.25	0.21	0.17
F	0.24	0.35	0.36	0.36	0.24	0.54	0.20	0.18	0.15	0.17	0.22
G	0.31	0.56	0.59	0.36	0.54	0.38	0.52	0.19	0.21	0.23	0.22
H	0.34	0.34	0.48	0.33	0.24	0.36	0.38	0.48	0.15	0.21	0.12
I	0.23	0.52	0.44	0.36	0.46	0.32	0.45	0.34	0.43	0.19	0.21
J	0.36	0.43	0.36	0.27	0.38	0.36	0.47	0.46	0.44	0.44	0.19
K	0.26	0.44	0.43	0.37	0.30	0.43	0.44	0.26	0.47	0.42	0.46

Correlation matrix depicted below the diagonal and covariance matrix depicted in the shaded region. A, sharing personal experience; B, giving advice; C, help achieve goals; D, feel good about themselves; E, discuss issues in family; F, plan activities; G, provide guidance; H, teach skill; I, help get along; J, educate; K , convince importance of school; All parameters $p<0.0001$.

Table 6.5. Logistic regression analyses examining the ability of the *Mentor Self-efficacy Scale* to predict global mentoring relationship quality six months later among mentor, child, and parent reporters (n=151).

	Mentors			Children			Parents		
Predictor	**Odds Ratio**	**95% CI**	***P*-value**	**Odds Ratio**	**95% CI**	***P*-value**	**Odds Ratio**	**95% CI**	***P*-value**
MSE	1.06	0.98, 1.15	0.136	0.98	0.86, 1.13	0.879	1.05	0.94, 1.18	0.393

MSE, Mentor Self-efficacy; CI, confidence interval.

Table 6.6. Linear regression analyses examining the ability of the *Mentor Self-efficacy Scale* to predict engagement mentoring relationship quality six months later among child and mentor reporters (n=151).

	Children			Mentors			Mentors		
	β	95% CI	*P*-value	*β*	95% CI	*P*-value	*β*	95% CI	*P*-value
MSE	0.12	-0.04, 0.28	0.131	0.28	0.11, 0.38	0.001	-0.03	-0.18, 0.10	0.708
Engagement MRQ (12-month)							0.60	0.43, 0.78	0.001
Parent Support							0.02	-0.17, 0.21	0.857
Mentor Training Satisfaction							0.00	-0.08, 0.08	0.988
Mentor Gender[*]							0.01	-1.33, 1.42	0.949
Mentor Age							0.03	-0.06, 0.10	0.682
Child Age							-0.02	-0.36, 0.27	0.763
Child Conduct							-0.07	-2.14, 0.78	0.360
Duration							-0.05	-1.39, 0.71	0.523
Frequency of Contact							0.17	0.12, 0.20	0.029

MSE, Mentor Self-efficacy Scale; MRQ, mentoring relationship quality; CI, confidence interval; *Reference category coded as males.

CHAPTER SEVEN

Does Mentor Self-efficacy Mediate the Relationship Between Environmental Supports and Mentoring Relationship Quality? A Study of Mentors, Children, and Parents Participating in Big Brothers Big Sisters Community Mentoring Programs[8]

Research has consistently demonstrated that children's participation in Big Brothers Big Sisters (BBBS) programs is associated with positive child outcomes including psychosocial well-being (DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011; Sale, Bellamy, Springer, & Wang, 2008; DeWit, Lipman, Manzano-Munguia, Bisanz, Graham, Offord, O'Neill, Pepler, & Shaver, 2007; Tierney, Grossman, & Resch, 1995). A key aspect of mentoring that is associated with positive developmental outcomes in children is mentoring relationship quality (MRQ) (Rhodes, Spencer, Keller, Liang, & Noam, 2006; Rhodes, Reddy, Roffman, & Grossman, 2005; Parra, DuBois, Neville, Pugh-Lilly, & Povinelli, 2002). While some studies have examined the relationship between MRQ and child outcomes, little research has examined factors that might explain MRQ. In order to enhance MRQ in programs such as BBBS, it is important to identify factors associated with this construct.

Bronfenbrenner's (1979) ecological systems model and Keller's (2005) systemic model of the youth mentoring intervention provide a theoretical basis for understanding factors that may be associated with MRQ. Bronfenbrenner's model of child development illustrates that children are influenced by many factors operating at different levels, including various distal (e.g., environment) and proximal (e.g., personal characteristics) factors in their lives. Applying this model to the mentor-child dyad, the quality of the mentoring relationship is also likely affected by various distal (e.g., parent support of the mentoring relationship and mentor training satisfaction) and proximal [e.g., mentor self-efficacy (MSE)] factors. Keller's model of youth mentoring complements Bronfenbrenner's model in that it views the mentoring relationship as the focal point of a complex web of existing interpersonal relationships involving the mentor, child and

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parent situated in the context of the mentoring agency. This theory highlights that the relationship between the mentor and child is likely to be influenced by many factors outside the mentor-child dyad. Guided by theory underlying Bronfenbrenner's and Keller's models, the conceptual model shown in Figure 7.1 illustrates that MSE, a proximal determinant of the mentoring relationship, is hypothesized to mediate the association between distal environmental supports and MRQ. That is, parent support of the mentoring relationship and mentor training satisfaction may influence MSE which, in turn, may affect MRQ.

To date, no formal mediation analysis has been conducted to examine the associations among environmental supports, MSE and MRQ including global (i.e., mentor-child bond) and engagement (i.e., mentor-child supportiveness) outcomes. However, findings from previous studies are consistent with the mediation model described above. In particular, previous research has demonstrated that mentor training is positively associated with MSE ($\beta=0.31$, $p<0.05$) (Parra et al., 2002). In turn, MSE is positively associated with mentoring relationship closeness, one facet of MRQ ($\beta=0.26$, $p<0.05$) (Parra et al., 2002). Martin and Sifers (2012) also demonstrated a positive association between mentor confidence, a characteristic of MSE, and mentoring relationship satisfaction (operationalized as having similar characteristics to MRQ including happiness) ($\beta=0.26$, $p<0.05$). As well, theoretical reasoning and qualitative research suggest that parent support of the mentoring relationship is associated with MRQ (Spencer, 2007) due to parents playing a key supportive role in the mentoring relationship (Keller, 2005). Overall, while this research suggests that environmental supports may be mediated by MSE in terms of its relationship with MRQ, research is required to confirm this hypothesis.
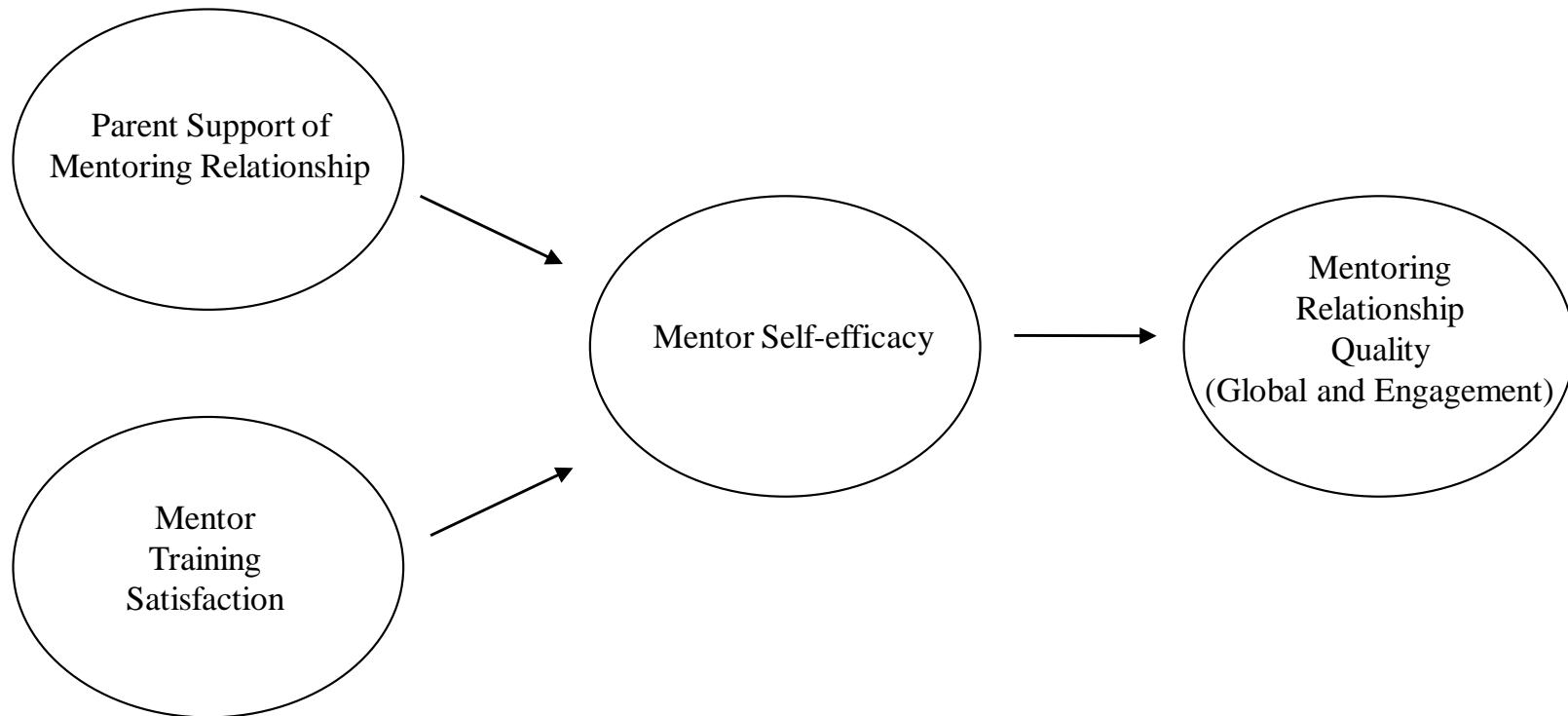
Figure 7.1. Conceptual model hypothesizing mentor self-efficacy mediating the association between environment (i.e., parent support of the mentoring relationship and mentor training satisfaction) and mentoring relationship quality including global and engagement outcomes.

Study Aim

The aim of this study is to test the hypothesis that MSE mediates the positive relationship between environmental supports and global and engagement MRQ as reported by mentors, children, and parents participating in BBBS community mentoring programs across Canada.

Methodology

Study Sample and Design

The sample for this study consisted of a cross-sectional segment of 249 currently matched (i.e., on-going and re-matched) mentors, children, and parents involved in BBBS community mentoring relationships ranging in length from 1 to 12 months. The sample was drawn from a larger cohort of 997 families (parents and children) and over 500 mentors approved for service in 20 BBBS programs across Canada and followed longitudinally over a 30 month period (DeWit, Lipman, Bisanz, Da Costa, Graham, La Rose, Pepler, Shaver, Coyle, DuBois, Manzano-Munguia & Ferro, Manuscript under review). BBBS agencies invited to participate in the study were chosen based on their long history of operation, large caseloads, well defined policies and procedures, sufficient number of staff, and cultural diversity of clientele. Data were collected from mentors, children and their parents (i.e., primary legal guardians). Mentors and parents completed self-administered questionnaires and children completed in-person interviews.

Measures

The measures are grouped according to Bronfenbrenner's theoretical framework with the constructs underlying the measures classified as distal or proximal determinants of MRQ.

Distal Environmental Determinants

Parent Support of the Mentoring Relationship Scale

This 6-item scale measured level of parent support of the mentoring relationship as reported by mentors. Example items include, ""Would you say that she/he: a) Suggests activities that me and my [matched child] might do together; c) Offers me advice or help to make the match relationship work better; and e) Ensures that there is enough time for me and my [matched child] to meet". The scale was scored using five response options ranging from "strongly disagree" to "strongly agree". The internal consistency reliability of the scale was high ($\alpha=0.80$).

Mentor Training Satisfaction Scale

This 13 item scale measured mentors' satisfaction with training provided by BBBS agencies. Example items include, "Please indicate your level of satisfaction with your [BBBS] training/orientation in the following areas: …a) Clarity of rules and responsibilities as a [BBBS] volunteer; f) Effectiveness and competency of trainers/orientation leaders; and, i) Clarity of rules and responsibilities of the [BBBS] agency". This scale was scored using five response options ranging from "not at all satisfied" to "very satisfied". The internal consistency reliability of the scale was high ($\alpha=0.92$).

Proximal Determinant (Mediating Mechanism)

Mentor Self-efficacy Scale

This 11-item scale measured mentors' level of confidence in his or her knowledge and ability to provide support and guidance to a child in a BBBS community mentoring relationship. Example items include, "Please rate your level of confidence as a [mentor] to your [matched child] in the following areas: b) Giving advice on how to deal with a problem that is important to them; c) Helping them achieve or set goals; g) Providing

guidance around their future". This scale was scored using four response options ranging from "not at all confident" to "very confident". The measurement properties were previously tested and the instrument was found to have good reliability (α=0.81) and validity (Ferro, DeWit, Speechley, Wells, & Lipman, Manuscript under review).

Mentoring Relationship Quality Outcomes

Global Mentoring Relationship Quality Scale

This 5-item scale measured the global traits of MRQ between the mentor and child as reported by mentors, children, and parents. Global MRQ traits refer to the relational characteristics that describe the 'bond' between the mentor and child in the BBBS mentoring relationship. Example items include, "Would you say that [the mentoring relationship] is a…a) A Trusting relationship? b) A Warm and affectionate relationship? c) A Close relationship? d) A Happy relationship? e) A Respectful relationship?". This scale was scored using three response options: "not very true", "sometimes true", and "very true". It demonstrated good reliability (mentor scale: α=0.81; child scale: α=0.90; and parent scale: α=0.93), internal validity, external validity among child sub-groups, and weak-to-moderate reporter concordance (Ferro, DeWit, Speechley, Wells, & Lipman, Manuscript under review).

Quality of Mentoring Relationship Engagement Scale

This scale measures the action-oriented, supportive traits of MRQ, which refer to the engaging characteristics of the mentoring relationship as reported by mentors and children. The mentor scale contains 12 items and the child scale contains 21 items. Example items include, "How would you describe your relationship with your [mentor/matched child] c) Asks to do things with me; h) Shows an interest in the things [we] do together; j) Asks for [my] opinion…". This scale was scored using three response options: "not very true", "sometimes true", and "very true". The instrument demonstrated

good reliability (mentor scale: α=0.85 and child scale: α=0.88), internal validity, and external validity among child sub-groups (Ferro, et al., Manuscript under review).

Confounders

Several variables were controlled for in the mediation analysis as guided by the mentoring literature including mentoring relationship duration and frequency of contact (Martin & Sifers, 2012), mentor age and gender (Parra et al., 2002), and child age and conduct problems (e.g., temperament, obedience) (Karcher et al., 2005). It is reasonable to suggest that stronger environmental supports are associated with increased mentoring relationship duration and increased frequency of contact between mentors and children. As well, mentors who feel confident in their roles are likely to meet with their matched children more frequently and remain in their mentoring relationships for longer durations compared to those who are less confident. Participant demographics (i.e., age and gender) are commonly controlled for in mentoring research since they are hypothesized to be associated with various mentoring variables including MSE and MRQ (for example see Parra et al., 2002). With respect to child conduct, Karcher and colleagues (2005) demonstrated that child conduct problems are negatively associated with MSE and MRQ.

In terms of mentoring relationship duration and frequency of contact, mentors reported on the number of months they spent in the mentoring relationship and the number of times per week they were in contact with their matched child. Child conduct was measured as part of the *Strength and Difficulties Questionnaire* and has demonstrated satisfactory internal consistency reliability (α=0.63) (Goodman, 2001). Child gender was not controlled for in the analysis because of its high correlation with mentor gender (r=0.92, p<0.01).

Analysis

Statistical Package for the Social Sciences (SPSS 16, SPSS Inc., Chicago IL) was used to conduct the univariable analyses describing the sample and mentoring relationship characteristics. As a preliminary step to conducting the mediation analysis,

the unadjusted correlations between the constructs were examined. Specifically, the associations between environmental supports and MRQ; environmental supports and MSE; and, MSE and MRQ were examined. Statistically significant associations between the constructs suggested their retention in the subsequent mediation analysis.

Structural equation modeling (SEM) was used to conduct the mediation analysis in M*plus* 6.1 (M*plus* Inc., Los Angeles, CA). SEM is preferable over other techniques because it removes the potentially biased effects of random and correlated measurement error and in doing so provides a more accurate assessment of the structural pathways linking the constructs of interest (Schumacker, & Lomax, 2010). All SEM models were analyzed using maximum likelihood estimation with robust standard errors (i.e., MLR) under the COMPLEX function in M*plus* because the study sample was nested within BBBS agencies and MLR produces estimates that are based on a corrected asymptotic covariance matrix that is not dependent on the assumptions of independence and normality (Muthen & Muthen, 2010). In an effort to preserve statistical power, items loading onto the constructs were parceled (i.e., item couplets summed together) in order to reduce the number of parameters estimated in each SEM model (Kline, 2005). Missing data were handled using a combination of multiple imputation (MI) and full information maximum likelihood (FIML) (Muthen & Muthen, 2010). MI was used on the covariates and FIML was used on the exogenous/endogenous constructs. Overall, missing data were minimal with <5% for the covariates and <6% for the exogenous/endogenous constructs among mentor, child, and parent reporters.

The mediation analysis was guided by steps outlined by Baron and Kenny (1986). Separate mediation analyses were conducted for both MRQ outcomes (i.e., global and engagement MRQ). All estimated model pathways were adjusted for potential confounders. The χ^2 difference test was employed to compare the fit of the partial versus complete mediation models. Since the data were nested within BBBS agencies, the χ^2 difference test was adjusted by a correction factor (Muthen, & Muthen, 2010). In the event that model fit significantly improved after including the direct pathway between environmental supports and MRQ, partial mediation was confirmed. If model fit did not significantly improve after the introduction of the direct pathway, complete mediation was confirmed. For the final mediation models, the indirect effect (i.e., product of direct

effects) and total effect (i.e., sum of indirect effect and direct effect) were calculated as guided by MacKinnon (2008). Model fit of the final mediation models, were examined using five fit indices: (1) χ^2 (p>0.05); (2) comparative fit index (CFI) $\geq$0.90; (3) Tucker-Lewis index (TLI) $\geq$0.90; (4) root mean square error of approximation (RMSEA) $\leq$0.08; and, (5) standardized root mean square residual (SRMR) $\leq$.05 (Schumacker & Lomax, 2010). The inclusion of multiple fit indices is advantageous because it evaluates overall goodness of fit on the basis of several criteria: absolute fit, relative fit, and parsimony (Kline, 2005).

Results

Sample Characteristics

Descriptive characteristics of the sample and mentoring relationships are shown in Tables 7.1 and 7.2, respectively. Briefly, mentors had a mean age of 30 years and a substantial portion was female (62%). On average, parents were 40 years old and the majority was female (91%). Among children, the average age was 11 years and about half were female (51%). Most of the mentoring relationships were of the same gender composition (95%) and were between 7-12 months in duration (70%). Most mentors met with their matched child 2-3 hours per week (74%).

Preliminary Analysis

Table 7.3 outlines the unadjusted correlations among the constructs. In summary, parent support of the mentoring relationship was positively associated with mentor reported global MRQ (r=0.52, p<0.001) and parent reported global MRQ (r=0.15, p<0.05). Parent support of the mentoring relationship was also positively associated with mentor reported engagement MRQ (r=0.47, p<0.001) and child reported engagement MRQ (r=0.16, p<0.05). Parent support of the mentoring relationship was not associated with child reported global MRQ (r=0.07, p=0.374). Mentor training satisfaction was positively associated with MSE (r=0.35, p<0.001) but it was not associated with any

other endogenous constructs. Finally, MSE was positively associated with mentor reported global (global: r=0.45, p<0.001) and engagement MRQ (r=0.56, p<0.001). However, MSE was not associated with the MRQ outcomes reported by children and parents. These findings supported the retention of parent support, MSE, and mentor reported global and engagement MRQ in the subsequent mediation analysis.

Mediation Analysis

As a first step to test for mediation, global and engagement MRQ were separately regressed onto parent support of the mentoring relationship adjusting for the control variables. Results demonstrated that parent support of the mentoring relationship was positively associated with global MRQ [β=0.57, 95% CI (0.47, 0.67)] and engagement MRQ [β=0.51, 95% CI (0.39, 0.62)]. As a second step, MSE was regressed onto parent support of the mentoring relationship adjusting for the control variables. MSE was positively associated with parent support of the mentoring relationship [β=0.36, 95% CI (0.18, 0.53)]. As a third step, global and engagement MRQ were separately regressed onto MSE adjusting for parent support of the mentoring relationship and the control variables. Results yielded that MSE was positively associated with global MRQ [β=0.29, 95% CI (0.15, 0.43)] and engagement MRQ [β=0.46, 95% CI (0.34, 0.58)]. The associations between parent support of the mentoring relationship and global MRQ [β=0.47, 95% CI (0.37, 0.57)] and parent support of the mentoring relationship and engagement MRQ [β=0.34, 95% CI (0.19, 0.49)] attenuated after including MSE in the model. Since the associations did not reduce to zero after including MSE in the model, partial mediation was supported. The χ^2 difference test confirmed partial mediation in both models because model fit significantly improved once the direct pathways from parent support of the mentoring relationship to global MRQ [(χ^2_D=33 (1), p<0.001)] and parent support of the mentoring relationship to engagement MRQ [χ^2_D=20 (1), p<0.001] were introduced. As such, the overall fit of the partial mediation models and their indirect and total effects were subsequently examined.

The partial mediation model examining the mediating effect of MSE in its associations with parent support of the mentoring relationship and global MRQ was

found to have satisfactory model fit (χ^2=206 (105) p=0.000; CFI=0.92; TLI=0.90; RMSEA=0.06, 90% CI (0.05, 0.08); SRMR=0.05) (Figure 7.2). The indirect effect was 0.10 (standard error 0.04) [95% CI (0.04, 0.17)] suggesting that global MRQ should increase by 0.10 standard deviation for every one standard deviation increase in parent support of the mentoring relationship that is transmitted through MSE. The total effect of the partial mediation model was 0.57 (standard error 0.05) [95% CI (0.48, 0.67)]. In other words, increasing parent support of the mentoring relationship by one standard deviation increases global MRQ by 0.57 via all direct and indirect associations between these two constructs.

Satisfactory model fit was also found for the partial mediation model examining the mediating effect of MSE on the association between parent support of the mentoring relationship and engagement MRQ (χ^2=300 (159) p=0.000; CFI=0.92; TLI=0.90; RMSEA=0.06, 90% CI (0.05, 0.07); SRMR=0.05) (Figure 7.3). The indirect effect was 0.16 (standard error 0.05) [95% CI (0.06, 0.27)] thus suggesting engagement MRQ should increase by 0.16 standard deviation for every one standard deviation increase in parent support of the mentoring relationship that is transmitted through MSE. The total effect of the partial mediation model was 0.51 (standard error 0.06) [95% CI (0.39, 0.62)]. As such, increasing parent support of the mentoring relationship by one standard deviation increases engagement MRQ by 0.51 via all direct and indirect associations between these two constructs.

β=0.36 (0.09)

β=0.29 (0.07)

Parent Support of Mentoring Relationship

Mentor Self-efficacy

Mentoring Relationship Quality (Global)

β=0.47 (0.05)
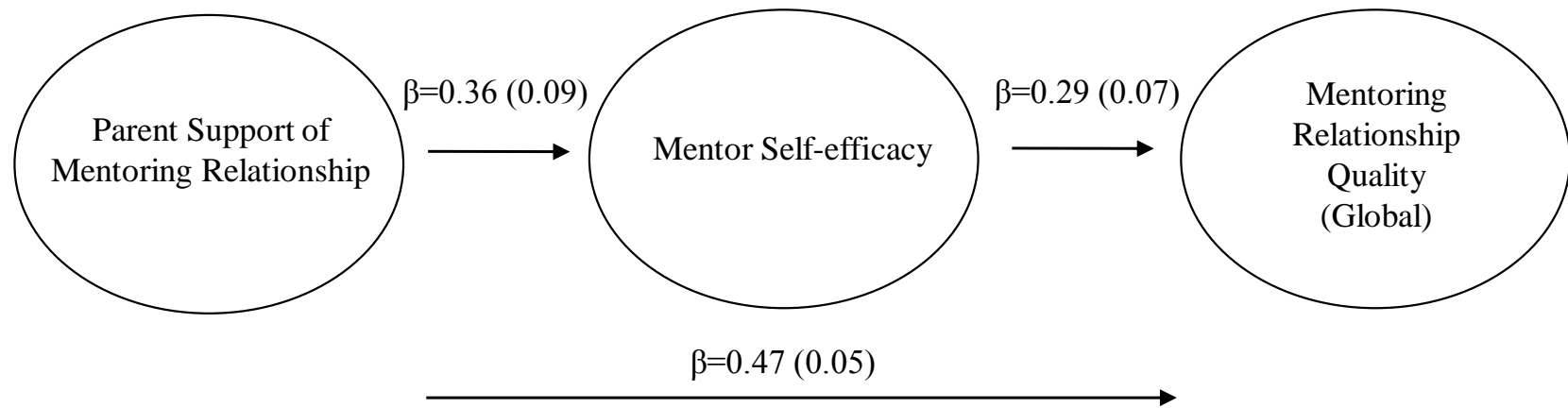
χ^2=206 (105) p<0.0001
CFI=0.92; TLI=0.90
RMSEA=0.06, 90% CI (0.05, 0.08)
SRMR=0.05

Figure 7.2. Final structural equation model illustrating mentor self-efficacy partially mediating the association between parent support of the mentoring relationship and global mentoring relationship quality as reported by mentors (n=249). Standardized effect estimate (standard error); All parameters p<0.0001; All effect estimates are adjusted for mentor gender and age, child age and conduct, and mentoring relationship duration.

Figure 7.3. Final structural equation model illustrating mentor self-efficacy partially mediating the association between parent support of the mentoring relationship and engagement mentoring relationship quality as reported by mentors (n=249).
Standardized effect estimate (standard error); All parameters p<0.0001; All effect estimates are adjusted for mentor gender and age, child age and conduct, and mentoring relationship duration.

Discussion

Guided by theory adapted from Bronfenbrenner and Keller that distal and proximal factors influence the relationship between a mentor and a child, we developed and tested a conceptual model in which MSE mediates the positive association between environmental supports (i.e., parent support of the mentoring relationship and mentor training satisfaction) and global and engagement MRQ. Specifically, it was hypothesized that strong environmental supports would be associated with high MSE which, in turn, would be associated with high MRQ. Analyses were carried out on a sample of 249 mentors, children and parents involved in currently matched mentoring relationships from 20 BBBS agencies across Canada. We found evidence supporting the conceptual model in that the association between parent support of the mentoring relationship and mentor reported global and engagement MRQ outcomes are mediated, albeit partially, through MSE.

Parent support of the mentoring relationship was positively associated with MSE and global and engagement MRQ as reported by mentors and parents. Theoretical reasoning supports these associations because parents play a key supporting role in the mentor-child dyad (Keller, 2005). It can be speculated that parent support of the mentoring relationship may contribute to mentors feeling more confident due to parents providing words of encouragement, allowing sufficient time for mentors and children to meet, and suggesting fun and interesting activities. For similar reasons, parent support of the mentoring relationship may also contribute directly to higher MRQ. The study findings make an important contribution to the mentoring literature because they endorse Keller's (2005) model which highlights the important contribution parents provide in supporting the mentoring relationship.

Interestingly, parent support of the mentoring relationship was not found to be associated with child reports of global MRQ. This lack of association needs to be considered within the context of informant type because significant associations were found between parent support of the mentoring relationship and global MRQ as reported by mentors and parents. Previous research has demonstrated that concordance among mentor, child and parent reports of MRQ is not very high (Goldner, & Mayseless, 2009;

Ferro et al., Manuscript under review). Lower concordance suggests differing perspectives of MRQ across informant type. Therefore, it is not surprising that associations between parent support of the mentoring relationship and MRQ are inconsistent across informants. This inconsistency highlights the importance of including multiple perspectives on MRQ in future mentoring research especially when examining its association with parent support of the mentoring relationship.

Mentor training satisfaction was positively associated with MSE. An association of similar magnitude was demonstrated in previous studies of BBBS community mentoring relationships (Martin & Sifers, 2012; Parra, et al., 2002). The importance of providing mentors with adequate training has been consistently discussed in the mentoring literature (Herrera, Grossman, Kauh, Feldman, McMaken, & Jucovy, 2007; Stukas & Tanti, 2005; Herrera, Sipe, & McClanahan, 2000) but less so with respect to its relationship with MSE (Martin & Sifers, 2012; Parra, et al., 2002). Although speculative, it is reasonable to assume that mentors who are highly satisfied with their BBBS training are more likely to feel confident in their mentoring abilities and better prepared to provide guidance and support to matched children. Future work examining this association using longitudinal data will provide more conclusive evidence.

Mentor training satisfaction was not associated with global and engagement MRQ as reported by mentors, children, and parents. One possible explanation for this non-significant finding is that the study sample excluded terminated mentoring relationships. To assess this potential selection bias, we compared ratings of mentor training satisfaction and global MRQ between two mentor groups: those in currently matched mentoring relationships (n=249) and those in terminated mentoring relationships (n=23). Results indicated significant differences between groups, with those in currently matched mentoring relationships having higher scores on mentor training satisfaction (t=2.86, p=0.005) and global MRQ (t=4.49, p<0.0001) compared to those in terminated mentoring relationships. The inclusion of mentors in terminated mentoring relationships may lead to different conclusions regarding the association between mentor training satisfaction and global MRQ. However, their inclusion was not possible in the present study because mentors in terminated mentoring relationships did not contribute data on other constructs examined in the SEM models (i.e., parent support of the mentoring relationship and

engagement MRQ). Future work including mentors involved in both currently matched and terminated mentoring relationships will provide a more comprehensive examination of the association between mentor training satisfaction and MRQ.

MSE was associated with global and engagement MRQ as reported by mentors but not children and parents. Previous mentoring research has found that MSE is positively associated with MRQ as reported by children and/or mentors (Martin & Sifers, 2012; Askew, 2006; Parra, et al., 2002). However, the results of these studies may not be comparable to our findings because they used small samples drawn from a single mentoring agency or school. It is plausible that mentors evaluate MRQ while also considering their perceived confidence as role models to matched children. In contrast, parents and children are less likely to consider MSE in their own assessments of MRQ. Given the sparse and inconsistent findings on this topic, continued research is imperative in order to better understand the relationship (or lack thereof) between MSE and MRQ.

Overall, the mediation analyses demonstrated that MSE partially mediated the association between parent support of the mentoring relationship and mentor reported global and engagement MRQ. In other words, parent support of the mentoring relationship is positively associated with global and engagement MRQ both directly and indirectly through MSE. These results highlight the important supporting role parents play in the mentoring relationship and its association with forging stronger bonds and garnering increased support between mentors and children. However, since the present study was cross-sectional, future work examining these associations with the inclusion of longitudinal data will provide evidence with respect to the directionality of the associations examined herein.

This study has several strengths. First, it is the first formal investigation to examine the extent to which MSE mediates the association between environmental supports and MRQ between mentors and their protégés. Unique among our findings was the important role played by parent support of the mentoring relationship in its associations with increased MSE and MRQ. Second, the inclusion of global and engagement MRQ as reported by mentors, children, and parents provides the most comprehensive examination of MRQ compared to previous mentoring research in its association with environmental supports and MSE. Third, the inclusion of a large sample

of mentors, children, and parents participating in Canadian BBBS community mentoring relationships provides results that are generalizable to medium-to-large sized BBBS agencies across Canada. Finally, the use of SEM provides results that are less biased than other more traditional methods (e.g., multiple regression, path analysis) because the effect estimates are adjusted for measurement error (Schumacker, & Lomax, 2010).

There are also limitations worth noting. First, our hypothesis was tested using cross-sectional data. As a result, causal inferences concerning the impact of environmental supports and MSE on MRQ should not be made. For example, it is possible that MRQ influences MSE or that a bi-directional relationship exists between these two constructs. A longitudinal analysis of the present data was not possible due to sample size limitations and the requirement of a sufficient number of mentoring relationships matched for a considerable length of time (i.e., ≥6 months). Second, the sample was restricted to include those in current mentoring relationships only. The exclusion of terminated mentoring relationships may have introduced selection bias. That is, those in currently matched mentoring relationships are on average more likely to be more confident in their abilities to provide guidance and support to their matched children and are also more likely to be satisfied with the quality of their mentoring relationship. The exclusion of terminated mentoring relationships likely reduced the variance on MSE and MRQ and resulted in attenuated relationships between these constructs. Unfortunately, data from terminated mentoring relationship participants were not available on parent support of the mentoring relationship, MSE, and engagement MRQ. Therefore, the SEM models were restricted to include only those in currently matched mentoring relationships. Future work including this information will contribute to a greater understanding of the associations examined herein.

Implications for Programs and Policy

This study is the first of its kind to test the extent to which MSE mediates the relationship between environmental supports and global and engagement MRQ as reported by mentors, children, and parents participating in BBBS community mentoring relationships across Canada. The results provided evidence supporting the hypothesis that

environmental supports, specifically parent support of the mentoring relationship, is associated with increased MSE which, in turn, is associated with increased MRQ. The results will contribute to future work utilizing longitudinal data and participants in both currently matched and terminated mentoring relationships in order to provide more conclusive evidence. If further evidence suggests an important role of parental support, programs might incorporate initiatives that improve or promote parental support of the mentoring relationship. For example, program staff can emphasize to parents the important role they play within the mentoring relationship and include them early on in the mentoring process such as the match determination phase. Also, given the mediating role of MSE, programs might need to focus on improving mentor self-confidence through orientation and training.

Table 7.1. Description of mentor, parent, and child characteristics.*

Variable	Mentors	Parents	Children
Age, years (standard deviation)	30 (8)	40 (8)	11 (2)
Gender, n	94	22	122
Male	155	227	127
Female			
	191		102
Ethnicity, n	6		21
Caucasian	3		29
African Canadian	18		19
Aboriginal	5		21
Asian	9		26
Hispanic Canadian	17		31
Other			41
			159
Living Arrangements, n			26
Two Parents			23
One Parent			
One Parent and Partner	94	62	
Other	7	107	
	148	80	
Marital Status, n			
Married/Common-law	25	80	
Divorced/Separated/Widowed	54	79	
Never Married	170	90	
Education, n	15	33	
Up to Secondary School Completed	48	108	
Some College or University	65	51	
Completed College or University	121	57	
Annual Household Income, n			
< $10,000			
$10,000 - $39,999			
$40,000 - $59,999			
≥$60,000			

*Including 12-month follow-up data for n=249 mentor, parent, and child triads participating in continuous mentoring relationships; [†]Reported as a percentage, unless otherwise stated.

Table 7.2. Description of mentoring relationship characteristics (n=249).

Variable	n
Duration, Months[*]	
≤ 3 months	23
3 to 6 months	51
7 to 12 months	175
Frequency of Contact, # Hrs/Wk[*]	
<2	25
2-3	183
4	26
≥ 5 hours	15
Mentoring Gender Composition[†]	
Same Gender	236
Mixed Gender (female mentor, male child)	13
Mentor Training, Total # Hrs*	
≤3	112
4-8	123
≥9	14

*As reported by mentors; [†]As reported by mentors and children.

Table 7.3 Correlation matrix of constructs in the conceptual model (n=249).

Constructs	Parent Support	Mentor Training Satisfaction	MSE	Global MRQ (Mentor)	Global MRQ (Child)	Global MRQ (Parent)	Engagement MRQ (Mentor)	Engagement MRQ (Child)
Parent Support	1.00		---	---	---	---	---	---
Mentor Training Satisfaction	0.11^{ns}	1.00	---	---	---	---	---	---
MSE	$0.31^{\ddagger}$	$0.35^{\ddagger}$	1.00	---	---	---	---	---
Global MRQ (Mentor)	$0.52^{\ddagger}$	0.11^{ns}	$0.45^{\ddagger}$	1.00	---	---	---	---
Global MRQ (Child)	0.07^{ns}	0.01^{ns}	0.09^{ns}	$0.21^{\dagger}$	1.00	---	---	---
Global MRQ (Parent)	0.15^{*}	0.05^{ns}	0.12^{ns}	$0.30^{\dagger}$	$0.25^{\dagger}$	1.00	---	---
Engagement MRQ (Mentor)	$0.47^{\ddagger}$	0.11^{ns}	$0.56^{\ddagger}$	$0.65^{\dagger}$	$0.19^{\dagger}$	$0.23^{\dagger}$	1.00	---
Engagement MRQ (Child)	0.16^{*}	0.03^{ns}	0.05^{ns}	0.15^{*}	$0.52^{\dagger}$	$0.25^{\dagger}$	$0.19^{\dagger}$	1.00

MRQ, mentoring relationship quality; MSE, mentor self-efficacy; $^{*}p< 0.05$, $^{\dagger}p<0.01$, $^{\ddagger}p<0.001$, $^{ns}p\geq0.05$.

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CHAPTER EIGHT

Discussion and Conclusion

Introduction

This final chapter overviews the primary thesis objectives, results and potential implications, strengths and limitations, and provides direction for future research. The three primary objectives were to: 1) examine the measurement properties of the scales used to measure global and engagement mentoring relationship quality (MRQ); 2) examine the measurement properties of the scale used to capture mentor self-efficacy (MSE); and, 3) examine the extent to which MSE mediates the relationship between environmental supports, specifically, parent support of the mentoring relationship and mentor training satisfaction, and MRQ including global and engagement outcomes. Data for this thesis work were obtained from the 12- and 18-month follow-ups of a prospective cohort investigation of 20 Big Brothers Big Sisters (BBBS) programs across Canada (DeWit, et al., 2006).

Summary of Results

Chapter 5: The Measurement Properties of the *Global Mentoring Relationship Quality Scale* and *Quality of Mentoring Relationship Engagement Scale*

The *Global Mentoring Relationship Quality Scale* (G-MeRQS) and *Quality of Mentoring Relationship Engagement Scale* (QMRES) demonstrated unidimensionality, good reliability, and good internal (i.e., convergent and predictive validity) and external validity. The unidimensionality of both scales provided empirical evidence that they each tapped into one underlying theoretical construct (i.e., quality of the 'bond' and quality of supportiveness between mentors and children, respectively). The scales had similar or higher internal consistency reliabilities compared to the most appropriate benchmark scales for mentor and child reporters, respectively: *Match Characteristics Questionnaire* (Harris & Nakkula, 2008) and *Youth Mentoring Survey* (Harris & Nakkula, 2010).

This study also provided evidence of good internal (i.e., convergent and predictive) validity of the G-MeRQS and QMRES. There was moderate convergence between the scales suggesting a distinction in their underlying theoretical constructs. Good predictive validity of the 12-month G-MeRQS (mentor and parent) and QMRES (mentor) was demonstrated by their ability to predict 18-month mentoring relationship status after adjusting for potentially important confounders as guided by the mentoring literature. These findings are consistent with a study conducted by Parra and colleagues (Parra, DuBois, Neville, Pugh-Lilly, & Povinelli, 2002). Interestingly, the 12-month child reported G-MeRQs and QMRES were not found to predict 18-month mentoring relationship status. These results contradict research conducted by Parra and colleagues (2002). The inconsistency of results may be partly due to the differences in operationalization of MRQ between studies. It can also be speculated that children's perspectives of global and engagement MRQ may have relatively little influence on mentoring relationship status due to parents and mentors taking the leadership role in the mentoring relationship and making decisions on their behalf. As well, children reporting lower MRQ may also be hesitant to express concerns about the mentoring relationship.

Good external validity of the G-MeRQS (mentor, child, and parent) was demonstrated across children's gender and age sub-groups. Metric invariance (i.e., equivalence across factor loadings) was found for the G-MeRQS (mentor) across child gender. Scalar invariance (i.e., equivalence across factor loadings and intercepts) was found for the G-MeRQS (mentor) across child age and the G-MeRQS (child and parent) across child gender and age sub-groups.

Finally, study results demonstrated moderate reporter concordance among mentors, children, and parents for the G-MeRQS and discordance between mentors and children for the QMRES. There are a few possible explanations for these findings. First, maturation may have contributed to decreased concordance between adults (i.e., mentors and parents) and children. Research has suggested that children's levels of social and cognitive maturation may affect reporter concordance between parents and children (Holmbeck, Li, Schurman, Friedman, & Coakley, 2002) and by extension, mentors and children. Second, it can be speculated that mentors may be motivated to positively rate MRQ. For example, social desirability may influence mentors to overrate MRQ because they are volunteer role models and therefore may feel inclined to rate the quality of the

relationship more positively. Third, although only common items for the mentor and child reported QMRES were included for the reporter concordance estimation, slightly different item wording may have contributed to the discordance.

Chapter 6: An Evaluation of the Measurement Properties of the *Mentor Self-efficacy Scale* among Participants in Big Brothers Big Sisters of Canada Community Mentoring Programs

The *Mentor Self-efficacy Scale* (MSES) demonstrated a unidimensional factor structure, good reliability and good internal validity (i.e., convergent and predictive validity). The unidimensional factor structure provided empirical evidence that the MSES tapped into one underlying theoretical construct which captured mentors' confidence in providing guidance and support to matched children. The reliability of the MSES was good, but slightly lower than a previous measure of MSE (Parra, et al., 2002). However, the MSES contained substantially fewer items than the Parra et al. (2002) scale which likely contributed to its lower reliability.

Good convergent validity of the MSES was demonstrated with results indicating that MSE positively correlated with mentor reported global and engagement MRQ after adjusting for potentially important confounding variables as guided by the mentoring literature. These results are consistent with a study conducted by Askew (2006). However, this study did not find positive correlations between MSE and child and parent reported global and engagement MRQ. The lack of associations is inconsistent with previous research (Parra, et al., 2002). There are a few potential reasons for this. First, the positive correlations between MSE and mentor reported global and engagement MRQ may mean that mentors' ratings of MRQ are biased by their own levels of self-efficacy. In other words, mentors who are confident in their mentoring abilities may be more likely to positively report on MRQ. Second, children's and parents' perceptions of MRQ may not be influenced by how confident their respective mentors feel about their mentoring abilities. Third, results across informants may also be affected by low-to-moderate reporter concordance on the MRQ scales (as summarized previously). Therefore, mentors, children, and parents may evaluate MRQ based on different criteria.

The predictive validity analyses indicated that 12 month MSE predicted mentor reported engagement MRQ at 18 months. However, this association became non-significant when controlling for potentially important confounding variables based on the mentoring literature. Similarly, MSE was not found to predict global and engagement MRQ among child and parent reporters in the remaining predictive validity analyses. These findings are inconsistent with a study conducted by Karcher and colleagues (2005). There are a few potential reasons for these findings. First, the present study used a generalized sample of metro-based BBBS community mentoring participants whereas Karcher and colleagues used a relatively small sample of teenaged mentors from a single school-based mentoring program. Therefore, the results of these two studies are not directly comparable. Second, the measure utilized by Karcher and colleagues included items that may have tapped into a different underlying construct such as mentor's perception of matched children's satisfaction with mentoring (e.g., "it is hard to tell whether my mentee is getting anything out of mentoring") rather than mentor's confidence in their mentoring abilities. Third, the present study sample excluded participants in terminated mentoring relationships, which may have contributed to lower variability in both MSE and MRQ thus reducing the likelihood of detecting a positive effect.

Chapter 7: Mentor Self-efficacy as a Hypothesized Mediator between Environmental Supports (i.e., Parent Support of the Mentoring Relationship and Mentor Training Satisfaction) and Global and Engagement Mentoring Relationship Quality

Results of the mediation analysis partially supported the conceptual model, which posits that MSE mediates the association between environmental supports, specifically parent support of the mentoring relationship and mentor training satisfaction, and MRQ including global and engagement outcomes. MSE was found to partially mediate the association between parent support of the mentoring relationship and mentor reported global and engagement MRQ. That is, parent support of the mentoring relationship was positively associated with global and engagement MRQ both directly and indirectly through MSE.

Parent support of the mentoring relationship was positively associated with MSE and global and engagement MRQ as reported by mentors and parents. Keller's (2005a) theory of the youth mentoring intervention supports these associations since the parent is believed to play a fundamental supportive role to the mentor-child-dyad. It is plausible that parent support of the mentoring relationship may contribute to mentors feeling more confident due to parents providing encouraging words, suggesting fun and interesting activities, and allowing for sufficient time for the mentor and child to meet. For similar reasons, parent support of the mentoring relationship may also contribute directly to stronger bonds and increased supportiveness between mentors and children. Interestingly, parent support of the mentoring relationship was not found to be associated with child reported global MRQ. This lack of association needs to be considered within the context of informant type because significant associations were found between parent support of the mentoring relationship and mentor and parent reported MRQ. Goldner and Mayseless (2009) demonstrated that concordance among mentor, child and parent reports of MRQ is not very high. As such, lower concordance suggests differing perspectives of MRQ which likely contributed to the inconsistent findings across informants.

Mentor training satisfaction positively correlated with MSE. Associations of similar magnitude were demonstrated in previous research (Martin & Sifers, 2012; Parra, et al., 2002). The importance of mentoring programs to provide mentors with sufficient training has been discussed in the mentoring literature (Herrera, Grossman, Kauh, Feldman, McMaken, & Jucovy, 2007; Herrera, Sipe, & McClanahan, 2000). However, there is a scarcity of research on its relationship with MSE (Martin & Sifers, 2012; Parra, et al., 2002). It is conceivable that mentors who are highly satisfied with their training are more likely to feel confident in their mentoring abilities. Mentor training satisfaction was not associated with global and engagement MRQ as reported by mentors, children, and parents. A likely explanation for these non-significant findings is that the study sample excluded terminated mentoring relationships.

MSE was found to be positively associated with mentor reported global and engagement MRQ. These results correspond to previous mentoring research (Martin & Sifers, 2012; Askew, 2006; Parra, et al., 2002). Bandura's (1997, 1977) social cognitive theory also complements these results as it highlights teacher self-efficacy as being an important antecedent of the quality of the teacher-student relationship which, by

extension, is applicable to the relationship between MSE and quality of the relationship within the mentor-child dyad. Interestingly, MSE did not positively correlate with child and parent reported MRQ. It is possible that mentors may evaluate MRQ while also considering their perceived confidence as mentors. However, parents and children may be less likely to consider MSE in their own assessments of MRQ.

Overall, consistent with Bronfenbrenner's ecological systems model (Bronfenbrenner, & Morris, 1998; Bronfenbrenner, 1979), results demonstrated that MSE partially mediated the association between parent support of the mentoring relationship and mentor reported global and engagement MRQ. Bronfenbrenner's ecological systems model provided a theoretical basis for examining the hypothesized mediating relationship in that it guided the inclusion of potential distal (i.e., environmental supports including parent support of the mentoring relationship) and proximal (i.e., MSE) antecedents of MRQ. The study results highlight the important supportive role parents play in the mentoring relationship (Keller, 2005a) and its potential association with forging stronger bonds and increased supportiveness between mentors and children. In addition, the results draw attention to MSE being an important correlate of mentor reported global and engagement MRQ. Since the mentor is most proximally related to the child within the context of the mentoring relationship (Keller, 2005a), promoting the development of high MSE may act to enhance the quality of the mentoring relationship.

Potential Implications and Applications of Study Results

The present findings are considered preliminary due to the use of cross-sectional data to examine the properties of the measures (apart from predictive validity), inconsistency of results across informants and/or with previous research, and scarcity of pre-existing research in the areas of MRQ, MSE, and parent support of the mentoring relationship. In their entirety, the study results are informative in that they can guide future hypotheses on the measurement properties of the MSES, G-MeRQS, and QMRES and the potentially important role MSE plays in mediating the association between environmental supports, particularly, parent support of the mentoring relationship, and mentor reported global and engagement MRQ. However, the implications and

applications suggested below must be based on continued research confirming the present findings.

Examining Mentoring Relationship Quality in Mentoring Research and Programs

Good reliability and validity of the G-MeRQS and QMRES among mentors, children, and parents involved in BBBS community-based mentoring programs is paramount for the accurate estimation of associations among global and engagement MRQ and other variables. For example, poor reliability increases the chance of Type II error thus contributing to the attenuation of associations among variables (Aneshensel, 2002). Therefore, evidence of good reliability enables researchers to make inferences about the relationships between global and engagement MRQ and other mentoring variables. Good internal validity suggests that the variable of interest is measuring the intended theoretical construct (Aneshensel, 2002). As a result, associations among variables with good internal validity represent intended theoretical relationships (Aneshensel, 2002). Taken together, the present study results support the utilization of the scales in future research.

To cross-validate the measurement properties of the G-MeRQS and QMRES, it will be necessary to test their utility among a different sample of mentors, children, and parents involved in continuously matched, terminated, and re-matched mentoring relationships. This is particularly important because this is the first study of its kind and inconsistencies were found with some of the study results among different informants across previous research. As well, the inclusion of additional longer follow-ups to examine the measurement properties of the scales will be informative to provide information on the stability of the scales among participants in more mature mentoring relationships (i.e., >12 months). It is plausible that the measurement properties of the G-MeRQs and QMRES may be different across subsequent follow-up periods because theory suggests that the mentoring relationship goes through several stages of development (e.g., initiation, growth and maintenance, decline and dissolution) (Keller, 2005b). Therefore, the conceptualization of MRQ by mentors, children, and parents may evolve as the mentoring relationship matures.

Assuming that continued research demonstrates good measurement properties of the G-MeRQS and QMRES among mentors, children, and parents, these instruments are expected to have important applications in mentoring programming and research. For example, mentoring programs may be interested in initially assessing and regularly monitoring global and engagement quality among participants. Soon after match onset (e.g., one month), it may be informative for mentoring programs to assess global and engagement MRQ to gauge the quality of the mentoring relationship and potential need for support as it is newly forming. If a mentor, child, and/or parent perceive the mentoring relationship as being of lower quality, additional program supports (e.g., caseworker support, training) can be implemented to potentially enhance MRQ (Nakkula, & Harris, 2005). For example, program administrators may feel it is necessary to focus on optimizing MSE and/or engaging parents to boost the quality of the mentoring relationship (as described in more detail below). Conversely, if mentor, child, and parent reports of global and engagement MRQ are positive, mentoring programs may want to share these results with the respective triad as encouraging evidence of successful mentoring relationship formation (Nakkula, & Harris, 2005).

Regularly monitoring global and engagement MRQ among mentoring participants will also allow for a better understanding of MRQ trends during the course of the mentoring relationship. For example, it is possible that MRQ may be more likely to dip after the 'initiation' phase of the mentoring relationship and participants' feelings of excitement associated with being in a newly formed mentoring relationship have diminished (Nakkula, & Harris, 2005; Fehr, 2000). At this time, additional program services such as caseworker support, training, and relationship building activities can be offered to help ensure that the mentor-child dyad enters into the 'growth and maintenance' phase of the mentoring relationship (Keller, 2005b) on a positive note (Nakkula, & Harris, 2005). In addition, if subsequent research demonstrates that mentor and parent reports of global and engagement MRQ are strong predictors of mentoring relationship status, it would also be important for mentoring programs to regularly monitor MRQ as a means to identify matches that are vulnerable to termination. As a result, additional program supports such as caseworker support, training, and/or relationship building activities can be provided to help assist mentors and children to form a strong bond and increase supportiveness.

Examining Mentor Self-efficacy in Mentoring Research and Programs

Study results provided evidence demonstrating good reliability and validity of the MSES among mentors involved in BBBS community-based mentoring programs. Therefore, evidence supports continued use of the MSES in research to examine its measurement properties among mentors in continuously matched and terminated mentoring relationships. Ultimately, a cross-validation study involving a different sample of mentors would provide more conclusive evidence on the reliability and validity of the MSES. This is particularly important given the preliminary nature of the study results and the inconsistencies of some results with previous research. In addition, the inclusion of additional follow-up periods will provide information on the stability of the scale among mentors in more mature mentoring relationships (i.e., >12 months). It is possible that the measurement properties of the MSES are different at subsequent follow-up periods because mentors may have a better sense of their own confidence in mentoring children as they become more involved in their mentoring relationship.

Assuming that continued research demonstrates good reliability and validity of the MSES, it may be useful for mentoring programs to initially assess and regularly monitor MSE. For example, after mentors have completed their orientation training, program administrators may be interested in gauging how confident their novice mentors are prior to the onset of the mentoring relationship. Furthermore, regularly assessing MSE may also be helpful during the course of the mentoring relationship to gauge the need for additional support and training of mentors throughout the mentoring relationship. Previous research on promoting the self-efficacy of teachers suggests that activities including on-going support and feedback provided by principals are associated with increased self-efficacy (Elliot, Isaacs, & Chugani, 2010; Wood, 2005). In addition, organizational factors including professional development workshops have been shown to be associated with increased teacher self-efficacy (Hora, & Ferrare, 2012). By extension, if mentoring programs find that mentors tend to feel less confident in their mentoring abilities at match onset or throughout specific phases in the mentoring relationship, additional agency supports provided by caseworkers towards mentors

including informal meetings and/or mentoring development workshops may be implemented to potentially optimize their confidence.

Enhancing Parent Support of the Mentoring Relationship in Mentoring Programs

Study results suggested that parent support of the mentoring relationship may be an important correlate of MSE and mentor reported global and engagement MRQ. As such, results corroborate the inclusion of parent support in future research examining MSE and mentor reported global and engagement MRQ. If continued research suggests that parent support is a strong predictor of MSE and mentor reported global and engagement MRQ, it would be important for mentoring programs to incorporate initiatives aimed at encouraging parent support of the mentoring relationship. For example, mentoring programs can engage parents early on in the mentoring process (e.g., match determination phase) and continue to provide regularly scheduled caseworker initiated contact in order to address any questions or concerns parents may have about the mentoring relationship (United States Department of Education, 2005). Mentoring programs may also want to host occasional group outings and/or family events including parent-mentor picnics or field trips involving mentors, children, and parents (United States Department of Education, 2005). Finally, providing informal and/or formal recognition to parents (e.g., appreciation card, banquet) thanking them for their continued involvement in the mentoring program may also be helpful to garner their support and continued participation (United States Department of Education, 2005).

Enhancing Global and Engagement Mentoring Relationship Quality through Increased Parent Support of the Mentoring Relationship and Mentor Self-efficacy in Mentoring Programs

The ultimate goal of this research, as guided by theory developed by Rhodes (2005), is to promote the development of high quality mentoring relationships as a means to promote the positive development of mentored children. Continued research that identifies factors that enhance global and engagement MRQ can be used to improve

mentoring programs. These factors include distal and proximal determinants examined herein as well as other potentially important explanatory variables not included in this thesis such as caseworker support. Therefore, it is imperative that future research includes the cross-validation of the relationships illustrated in the conceptual model among a different sample of mentoring participants. If continued research demonstrates that MSE partially mediates the association between parent support of the mentoring relationship and mentor reported global and engagement MRQ, it is possible that results may assist BBBS programs to develop a series of 'best practices' aimed to promote increased global and engagement MRQ among participants. For example, future research may lead to the recommendation that mentoring programs should promote increased parent support of the mentoring relationship and MSE through initiatives mentioned previously as a means to directly and indirectly enhance MRQ. As a result, increased parent support of the mentoring relationship may positively impact MSE which, in turn, may contribute to the development of stronger bonds and increased supportiveness between mentors and children.

Study Strengths and Limitations

Strengths

This study had several strengths that complemented previous research on distal and proximal antecedents of MRQ and provided novel information to the mentoring literature. First, this study included comprehensive measures which captured MSE (i.e., MSES) and global and engagement MRQ (i.e., G-MeRQS and QMRES, respectively) as reported by mentors, children, and parents. This study was also the first of its kind to rigorously examine the measurement properties of these scales. Overall, evidence of good reliability, good validity, and low-to-moderate reporter concordance provides the opportunity for these scales to be utilized in future mentoring research. Evidence cross-validating the measures will ultimately provide mentoring researchers with more confidence in inferences drawn on the relationships between MSE, MRQ, and other key mentoring constructs.

Second, this was the first study to examine the parent's perspective on global MRQ and also assess its relationship with parent support of the mentoring relationship and MSE. This work complements mentoring theory that suggests parents are an integral part of the mentoring process (Keller, 2005). Obtaining parents' perspectives on global MRQ may be informative to mentoring research and programs because parents participate in the match determination interview, approve the BBBS agency's choice of mentor, and are in regular contact with the BBBS agency throughout the course of the mentoring relationship. Therefore, parents are in a strong position to provide insight into MRQ and their supportive role in the mentoring relationship warrants the inclusion of these constructs in future research examining the relationships illustrated in the conceptual model.

Third, this was the first formal mediation analysis to examine the extent to which a proximal antecedent, MSE, mediated the relationship between distal antecedents (i.e., environmental supports including parent support of the mentoring relationship and mentor training satisfaction) and MRQ including global and engagement outcomes. A rigorous mediation analysis as guided by Baron and Kenny (1986) provided a step-by-step examination of the hypothesized relationships between environmental supports, MSE, and global and engagement MRQ. Furthermore, the use of structural equation modeling to conduct the mediation analysis provided less biased parameter estimates and mediated effects (including indirect and direct effects) due to the correction of measurement error inherent in this statistical technique (Kline, 2005).

Fourth, the inclusion of a large sample of mentors, children, and parents participating in 20 BBBS agencies across Canada included a nationally representative sample of participants from medium-to-large sized BBBS mentoring programs. Previous mentoring research examining antecedents of MRQ am6ong BBBS community-based mentoring participants has been restricted to include a very limited number of BBBS agencies (i.e., typically one or two). Therefore, the present study results are more generalizable compared to previous mentoring research.

Limitations

Despite the novel contributions of this research to the mentoring literature, there are a few limitations that must be considered. First, due to sample size restrictions, the mediation analyses were restricted to only include cross-sectional data. Therefore, causal relationships among the constructs in the mediation models cannot be inferred. For example, it is possible that MRQ influences MSE or that this association is bi-directional. Additionally, since the majority of the measurement properties were examined using cross-sectional data, the reliability and validity of the scales are unknown across subsequent follow-up periods.

Second, data on some of the constructs (e.g., parent support of the mentoring relationship, MSE, and engagement MRQ) were not collected from participants in terminated mentoring relationships. This information was not collected for some of the constructs because participants filtered into the terminated mentoring relationship questions would have been expected to retrospectively report on relationships that may have been terminated for up to six months. Since data on terminated mentoring relationships was limited, the examination of the measurement properties of the MSES and the mediation analyses testing the conceptual model were restricted to include only those in currently matched (i.e., continuously matched or re-matched) mentoring relationships. The exclusion of data from terminated mentoring relationships may have introduced a selection bias contributing to an underestimation of the magnitude of the relationships examined herein. Furthermore, the study results may not be generalizable to participants in terminated mentoring relationships.

Third, the same data were used to test the measurement properties of the scales and the relationships in the conceptual model. Ideally, the measurement properties of the scales would have been rigorously tested and cross-validated among a different sample of mentors, children, and parents prior to the examination of the conceptual model. Some of the constructs were previously pilot tested among participants in two Southwestern Ontario BBBS agencies and results were used to improve the questionnaires (e.g., simplification of wording and removal of some study questions) (DeWit, Lipman, Manzano-Munguia, Bisanz, Graham, Offord, O'Neill, Pepler, & Shaver, 2007). However, the examination of the properties of the measures was not extensive (e.g., internal consistency reliabilities were evaluated).

Fourth, the present study did not rigorously examine the discriminant validity of the study outcomes in the conceptual model (i.e., global and engagement MRQ) as reported by mentors and children. As a means to examine the extent to which the constructs may be tapping into different underlying dimensions of MRQ, the inter-factor correlations of global and engagement MRQ as reported by mentors and children were examined using confirmatory factor analysis. The inter-factor correlations of global and engagement MRQ for both reporters were found to be high [mentor scales: $r=0.95$, $p=0.0001$; child scales: $r=0.83$, $p=0.0001$ (Appendix L)]. Kline (2005) states that very high inter-factor correlations ($r>0.85$) suggests poor discriminant validity. As such, mentor reported global and engagement MRQ may be tapping into the same underlying dimension of MRQ. Future research testing the discriminant validity of global and engagement MRQ among a different sample of mentoring participants will provide more conclusive evidence on the extent to which these constructs are theoretically distinct.

Fifth, the present study did not include some variables that may be important in explaining MRQ. For example, previous mentoring research and theory suggests that caseworker support of the mentoring relationship may be an important antecedent of MSE and MRQ (Martin & Sifers, 2012; Herrera, et al., 2007; Keller, 2005a; Herrera, et al., 2000). Unfortunately, this construct was not included in the analyses due to very low variance. The inclusion of caseworker support would have likely contributed to the explanation of some of the unexplained variance in the dependent constructs. The exclusion of caseworker support also provided a more restricted understanding of the antecedents of both MSE and MRQ.

Additionally, the present study did not examine environmental influences at the levels of the macrosystem and chronosystem that may influence MRQ, as suggested by Bronfenbrenner's ecological systems model (Bronfenbrenner, & Morris, 1998; Bronfenbrenner, 1979). These include cultural values and beliefs about the mentoring relationship as well as social conditions in the community where the mentoring relationship exists. An example of a cultural value may be that every child in need of a mentor deserves to be in a mentoring relationship of high quality. Social conditions such as community crime levels may also affect the quality of the mentoring relationship. An environmental influence at the level of the chronosystem includes the quality of the mentoring relationship over its life course. Unfortunately, the present study was restricted

to include cross-sectional data due to sample size restrictions (as mentioned previously). Therefore, these levels of environmental influence were not taken into consideration in the present study.

Conclusions and Future Directions

This study provided preliminary evidence that demonstrated good reliability and validity of the G-MeRQS, QMRES, and MSES. Implications of these results included the utilization of the scales in future mentoring research to cross-validate their measurement properties among a different sample of mentors, children, and parents participating in continuously matched, re-matched, and terminated mentoring relationships. This study also provided preliminary evidence suggesting that MSE partially mediated the relationship between parent support of the mentoring relationship and mentor reported global and engagement MRQ. These results can be used to generate future hypotheses on the relationships examined herein and potentially cross-validate the conceptual model in future research. Specifically, parent support of the mentoring relationship may act to positively impact MSE which, in turn, may enhance global and engagement MRQ.

Future work should address the limitations inherent in this study to provide more conclusive evidence on the measurement properties of the scales and the relationships examined in the conceptual model. First, utilizing longitudinal data included in the DeWit et al. (2006) study (i.e., 18-, 24-, and 30-month follow-ups) to examine the measurement properties of the scales and the conceptual model will provide a more rigorous examination of the measurement properties of the scales. In addition, the use of longitudinal data would lead towards a better understanding of potential causal relationships among the constructs, including their directionality (e.g., MSE $\rightarrow$ MRQ) and presence of potential feedback loops (e.g., MSE $\rightarrow$ MRQ $\rightarrow$ MSE).

Second, future work including currently matched and terminated mentoring relationships will provide a better understanding of the measurement properties of the scales and the relationships depicted in the conceptual model. It is possible that the exclusion of terminated mentoring relationships may have contributed to decreased variability thereby attenuating the relationships between the constructs. Therefore, the inclusion of both terminated and currently matched mentoring relationships will build

upon the present study results. Future work should make use of mentor, child, and parent weekly logs to try and capture these constructs prior to relationship termination.

Third, future work that includes potentially important variables excluded in the present study may improve the understanding of MRQ. For example, examining caseworker support of the mentoring relationship as a hypothesized distal antecedent of global and engagement MRQ will build upon the present conceptual model. If caseworker support was included in the present study, it would have likely helped explain some of the unexplained variance in the dependent variables including MSE and global and engagement MRQ. Since caseworkers play such an important role in community-based mentoring programs (Keller, 2005a) including BBBS, it is useful for mentoring programs to understand the relationships among caseworker support, MSE, and global and engagement MRQ.

Finally, future work examining macrosystem (e.g., cultural values and beliefs, social conditions) and chronosystem (e.g., life course of global and engagement MRQ) levels of environmental influence will provide a broader understanding of the relationships illustrated in the conceptual model as guided by Bronfenbrenner's ecological systems theory (Bronfenbrenner, & Morris, 1998; Bronfenbrenner, 1979). For example, research linking census-level data to individual-level data for participating communities will provide an opportunity to examine macrosystem influences including census demographics. In addition, examining all levels of environmental influences over time with the use of longitudinal data will address chronosystem influences.

Overall, results of this study can be used to guide future research including the rigorous testing of the measurement properties of the MSES, G-MeRQS, and QMRES. The present findings may also be used to further develop and test the conceptual model in the present thesis. Continued research measuring and understanding distal and proximal antecedents of global and engagement MRQ will improve understanding of mentoring relationships and enable BBBS community-based mentoring programs to develop a series of 'best practices' based on theoretical reasoning and empirical evidence. Ultimately, this research, taken together, should promote increased global and engagement MRQ among mentoring participants with the intent to promote positive outcomes in mentored children.

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APPENDIX A

Table A.1. Studies Investigating Social, Mental, and Academic Outcomes in Children Participating in Big Brothers Big Sisters Community Mentoring Relationships

Author	Study Sample	Study Design	Selected Findings
Abbott et al., 1997, Midwestern US	Parents & boys matched with Big Brother (n=22) compared with waitlisted boys (n=22)	Longitudinal	No differences noted in self-competence, academic performance, behavioral problems, and parent-child relationships of two groups
Achille et al., 2000, Montreal, QC	Boys matched with Big Brother (n=29); Boys from single-parent families (n=29); Boys from two-parent families (n=29)	Cross-sectional	Feelings of parental rejection were stronger among boys from single-parent families without Big Brother and boys from two-parent families compared to matched boys
DeWit et al., 2007, Southern Ontario	Parents and children assigned to a BBBS program (n=39) compared with a waitlist control group (n=32)	Randomized Controlled Trial	Matched children reported beneficial program effects for five outcomes: symptoms of emotional problems, symptoms of social anxiety (i.e., fear of negative peer evaluations and generalized social anxiety and distress), teacher social support, and social skills (self-control)
Frecknall & Luks, 1992, New York, NY	Parents of children in a BBBS program (n=76)	Cross-sectional	47% children increased academic achievement; 49% increased school attendance; 55% improved relations with family; 70% improved relations with friends; 83% increased self-esteem
Nelson & Valliant,	4 groups: Boys in two-parent families (n=27);	Cross-sectional	Depression scores higher for boys waiting for a Big Brother

1993, Sudbury, ON	Boys in Big Brothers program (n=9); Boys on waitlist (n=6); Boys residing in a young offenders facility (n=18)		and boys in a group home compared to boys from two-parent families and those participating in a Big Brother mentoring relationship
Royse, 1998, Lexington, KY	African-American boys assigned to Big Brothers (n=36) compared to waitlist control group (n=36)	Randomized Controlled Trial	No statistically significant results were found between the treatment and control groups on five outcomes: self-esteem, attitudes about drugs and alcohol, grade point average, school absences, and disciplinary infractions
Thompson & Kelly-Vance, 2001, Midland County, MI	Boys matched to a Big Brother (n=12) compared with boys on waitlist to receive Big Brother (n=13)	Longitudinal	Matched boys had increased academic achievement (reading & math) compared to unmatched boys; no differences were noted in spelling ability of two groups
Turner & Scherman, 1996, Oklahoma, OK	Mothers & boys matched with Big Brother (n=23) compared with boys on waitlist to receive Big Brother (n=22)	Cross-sectional	Matched boys had increased self-concepts, self-perceived physical appearance, popularity, and decreased anxiety; no differences in children's behavior between two groups

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APPENDIX B: Study Scripts

Adult Mentor Study Script

Introduction

Big Brothers Big Sisters of Canada is pleased to be taking part in a study to find out whether children who spend time in a mentoring relationship with a Big Brother or Big Sister experience noticeable improvements in their health and social well being. We are inviting 950 families (parents and their children) adult mentors from 17 BBBS agencies across Canada to take part.

Dr. David J. De Wit (Centre for Addiction and Mental Health) and Dr. Ellen Lipman (McMaster University) are leading the study together with researchers from Laval University, York University, and the University of Alberta.

Study goals will determine: 1) what features or parts of a match relationship (e.g., how often child meets with mentor, child or mentor satisfaction with the relationship) are most important for producing healthy child outcomes; 2) how different features or parts of the match relationship work to bring about positive change in children's health; 3) the health and social benefits tied to particular match relationship features for children belonging to different age, gender, and cultural groups and those living in different settings (family, school, neighbourhood); and; 4) what agency practices and mentor and parent characteristics are important for building healthy match relationships.

We hope that you will choose to become part of this study.

Study Overview

     Children (ages 7 to 16) will be asked to participate in six face-to-face interviews over a 30-month period. The questions will cover a wide range of life areas (e.g., relationships with friends, teachers and family members, experiences at school, feelings of depression, self-esteem, pro-social and problem behaviors, and health compromising activities). Children matched to an adult mentor will also be asked questions about their match relationship.

     Parents will be asked to complete a questionnaire at the same time their children complete their face-to-face interviews. Questions will focus on general background characteristics (e.g., gender, education), feelings of psychological and social wellbeing, possible alcohol, tobacco, or other drug use, and information about their child enrolled in the study (e.g., child's psychological and social wellbeing, behavior). Parents with a child matched to an adult mentor will also be asked questions about their child's match relationship and the BBBS agency.

Adult Mentor Study Script (cont'd)

Adult Mentors matched to a child in the study will be asked to complete a questionnaire about their general background (e.g., gender, education), the amount and type of training they received, their satisfaction with agency orientation and training, the level of contact and satisfaction with agency caseworkers, and their satisfaction with the match process. They will also be asked about the type of activities and amount of time they shared with their Little Brother or Little Sister.

As a token of appreciation for completing the face-to-face interviews, each child will receive two passes for movies at the end of their first and last interviews and a certificate at the end of the study signifying successful completion. Parents and adult mentors will receive a $5 food voucher or coupon at the end of their first and last questionnaires.

Your participation in this study is highly valued and may help the Big Brothers and Big Sisters of Canada improve its services and programs for children.

If you are interested in taking part in this study, a research person (interviewer) will be contacting you shortly. In the meantime, I would like you to have an information sheet that describes the study in greater detail.

If you do not wish to take part in this study, we kindly ask that you provide study researchers with some general background information about yourself (e.g., age, gender, education) that will help them find out if adult mentors who do not participate in the study differ from those who do participate. If you agree to provide this information, a study researcher will be contacting you shortly.

I (_____) am interested in participating in the Big Brothers Big Sisters National Research Study and give permission for a study researcher to contact me to learn more about it.

Mentor Signature: _____ Date: _____ Tel:

I (_____) am not interested in participating in this study but give my permission for a study researcher to contact me to answer some general background questions for non-participants.

Mentor Signature: _____ Date: _____ Tel:

I (_____) am not interested in participating in this study. Nor do I wish to be contacted by a study researcher to answer some general background questions for non-participants.

Mentor Signature: _____ Date: _____

Parent Study Script

Introduction

Big Brothers Big Sisters of Canada is pleased to be taking part in a study to find out whether children who spend time in a mentoring relationship with a Big Brother or Big Sister experience noticeable improvements in their health and social well being. We are inviting 950 families (parents and their children) adult mentors from 17 BBBS agencies across Canada to take part.

Dr. David J. De Wit (Centre for Addiction and Mental Health) and Dr. Ellen Lipman (McMaster University) are leading the study together with researchers from Laval University, York University, and the University of Alberta.

Study goals will determine: 1) what features or parts of a match relationship (e.g., how often child meets with mentor, child or mentor satisfaction with the relationship) are most important for producing healthy child outcomes; 2) how different features or parts of the match relationship work to bring about positive change in children's health; 3) the health and social benefits tied to particular match relationship features for children belonging to different age, gender, and cultural groups and those living in different settings (family, school, neighbourhood); and; 4) what agency practices and mentor and parent characteristics are important for building healthy match relationships.

We hope that you will choose to become part of this study.

Study Overview

Children (ages 7 to 16) will be asked to participate in six face-to-face interviews over a 30-month period. The questions will cover a wide range of life areas (e.g., relationships with friends, teachers and family members, experiences at school, feelings of depression, self-esteem, pro-social and problem behaviors, and health compromising activities). Children matched to an adult mentor will also be asked questions about their match relationship.

Parents will be asked to complete a questionnaire at the same time their children complete their face-to-face interviews. Questions will focus on general background characteristics (e.g., gender, education), feelings of psychological and social wellbeing, possible alcohol, tobacco, or other drug use, and information about their child enrolled in the study (e.g., child's psychological and social wellbeing, behavior). Parents with a child matched to an adult mentor will also be asked questions about their child's match relationship and the BBBS agency.

Adult Mentors matched to your child will also complete a questionnaire about their general background (e.g., gender, education), amount and type of training they received, their satisfaction with agency orientation and training, the level of contact and satisfaction with agency caseworkers, and their satisfaction with the match process. They will also be asked about the type of activities and amount of time they shared with their Little Brother or Little Sister.

As a token of appreciation for completing the face-to-face interviews, each child will receive two passes for movies at the end of their first and last interviews and a certificate at the end of the study signifying successful completion. Parents and adult mentors will receive a $5 food voucher or coupon at the end of their first and last study questionnaires.

Your participation in this study is highly valued and may help the Big Brothers Big Sisters of Canada improve its services and programs for children.

If you and your child are interested in taking part in this study, a research person (interviewer) will be contacting you shortly. In the meantime, I would like you to have an information sheet that describes the study in greater detail.

If you do not wish to take part in this study, we kindly ask that you provide study researchers with some general background information about yourself (e.g., age, gender, education) that will help them find out if families who do not participate in the study differ from those who do participate. If you agree to provide this information, a study researcher will be contacting you shortly.

I (_____) am interested in participating in the Big Brothers Big Sisters National Research Study and give permission for a study researcher to contact me to learn more about it.

Parent/Guardian Signature: _____ Date: _____ Tel: _____

I (_____) am not interested in participating in this study but give my permission for a study researcher to contact me to answer some general background questions for non-participants.

Parent/Guardian Signature: _____ Date: _____ Tel: _____

I (_____) am not interested in participating in this study. Nor do I wish to be contacted by a study researcher to answer some general background questions for non-participants.

Parent/Guardian Signature: _____ Date: _____

APPENDIX C: Consent/Assent Forms

Consent to Participate in the Big Brothers Big Sisters (BBBS)
Research Study – Adult Mentor Form

Principal Investigator: David J. De Wit
Co-Principal Investigator: Ellen L. Lipman
(Co-investigators: Jeff Bisanz, Jose Da Costa, Kathryn Graham,
Simon LaRose, Debra Pepler, Karen Shaver)

Purpose of Study

The main goal of this study is to find out whether children who spend time with a Big Brothers Big Sisters adult mentor experience improvements in their health and social wellbeing. Study goals will determine: 1) what features or parts of a match relationship (e.g., how often child meets with mentor, child or mentor satisfaction with the relationship) are most important for producing healthy child outcomes; 2) how different features or parts of the match relationship work to bring about positive change in children's health; 3) the health and social benefits tied to particular match relationship features for children belonging to different age, gender, and cultural groups and those living in different settings (family, school, neighbourhood); and; 4) what agency practices and mentor and parent characteristics are important for building healthy match relationships.

Study Description

Big Brothers Big Sisters of Canada and researchers from the Centre for Addiction and Mental Health, Laval University, McMaster University, York University, and the University of Alberta are conducting this study. A total of 950 families (parents and their children between the ages of 7 and 16) and adult mentors from 17 Big Brother Big Sister agencies across Canada will be invited to take part. Families will be asked to complete interviews and questionnaires over a 30-month period at 6 separate times, once shortly after joining the study and five more times spaced apart by 6-month intervals.

Participation is Voluntary

Your participation in this study is completely <u>voluntary</u>. Your refusal to take part will not affect the quality of the service that you will receive from this agency. If you decide not to take part, we kindly ask that you answer a few closing questions about the reasons for your decision as well as questions about your education and work background. The information you provide will help us find out if adult mentors who take part in BBBS research studies differ from those who do not. If you would rather not take part in the study or answer the closing questions, there will be no negative impact on your relationship with this agency or with the Big Brothers and Big Sisters of Canada.

If you decide to take part in the study, you may quit the study at any time and, again, there will be no negative impact on your relationship with this agency or with the Big Brothers Big Sisters of Canada.

Questionnaire for Big Brothers and Big Sisters

After you have been matched to a child in the study, you will be asked to complete up to five questionnaires every 6 months (for a total period of 24 months). You will complete your questionnaires around the same time your match partner child completes his/her interviews. Questions will include general background information (e.g., gender, education), the amount and type of training you received as an adult mentor, your satisfaction with agency orientation and training, and your satisfaction with the match process. You will also be asked about the amount of time you spent with your Little Brother or Little Sister, the kinds of activities you shared, and your level of contact and satisfaction with agency caseworkers. The questionnaire will take about 30 minutes to complete.

Your decision to answer any of the questions asked of you will be completely <u>voluntary</u>. That is, you will be free to skip any questions you do not wish to answer.

Interviews with Children

Children will be asked to take part in face-to-face interviews over a 30-month period just after joining the study and again on five additional occasions every 6 months. Each interview is expected to take 60 minutes to complete. Questions will cover a wide range of life areas. Examples include coping and social skills, involvement in school and community activities, peer influences, friendships, and social support from peers, teachers, and family members. Other examples include feelings of anxiety, depression, bullying and aggressive behaviour, academic performance, positive and negative experiences at school, use of alcohol and drugs, and physical health. Not all children will be asked the same questions. For example, children ages 7-9 will not be asked questions on possible alcohol abuse or drug use.

After you have received a match, your match partner child will be asked a few extra questions on the follow-up interviews that include how satisfied he or she felt with the match process, length of time spent in the match relationship, amount of time and type of activities spent or shared with the Big Brother or Big Sister, and how satisfied he or she felt with the match relationship.

Questionnaire for Parents

As part of the study, parents will be asked to complete a questionnaire at the same time their children complete their face-to-face interviews (once just after enrolling in the study and again on five separate dates every 6 months). Each questionnaire will take about 30-40 minutes to complete. Examples of questions include gender, educational attainment, psychological and social wellbeing, parenting behaviours, and alcohol and tobacco use.

The questionnaire also asks parents to report on their children's academic performance, social relationships, mental health, and behaviour

Following each study match, parents of matched children will be asked a few additional questions on the follow-up questionnaires that include their level of satisfaction with the match process and level of contact and satisfaction with agency caseworkers.

Confidentiality

Questionnaires will be administered to parents, children, and adult mentors by trained interviewers and will occur in a private place (usually the respondent's home). All information given to the interviewers and collected for the study will be treated as strictly confidential, within the limits of the law. In particular, we are legally required to report any signs of child abuse or neglect or any reasonable grounds to believe that child abuse is occurring.

At the end of the face-to-face interview, children will be given a chance to tell the interviewer about any personal issues related to the answers they provided. If a child tells the interviewer about a situation that could pose a real threat to his or her safety other than child abuse or neglect which must be reported (e.g., heavy drug use, extreme feelings of depression, being bullied), the interviewer will ask for the child's permission to notify the parent.

Names will not appear anywhere on the study questionnaires. Instead, a unique numeric code will be placed on your questionnaire, the parent questionnaire, and the interview schedule completed by each child. A master list linking your name and unique code will be kept by interviewers in a locked cabinet. When the study is complete, this list will be destroyed. This system will permit linkage of individual questionnaires across time and between participants (i.e., child, parent, and volunteer) without disclosing the identity of individual persons. Completed questionnaires will be shipped directly to a central location for analysis where they will be stored in a secure place. Only the study interviewers and researchers will see the questionnaire answers. The results of this study will be reported in such a way that it will not be possible to identify any individual participant.

Risks and Benefits

Risks: There are no specific risks associated with taking part in the study.

Benefits: By taking part in this study, you may help to improve services provided by the Big Brothers Big Sisters of Canada. As a thank you for participating in this study, children will receive two free movie passes at the end of the first and last face-to-face interviews. All children will receive a certificate signifying successful completion of the study. As a token of appreciation for participating in this study, you and the parent of your match partner child will receive a food voucher or coupon following the completion of your first and last questionnaire administrations.

Contacts

To ensure that the ethical safeguards designed to protect the participants in this study are being observed, with your written consent, an official from the CAMH Research Ethics Board may request access to your completed questionnaires. He or she may also contact you to ask you questions about the research and your consent to participate. The person accessing your questionnaires or contacting you must maintain your confidentiality to the extent permitted by law.

If you would like more information about the study, you may call (collect) the Principal Investigator, Dr. David De Wit or the Co-Principal Investigator, Dr. Ellen Lipman whose phone numbers are listed at the top of the page.

If you have any questions about your rights as a research participant, you may contact Dr. Padraig Darby, Chair, Research Ethics Board, Centre for Addiction and Mental Health.

I (_____) agree to participate in the Big Brothers Big Sisters National Research Study.

Mentor Signature: _____ Date: _____

I (_____) do not wish to participate in this study but do agree to answer the closing questions for non-participants.

Mentor Signature: _____ Date: _____

I (_____) do not wish to participate in this study. Nor do I wish to answer the closing questions for non-participants.

Mentor Signature: _____ Date: _____

Consent to Participate in the Big Brothers Big Sisters (BBBS)
National Research Study -- Parent/Guardian Form

Principal Investigator: David J. De Wit
Co-Principal Investigator: Ellen L. Lipman
(Co-investigators: Jeff Bisanz, Jose Da Costa, Kathryn Graham,
Simon LaRose, Debra Pepler, Karen Shaver)

Purpose of Study

The main goal of this study is to find out whether children who spend time with a Big Brothers Big Sisters adult mentor experience improvements in their health and social wellbeing. Study goals will determine: 1) what features or parts of a match relationship (e.g., how often child meets with mentor, child or mentor satisfaction with the relationship) are most important for producing healthy child outcomes; 2) how different features or parts of the match relationship work to bring about positive change in children's health; 3) the health and social benefits tied to particular match relationship features for children belonging to different age, gender, and cultural groups and those living in different settings (family, school, neighbourhood); and; 4) what agency practices and mentor and parent characteristics are important for building healthy match relationships.

Study Description

Big Brothers Big Sisters of Canada and researchers from the Centre for Addiction and Mental Health, Laval University, McMaster University, York University, and the University of Alberta are conducting this study. A total of 950 families (parents and their children between the ages of 7 and 16) and adult mentors from 17 Big Brother Big Sister agencies across Canada will be invited to take part. Families will be asked to complete interviews and questionnaires at 6 separate times over a 30-month period, once shortly after joining the study and five more times spaced apart by 6-month intervals.

Participation is Voluntary

Your participation in this study is completely <u>voluntary</u>. Your refusal to take part will in no way affect the quality of the service that you will receive from this agency. If you decide not to take part, we kindly ask that you answer a few closing questions regarding the reasons for your decision as well as questions about your education and work background. The information you provide will help us find out if families who participate in BBBS research studies differ from those who do not. If you would rather not take part in the study or answer the closing questions, this will not affect in any way the services you will receive from the Big Brothers Big Sisters agency.

If you decide to take part in the study, you may quit the study at any time and, again, there will be no negative impact on your relationship with this agency or with the Big Brothers Big Sisters of Canada.

Interviews with Children

Your child will be asked to take part in face-to-face interview over a 30-month period just after joining the study and again on five additional occasions every 6 months. Each interview is expected to take 60 minutes to complete. Questions asked of your child will cover a wide range of life areas. Examples include coping and social skills, involvement in school and community activities, peer influences, friendships, and social support from peers, teachers, and family members. Other examples include feelings of anxiety, depression, bullying and aggressive behaviour, academic performance, positive and negative experiences at school, alcohol and other drug use, and physical health. Not all children will be asked the same questions. For example, children ages 7-9 will not be asked questions on possible alcohol abuse or drug use.

When your child gets matched to an adult mentor, he or she will be asked a few extra questions on the follow-up interviews that include how satisfied he or she felt with the match process, length of time spent in the match relationship, amount of time and type of activities spent or shared with the Big Brother or Big Sister, and how satisfied he or she felt with the match relationship.

Your child's decision to answer any of the questions asked of him or her will be completely <u>voluntary</u>. That is, your child will be free to skip any questions he or she does not wish to answer.

Questionnaire for Parents

You will be asked to complete a questionnaire at the same time your child completes his or her face-to-face interviews (once just after enrolling in the study and again on five separate dates occurring every 6 months). Each questionnaire will take about 30-40 minutes to complete. Examples of questions include your gender, educational attainment, psychological and social well being, parenting behaviours, and alcohol and tobacco use. The questionnaire also asks you to report on your child's academic performance, social relationships, mental health, and behaviour.

Parents/guardians who do not feel comfortable completing the questionnaire on their own will be given the option of a face-to-face interview.

When your child gets matched to an adult mentor, you will be asked a few extra questions on the follow-up interviews about how satisfied you felt with the match process and your level of contact and satisfaction with agency caseworkers.

Your decision to answer any of the questions asked of you will be completely <u>voluntary</u>. That is, you will be free to skip any questions you do not wish to answer.

Questionnaire for Adult Mentors (Big Brothers and Big Sisters)

When your child gets matched to an adult mentor, his or her Big Brother or Big Sister will also complete a questionnaire at each study follow-up. Questions will include general background information (e.g., gender, education), the amount and type of training they received as an adult volunteer, their satisfaction with agency orientation and training, and their satisfaction with the match process. They will also be asked about the amount of time they spent with their Little Brother or Little Sister, the kinds of activities they shared, and their level of contact and satisfaction with agency caseworkers. This questionnaire will take about 30 minutes to complete.

Confidentiality

Interviews and questionnaires will be administered to parents, children, and adult mentors by trained interviewers and will occur in a private place (usually the respondent's home). All information given to the interviewers and collected for the study will be treated as strictly confidential, within the limits of the law. In particular, we are legally required to report any signs of child abuse or neglect or any reasonable grounds to believe that child abuse is occurring.

At the end of the face-to-face interview, your child will be given a chance to tell the interviewer about any personal issues related to the answers he or she provided. If your child tells the interviewer about a situation that could pose a real threat to his or her safety other than child abuse or neglect which must be reported (e.g., heavy drug use, extreme feelings of depression, being bullied), the interviewer will ask for the child's permission to tell you.

Names will not appear anywhere on the questionnaires. Instead, a unique numeric code will be placed on the parent questionnaire, the interview schedule completed by your child, and the questionnaire completed by your child's Big Brother or Big Sister. A master list linking your name and unique code will be kept in a locked cabinet. When the study is complete, this list will be destroyed. This system will permit linkage of individual questionnaires across time and between participants (i.e., child, parent, and volunteer) without disclosing the identity of individual persons. Completed questionnaires and interviews will be shipped directly to a central location for analysis where they will be stored in a secure place. Only the study interviewers and researchers will see the questionnaire answers. The results of the study will be reported in such a way that it will not be possible to identify any individual participant.

Risks and Benefits

Risks: Taking part in this study involves few risks for you. However, there is a chance that some questions asked of you or your child (e.g., drug use, feelings of depression) could cause some distress.

Benefits: By taking part in this study, you may help to improve services provided by the Big Brothers Big Sisters of Canada. As a thank you for participating in the study, your child will receive two free movie passes at the end of the first and last face-to-face interviews. All children will receive a certificate signifying successful completion of the study.

Contacts

To ensure that the ethical safeguards designed to protect the participants in this study are being observed, with your written consent, an official from the CAMH Research Ethics Board may request access to your completed questionnaires. He or she may also contact you to ask you questions about the research and your consent to participate. The person accessing your questionnaires or contacting you must maintain your confidentiality to the extent permitted by law.

If you would like more information about the study, you may call (collect) the Principal Investigator, Dr. David De Wit or the Co-Principal Investigator, Dr. Ellen Lipman whose phone numbers are listed at the top of the page.

If you have any questions about your rights as a research participant, you may contact Dr. Padraig Darby, Chair, Research Ethics Board, Centre for Addiction and Mental Health.

I (_____) agree to participate in the Big Brothers Big Sisters National Research Study and give permission for my child (_____) to be asked to participate

Parent/Guardian Signature: _____ Date: _____

I (_____) do not wish to participate in this study but do agree to answer the closing questions for non-participants.

Parent/Guardian Signature: _____ Date: _____

I (_____) do not wish to participate in this study. Nor do I wish to answer the closing questions for non-participants.

Parent/Guardian Signature: _____ Date: _____

Assent to Participate in the Big Brothers Big Sisters (BBBS)
National Research Study -- Child Form

Principal Investigator: David J. De Wit
Co-Principal Investigator: Ellen L. Lipman
(Co-investigators: Jeff Bisanz, Jose Da Costa, Kathryn Graham,
Simon LaRose, Debra Pepler, Karen Shaver)

Purpose of Study

Big Brothers Big Sisters of Canada and researchers from different universities across Canada are inviting you to take part in a study that will determine whether children who spend time with a Big Brother or Big Sister feel that it has been helpful to them.

Study Description

A total of 950 families (parents and their children between the ages of 7 and 16) and Big Brothers Big Sisters from 17 Big Brother Big Sister agencies across Canada will be invited to take part. Families will be asked to take part in interviews and questionnaires at 6 different times over a period of three years. Big Brothers and Big Sisters will also be asked to complete questionnaires.

Participation is Voluntary

You do not have to take part in this study if you do not want to. If you decide not to take part, the agency will work with you to match you with a Big Brother or Big Sister in the usual way.

Interviews with Children

As part of this study, you will be asked to complete interviews every 6 months over a 30-month period, one in the next week and five more after that. These interviews will take about 60 minutes to complete each time. Questions asked of you will include how well you get along with others, how you do at school, your feelings and emotions, the kinds of activities you do, whether you smoke or use alcohol or drugs, whether you get support from your parents, teachers, and friends, and events that have happened to you in the past year.

Once you are matched with a Big Brother or Big Sister, you will be asked some extra questions about what you have done with them and how happy you have been with your relationship with him or her.

Your decision to answer any of the questions asked of you will be completely <u>voluntary</u>. That is, you will be free to skip any questions you do not wish to answer.

Questionnaire for Parents

Your parent will be asked to complete a questionnaire at the same time you complete your interviews.

Questionnaire for Big Brothers and Big Sisters

If you get matched, your Big Brother or Big Sister will also complete a questionnaire at the same time you complete your interviews. The questionnaire will ask about the kinds of activities they have done with you and how happy they are with the program.

Confidentiality

Questionnaires will be handed out to parents, children, and Big Brothers and Big Sisters by trained interviewers and will happen in a private place. All information given to the interviewers for the study will be treated as strictly confidential. By "confidential", we mean that we will not share this information with anyone. The only time we would break this rule is if we felt that you were being abused or neglected by someone. In that case, the law says that we must tell someone about it.

At the end of your interview, you will be given a chance to tell the interviewer about any personal problems related to the answers you provided. If you tell the interviewer about something that could harm your safety other than child abuse or neglect (e.g., heavy drug use, extreme feelings of depression, being bullied), the interviewer will ask for your permission to tell your parents.

Only the interviewers and project researchers will see the questionnaire answers. The questionnaires will use number codes rather than names so that no one will be able to link you to your answers. Reports of the findings from the study will be made in way that it will not be possible to identify anything you have said.

Risks and Benefits

Taking part in this study involves few risks for you. However, there is a chance that some questions asked of you (e.g., drug use, feelings of depression) may be upsetting.

By taking part in this study, you may help to improve services provided by the Big Brothers Big Sisters of Canada. As a thank you for taking part in this study, you will receive two free movie passes at the end of your first and last interviews. You will also receive a certificate signifying successful completion of the study.

Contacts

To ensure that the ethical safeguards designed to protect the participants in this study are being observed, with your written consent, an official from the CAMH Research Ethics Board may request access to your completed questionnaires. He or she may also contact you to ask you questions about the research and your consent to participate. The person

accessing your questionnaires or contacting you must maintain your confidentiality to the extent permitted by law.

If you would like more information about the study, you may call (collect) the Principal Investigator, Dr. David De Wit whose phone number is listed at the top of the first page.

If you have any questions about your rights as a research participant, you may contact Dr. Padraig Darby, Chair, Research Ethics Board, Centre for Addiction and Mental Health.

I (_____) agree to participate in the Big Brothers Big Sisters National Research Study.

Child Signature: _____ Date: _____

I (_____) have read this form out loud to

_____,
signature and name of caseworker

I have answered any questions about the study that he/she had and I have made sure that he/she fully understands what is involved in consenting to participate in the study.

APPENDIX D: Study Questionnaires

NATIONAL SURVEY OF THE BIG BROTHERS BIG SISTERS COMMUNITY MATCH PROGRAMS

CHILD 12-MONTH FOLLOW UP INTERVIEW

This research study is being conducted in collaboration with:

Centre for Addiction	Big Brothers Big Sisters
and Mental Health	of Canada
London, Ontario	

Principal Investigators: David J. DeWit, Ph.D. and Ellen Lipman, M.D.

*NOTE: The measures contained in this questionnaire are copyrighted and should not be used for any purpose without the expressed written permission of the principal investigator, Dr. David DeWit, Centre for Addiction and Mental Health, 100 Collip Circle, Suite 200, London, ON, N6G 4X8.

CHILD INTERVIEW

Subject ID# |___|___|___|___|

Agency ID# |___|___|

Researcher/Interviewer Name: _____

Date (dd/mm/yr): _____

Time Started: _____   Time Ended: _____

Researcher/Interviewer should <u>read out loud</u> to the child the following instructions for completing the interview:

We are asking you to take part in this interview because your answers will help us find out if the Big Brothers Big Sisters match program helps kids.

The interview contains questions about your feelings and behaviours at school, at home, and with friends. There are no right or wrong answers. Just take your time and answer the questions to the best of your ability.

Your parent has given permission for you to answer the questions I will ask you, but it is also up to you to decide if you want to participate.

Before taking part in the interview, you should know that:

- The interview will take about 60 minutes to complete.

- You are free to skip any questions that you do not wish to answer or stop the interview at any time.

- Your responses will be completely confidential [private] in that your name will not appear anywhere on the interview schedule booklet. The booklet has a number code that researchers will use to connect your answers to the answers you give for later interviews. Nobody but the researcher will know what number is on your booklet.

- Your decision whether or not to complete the interview will not affect the service provided to you by the BBBS agency; nor will it affect how long you will wait before being assigned to a Big Brother or Big Sister.

- When the results of the study are reported, the results will be described in a way that it will not be possible to identify anything that you said.

- You will receive a thank-you gift for taking part in this study, once after the first interview and again after the last interview.

Field interviewer instructions for completing the child face-to-face interview schedule:

- Unless otherwise specified, please mark <u>one answer</u> for each question or statement asked of the child.

- Interview schedules should be completed using soft lead HB pencils. When recording a child's answer to a question with boxes, you should apply a reasonable amount of pressure and completely shade the space inside the box.

  Please <u>do not</u> use ☒ or ☑ when recording the child's answer.

- Certain questions require that you record an exact number for a child's answer (e.g., child's exact age, grade in school). For these questions, please carefully print the child's answer in the space provided.

- For open-ended questions, please carefully print the child's answer.

- Before beginning a set of questions, carefully read to the child the introductory statement or preamble. This statement provides the context for asking a set of questions (e.g., Now I am going to ask you some questions about your friends).

- For questions having a large number of statements (items) with the same response categories, hand the child a card containing the appropriate question number and response categories. Children should view this card when responding to the set of statements or questions. Once the set of questions are finished, retrieve the card from the child.

- At the end of the interview, please ask the child if there are any personal problems or issues related to their answers that they wish to discuss. If there are problems or issues disclosed by the child that pose a threat to his or her safety (other than child abuse/neglect which must be reported by law), please record the problems/issues in the spaces provided and ask for the child's permission to tell the parent.

DEMOGRAPHICS

Interviewer: I would like to begin by asking a few questions about you.

1) Participant's gender (do not ask).
   - ❏ Male
   - ❏ Female

2) How old are you?

   |___|___| years

3) What grade are you in at school?

   |___|___| grade

4) Who do you live with now? (person or persons you spend the most time with). **Interviewer:** If child does not know the answer, please consult the parent or guardian. I live with:
   - ❏ Both my biological parents
   - ❏ My biological mother only
   - ❏ My biological father only
   - ❏ My biological mother and her boyfriend
   - ❏ My biological father and his girlfriend
   - ❏ My biological mother and my stepfather
   - ❏ My biological father and my stepmother
   - ❏ My adoptive parents
   - ❏ My foster parents
   - ❏ Other relatives (e.g., brother, sister, uncle, grandparent)
   - ❏ A custodial, guardian or group home
   - ❏ Other

5) How many brothers and sisters do you live with (include adopted and step siblings)?

   |___|___| siblings

6) Other than your parent(s) at the beginning of this study [or since your last interview] was there an adult in your life that you could turn to for help and advice?
   - ❏ Yes
   - ❏ No→ go to Question #8

7) If Yes, to the above, please indicate who this person was (shade all that apply).
   - ❏ Teacher
   - ❏ Relative (e.g., aunt, uncle, grandparent)
   - ❏ Brother or sister
   - ❏ Family friend
   - ❏ Minister or clergy
   - ❏ Family doctor
   - ❏ Other (specify): _____

ABOUT YOUR FRIENDS

Interviewer: In this section I am going to ask you about your friends and your relationship with them.

8) About how many close friends do you have?

   _____ number of close friends

9) Please answer the following questions about your friends.
   a) Do you feel left out by your friends?
      - ❏ Never
      - ❏ Hardly ever
      - ❏ Sometimes
      - ❏ Most of the time
      - ❏ Always

   b) Are you well liked by your friends?
      - ❏ Never
      - ❏ Hardly ever
      - ❏ Sometimes
      - ❏ Most of the time
      - ❏ Always

7

c) Can you count on your friends for help or advice when you have problems?
- ❑ Never
- ❑ Hardly ever
- ❑ Sometimes
- ❑ Most of the time
- ❑ Always

d) Do you think your friends care about you?
- ❑ Never
- ❑ Hardly ever
- ❑ Sometimes
- ❑ Most of the time
- ❑ Always

e) Do your friends make you feel bad?
- ❑ Never
- ❑ Hardly ever
- ❑ Sometimes
- ❑ Most of the time
- ❑ Always

10) How many of your close friends do the following?

a) Arrive late for classes/skip classes at school
- ❑ None of them
- ❑ Some of them
- ❑ Most or all of them

b) Take part in community clubs (e.g., Scouts, Guides, 4-H, etc.)
- ❑ None of them
- ❑ Some of them
- ❑ Most or all of them

c) Talk back to teachers
- ❑ None of them
- ❑ Some of them
- ❑ Most or all of them

d) Bother or disturb others in class
- ❑ None of them
- ❑ Some of them
- ❑ Most or all of them

e) Drink alcohol or smoke cigarettes
- ❑ None of them
- ❑ Some of them
- ❑ Most or all of them

f) Use illegal drugs (e.g., marijuana)
- ❑ None of them
- ❑ Some of them
- ❑ Most or all of them

g) Take part in school clubs and sports
- ❑ None of them
- ❑ Some of them
- ❑ Most or all of them

h) Break or wreck (on purpose) something belonging to someone else
- ❑ None of them
- ❑ Some of them
- ❑ Most or all of them

i) Physically hurt someone on purpose (not counting fights with a brother or sister)
- ❑ None of them
- ❑ Some of them
- ❑ Most or all of them

j) Steal or try to steal something at school
- ❑ None of them
- ❑ Some of them
- ❑ Most or all of them

k) Steal things from their parent's home
- ❑ None of them
- ❑ Some of them
- ❑ Most or all of them

11) How well did you get along with your friend s in the <u>past month</u>?

- ❑ Excellent (got along very well)
- ❑ Good
- ❑ Fair
- ❑ Poor
- ❑ Very poor (did not get along at all)

12) Please answer the following question s about your friends

a) If a friend was bullying or being mean to another student and wanted you to join in, would you do it?
- ❑ Yes
- ❑ Probably
- ❑ Maybe
- ❑ No/never

b) If a friend dared you to talk back to a teacher, would you do it?
- ❑ Yes
- ❑ Probably
- ❑ Maybe
- ❑ No/never

c) If a friend was planning to steal something from another student and asked you to join in, would you do it?
- ❑ Yes
- ❑ Probably
- ❑ Maybe
- ❑ No/never

d) If you had to study for a test but your friend wanted you to go out, would you go?
- ❑ Yes
- ❑ Probably
- ❑ Maybe
- ❑ No/never

e) If a friend dared you to wreck or tear a school library book, would you do it?
- ❑ Yes
- ❑ Probably
- ❑ Maybe
- ❑ No/never

f) If a friend was skipping classes at school and wanted you to skip too, would you go along?
- ❑ Yes
- ❑ Probably
- ❑ Maybe
- ❑ No/never

ABOUT SCHOOL

Interviewer: In this section I am going to ask you questions about school (e.g. activities at school, how well you do at school and your teachers). If you have not been at school in the past month, please go to question #18.

13) In the <u>past month</u> at school, how often did you take part in?

a) Sports activities with students from your school (e.g., lunch time or after school volleyball, basketball, etc.)
- ❑ Never
- ❑ Once
- ❑ Twice
- ❑ Three times
- ❑ Four or more times
- ❑ N/A (not at my school)

b) School band, choir, orchestra, or drama
- ❑ Never
- ❑ Once
- ❑ Twice
- ❑ Three times
- ❑ Four or more times
- ❑ N/A (not at my school)

c) School clubs (e.g., astronomy club, computer club, stamp club, creative arts, home economics, cheerleading, etc.)
- ❑ Never
- ❑ Once
- ❑ Twice
- ❑ Three times
- ❑ Four or more times
- ❑ N/A (not at my school)

d) Library or office assistant
- ❑ Never
- ❑ Once
- ❑ Twice
- ❑ Three times
- ❑ Four or more times
- ❑ N/A (not at my school)

e) Student council or school newspaper or yearbook
- ❑ Never
- ❑ Once
- ❑ Twice
- ❑ Three times
- ❑ Four or more times
- ❑ N/A (not at my school)

14) In the past month at school, how well did you do in most of your subjects (compared to other students your own age)?
- ❑ A lot better than other students
- ❑ A little better than other students
- ❑ About the same as other students
- ❑ A little worse than other students
- ❑ A lot worse than other students

15) In the past month at school, how often did you?

a) Fall behind in class work or go to class without completing homework?
- ❑ Never
- ❑ Once
- ❑ Twice
- ❑ Three times
- ❑ Four or more times

b) Get an award or prize for something you did?
- ❑ Never
- ❑ Once
- ❑ Twice
- ❑ Three times
- ❑ Four or more times

c) Bully or be mean to another student?
- ❑ Never
- ❑ Once
- ❑ Twice
- ❑ Three times
- ❑ Four or more times

d) Get a detention or see the principal/vice-principal for behaving badly?
- ❑ Never
- ❑ Once
- ❑ Twice
- ❑ Three times
- ❑ Four or more times

e) Break or wreck (on purpose) school property or something belonging to someone else (e.g., teacher, student)?
- ❑ Never
- ❑ Once
- ❑ Twice
- ❑ Three times
- ❑ Four or more times

f) Talk back to a teacher?
- ❑ Never
- ❑ Once
- ❑ Twice
- ❑ Three times
- ❑ Four or more times

g) Arrive late for classes/skip classes?
- ❑ Never
- ❑ Once
- ❑ Twice
- ❑ Three times
- ❑ Four or more times

h) Bother or disturb other students in class?
- ❑ Never
- ❑ Once
- ❑ Twice
- ❑ Three times
- ❑ Four or more times

i) Have nice things said about you by a teacher?
- ❑ Never
- ❑ Once
- ❑ Twice
- ❑ Three times
- ❑ Four or more times

j) Steal or try to steal something from a student or teacher?
- ❑ Never
- ❑ Once
- ❑ Twice
- ❑ Three times
- ❑ Four or more times

k) Get asked to sit apart from other students for behaving badly (e.g., moved to the front/back of the class or in the hallway).
- ❑ Never
- ❑ Once
- ❑ Twice
- ❑ Three times
- ❑ Four or more times

16) How well did you get along with your teachers in the past month at school?
- ❑ Excellent (got along very well)
- ❑ Good
- ❑ Fair
- ❑ Poor
- ❑ Very poor (did not get along at all)

17) In the past month at school, what marks did you mostly get?
- ❑ Mostly A's (above 80%)
- ❑ Mostly B's (70%-79%)
- ❑ Mostly C's (60%-69%)
- ❑ Mostly D's (50%-59%)
- ❑ Mostly F's (below 50%)

18) How strongly do you agree or disagree with each of the following statements about school?

a) Going to school is a waste of time
- ❑ Strongly agree
- ❑ Agree
- ❑ Neither agree or disagree
- ❑ Disagree
- ❑ Disagree strongly

b) The things kids learn at school are stupid
- ❑ Strongly agree
- ❑ Agree
- ❑ Neither agree or disagree
- ❑ Disagree
- ❑ Disagree strongly

c) Doing well at school work is important
- ❑ Strongly agree
- ❑ Agree
- ❑ Neither agree or disagree
- ❑ Disagree
- ❑ Disagree strongly

d) Going to school is fun
- ❑ Strongly agree
- ❑ Agree
- ❑ Neither agree or disagree
- ❑ Disagree
- ❑ Disagree strongly

e) School is a boring place to be
- ❑ Strongly agree
- ❑ Agree
- ❑ Neither agree or disagree
- ❑ Disagree
- ❑ Disagree strongly

19) How often do you think the following things happen at your school? **NOT FOR 7-9's**

a) Physical fighting
- ❑ Never
- ❑ Hardly ever
- ❑ Sometimes
- ❑ Often
- ❑ Very often

b) Skipping classes
- ❑ Never
- ❑ Hardly ever
- ❑ Sometimes
- ❑ Often
- ❑ Very often

c) Stealing others belongings
- ❑ Never
- ❑ Hardly ever
- ❑ Sometimes
- ❑ Often
- ❑ Very often

d) Breaking or wrecking school property or other's belongings
- ❑ Never
- ❑ Hardly ever
- ❑ Sometimes
- ❑ Often
- ❑ Very often

e) Use of drugs (e.g., alcohol, cigarettes, marijuana)
- ❑ Never
- ❑ Hardly ever
- ❑ Sometimes
- ❑ Often
- ❑ Very often

f) Cheating on tests
- ❑ Never
- ❑ Hardly ever
- ❑ Sometimes
- ❑ Often
- ❑ Very often

g) Bullying of other students
- ❑ Never
- ❑ Hardly ever
- ❑ Sometimes
- ❑ Often
- ❑ Very often

20) How do you feel about teachers at your school?

a) Do you think your teachers care about you?
- ❑ Never
- ❑ Hardly ever
- ❑ Sometimes
- ❑ Most of the time
- ❑ Always

b) Are your teachers good to ask for help or advice about your problems?
- ❑ Never
- ❑ Hardly ever
- ❑ Sometimes
- ❑ Most of the time
- ❑ Always

c) Do you feel very close to your teachers?
- ❑ Never
- ❑ Hardly ever
- ❑ Sometimes
- ❑ Most of the time
- ❑ Always

d) Do your teachers make you feel like you are not good enough?
- ❑ Never
- ❑ Hardly ever
- ❑ Sometimes
- ❑ Most of the time
- ❑ Always

e) Do you have lots of respect for your teachers?
- ❑ Never
- ❑ Hardly ever
- ❑ Sometimes
- ❑ Most of the time
- ❑ Always

21) Please tell me how well each of the following statements applies to you.

a) I can do even the hardest school work if I try
- ❑ Not at all true of me
- ❑ Not true of me
- ❑ Somewhat true of me
- ❑ True of me
- ❑ Very true of me

b) If I have enough time, I can do a good job on all my school work
- ❑ Not at all true of me
- ❑ Not true of me
- ❑ Somewhat true of me
- ❑ True of me
- ❑ Very true of me

c) I can do almost all the work in school if I don't give up
- ❑ Not at all true of me
- ❑ Not true of me
- ❑ Somewhat true of me
- ❑ True of me
- ❑ Very true of me

d) Even if the work in school is hard, I can learn it
- ❑ Not at all true of me
- ❑ Not true of me
- ❑ Somewhat true of me
- ❑ True of me
- ❑ Very true of me

YOUR FEELINGS, EXPERIENCES AND BEHAVIOURS

Interviewer: Now I am going to ask you about your feelings, experiences and behaviours.

22) Please tell me how strongly you agree o r disagree with the following statements

a) I have at least as many friends as other kids my age
- ❑ Strongly agree
- ❑ Agree
- ❑ Neither agree or disagree
- ❑ Disagree
- ❑ Strongly disagree

b) I am not as popular as other kids my age
- ❑ Strongly agree
- ❑ Agree
- ❑ Neither agree or disagree
- ❑ Disagree
- ❑ Strongly disagree

c) In the kinds of things that kids my age like to do, I am at least as good as most others
- ❑ Strongly agree
- ❑ Agree
- ❑ Neither agree or disagree
- ❑ Disagree
- ❑ Strongly disagree

d) Kids my age often pick on me
- ❑ Strongly agree
- ❑ Agree
- ❑ Neither agree or disagree
- ❑ Disagree
- ❑ Strongly disagree

e) Other kids think I am a lot of fun to be with
- ❑ Strongly agree
- ❑ Agree
- ❑ Neither agree or disagree
- ❑ Disagree
- ❑ Strongly disagree

f) I wish I were a different kind of person because I'd have more friends
- ❑ Strongly agree
- ❑ Agree
- ❑ Neither agree or disagree
- ❑ Disagree
- ❑ Strongly disagree

23) Please tell me how you feel about the way you look:

a) I am happy with the way I look
- ❑ Very true
- ❑ Kind of true
- ❑ Not very true
- ❑ Not at all true

b) Other kids think I am good looking
- ❑ Very true
- ❑ Kind of true
- ❑ Not very true
- ❑ Not at all true

c) I do not like the way I look
- ❑ Very true
- ❑ Kind of true
- ❑ Not very true
- ❑ Not at all true

d) If I could change the way I look, I would
- ❑ Very true
- ❑ Kind of true
- ❑ Not very true
- ❑ Not at all true

e) I am proud of my body
- ❑ Very true
- ❑ Kind of true
- ❑ Not very true
- ❑ Not at all true

f) I feel ugly
- ❑ Very true
- ❑ Kind of true
- ❑ Not very true
- ❑ Not at all true

24) All children and teenagers have some problems they find hard to deal with and that upset or worry them. I am interested in finding out what you do when you try to deal with a hard problem. It can be a problem in your family, a problem with a friend, a school problem, or anything else. Please tell me how often each of these statements are true for you when you try to deal with problems.

a) I ask someone in my family for help with the problem
  ❑ Never
  ❑ Sometimes
  ❑ Often
  ❑ Very often

b) I think about the problem and try to figure out what I can do about it
  ❑ Never
  ❑ Sometimes
  ❑ Often
  ❑ Very often

c) I get advice from someone about what I should do
  ❑ Never
  ❑ Sometimes
  ❑ Often
  ❑ Very often

d) I take a chance and try a new way to solve the problem
  ❑ Never
  ❑ Sometimes
  ❑ Often
  ❑ Very often

e) I share my feelings about the problem with another person
  ❑ Never
  ❑ Sometimes
  ❑ Often
  ❑ Very often

f) I make a plan to solve the problem and then follow the plan
  ❑ Never
  ❑ Sometimes
  ❑ Often
  ❑ Very often

g) I keep my feelings to myself
  ❑ Never
  ❑ Sometimes
  ❑ Often
  ❑ Very often

h) I go over in my head some of the things I can do about the problem
  ❑ Never
  ❑ Sometimes
  ❑ Often
  ❑ Very often

i) I think about the problem in a new way so that it does not upset me as much
  ❑ Never
  ❑ Sometimes
  ❑ Often
  ❑ Very often

j) I learn a new way of dealing with the problem
  ❑ Never
  ❑ Sometimes
  ❑ Often
  ❑ Very often

k) I try to figure out how I feel about the problem
  ❑ Never
  ❑ Sometimes
  ❑ Often
  ❑ Very often

l)   I figure out what has to be done and then I
do it

❑ Never
❑ Sometimes
❑ Often
❑ Very often

The following questions ask you about your
use of alcohol and other drugs. For
questions on alcohol, the word "drink"
means one twelve ounce bottle of beer or
glass of draft, one five ounce glass of wine
or one straight or mixed drink with one
ounce and a half of hard liquor.

25) How old were you when you did the
following for the first time? **Interviewer:**
Mark a "0" in the space if the child says he
or she has never done any of these things.

a) |___|___| Smoked a cigarette?

b) |___|___| Had a drink of alcohol?

c) |___|___| Smoked cannabis (marijuana,
grass, pot, hashish)? **NOT FOR
7-9's**

26) In the past four weeks, how often did you
smoke cigarettes?

❑ Never have smoked cigarettes
❑ Smoked but not in the past four weeks
❑ Tried one cigarette
❑ Less than one cigarette a day
❑ 1 or 2 cigarettes a day
❑ 3 to 5 cigarettes a day
❑ 6 to 10 cigarettes a day
❑ 11 to 15 cigarettes a day
❑ 16 to 20 cigarettes a day
❑ More than 20 cigarettes a day

27) During the past four weeks, how often did
you drink alcohol?

❑ Never drank alcohol
❑ Did not drink alcohol in the past four weeks
❑ Once or twice in the past four weeks
❑ Once or twice each week
❑ 3 or 4 times each week
❑ 5 or 6 times each week
❑ Once each day
❑ More than once each day

28) Thinking back over the past four weeks,
about how many drinks of alcohol did you
have? **NOT FOR 7-9's**

|___|___| drinks

29) How many times in the past four weeks, has
drinking alcohol made you drunk (that is you
had so much to drink that you could not do
what you wanted to do, or you threw up)?
NOT FOR 7-9's

❑ Never drank alcohol
❑ Did not drink alcohol in past four weeks
❑ Not been drunk in the past four weeks
❑ Once
❑ Twice
❑ Three times
❑ Four times
❑ Five or more times

30) How many times in the <u>past four weeks</u> have you had five or m ore drinks of alcohol on the same occasion   **NOT FOR 7-9's**

- ❑ Never drank alcohol
- ❑ Have not had a drink of alcohol in the past four weeks
- ❑ Have not had five or more drinks of alcohol on the same occasion in the past four weeks
- ❑ Once
- ❑ Twice
- ❑ Three times
- ❑ Four times
- ❑ Five or more times

31) During the <u>past four weeks</u>, how often did you use cannabis (marijuana, grass, pot, hashish)? **NOT FOR 7-9's**

- ❑ Never used cannabis
- ❑ Did not use cannabis in the past four weeks
- ❑ Used once or twice in the past four weeks
- ❑ Once or twice each week
- ❑ Three or four times each week
- ❑ Five or six times each week
- ❑ Once each day
- ❑ More than once each day

32) Below is a list of ways you might have felt or behaved. Please tell m e how often you felt this way during the <u>past week</u>.

a) I felt like I couldn't pay attention to what I was doing this week
- ❑ Not at all
- ❑ Some or a little of the time
- ❑ Most of the time
- ❑ A lot or all of the time

b) I felt down and unhappy this week
- ❑ Not at all
- ❑ Some or a little of the time
- ❑ Most of the time
- ❑ A lot or all of the time

c) I felt like I was too tired to do things this past week
- ❑ Not at all
- ❑ Some or a little of the time
- ❑ Most of the time
- ❑ A lot or all of the time

d) I felt scared this week
- ❑ Not at all
- ❑ Some or a little of the time
- ❑ Most of the time
- ❑ A lot or all of the time

e) I didn't sleep as well as I usually sleep this week
- ❑ Not at all
- ❑ Some or a little of the time
- ❑ Most of the time
- ❑ A lot or all of the time

f) I felt like crying this week
- ❑ Not at all
- ❑ Some or a little of the time
- ❑ Most of the time
- ❑ A lot or all of the time

g) I felt sad
- ❑ Not at all
- ❑ Some or a little of the time
- ❑ Most of the time
- ❑ A lot or all of the time

h) It was hard to get started doing things this week
- ❑ Not at all
- ❑ Some or a little of the time
- ❑ Most of the time
- ❑ A lot or all of the time

33) How often are the following statements true about you?

a) I only talk to kids I know really well
   - ☐ Not at all
   - ☐ Hardly ever
   - ☐ Sometimes
   - ☐ Most of the time
   - ☐ All the time

b) I worry about being teased
   - ☐ Not at all
   - ☐ Hardly ever
   - ☐ Sometimes
   - ☐ Most of the time
   - ☐ All the time

c) I worry about what other kids think of me
   - ☐ Not at all
   - ☐ Hardly ever
   - ☐ Sometimes
   - ☐ Most of the time
   - ☐ All the time

d) I'm afraid that other kids will not like me
   - ☐ Not at all
   - ☐ Hardly ever
   - ☐ Sometimes
   - ☐ Most of the time
   - ☐ All the time

e) I worry about what other children say about me
   - ☐ Not at all
   - ☐ Hardly ever
   - ☐ Sometimes
   - ☐ Most of the time
   - ☐ All the time

f) I feel that kids are making fun of me
   - ☐ Not at all
   - ☐ Hardly ever
   - ☐ Sometimes
   - ☐ Most of the time
   - ☐ All the time

g) I feel that other kids talk about me behind my back
   - ☐ Not at all
   - ☐ Hardly ever
   - ☐ Sometimes
   - ☐ Most of the time
   - ☐ All the time

h) I worry that other kids don't like me
   - ☐ Not at all
   - ☐ Hardly ever
   - ☐ Sometimes
   - ☐ Most of the time
   - ☐ All the time

i) If I get into an argument with another kid, I worry that he or she won't like me
   - ☐ Not at all
   - ☐ Hardly ever
   - ☐ Sometimes
   - ☐ Most of the time
   - ☐ All the time

j) I worry about doing something new in front of other kids
   - ☐ Not at all
   - ☐ Hardly ever
   - ☐ Sometimes
   - ☐ Most of the time
   - ☐ All the time

k) I feel shy around kids I don't know
   - ☐ Not at all
   - ☐ Hardly ever
   - ☐ Sometimes
   - ☐ Most of the time
   - ☐ All the time

l) I get nervous when I talk to new kids
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

m) I feel nervous when I'm around certain kids
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

n) I get nervous when I talk to kids I don't know very well
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

o) I am quiet when I'm with a group of kids
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

p) I feel shy even with kids I know very well
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

q) It's hard for me to ask other kids to play with me
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

r) I'm afraid to invite others to my house because they might say no
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

34) Below is a list of statements that describe some of the behaviours of young people. For each statement, please tell me the answer that best describes your behaviour <u>now or within the past month</u>.

		Not true	Somewhat True	Certainly True
a)	I try to be nice to other people. I care about their feelings	❏	❏	❏
b)	I am restless. I cannot stay still for long	❏	❏	❏
c)	I get a lot of headaches, stomach-aches or sickness	❏	❏	❏
d)	I usually share with others (food, games, pens, etc.)	❏	❏	❏
e)	I get very angry and often lose my temper	❏	❏	❏
f)	I am usually on my own. I generally play alone or keep to myself	❏	❏	❏
g)	I usually do as I am told	❏	❏	❏
h)	I worry a lot	❏	❏	❏
i)	I am helpful if someone is hurt, upset or feeling ill	❏	❏	❏
j)	I am constantly fidgeting or squirming	❏	❏	❏
k)	I have one good friend or more	❏	❏	❏
l)	I fight a lot. I can make other people do what I want	❏	❏	❏
m)	I am often unhappy, down-hearted or tearful	❏	❏	❏
n)	Other people my age generally like me	❏	❏	❏
o)	I am easily distracted. I find it difficult to concentrate	❏	❏	❏
p)	I am nervous in new situations. I easily lose confidence	❏	❏	❏
q)	I am kind to younger children	❏	❏	❏
r)	I am often accused of lying or cheating	❏	❏	❏
s)	Other children or young people pick on me or bully me	❏	❏	❏
t)	I often volunteer to help others (parents, teachers, children)	❏	❏	❏
u)	I think before I do things	❏	❏	❏
v)	I take things that are not mine from home, school or elsewhere	❏	❏	❏
w)	I get on better with adults than with people my own age	❏	❏	❏
x)	I have many fears. I am easily scared	❏	❏	❏
y)	I finish the work I'm doing. My attention is good	❏	❏	❏

35) The following questions ask about how often you have felt unsafe or been hurt by others both inside and outside of school?

a) I feel safe at school
- ☐ All the time
- ☐ Most of the time
- ☐ Some of the time
- ☐ Rarely
- ☐ Never

b) I feel safe on my way to and from school
- ☐ All the time
- ☐ Most of the time
- ☐ Some of the time
- ☐ Rarely
- ☐ Never

c) Children say mean things to me at school
- ☐ All the time
- ☐ Most of the time
- ☐ Some of the time
- ☐ Rarely
- ☐ Never

d) I am bullied at school
- ☐ All the time
- ☐ Most of the time
- ☐ Some of the time
- ☐ Rarely
- ☐ Never

e) I am bullied on my way to and from school
- ☐ All the time
- ☐ Most of the time
- ☐ Some of the time
- ☐ Rarely
- ☐ Never

f) I feel like an outsider at my school
- ☐ All the time
- ☐ Most of the time
- ☐ Some of the time
- ☐ Rarely
- ☐ Never

ABOUT YOUR PHYSICAL HEALTH

Interviewer: Now I am going to ask you about your health.

36) How would you describe your health?
- ☐ Excellent
- ☐ Very good
- ☐ Good
- ☐ Fair
- ☐ Poor

ABOUT YOUR PARENT(S)/ GUARDIANS

Interviewer: In this section I am going to ask you about your relationship with your parent(s) / guardians.

37) Please tell me how you feel about your mother/female guardian (If child does not have a mother/female guardian, go to the next question).

a) I can share my feelings with her
- ☐ Not at all
- ☐ A little
- ☐ Fairly much
- ☐ Very much

b) I feel that I can trust her as someone to talk to
- ☐ Not at all
- ☐ A little
- ☐ Fairly much
- ☐ Very much

c) If I tell her about a problem, she will probably blame me for it
- ☐ Not at all
- ☐ A little
- ☐ Fairly much
- ☐ Very much

d) If something good happens to me, I tell her about it
- ❑ Not at all
- ❑ A little
- ❑ Fairly much
- ❑ Very much

e) When I feel bad about something, she will listen
- ❑ Not at all
- ❑ A little
- ❑ Fairly much
- ❑ Very much

f) If I talk to her, I think she tries to understand how I feel
- ❑ Not at all
- ❑ A little
- ❑ Fairly much
- ❑ Very much

g) When I talk to her, she makes me feel better
- ❑ Not at all
- ❑ A little
- ❑ Fairly much
- ❑ Very much

h) If I talk to her, she has suggestions about how to handle problems
- ❑ Not at all
- ❑ A little
- ❑ Fairly much
- ❑ Very much

i) If I need to know something about the world (like how things work), I can ask her about it
- ❑ Not at all
- ❑ A little
- ❑ Fairly much
- ❑ Very much

j) When I have a problem with money, I can talk to her about it
- ❑ Not at all
- ❑ A little
- ❑ Fairly much
- ❑ Very much

k) If I need help with my school work, I can ask her about it
- ❑ Not at all
- ❑ A little
- ❑ Fairly much
- ❑ Very much

l) If I need help in getting somewhere, I can ask her for a way to get there
- ❑ Not at all
- ❑ A little
- ❑ Fairly much
- ❑ Very much

m) If I have a problem with my health, I think I can talk to her about it
- ❑ Not at all
- ❑ A little
- ❑ Fairly much
- ❑ Very much

n) If I'm feeling bored, she has suggestions about things to do
- ❑ Not at all
- ❑ A little
- ❑ Fairly much
- ❑ Very much

o) If I'm having a problem with a friend, she would have advice about what to do
- ❑ Not at all
- ❑ A little
- ❑ Fairly much
- ❑ Very much

38) Please tell me how you feel about your father/male guardian (If child does not have a father/male guardian, go to the next question). **Interviewer:** Ask child relation of person they will be answering for (e.g., biological father, stepfather, uncle) and print clearly in space below. This person should be the one who spends the most time with the child. _____

a) I can share my feelings with him
- ❏ Not at all
- ❏ A little
- ❏ Fairly much
- ❏ Very much

b) I feel that I can trust him as someone to talk to
- ❏ Not at all
- ❏ A little
- ❏ Fairly much
- ❏ Very much

c) If I tell him about a problem, he will probably blame me for it
- ❏ Not at all
- ❏ A little
- ❏ Fairly much
- ❏ Very much

d) If something good happens to me, I tell him about it
- ❏ Not at all
- ❏ A little
- ❏ Fairly much
- ❏ Very much

e) When I feel bad about something, he will listen
- ❏ Not at all
- ❏ A little
- ❏ Fairly much
- ❏ Very much

f) If I talk to him, I think he tries to understand how I feel
- ❏ Not at all
- ❏ A little
- ❏ Fairly much
- ❏ Very much

g) When I talk to him, he makes me feel better
- ❏ Not at all
- ❏ A little
- ❏ Fairly much
- ❏ Very much

h) If I talk to him, he has suggestions about how to handle problems
- ❏ Not at all
- ❏ A little
- ❏ Fairly much
- ❏ Very much

i) If I need to know something about the world (like how things work), I can ask him about it
- ❏ Not at all
- ❏ A little
- ❏ Fairly much
- ❏ Very much

j) When I have a problem with money, I can talk to him about it
- ❏ Not at all
- ❏ A little
- ❏ Fairly much
- ❏ Very much

k) If I need help with my school work, I can ask him about it
- ❏ Not at all
- ❏ A little
- ❏ Fairly much
- ❏ Very much

l) If I need help in getting somewhere, I can ask him for a way to get there
- ❏ Not at all
- ❏ A little
- ❏ Fairly much
- ❏ Very much

m) If I have a problem with my health, I think I can talk to him about it
   □ Not at all
   □ A little
   □ Fairly much
   □ Very much

n) If I'm feeling bored, he has suggestions about things to do
   □ Not at all
   □ A little
   □ Fairly much
   □ Very much

o) If I'm having a problem with a friend, he would have advice about what to do
   □ Not at all
   □ A little
   □ Fairly much
   □ Very much

39) Please tell me how much the following statements are like your mother/female guardian? (If child does not have a mother/female guardian, go to the next question) **NOT FOR 7-9's**

a) Tells me of all the things she had done for me
   □ Not like her
   □ Somewhat like her
   □ A lot like her

b) Says, if I really cared for her, I would not do things that cause her to worry
   □ Not like her
   □ Somewhat like her
   □ A lot like her

c) Would like to be able to tell me what to do all the time
   □ Not like her
   □ Somewhat like her
   □ A lot like her

d) Is always telling me how I should behave
   □ Not like her
   □ Somewhat like her
   □ A lot like her

e) Wants to control whatever I do
   □ Not like her
   □ Somewhat like her
   □ A lot like her

f) Is always trying to change me
   □ Not like her
   □ Somewhat like her
   □ A lot like her

g) Only keeps rules when it suits her
   □ Not like her
   □ Somewhat like her
   □ A lot like her

h) Is less friendly with me, if I do not see things her way
   □ Not like her
   □ Somewhat like her
   □ A lot like her

i) Will avoid looking at me when I have disappointed her
   □ Not like her
   □ Somewhat like her
   □ A lot like her

j) If I have hurt her feelings, she stops talking to me until I please her again
   □ Not like her
   □ Somewhat like her
   □ A lot like her

k) Believes in having a lot of rules and sticking to them
   □ Not like her
   □ Somewhat like her
   □ A lot like her

l) Insists that I must do exactly as I am told
- ❑ Not like her
- ❑ Somewhat like her
- ❑ A lot like her

m) Is very strict with me
- ❑ Not like her
- ❑ Somewhat like her
- ❑ A lot like her

n) Gives hard punishment
- ❑ Not like her
- ❑ Somewhat like her
- ❑ A lot like her

o) Is easy with me
- ❑ Not like her
- ❑ Somewhat like her
- ❑ A lot like her

p) Lets me off easy when I do something wrong
- ❑ Not like her
- ❑ Somewhat like her
- ❑ A lot like her

q) Gives me as much freedom as I want
- ❑ Not like her
- ❑ Somewhat like her
- ❑ A lot like her

r) Lets me go any place I please without asking
- ❑ Not like her
- ❑ Somewhat like her
- ❑ A lot like her

s) Lets me go out any evening I want
- ❑ Not like her
- ❑ Somewhat like her
- ❑ A lot like her

t) Lets me do anything I like to do
- ❑ Not like her
- ❑ Somewhat like her
- ❑ A lot like her

40) Please tell me how much the following statements are like your father/male guardian? (If child does not have a father/ male guardian, go to the next question). **NOT FOR 7-9's. Interviewer:** Child should answer for the same person as indicated in Question 38.

a) Tells me of all the things he had done for me
- ❑ Not like him
- ❑ Somewhat like him
- ❑ A lot like him

b) Says, if I really cared for him, I would not do things that cause him to worry
- ❑ Not like him
- ❑ Somewhat like him
- ❑ A lot like him

c) Would like to be able to tell me what to do all the time
- ❑ Not like him
- ❑ Somewhat like him
- ❑ A lot like him

d) Is always telling me how I should behave
- ❑ Not like him
- ❑ Somewhat like him
- ❑ A lot like him

e) Wants to control whatever I do
- ❑ Not like him
- ❑ Somewhat like him
- ❑ A lot like him

f) Is always trying to change me
- ❑ Not like him
- ❑ Somewhat like him
- ❑ A lot like him

g) Only keeps rules when it suits him
- ❑ Not like him
- ❑ Somewhat like him
- ❑ A lot like him

h) Is less friendly with me, if I do not see things his way
- ❑ Not like him
- ❑ Somewhat like him
- ❑ A lot like him

i) Will avoid looking at me when I have disappointed him
- ❑ Not like him
- ❑ Somewhat like him
- ❑ A lot like him

j) If I have hurt his feelings, he stops talking to me until I please him again
- ❑ Not like him
- ❑ Somewhat like him
- ❑ A lot like him

k) Believes in having a lot of rules and sticking to them
- ❑ Not like him
- ❑ Somewhat like him
- ❑ A lot like him

l) Insists that I must do exactly as I am told
- ❑ Not like him
- ❑ Somewhat like him
- ❑ A lot like him

m) Is very strict with me
- ❑ Not like him
- ❑ Somewhat like him
- ❑ A lot like him

n) Gives hard punishment
- ❑ Not like him
- ❑ Somewhat like him
- ❑ A lot like him

o) Is easy with me
- ❑ Not like him
- ❑ Somewhat like him
- ❑ A lot like him

p) Lets me off easy when I do something wrong
- ❑ Not like him
- ❑ Somewhat like him
- ❑ A lot like him

q) Gives me as much freedom as I want
- ❑ Not like him
- ❑ Somewhat like him
- ❑ A lot like him

r) Lets me go any place I please without asking
- ❑ Not like him
- ❑ Somewhat like him
- ❑ A lot like him

s) Lets me go out any evening I want
- ❑ Not like him
- ❑ Somewhat like him
- ❑ A lot like him

t) Lets me do anything I like to do
- ❑ Not like him
- ❑ Somewhat like him
- ❑ A lot like him

ABOUT YOUR RELATIONSHIP WITH YOUR BIG BROTHER/SISTER MATCH

Interviewer: In this section I am going to ask you about your relationship with your Big Brother/Big Sister.

41) Since entering the study (or your last interview) are you still in the <u>same</u> match relationship with your Big Brother or Big Sister?

- ❑ Yes → go to question #47
- ❑ No (was matched, but relationship ended)→ go to question #42
- ❑ No (have not been matched yet) → go to question #59

42) If No, why did the match relationship end? (please tell me the <u>most important</u> reason)

- ❑ I moved away
- ❑ My Big Brother/Sister moved away
- ❑ I was not happy with the match
- ❑ My Big Brother/Sister was not happy with the match
- ❑ I finished the program (turned 17 years of age)
- ❑ My parents were not happy with the match
- ❑ Big Brother/Sister agency asked to end the match
- ❑ Other reason (specify) _____

43) How long did the match relationship last?

|___|___| months

44) How many <u>days each week</u> did you spend time doing things/going places with your Big Brother/ Big Sister?

- ❑ Less than every other week
- ❑ Every other week
- ❑ Less than one day a week
- ❑ One day a week
- ❑ Two days a week
- ❑ Three days a week
- ❑ Four days a week
- ❑ Five days a week
- ❑ More than five days a week

45) How would you describe the relationship you had with your Big Brother/Big Sister?

a) A trusting relationship

- ❑ Very true
- ❑ Partly or sometimes true
- ❑ Not very true

b) A warm and affectionate relationship

- ❑ Very true
- ❑ Partly or sometimes true
- ❑ Not very true

c) A close relationship

- ❑ Very true
- ❑ Partly or sometimes true
- ❑ Not very true

d) A happy relationship

- ❑ Very true
- ❑ Partly or sometimes true
- ❑ Not very true

e) A respectful relationship

- ❑ Very true
- ❑ Partly or sometimes true
- ❑ Not very true

46) Since your match ended, have you been rematched to another Big Brother/Big Sister?

- ❑ Yes → go to question #47
- ❑ No → go to question #58

47) How many months have you been in your current match relationship with your Big Brother/Big Sister?

Interviewer: If the child has been in a match relationship for less than one month, mark a "0" in the space provided and please go to question #58.

\# |___|___| months

48) In the past month, about how many days each week have you spent time doing things / going places with your Big Brother/Sister?

- ❑ Less than every other week
- ❑ Every other week
- ❑ Less than one day a week
- ❑ One day a week
- ❑ Two days a week
- ❑ Three days a week
- ❑ Four days a week
- ❑ Five days a week
- ❑ More than five days a week

49) In the past month, about how many hours each week have you spent with your Big Brother/Sister?

- ❑ Less than one hour each week
- ❑ 1-2 hours
- ❑ 3-4 hours
- ❑ 5-6 hours
- ❑ 7-8 hours
- ❑ 9-10 hours
- ❑ More than 10 hours

50) In the past month, how often have you shared the following activities with your Big Brother/Sister?

a) Went to a movie theatre, restaurant, or out shopping
- ❑ Never or hardly ever
- ❑ Sometimes
- ❑ Often

b) Talked face-to-face about something important to you
- ❑ Never or hardly ever
- ❑ Sometimes
- ❑ Often

c) Visited a library, museum, park or zoo
- ❑ Never or hardly ever
- ❑ Sometimes
- ❑ Often

d) Watched T.V.
- ❑ Never or hardly ever
- ❑ Sometimes
- ❑ Often

e) Played a game or sports
- ❑ Never or hardly ever
- ❑ Sometimes
- ❑ Often

f) He/she helped with my school work
- ❑ Never or hardly ever
- ❑ Sometimes
- ❑ Often

g) Talked on the telephone
- ❑ Never or hardly ever
- ❑ Sometimes
- ❑ Often

h) Attended Big Brothers/Sisters agency events/activities
- ❑ Never or hardly ever
- ❑ Sometimes
- ❑ Often

i) Went swimming, bicycling, hiking/camping
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

j) Taught me something (a skill)
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

k) Made crafts or clothes
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

l) Did computer/internet activities
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

m) Worked on school projects together
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

n) Visited with my family
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

o) Visited with his/her family
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

p) Went walking
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

q) Cooked or baked
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

51) Please tell me what you think about your Big Brother/Sister? My Big Brother/Sister...

a) Is there for me when I have a problem
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

b) Listens carefully to what I am saying
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

c) Asks to do things with me
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

d) Calls me on the telephone often
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

e) Enjoys the time he/she spends with me
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

f) Understands my problems
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

g) Accepts me for who I am
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

h) Shows an interest in the things we do together
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

i) Trusts me
- ❑ Very true
- ❑ Partly or sometimes true
- ❑ Not very true

j) Asks me for my opinion or what I think about things
- ❑ Very true
- ❑ Partly or sometimes true
- ❑ Not very true

k) Laughs or jokes with me
- ❑ Very true
- ❑ Partly or sometimes true
- ❑ Not very true

l) Follows through on planned activities (i.e., keeps dates)
- ❑ Very true
- ❑ Partly or sometimes true
- ❑ Not very true

m) Teaches me a skill or how to do things
- ❑ Very true
- ❑ Partly or sometimes true
- ❑ Not very true

n) Helps me think about my future
- ❑ Very true
- ❑ Partly or sometimes true
- ❑ Not very true

o) When I have a problem, tells me that things will be OK
- ❑ Very true
- ❑ Partly or sometimes true
- ❑ Not very true

p) Takes what I have to say seriously
- ❑ Very true
- ❑ Partly or sometimes true
- ❑ Not very true

q) Does not try to force me to tell him/her about private or personal things in my life
- ❑ Very true
- ❑ Partly or sometimes true
- ❑ Not very true

r) Tries to find out what I like to do
- ❑ Very true
- ❑ Partly or sometimes true
- ❑ Not very true

s) Is patient with me
- ❑ Very true
- ❑ Partly or sometimes true
- ❑ Not very true

t) Shows an interest in getting to know my family
- ❑ Very true
- ❑ Partly or sometimes true
- ❑ Not very true

u) Sees things much the same way as I do
- ❑ Very true
- ❑ Partly or sometimes true
- ❑ Not very true

v) Is a lot like me in many ways
- ❑ Very true
- ❑ Partly or sometimes true
- ❑ Not very true

52) How do you feel about your relationship with your Big Brother/Sister now? Do you feel you are:

a) Trusting of each other?
- ❑ Very true
- ❑ Partly or sometimes true
- ❑ Not very true

b) Warm and friendly to each other?
- ❑ Very true
- ❑ Partly or sometimes true
- ❑ Not very true

c) Close to each other?
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

d) Happy together?
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

e) Respectful of each other?
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

53) **Not for 7-9's** How do you feel about your Big Brother/ Sister's relationship with your mother/female guardian? (If child does not have a mother/female guardian, go to the next question). Do you feel that they are:

a) Trusting of each other?
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

b) Warm and friendly to each other?
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

c) Close to each other?
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

d) Happy together?
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

e) Respectful of each other?
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

54) **Not for 7-9's** How do you feel about your Big Brother/ Sister's relationship with your father/male guardian? (If child does not have a father/male guardian, go to the next question). Do you feel that they are:

a) Trusting of each other?
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

b) Warm and friendly to each other?
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

c) Close to each other?
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

d) Happy together?
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

e) Respectful of each other?
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

55) **Not for 7-9's** Since meeting your Big Brother/Sister, describe your life.

a) Are confident in your abilities
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

b) Get along with your friends
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

c) Get along with your teachers
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

d) Get along with your parent/guardian
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

e) Willing to openly discuss your problems
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

f) Have a positive attitude about school
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

g) Are happy with the way you look
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

h) Have a sense of what your future looks like
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

i) Are trusting of others
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

j) Are easy going and relaxed
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

k) Are happy about who you are
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

l) Have a positive outlook on life (i.e., I look forward to doing things)
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

m) Are involved in community activities (e.g., sports, clubs, etc.)
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

n) Are polite and sociable with others
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

o) Make decisions that are good for you
- ❏ Very true
- ❏ Partly or sometimes true
- ❏ Not very true

56) Do you feel you are spending enough time with your Big Brother/Sister?
- ❏ Yes
- ❏ No

57) Are there things that are preventing you from spending enough time with your Big Brother/Sister?
- ❏ Yes
- ❏ No

a) If Yes, what are they?

_____

_____

58) Please tell me how you felt about the time you were matched with your Big Brother/Sister.

    a) It took too long for a match to be found
- ☐ Very true
- ☐ Kind of true
- ☐ Not very true

    b) I did not feel happy about the match
- ☐ Very true
- ☐ Kind of true
- ☐ Not very true

    c) Not enough time to meet to know if I liked him/her
- ☐ Very true
- ☐ Kind of true
- ☐ Not very true

    d) I don't think enough thought was given to things we both like to do
- ☐ Very true
- ☐ Kind of true
- ☐ Not very true

59) Why did you want to become a Little Brother/Sister? (shade all that apply)
- ☐ My parent/guardian wanted me to
- ☐ My parent/guardian did not have time to talk with me or do things with me
- ☐ I have no dad/mom and wanted an older male/female friend
- ☐ I wanted someone to talk to about my feelings and problems
- ☐ I don't have a brother/sister to talk to
- ☐ I wanted to learn new things
- ☐ I wanted to go more places
- ☐ I knew someone who is/was a Little Brother/Sister
- ☐ There was nothing to do in my community
- ☐ Other, specify _____

Thank you for taking part in this study!

Interviewer Notes for Child P roblems and Issues:

_____

_____

_____

_____

_____

_____

_____

_____

NATIONAL STUDY OF THE BIG BROTHERS BIG SISTERS COMMUNITY MATCH PROGRAMS

ADULT MENTOR QUESTIONNAIRE
SECOND ASSESSMENT FOR FAMILY 12-MONTH

This research study is being conducted in collaboration with:

Centre for Addiction	**Big Brothers Big Sisters**
and Mental Health	**of Canada**
London, Ontario	

Principal Investigator: David J. DeWit Ph.D.

*NOTE: The measures contained in this questionnaire are copyrighted and should not be used for any purpose without the expressed written permission of the principal investigator, Dr. David DeWit, Centre for Addiction and Mental Health, 100 Collip Circle, Suite 200, London, ON, N6G 4X8.

ADULT MENTOR QUESTIONNAIRE

Subject ID# |___|___|___|___|___|

Agency ID# |___|___|

Researcher Name: _____

Date (dd/mm/yr): _____

Time: _____

QUESTIONNAIRE INSTRUCTIONS

We are asking you to take part in this questionnaire because your answers will help us find out if the Big Brothers Big Sisters community match program helps kids.

The attached questionnaire asks you to provide some general information about yourself, perceptions of your relationship with your Little Brother/Sister, shared activities, and experiences with your local Big Brothers/Sisters agency.

Your Little Brother's/Sister's parent/guardian has given you permission to answer the questions.

In deciding whether you are willing to participate, you should know the following:

- The questionnaire will take about 20-30 minutes to complete.

- You are free to skip any questions that you do not wish to answer.

- Your decision whether or not to complete the questionnaire will not affect the services provided to you by the BBBS agency.

- Your responses will be completely confidential in that your name will not appear anywhere on the questionnaire. The questionnaire has a number code that researchers will use to connect your responses to the responses of your Little Brother/Sister and his/her parent/guardian. Nobody but the researchers will know what number is on your booklet.

- When the results of the study are reported, the results will be described in a way that it will not be possible to identify anything that you record.

INSTRUCTIONS FOR COMPLETING THE QUESTIONNAIRE

- When answering each question, carefully shade the box beside the answer that you think is most accurate. There are no right or wrong answers.

- Unless otherwise specified, please mark <u>one answer</u> for each question or statement.

- Questionnaires should be completed using soft lead HB pencils provided by me [researcher]. When answering questions with boxes, you should apply a reasonable amount of pressure and completely shade the space inside the box. Please <u>do not</u>

  use ☒ or ☑ when marking your answers.

- Certain questions require that you record an exact number for an answer (e.g., your exact date of birth). For these questions, please carefully print your answer in the space provided.

- Certain questions are open-ended. For these questions, please carefully print your answer. You should be brief in your answer.

- Unless otherwise stated, questions refer to your current match partner child (Little Brother or Little Sister) enrolled in the study.

DEMOGRAPHICS

Unless otherwise specified, please answer the following questions by shading one answer for each question. We will start with a few questions about you.

1) What is your gender?

☐ Male
☐ Female

2) What is your exact date of birth?

|___|___|___|
DD   MM   YY

3) What is your current marital status?

☐ Married
☐ Living with a partner/common-law marriage
☐ Divorced
☐ Married, but separated
☐ Widowed
☐ Single (never married)

4) Are you employed either full-time or part-time in a social service or helping profession (e.g., teacher, counsellor or therapist, psychologist, psychiatrist, social worker)?

☐ Yes
☐ No

5) What best describes your main activity in the past 12 months? (shade all that apply)

☐ Unemployed/ temporarily laid off
☐ Going to school
☐ Full-time paid employment
☐ Part-time paid employment
☐ Working for pay and being a homemaker
☐ Homemaker only
☐ Permanently unable to work
☐ Volunteer work
☐ Retired
☐ Other

6) How long have you lived at your current address?

☐ Less than 12 months
☐ One year
☐ Two years
☐ Three years
☐ Four years
☐ More than five years

7) What is the highest grade or level of education you have ever completed?

☐ No schooling
☐ Elementary
☐ Some secondary
☐ Completed secondary
☐ Some community college, technical college, CEGEP, nurse's training
☐ Completed community college, technical college, CEGEP, nurse's training
☐ Some university or teacher's college
☐ Completed university or teacher's college

8) How many children do you have living with you (include biological, adopted, step-children, your partner's children or grandchildren)?

|___|___| # of children

HOW YOU SPEND YOUR TIME

Now we are going to ask you about the way you spend your time.

9) Not counting Big Brothers/Sisters, please indicate your involvement as a volunteer in youth-related activities and organizations over the past 12 months (shade all that apply).

- ☐ Coaching youth sports teams
- ☐ 4-H Club Leader
- ☐ Scouts/Guides Leader
- ☐ Junior Achievement Leader
- ☐ Y (YM/YWCA) Instructor
- ☐ Service clubs (e.g., Boys and Girls Clubs)
- ☐ Summer Camp Leader
- ☐ Church Group Youth Leader
- ☐ Teaching Assistant
- ☐ Other

ABOUT YOUR HISTORY WITH BIG BROTHERS/SISTERS

In this section we are going to ask you about your history with the Big Brothers/Sisters agency

10) Is this the first time you have been in a match relationship as a Big Brothers/Sisters volunteer?

- ☐ Yes → go to question #16
- ☐ No → go to question #11

11) If not, when was the last time you were in a match relationship as a Big Brothers/Sisters Volunteer?

- ☐ Less than a year ago
- ☐ A year ago
- ☐ Two years ago
- ☐ Three years ago
- ☐ Four years ago
- ☐ Five years ago
- ☐ More than five years ago

12) How long did the most recent match relationship last?

- ☐ Less than a month
- ☐ 1 to 6 months
- ☐ 7-12 months
- ☐ One to two years
- ☐ Three to four years
- ☐ Five or more years

13) Why did the match relationship end? (please indicate the single most important reason)

- ☐ I moved away
- ☐ I got married
- ☐ Little Brother/Sister moved away
- ☐ I lost interest
- ☐ Little Brother/Sister lost interest
- ☐ Little Brother/Sister finished the program (turned 17 years of age)
- ☐ Little Brother/Sister withdrew from program because of parental wishes
- ☐ I started a family
- ☐ Other reason

14) As a Big Brothers/Sisters volunteer, how many times have you been matched? (do not count current match relationship)

- ☐ Once
- ☐ Twice
- ☐ Three times
- ☐ Four times
- ☐ Five or more times

15) Did any of your Big Brothers/Sisters match relationships occur outside of the province in which you reside?

- ☐ Yes
- ☐ No

16) Were any of your friends or relatives ever in a match relationship as a Big Brothers/Sisters volunteer?

- ☐ Yes
- ☐ No

ABOUT YOUR MATCH RELATIONSHIP IN THIS STUDY

Now we are going to ask you a few questions about your match relationship in this study.

17) Since entering this study (or since your last assessment) are you still in the same match relationship with your Little Brother or Little Sister?

☐ Yes → go to question #24

☐ No (was matched, but relationship ended) → go to question #18

18) If No, why did the match relationship end? (please indicate single most important reason)

☐ I moved away

☐ I got married

☐ Little Brother/Sister moved away

☐ I was not happy with the match

☐ My Little Brother/Sister was not happy with the match

☐ I became too busy/could not commit enough time to the match

☐ Little Brother/Sister finished the program (turned 17 years of age)

☐ Little Brother/Sister ' parents were not happy with the match

☐ Big Brother/Sister agency requested that the match be terminated

☐ I started a family

☐ I had difficulties with Little Brother/Sister's family

☐ Other reason (specify) _____

19) How long did the match relationship last?

|___|___| months

20) How many days each week on average did you spend time doing things/going places with your Little Brother/Sister?

☐ Less than every other week

☐ Every other week

☐ Less than one day a week

☐ One day a week

☐ Two days a week

☐ Three days a week

☐ Four days a week

☐ Five days a week

☐ More than five days a week

21) How many hours each week on average did you spend with your Little Brother/Sister?

☐ Less than one hour each week

☐ 1 - 2 hours

☐ 3 - 4 hours

☐ 5 - 6 hours

☐ 7 - 8 hours

☐ 9 - 10 hours

☐ More than 10 hours

22) How would you rate the quality of your relationship with your Little Brother/Sister?

a) A trusting relationship

☐ Very true

☐ Partly or sometimes true

☐ Not very true

b) A warm and affectionate relationship

☐ Very true

☐ Partly or sometimes true

☐ Not very true

c) A close relationship

☐ Very true

☐ Partly or sometimes true

☐ Not very true

d) A happy relationship

☐ Very true

☐ Partly or sometimes true

☐ Not very true

e) A respectful relationship
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

23) *When did the match relationship start?*

|__|__| |__|__|__|__| → *go to question #44*
month   year

24) How many months have you been in your current match relationship with your Little Brother/Sister? If you have been in your current match relationship for <u>less than one month</u>, mark a "0" in the space provided and please go to question #44.

|__|__| months

25) In the <u>past month</u>, about how many days each week on average have you spent time doing things/going places with your Little Brother/Sister?
- ☐ Less than every other week
- ☐ Every other week
- ☐ Less than one day a week
- ☐ One day a week
- ☐ Two days a week
- ☐ Three days a week
- ☐ Four days a week
- ☐ Five days a week
- ☐ More than five days a week

26) Please rate your level of confidence as a Big Brother Big Sister to your Little Brother/Sister in the following areas:

a) Sharing with them a personal experience of your own
- ☐ Not at all confident
- ☐ Somewhat confident
- ☐ Confident
- ☐ Very confident

b) Giving advice on how to deal with a problem that is important to them
- ☐ Not at all confident
- ☐ Somewhat confident
- ☐ Confident
- ☐ Very confident

c) Helping them to achieve or set goals
- ☐ Not at all confident
- ☐ Somewhat confident
- ☐ Confident
- ☐ Very confident

d) Making them feel good about themselves
- ☐ Not at all confident
- ☐ Somewhat confident
- ☐ Confident
- ☐ Very confident

e) Discussing issues or problems occurring in their family
- ☐ Not at all confident
- ☐ Somewhat confident
- ☐ Confident
- ☐ Very confident

f) Planning activities with them
- ☐ Not at all confident
- ☐ Somewhat confident
- ☐ Confident
- ☐ Very confident

g) Providing guidance around their future
- ☐ Not at all confident
- ☐ Somewhat confident
- ☐ Confident
- ☐ Very confident

h) Teaching them a practical skill
- ☐ Not at all confident
- ☐ Somewhat confident
- ☐ Confident
- ☐ Very confident

i) Helping them get along with others (e.g., peers, teacher, family)
- ☐ Not at all confident
- ☐ Somewhat confident
- ☐ Confident
- ☐ Very confident

j) Educating them about various subject areas
- ☐ Not at all confident
- ☐ Somewhat confident
- ☐ Confident
- ☐ Very confident

k) Convincing them about the importance of doing well in school
- ☐ Not at all confident
- ☐ Somewhat confident
- ☐ Confident
- ☐ Very confident

27) In the past month, how many hours each week on average have you spent with your Little Brother/Sister?
- ☐ Less than one hour each week
- ☐ 1-2 hours
- ☐ 3-4 hours
- ☐ 5-6 hours
- ☐ 7-8 hours
- ☐ 9-10 hours
- ☐ More than 10 hours

28) In the past month, how often have you shared the following activities with your Little Brother/Sister?

a) Gone to a movie theatre, restaurant, or out shopping
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

b) Talked face-to-face about something important to him/her
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

c) Visited a library, museum, park or zoo
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

d) Watched T.V.
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

e) Played a game or sports
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

f) Helped with his/her school work
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

g) Talked on the telephone
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

h) Attended Big Brothers/Sisters agency events/activities
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

i) Went swimming, bicycling, hiking/camping
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

j) Taught him/her something (a skill)
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

k) Made crafts or clothes
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

l) Did computer/internet activities
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

m) Worked on school projects together
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

n) Visited with your family
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

o) Visited with his/her family
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

p) Went walking
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

q) Cooked or baked
- ☐ Never or hardly ever
- ☐ Sometimes
- ☐ Often

29) How would you describe your relationship with your Little Brother/Sister?

a) Confides in you about personal problems?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

b) Listens to what you are saying?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

c) Asks to do things with you?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

d) Calls you on the telephone?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

e) Seems to enjoy the time you spend together?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

f) Seems happy with you as a Big Brothers/ Sisters volunteer?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

g) Expresses him/herself to you freely?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

h) Shows an interest in the things you do together?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

i) Trusts your advice?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

j) Asks for your opinion or what you think about things?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

k) Laughs or jokes with you?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

l) Follows through on planned activities (i.e., keep dates)
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

m) Helps to plan activities
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

30) Please describe your Little Brother's/Sister's life.

a) Is confident in his/her abilities (i.e., perceived competence)
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

b) Gets along with friends
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

c) Gets along with teachers
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

d) Gets along with parent/guardian
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

e) Is willing to openly discuss his/her problems
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

f) Has a positive attitude about school
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

g) Is happy with the way he/she looks
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

h) Has a sense of what his/her future looks like
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

i) Is trusting of others
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

j) Is easy going and relaxed
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

k) Is happy about who he/she is
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

l) Has a positive outlook on life (i.e., looks forward to doing things)
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

m) Is involved in community activities (e.g., sports, clubs, etc.)
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

n) Is polite and sociable with others
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

o) Makes decisions that are good for him/her
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

31) How would you rate the quality of your relationship with your Little Brother/Sister now? Would you say that it is:

a) A trusting relationship?
   ☐ Very true
   ☐ Partly or sometimes true
   ☐ Not very true

b) A warm and affectionate relationship?
   ☐ Very true
   ☐ Partly or sometimes true
   ☐ Not very true

c) A close relationship?
   ☐ Very true
   ☐ Partly or sometimes true
   ☐ Not very true

d) A happy relationship?
   ☐ Very true
   ☐ Partly or sometimes true
   ☐ Not very true

e) A respectful relationship?
   ☐ Very true
   ☐ Partly or sometimes true
   ☐ Not very true

32) Are there things that keep you from spending enough time with your Little Brother/Sister?

   ☐ Yes → go to question #33
   ☐ No → go to question #34

33) If "Yes" to the above question, please indicate what these are?

   _____
   _____
   _____

34) Please read each statement and rate how well it describes your Little Brother/Little Sister protégé.

a) My protégé is similar to myself.
   ☐ Very true
   ☐ True
   ☐ Not true
   ☐ Not at all true

b) My protégé respects my opinions.
   ☐ Very true
   ☐ True
   ☐ Not true
   ☐ Not at all true

c) My protégé values my experiences and knowledge.
   ☐ Very true
   ☐ True
   ☐ Not true
   ☐ Not at all true

d) My protégé introduces his/her friends to me.
   ☐ Very true
   ☐ True
   ☐ Not true
   ☐ Not at all true

e) My protégé thinks of me as a friend.
   ☐ Very true
   ☐ True
   ☐ Not true
   ☐ Not at all true

f) My protégé comes to me with problems that he/she had.
   ☐ Very true
   ☐ True
   ☐ Not true
   ☐ Not at all true

g) My protégé looks up to me.
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

h) My protégé enjoys the time we spend together.
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

i) My protégé listens to my advice.
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

j) My protégé keeps me updated about what's going on in his/her daily life.
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

k) My protégé seeks my assistance in areas where I have special knowledge or skill (e.g., in writing a report, fixing a bike, etc.).
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

l) My protégé respects my feelings.
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

m) My protégé and I have a lot of fun together.
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

n) My protégé likes to hear about my life.
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

35) Please indicate how strongly you agr ee or disagree with the follow ing statements about your Little Brother/Little Si ster's mother/female guardian. (If he/she does not have a mother/female guardian please go to the next question).

Would you say that she:

a) Suggests activities that me and my Little Brother/Little Sister might do together
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

b) Makes me feel welcome
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

c) Offers me advice or help to make the match relationship work better
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

d) Provides words of encouragement to me as a Big Brother of Big Sister
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

e) Ensures that there is enough time for me and my Little Brother or Little Sister to meet
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

f) Respects and trusts my views on ways to improve my Little Brother or Little Sister's life
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

36) Please indicate how strongly you agr ee or disagree with the follow ing statements about your Little Brother/L ittle Sister's father/male guardian. (If he/she does not have a father/male guardian, please go to the next question.

Would you say that he:

a) Suggests activities that me and my Little Brother/Little Sister might do together
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

b) Makes me feel welcome
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

c) Offers me advice or help to make the match relationship work better
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

d) Provides words of encouragement to me as a Big Brother of Big Sister
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

e) Ensures that there is enough time for me and my Little Brother or Little Sister to meet
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

f) Respects and trusts my views on ways to improve my Little Brother or Little Sister's life
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

37) How do you feel about your relationship with your Little Brother/Sister's mother/female guardian? (If he/she does not have a mother/female guardian, please go to the next question).

Would you say that it is:

a) A trusting relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

b) A warm and affectionate relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

c) A close relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

d) A happy relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

e) A respectful relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

38) How do you feel about your relationship with your Little Brother/Sister's father/male guardian? (If he/she does not have a father/male guardian, please go to the next question).

Would you say that it is:

a) A trusting relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

b) A warm and affectionate relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

c) A close relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

d) A happy relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

e) A respectful relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

ABOUT YOUR RELATIONSHIP WITH YOUR LOCAL BIG BROTHERS/SISTERS AGENCY

In this section we are going to ask you about your relationship with your local Big Brothers/Sisters agency.

39) In the past month, did you contact your Big Brothers/Sisters caseworker?
- ☐ Yes → go to question #40
- ☐ No → go to question #41

40) If "Yes" to the above, about how many times did you contact your Big Brothers/Sisters agency caseworker:

a) About a problem you were having with your Little Brother/Sister?
- ☐ Never
- ☐ Once
- ☐ Twice
- ☐ Three or more times

b) About a problem your Little Brother/Sister was having with you?
- ☐ Never
- ☐ Once
- ☐ Twice
- ☐ Three or more times

c) About a problem with your Little Brother/Sister's family?
- ☐ Never
- ☐ Once
- ☐ Twice
- ☐ Three or more times

d) To obtain more information on your match agreement with the Big Brothers/Sisters agency?
- ☐ Never
- ☐ Once
- ☐ Twice
- ☐ Three or more times

e) To clarify your responsibilities in the match agreement with your Big Brothers/Sisters agency?
   ☐ Never
   ☐ Once
   ☐ Twice
   ☐ Three or more times

f) To request additional training?
   ☐ Never
   ☐ Once
   ☐ Twice
   ☐ Three or more times

g) For advice on how to improve the match relationship (e.g., ideas for activities)?
   ☐ Never
   ☐ Once
   ☐ Twice
   ☐ Three or more times

h) To find out about upcoming training events?
   ☐ Never
   ☐ Once
   ☐ Twice
   ☐ Three or more times

i) To find out about upcoming agency activities for Big and Little Brothers/Sisters?
   ☐ Never
   ☐ Once
   ☐ Twice
   ☐ Three or more times

j) To notify the agency of a change in your marital status
   ☐ Never
   ☐ Once
   ☐ Twice
   ☐ Three or more times

k) To notify the agency of a change in your address
   ☐ Never
   ☐ Once
   ☐ Twice
   ☐ Three or more times

l) To notify the agency of a threatening situation for your Little Brother/Sister (e.g., parental alcohol or drug abuse, physical abuse, Little Brother/Sister ran away from home, etc.)
   ☐ Never
   ☐ Once
   ☐ Twice
   ☐ Three or more times

m) To help set or achieve goals with your Little Brother/Sister?
   ☐ Never
   ☐ Once
   ☐ Twice
   ☐ Three or more times

n) Other? (please specify):

   _____
   _____
   _____

41) In the past month, did your Big Brothers/Sisters caseworker ever contact you?

   ☐ Yes → go to question #42
   ☐ No → go to question #43

42) If "Yes" to the above, about how many times did the Big Brothers/Sisters agency caseworker contact you:

   a) About a problem you were having with your Little Brother/Sister?
      ☐ Never
      ☐ Once
      ☐ Twice
      ☐ Three or more times

   b) About a problem your Little Brother/Sister was having with you?
      ☐ Never
      ☐ Once
      ☐ Twice
      ☐ Three or more times

c) About a problem with your Little Brother/Sister's family?
- ☐ Never
- ☐ Once
- ☐ Twice
- ☐ Three or more times

d) To provide you with more information on your match agreement with the Big Brothers/Sisters agency?
- ☐ Never
- ☐ Once
- ☐ Twice
- ☐ Three or more times

e) To clarify your responsibilities in the match agreement with your Big Brothers/Sisters agency?
- ☐ Never
- ☐ Once
- ☐ Twice
- ☐ Three or more times

f) To offer additional training?
- ☐ Never
- ☐ Once
- ☐ Twice
- ☐ Three or more times

g) With advice and information on how to improve the match relationship (e.g., ideas for activities)?
- ☐ Never
- ☐ Once
- ☐ Twice
- ☐ Three or more times

h) To inform you about upcoming training events?
- ☐ Never
- ☐ Once
- ☐ Twice
- ☐ Three or more times

i) To provide information about upcoming agency activities for Big and Little Brothers/Sisters?
- ☐ Never
- ☐ Once
- ☐ Twice
- ☐ Three or more times

j) To verify a change in your marital status
- ☐ Never
- ☐ Once
- ☐ Twice
- ☐ Three or more times

k) To verify a change in your address
- ☐ Never
- ☐ Once
- ☐ Twice
- ☐ Three or more times

l) To notify you of a threatening situation for your Little Brother/Sister (e.g., parental alcohol or drug abuse, physical abuse, Little Brother/Sister ran away from home, etc.)
- ☐ Never
- ☐ Once
- ☐ Twice
- ☐ Three or more times

m) To help set or achieve goals with your Little Brother/Sister
- ☐ Never
- ☐ Once
- ☐ Twice
- ☐ Three or more times

n) Other? (specify):

_____

_____

_____

43) In the <u>past month</u>, how would you describe your Big Brothers/Sisters agency caseworker? Was he/she:

a) Supportive?
☐ Very true
☐ Somewhat true
☐ Not very true

b) Accessible?
☐ Very true
☐ Somewhat true
☐ Not very true

c) Knowledgeable?
☐ Very true
☐ Somewhat true
☐ Not very true

d) Friendly?
☐ Very true
☐ Somewhat true
☐ Not very true

e) Eager to answer questions or provide help?
☐ Very true
☐ Somewhat true
☐ Not very true

f) Helpful?
☐ Very true
☐ Somewhat true
☐ Not very true

g) Other? (specify):

_____

_____

_____

_____

44) Please describe any problems/concerns you encountered when you were matched with your Little Brother/Sister.

a) It took too long for a match to be found
☐ Very true
☐ Kind of true
☐ Not very true

b) I did not feel happy about the match
☐ Very true
☐ Kind of true
☐ Not very true

c) Not enough time to meet with potential match partner to make a formal decision
☐ Very true
☐ Kind of true
☐ Not very true

d) I don't think enough thought was given to things we both like to do
☐ Very true
☐ Kind of true
☐ Not very true

e) Other (please specify):

_____

_____

_____

_____

45) Please describe the type of volunteer training or orientation you received from your local Big Brothers/Sisters agency (shade all that apply)
☐ Video presentation (large group)
☐ Oral presentation (large group)
☐ Small group discussions or activities
☐ Printed material (roles and responsibilities of a Big Brothers/Sisters volunteer)
☐ One-on-one training
☐ Role play demonstrations
☐ Other

46) In total, approximately how many hours of training/orientation did you receive? (If uncertain, please provide your best guess)

|___|___| hours

47) Do you think the training/orientation you received adequately prepared you for your responsibilities as a Big Brother/Sister?

☐ Yes → go to question #49

☐ No → go to question #48

48) If no, please explain your answer:

_____ _

_____ _

_____ _

49) Please indicate your level of satisfaction with your Big Brothers/Sisters training/orientation in the following areas:

a) Clarity of rules and responsibilities as a Big Brothers/Sisters volunteer
   ☐ Very satisfied
   ☐ Satisfied
   ☐ Somewhat satisfied
   ☐ Not very satisfied
   ☐ Not at all satisfied

b) Strategies for fostering a positive relationship with Little Brother/Sister
   ☐ Very satisfied
   ☐ Satisfied
   ☐ Somewhat satisfied
   ☐ Not very satisfied
   ☐ Not at all satisfied

c) Length of training period
   ☐ Very satisfied
   ☐ Satisfied
   ☐ Somewhat satisfied
   ☐ Not very satisfied
   ☐ Not at all satisfied

d) Time of day training offered
   ☐ Very satisfied
   ☐ Satisfied
   ☐ Somewhat satisfied
   ☐ Not very satisfied
   ☐ Not at all satisfied

e) Medium of presentation (e.g., video, small group discussions, etc.)
   ☐ Very satisfied
   ☐ Satisfied
   ☐ Somewhat satisfied
   ☐ Not very satisfied
   ☐ Not at all satisfied

f) Effectiveness and competency of trainers/orientation leaders
   ☐ Very satisfied
   ☐ Satisfied
   ☐ Somewhat satisfied
   ☐ Not very satisfied
   ☐ Not at all satisfied

g) Friendliness and supportiveness of trainers/orientation leaders
   ☐ Very satisfied
   ☐ Satisfied
   ☐ Somewhat satisfied
   ☐ Not very satisfied
   ☐ Not at all satisfied

h) Availability of written material (i.e., guidelines, rules and responsibilities)
   ☐ Very satisfied
   ☐ Satisfied
   ☐ Somewhat satisfied
   ☐ Not very satisfied
   ☐ Not at all satisfied

i) Clarity of rules and responsibilities of the Big Brothers/Sisters agency
   ☐ Very satisfied
   ☐ Satisfied
   ☐ Somewhat satisfied
   ☐ Not very satisfied
   ☐ Not at all satisfied

j) Caseworker monitoring
   ☐ Very satisfied
   ☐ Satisfied
   ☐ Somewhat satisfied
   ☐ Not very satisfied
   ☐ Not at all satisfied

k) Explanation of mission statement and goals of Big Brothers/Sisters agencies
- ☐ Very satisfied
- ☐ Satisfied
- ☐ Somewhat satisfied
- ☐ Not very satisfied
- ☐ Not at all satisfied

l) Information on economic and social situation of single parents
- ☐ Very satisfied
- ☐ Satisfied
- ☐ Somewhat satisfied
- ☐ Not very satisfied
- ☐ Not at all satisfied

m) How to identify physical or sexual abuse
- ☐ Very satisfied
- ☐ Satisfied
- ☐ Somewhat satisfied
- ☐ Not very satisfied
- ☐ Not at all satisfied

50) After the initial training/orientation session(s), did you attend other training events or workshops organized by the Big Brothers/Sisters agency?
- ☐ Yes → go to question #52
- ☐ No → go to question #51

51) If "No" to the above question, please explain why? (Please indicate single most important reason)
- ☐ Was not aware of additional training opportunities
- ☐ Did not feel additional training was needed
- ☐ Additional training was not available
- ☐ Could not find the time for additional training

52) Please read each statement and rate how true they would be of your ideal Little Brother/Little Sister protégé.

a) My protégé would be similar to myself.
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

b) My protégé would respect my opinions.
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

c) My protégé would value my experiences and knowledge.
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

d) My protégé would introduce his/her friends to me.
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

e) My protégé would think of me as a friend.
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

f) My protégé would come to me with problems that he/she had.
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

g) My protégé would look up to me.
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

h) My protégé would enjoy the time we spend together.
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

i) My protégé would listen to my advice.
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

j) My protégé would keep me updated about what's going on in his/her daily life.
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

k) My protégé would seek my assistance in areas where I have special knowledge or skill (e.g., in writing a report, fixing a bike, etc.).
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

l) My protégé would respect my feelings.
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

m) My protégé and I would have a lot of fun together.
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

n) My protégé would like to hear about my life.
- ☐ Very true
- ☐ True
- ☐ Not true
- ☐ Not at all true

53) Why did you decide to become a Brothers/Sisters volunteer (shade all that apply)
- ☐ A friend recommended the program
- ☐ For personal fulfilment and satisfaction of helping others
- ☐ I was not able to have any children of my own and wanted to offer my love and support to a child in need
- ☐ A family member recommended the program
- ☐ My parents divorced when I was a child so I appreciate the importance of having an adult mentor
- ☐ I benefited from a Big Brother/Sister relationship when I was a child and wanted to give something back
- ☐ My children are grown up and I enjoy the company of children
- ☐ To help a boy/girl to have fun
- ☐ To give something to the community
- ☐ Other (please specify)

_____

MORE ABOUT YOU

Finally, we are going to ask you a few more questions about you.

54) Do you own or rent your dwelling?
- ☐ Own
- ☐ Rent

55) Please indicate your total household income (before taxes):
- ☐ Under $10,000
- ☐ $10,000 to $14,999
- ☐ $15,000 to $19,999
- ☐ $20,000-$39,999
- ☐ $40,000-$49,999
- ☐ $50,000-$59,999
- ☐ $60,000-$69,999
- ☐ $70,000 or more

56) Have you ever been a foster parent?
- ☐ Yes
- ☐ No

57) Did your parents ever divorce or separate when you were growing up?

☐ Yes

☐ No

58) What ethnic, racial, or cultural grou p comes closest to describing you? (shade one box only)

☐ African American or Black (e.g., African, Haitian, Jamaican, Somalian)

☐ Aboriginal or Native American (e.g., North American Indian, Inuit, Metis)

☐ White North European (e.g., British, Irish, Scottish, Scandinavian, French, Dutch, German)

☐ White Southern European (e.g., Spanish, Portuguese, Greek, Italian)

☐ White Other European (e.g., Polish, Ukrainian, Russian)

☐ East Asian (e.g., Chinese, Japanese, Korean)

☐ South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lankan)

☐ South-east Asian (e.g., Cambodian, Indonesian, Laotian, Vietnamese)

☐ Arab or South Asian (e.g., Egyptian, Jordanian, Iranian, Lebanese)

☐ Hispanic (e.g., Mexico, Central America or South America)

☐ Other (please specify) _____

59) Where do you cur rently live? (please provide your best guess of population siz e) I live in:

☐ City (100,000 people or more)

☐ City (between 50,000 and 99,999 people)

☐ City (between 15,000 and 49,999 people)

☐ Town (between 3,000 and 14,999)

☐ Rural area (less than 3,000)

☐ Other (please specify) _____

Thank you for
your time!

NATIONAL SURVEY OF THE BIG BROTHERS BIG SISTERS COMMUNITY MATCH PROGRAMS

PARENT 12 MONTH FOLLOW UP QUESTIONNAIRE

This research study is being conducted in collaboration with:

Centre for Addiction and Mental Health

Big Brothers Big Sisters of Canada

Principal Investigators: David J. DeWit, Ph.D. and Ellen Lipman, M.D.

*NOTE: The measures contained in this questionnaire are copyrighted and should not be used for any purpose without the expressed written permission of the principal investigator, Dr. David DeWit, Centre for Addiction and Mental Health, 100 Collip Circle, Suite 200, London, ON, N6G 4X8.

PARENT QUESTIONNAIRE

Subject ID# |___|___|___|___|___|

Agency ID# |__|__|

Researcher Name: _____

Date (dd/mm/yr): _____

Time Started: _____   Time Ended: _____

QUESTIONNAIRE INSTRUCTIONS

We are asking you to take part in this questionnaire because your answers will help us find out if the Big Brothers Big Sisters match program helps kids.

The attached questionnaire asks you to provide some general information about yourself, your perceptions of the relationship you have with your child, and the behaviour of your child over the past month. Questions pertain to your child currently enrolled in this study.

Before completing the questionnaire you should know the following:

- The questionnaire will take about 40 or 50 minutes to complete.

- You are free to skip any questions that you do not wish to answer.

- Your decision whether or not to complete the questionnaire will not affect the services provided to you by the BBBS agency; nor will it affect how long you wait before your child is assigned to a Big Brother or Sister.

- Your responses will be completely confidential in that your name will not appear anywhere on the questionnaire. The questionnaire has a number code that researchers will use to connect your answers to the answers that you give at a later date. Nobody but the researchers will know what number is on your booklet.

- When the results of the study are reported, the results will be described in a way that it will not be possible to identify anything that you record.

INSTRUCTIONS FOR COMPLETING THE QUESTIONNAIRE
< to be reviewed with parent by field interviewer >

- When answering each question, carefully shade the box beside the answer that you think is most accurate. There are no right or wrong answers.

- Unless otherwise specified, please mark <u>one answer</u> for each question or statement.

- Questionnaires should be completed using soft lead HB pencils provided by me [field interviewer]. When answering questions with boxes, you should apply a reasonable amount of pressure and completely shade the space inside the box.

  Please <u>do not</u> use ☒ or ☑ when marking your answers.

- Certain questions require that you record an exact number for an answer (e.g., date of birth). For these questions, please carefully print your answer in the space provided.

- Certain questions are open-ended. For these questions, please carefully print your answer. You should be brief in your answer.

- Questions pertaining to your child's feelings, attitudes, and behaviours are reserved for your child currently enrolled in the study.

- Please do not discuss your answers with other family members.

- You will have an opportunity to meet with me [interviewer] at the end of your child's face-to-face interview to review any difficulties you experienced in completing the questionnaire.

DEMOGRAPHICS

Unless otherwise specified, please answer the following questions by shading one answer for each question. We will start with a few questions about you.

1) What is your gender?

☐ Female
☐ Male

2) What is your exact date of birth?

|___|___|___|
 DD   MM   YY

3) What is your current marital status?

☐ Married
☐ Living in a partner/common-law marriage
☐ Divorced
☐ Married but separated
☐ Widowed
☐ Single (never married)

4) What best describes your main activities in the past 12 months (shade all that apply)?

☐ Unemployed or temporarily laid off
☐ Going to school
☐ Full-time paid employment
☐ Part-time paid employment
☐ Working for pay and being a homemaker
☐ Homemaker only
☐ Permanently unable to work
☐ Volunteer work
☐ Retired
☐ Other (specify) _____

5) What best describes your current spouse/partner's main activities in the past 12 months? (shade all that apply)

☐ Unemployed or temporarily laid off
☐ Going to school
☐ Full-time paid employment
☐ Part-time paid employment
☐ Working for pay and being a homemaker
☐ Homemaker only
☐ Permanently unable to work
☐ Volunteer work
☐ Retired
☐ Other (specify) _____
☐ Not applicable, do not have a current spouse/partner

6) How long have you lived at your current address?

☐ Less than 12 months
☐ One year
☐ Two years
☐ Three years
☐ Four years
☐ More than five years

7) How many times have you moved to a different home in the past 5 years?

|___|___| # times

8) What is the highest grade or level of education you have ever completed?

☐ No schooling
☐ Elementary
☐ Some secondary
☐ Completed secondary
☐ Some community college, technical college, CEGEP, nurse's training
☐ Completed community college, technical college, CEGEP, nurse's training
☐ Some university or teacher's college
☐ Completed university or teacher's college

9) What is your current spouse/partner's highest level of education achieved?

- ☐ No schooling
- ☐ Elementary
- ☐ Some secondary
- ☐ Completed secondary
- ☐ Some community college, technical college, CEGEP, nurse's training
- ☐ Completed community college, technical college, CEGEP, nurse's training
- ☐ Some university or teacher's college
- ☐ Completed university or teacher's college
- ☐ Not applicable, do not have current spouse/partner

10) How many children do you have living with you? (include biological, adopted, step-children, your partner's children or grandchildren)

|___|___| # children

11) Where do you currently live? (Please provide your best guess of population size) I live in:

- ☐ City (100,000 people or more)
- ☐ City (between 50,000 and 99,999 people)
- ☐ City (between 15,000 and 49,999 people)
- ☐ Town (between 3,000 and 14,999)
- ☐ Rural area (less than 3,000)

ABOUT YOUR FEELINGS AND BEHAVIOUR

12) Please indicate how strongly you agree or disagree with the following statements

a) Planning family activities is difficult because we misunderstand each other
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

b) In times of crisis we can turn to each other for support
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

c) We cannot talk to each other about sadness we feel
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

d) Individuals (in the family) are accepted for what they are
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

e) We avoid discussing our fears or concerns
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

f) We express feelings to each other
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

g) There are lots of bad feelings in our family
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

h) We feel accepted for what we are
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

i) Making decisions is a problem for our family
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

j) We are able to make decisions about how to solve problems
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

k) We don't get along well together
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

l) We confide in each other
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

m) Drinking is a source of tension or disagreement in our family
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

13) Please indicate how strongly you agree or disagree with the following statements.

a) If something went wrong, no one would be there to help me
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

b) I have family and friends who help me feel safe, secure, and happy
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

c) There are people I can count on in an emergency
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

d) There is no one I feel comfortable talking about problems with
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

e) There is someone I trust whom I would turn to for advice if I were having problems
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

14) Please indicate how often you felt like the following in the past week.

a) I was bothered by things that usually don't bother me
- ☐ Rarely or none of the time
- ☐ Some or a little of the time
- ☐ A fair amount of the time
- ☐ Most or all of the time

b) I did not feel like eating; my appetite was poor
- ☐ Rarely or none of the time
- ☐ Some or a little of the time
- ☐ A fair amount of the time
- ☐ Most or all of the time

c) I felt that I could not shake off the blues even with help from my family or friends
- ☐ Rarely or none of the time
- ☐ Some or a little of the time
- ☐ A fair amount of the time
- ☐ Most or all of the time

d) I felt that I was just as good as other people
- ☐ Rarely or none of the time
- ☐ Some or a little of the time
- ☐ A fair amount of the time
- ☐ Most or all of the time

e) I had trouble keeping my mind on what I was doing
- ☐ Rarely or none of the time
- ☐ Some or a little of the time
- ☐ A fair amount of the time
- ☐ Most or all of the time

f) I felt depressed
- ☐ Rarely or none of the time
- ☐ Some or a little of the time
- ☐ A fair amount of the time
- ☐ Most or all of the time

g) I felt that everything I did was an effort
- ☐ Rarely or none of the time
- ☐ Some or a little of the time
- ☐ A fair amount of the time
- ☐ Most or all of the time

h) I felt hopeful about the future
- ☐ Rarely or none of the time
- ☐ Some or a little of the time
- ☐ A fair amount of the time
- ☐ Most or all of the time

i) I thought my life had been a failure
- ☐ Rarely or none of the time
- ☐ Some or a little of the time
- ☐ A fair amount of the time
- ☐ Most or all of the time

j) I felt fearful
- ☐ Rarely or none of the time
- ☐ Some or a little of the time
- ☐ A fair amount of the time
- ☐ Most or all of the time

k) My sleep was restless
- ☐ Rarely or none of the time
- ☐ Some or a little of the time
- ☐ A fair amount of the time
- ☐ Most or all of the time

l) I was happy
- ☐ Rarely or none of the time
- ☐ Some or a little of the time
- ☐ A fair amount of the time
- ☐ Most or all of the time

m) I talked less than usual
- ☐ Rarely or none of the time
- ☐ Some or a little of the time
- ☐ A fair amount of the time
- ☐ Most or all of the time

n) I felt lonely
- ☐ Rarely or none of the time
- ☐ Some or a little of the time
- ☐ A fair amount of the time
- ☐ Most or all of the time

o) People were unfriendly
- ☐ Rarely or none of the time
- ☐ Some or a little of the time
- ☐ A fair amount of the time
- ☐ Most or all of the time

p) I enjoyed life
- ☐ Rarely or none of the time
- ☐ Some or a little of the time
- ☐ A fair amount of the time
- ☐ Most or all of the time

q) I had crying spells
- ☐ Rarely or none of the time
- ☐ Some or a little of the time
- ☐ A fair amount of the time
- ☐ Most or all of the time

r) I felt sad
- ☐ Rarely or none of the time
- ☐ Some or a little of the time
- ☐ A fair amount of the time
- ☐ Most or all of the time

s) I felt that people disliked me
- ☐ Rarely or none of the time
- ☐ Some or a little of the time
- ☐ A fair amount of the time
- ☐ Most or all of the time

t) I could not get "going"
- ☐ Rarely or none of the time
- ☐ Some or a little of the time
- ☐ A fair amount of the time
- ☐ Most or all of the time

15) Please indicate how you felt the following in the <u>past week</u>.

a) Fear of embarrassment causes me to avoid doing things or speaking to people.
- ☐ Not at all
- ☐ A little bit
- ☐ Somewhat
- ☐ Very much
- ☐ Extremely

b) I avoid activities in which I am the center of attention
- ☐ Not at all
- ☐ A little bit
- ☐ Somewhat
- ☐ Very much
- ☐ Extremely

c) Being embarrassed or looking stupid are among my worse fears
- ☐ Not at all
- ☐ A little bit
- ☐ Somewhat
- ☐ Very much
- ☐ Extremely

d) I am afraid of people in authority
- ☐ Not at all
- ☐ A little bit
- ☐ Somewhat
- ☐ Very much
- ☐ Extremely

e) I am bothered by blushing in front of people
- ☐ Not at all
- ☐ A little bit
- ☐ Somewhat
- ☐ Very much
- ☐ Extremely

f) Parties and social events scare me
- ☐ Not at all
- ☐ A little bit
- ☐ Somewhat
- ☐ Very much
- ☐ Extremely

g) I avoid talking to people I don't know
- ☐ Not at all
- ☐ A little bit
- ☐ Somewhat
- ☐ Very much
- ☐ Extremely

h) Being criticized scares me a lot
- ☐ Not at all
- ☐ A little bit
- ☐ Somewhat
- ☐ Very much
- ☐ Extremely

i) Sweating in front of people causes me distress
- ☐ Not at all
- ☐ A little bit
- ☐ Somewhat
- ☐ Very much
- ☐ Extremely

j) I avoid going to parties
- ☐ Not at all
- ☐ A little bit
- ☐ Somewhat
- ☐ Very much
- ☐ Extremely

k) Talking to strangers scares me
- ☐ Not at all
- ☐ A little bit
- ☐ Somewhat
- ☐ Very much
- ☐ Extremely

l) I avoid having to give speeches
- ☐ Not at all
- ☐ A little bit
- ☐ Somewhat
- ☐ Very much
- ☐ Extremely

m) I would do anything to avoid being criticized
- ☐ Not at all
- ☐ A little bit
- ☐ Somewhat
- ☐ Very much
- ☐ Extremely

n) Heart palpitations bother me when I am around people
- ☐ Not at all
- ☐ A little bit
- ☐ Somewhat
- ☐ Very much
- ☐ Extremely

o) I am afraid of doing things when people might be watching
- ☐ Not at all
- ☐ A little bit
- ☐ Somewhat
- ☐ Very much
- ☐ Extremely

p) I avoid speaking to anyone in authority
- ☐ Not at all
- ☐ A little bit
- ☐ Somewhat
- ☐ Very much
- ☐ Extremely

q) Trembling or shaking in front of others is distressing to me
- ☐ Not at all
- ☐ A little bit
- ☐ Somewhat
- ☐ Very much
- ☐ Extremely

16) Please indicate how strongly you agree or disagree with the following statements.

   a) I am sometimes eaten up with jealousy
   - ☐ Strongly agree
   - ☐ Agree
   - ☐ Neither agree nor disagree
   - ☐ Disagree
   - ☐ Strongly disagree

   b) At times I feel I have gotten a raw deal out of life
   - ☐ Strongly agree
   - ☐ Agree
   - ☐ Neither agree nor disagree
   - ☐ Disagree
   - ☐ Strongly disagree

   c) Other people always seem to get the breaks
   - ☐ Strongly agree
   - ☐ Agree
   - ☐ Neither agree nor disagree
   - ☐ Disagree
   - ☐ Strongly disagree

   d) I wonder why sometimes I feel so bitter about things
   - ☐ Strongly agree
   - ☐ Agree
   - ☐ Neither agree nor disagree
   - ☐ Disagree
   - ☐ Strongly disagree

   e) I know that "friends" talk about me behind my back
   - ☐ Strongly agree
   - ☐ Agree
   - ☐ Neither agree nor disagree
   - ☐ Disagree
   - ☐ Strongly disagree

   f) I am suspicious of overly friendly strangers
   - ☐ Strongly agree
   - ☐ Agree
   - ☐ Neither agree nor disagree
   - ☐ Disagree
   - ☐ Strongly disagree

   g) I sometimes feel that people are laughing at me behind my back
   - ☐ Strongly agree
   - ☐ Agree
   - ☐ Neither agree nor disagree
   - ☐ Disagree
   - ☐ Strongly disagree

   h) When people are especially nice, I wonder what they want
   - ☐ Strongly agree
   - ☐ Agree
   - ☐ Neither agree nor disagree
   - ☐ Disagree
   - ☐ Strongly disagree

17) At the present time, do you smoke cigarettes daily, occasionally, or not at all?
   - ☐ Daily
   - ☐ Occasionally → go to question #19
   - ☐ Not at all → go to question #19

18) How many cigarettes do you usually smoke each day? (1 large pack = 25 cigarettes; 1 small pack = 20 cigarettes)

   |___|___| number of cigarettes per day

   The following questions ask about your use of alcohol. In these questions, the word "drink" means one twelve ounce bottle of beer or glass of draft, one five ounce glass of wine or one straight or mixed drink with one ounce and a half of hard liquor.

19) Did you ever have a drink of any alcoholic beverage?
   - ☐ Yes
   - ☐ No → go to question #23

20) How often, if ever, did you drink alcoholic beverages during the past twelve months? If you did not drink during the past twelve months, please skip to question #23.

- ☐ Once a day
- ☐ About every day (includes 6 times a week)
- ☐ 4 to 5 times a week
- ☐ 2 to 3 times a week
- ☐ Once a week
- ☐ 2 to 3 times a month
- ☐ Once a month
- ☐ Less than once a month

21) About how often during the past twelve months would you say you had five or more drinks at the same sitting or occasion?

- ☐ Once a day
- ☐ About every day (includes 6 times a week)
- ☐ 4 to 5 times a week
- ☐ 2 to 3 times a week
- ☐ Once a week
- ☐ 2 to 3 times a month
- ☐ About once a month
- ☐ 6 to 11 times a year
- ☐ 1 to 5 times a year
- ☐ Never

22) Thinking back over the past 7 days, starting with yesterday, how many drinks did you have on each day?
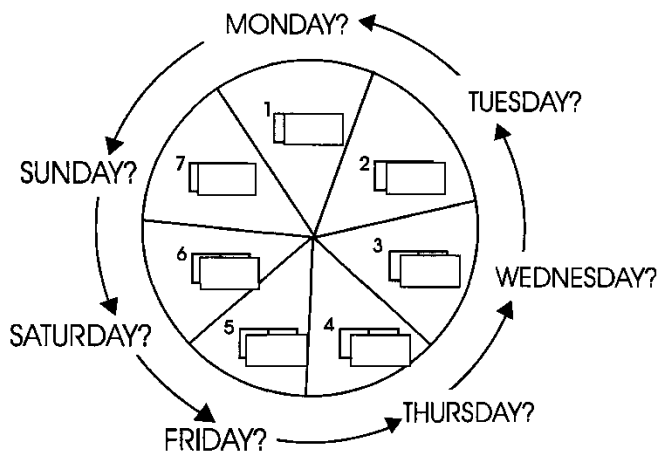
ABOUT YOUR CHILD'S FEELINGS AND BEHAVIOUR

In this section we are going to ask you about your child's feelings and behaviour (**your child currently enrolled in the study**).

23) Below is a list of statements that describe some of the behaviours of children. F or each statement, please s hade the answer that best describes your child now or within the past month.

		Not true	Somewhat True	Certainly True
a)	Considerate of other people's feelings	☐	☐	☐
b)	Restless, overactive, cannot stay still for long	☐	☐	☐
c)	Often complains of headaches, stomach-aches or sickness	☐	☐	☐
d)	Shares readily with other children (treats, toys, pencils, etc.)	☐	☐	☐
e)	Often has temper tantrums or hot tempers	☐	☐	☐
f)	Rather solitary, tends to play alone	☐	☐	☐
g)	Generally obedient, usually does what adults request	☐	☐	☐
h)	Many worries, often seems worried	☐	☐	☐
i)	Helpful if someone is hurt, upset or feeling ill	☐	☐	☐
j)	Constantly fidgeting or squirming	☐	☐	☐
k)	Has at least one good friend	☐	☐	☐
l)	Often fights with other children or bullies them	☐	☐	☐
m)	Often unhappy, down-hearted or tearful	☐	☐	☐
n)	Generally liked by other children	☐	☐	☐
o)	Easily distracted, concentration wanders	☐	☐	☐
p)	Nervous or clingy in new situations, easily loses confidence	☐	☐	☐
q)	Kind to younger children	☐	☐	☐
r)	Often lies or cheats	☐	☐	☐
s)	Picked on or bullied by other children	☐	☐	☐
t)	Often volunteers to help others (parents, teachers, other children)	☐	☐	☐
u)	Thinks things out before acting	☐	☐	☐
v)	Steals from home, school or elsewhere	☐	☐	☐
w)	Gets on better with adults than with other children	☐	☐	☐
x)	Many fears, easily scared	☐	☐	☐
y)	Sees tasks through to the end, good attention span	☐	☐	☐

24) Please answer each of the items regarding your child's feelings and behaviour.

  a) My child worries about doing something new in front of other children
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

b) My child likes to play with other kids
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

c) My child worries about being teased
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

d) My child feels shy around children he/she doesn't know
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

e) My child only talks to kids that he/she knows really well
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

f) My child feels that other children talk behind his/her back
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

g) My child likes to read
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

h) My child worries about what other children think of him/her
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

i) My child is afraid that others will not like him/her
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

j) My child gets nervous when talking to kids he/she doesn't know very well
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

k) My child likes to play sports
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

l) My child worries about what others say about him/her
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

m) My child gets nervous when meeting new kids
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

n) My child worries that other children don't like him/her
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

o) My child is quiet when he/she is with a group of kids
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

p) My child likes to do things by him/herself
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

q) My child feels that other children make fun of him/her
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

r) If my child gets into an argument with another youngster, my child worries that the other youngster will not like him/her
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

s) My child is afraid to invite other kids to do things with him/her because they might say no
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

t) My child feels nervous around certain children
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

u) My child feels shy even with kids my child knows well
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

v) It's hard for my child to ask other children to do things with him/her
- ☐ Not at all
- ☐ Hardly ever
- ☐ Sometimes
- ☐ Most of the time
- ☐ All the time

25) Below is a list of statements that describe some life events that may have happened to your child in the <u>past 12 months</u>. (shade all that apply):

☐ Got a new baby sister/brother

☐ A close family member died (e.g., mother/father, brother/sister)

☐ He/she failed a grade in school

☐ Got very sick or badly injured and had to go to the hospital

☐ Best friend moved away

☐ One or both of parents lost their job

☐ Family's property was destroyed by fire or burglarized

☐ Family was forced to leave their home

☐ Became interested in dating

☐ A grandparent died

☐ Mother or father became very ill or badly injured and had to go to the hospital

☐ Brother or sister moved out

☐ Ran away from home

☐ Family member got married

☐ Got in trouble with the police

☐ Parents or guardians split up (divorced or separated)

☐ He/she started a new hobby

☐ Got an award or prize for something they did

☐ A family pet died

☐ Went to live at a foster or group home

☐ Was teased or bullied

26) For each statement, please shade the answer that best describes your child <u>now or in the past month</u>.

a) Tries when mad at someone to get others to dislike him/her

☐ Never or hardly ever

☐ Sometimes

☐ Often

b) When mad at someone, becomes friends with another as revenge

☐ Never or hardly ever

☐ Sometimes

☐ Often

c) When mad at someone, says bad things behind the other's back

☐ Never or hardly ever

☐ Sometimes

☐ Often

d) When mad at someone, says to others: let's not be with her/him

☐ Never or hardly ever

☐ Sometimes

☐ Often

e) When mad at someone, tells the other one's secrets to a third person

☐ Never or hardly ever

☐ Sometimes

☐ Often

The next few questions ask about your child's possible use of alcohol or other drugs.

27) Based on your best guess, about how often did your child smoke cigarettes in the past four weeks?

- [ ] Has never smoked cigarettes
- [ ] Smoked but not in the past four weeks
- [ ] Tried one cigarette
- [ ] Less than one cigarette a day
- [ ] 1 or 2 cigarettes a day
- [ ] 3 to 5 cigarettes a day
- [ ] 6 to 10 cigarettes a day
- [ ] 11 to 15 cigarettes a day
- [ ] 16 to 20 cigarettes a day
- [ ] More than 20 cigarettes a day

28) Based on your best guess, about how often did your child drink alcohol in the past four weeks (wine, beer, or liquor)?

- [ ] Has never drank alcohol
- [ ] Did not have a drink of alcohol in the past four weeks
- [ ] Once or twice in the past four weeks
- [ ] Once or twice each week
- [ ] 3 or 4 times each week
- [ ] 5 or 6 times each week
- [ ] Once each day
- [ ] More than once each day

29) About how many times in the past four weeks did drinking alcohol make your child drunk? If your child is 7-9 years old, go to question #32. **NOT FOR 7-9's**

- [ ] Has never drank alcohol
- [ ] Did not have a drink of alcohol in the past four weeks
- [ ] Not been drunk in the past four weeks
- [ ] Once
- [ ] Twice
- [ ] Three times
- [ ] Four times
- [ ] Five or more times

30) About how many times in the past four weeks did your child have five or more drinks of alcohol on the same occasion or sitting? **NOT FOR 7-9's**

- [ ] Has never drank alcohol
- [ ] Did not have a drink of alcohol in the past four weeks
- [ ] Did not have five or more drinks of alcohol on the same occasion in the past four weeks
- [ ] Once
- [ ] Twice
- [ ] Three times
- [ ] Four times
- [ ] Five or more times

31) About how many times in the past four weeks did your child use cannabis (marijuana, grass, pot, hashish)? **NOT FOR 7-9's**

- [ ] Has never used cannabis
- [ ] Did not use cannabis in the past four weeks
- [ ] Used once or twice in the past four weeks
- [ ] Once or twice each week
- [ ] Three or four times each week
- [ ] Five or six times each week
- [ ] Once each day
- [ ] More than once each day

ABOUT YOUR CHILD'S USE OF TIME

Now we are going to ask you questions about your child's use of time **(your child currently enrolled in this study)**.

32) How often in the past month did your child take part in?

a) Sports teams outside of school (e.g., soccer, baseball, hockey, etc.)
- [ ] Never
- [ ] Once
- [ ] Twice
- [ ] Three times
- [ ] Four or more times

b) Youth organizations in the community (e.g., Scouts/Guides, 4-H, Junior Achievement, Y, Boys & Girls Clubs)
- ☐ Never
- ☐ Once
- ☐ Twice
- ☐ Three times
- ☐ Four or more times

c) Volunteer work outside your home without pay (e.g., child care, care for the elderly, youth work, coaching/teaching sports)
- ☐ Never
- ☐ Once
- ☐ Twice
- ☐ Three times
- ☐ Four or more times

d) Lessons in art, dance, music, martial arts, swimming, etc.
- ☐ Never
- ☐ Once
- ☐ Twice
- ☐ Three times
- ☐ Four or more times

e) Religious services at Church, Synagogue, or Mosque
- ☐ Never
- ☐ Once
- ☐ Twice
- ☐ Three times
- ☐ Four or more times

f) Work at part-time job for pay (e.g., paper route)
- ☐ Never
- ☐ Once
- ☐ Twice
- ☐ Three times
- ☐ Four or more times

g) Religious group activities (e.g., youth groups, prayer groups)
- ☐ Never
- ☐ Once
- ☐ Twice
- ☐ Three times
- ☐ Four or more times

33) In the past 5 years, how many times has your child had to change school s because of a move to a different home?

|___|___| times

ABOUT YOUR CHILD'S EXPERIENCES AT SCHOOL

In this section we are going to ask you about your child's experiences at school (e.g. how well he/she is doing at school) **(your child currently enrolled in this study)**. If your child was not at school during the past month, please go to question #42.

34) How would you rate your child's academic progress during the past month at school?
- ☐ Excellent student
- ☐ Good student
- ☐ Average student
- ☐ Below average student
- ☐ Poor student

35) How would you rate your child's attitude toward school during the past month at school? He/she:
- ☐ Liked school very much
- ☐ Liked it a little
- ☐ Neither liked nor disliked it
- ☐ Disliked school
- ☐ Disliked school very much

36) In the past month at school, what marks did your child mostly get?

- ☐ Mostly A's (above 80%)
- ☐ Mostly B's (70-79%)
- ☐ Mostly C's (60-69%)
- ☐ Mostly D's (50-59%)
- ☐ Mostly F's (below 50%)

37) In the past month at school how well did your child do in most subjects compared to other students his/her own age?

- ☐ A lot better than other students
- ☐ A little better than other students
- ☐ About the same as other students
- ☐ A little worse than other students
- ☐ A lot worse than other students

38) How would you describe your child's relationships with his/her teachers during the past month at school?

- ☐ Excellent (got along very well)
- ☐ Good
- ☐ Fair
- ☐ Poor
- ☐ Very poor (did not get along)

39) About how many times did your child get into trouble with his/her teachers or principal for misbehaviour during the past month at school?

| ___ | ___ | # times misbehaved

40) About how many times did your child get into trouble with his/her teachers or principal for skipping or being late for classes during the past month at school?

| ___ | ___ | # times skipped/late for class

41) About how many hours each week did your child spend doing homework in the past month at school?

| ___ | ___ | # hours each week

ABOUT YOUR CHILD'S FRIENDS

Now we are going to ask you about your child's friends) **(your child currently enrolled in this study).**

42) How many friends his/her own age does your child have?

- ☐ None
- ☐ One
- ☐ Two
- ☐ Three friends
- ☐ Four friends
- ☐ Five or more friends

43) How would you describe your child's relationships with his/her friends in the past month?

- ☐ Excellent (get along very well)
- ☐ Good
- ☐ Fair
- ☐ Poor
- ☐ Very poor (do not get along at all)

ABOUT YOUR RELATIONSHIP WITH YOUR CHILD

In this section we are going to ask you about your relationship with your child **(your child currently enrolled in this study).**

44) How do you feel about your relationship with your child? Would you say that it is:

a) A trusting relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

b) A warm and affectionate relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

c) A close relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

d) A happy relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

e) A respectful relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

45) In the past week, how often would you say the following statements are true about you?

a) You let your child know when he/she is doing a good job with something
- ☐ Never
- ☐ Almost never
- ☐ Sometimes
- ☐ Often
- ☐ Always

b) You reward or give something extra to your child for obeying you or behaving well
- ☐ Never
- ☐ Almost never
- ☐ Sometimes
- ☐ Often
- ☐ Always

c) You compliment your child when he/she does something well
- ☐ Never
- ☐ Almost never
- ☐ Sometimes
- ☐ Often
- ☐ Always

d) You praise your child when he/she has done something well
- ☐ Never
- ☐ Almost never
- ☐ Sometimes
- ☐ Often
- ☐ Always

e) You hug or kiss your child when he/she has done something well
- ☐ Never
- ☐ Almost never
- ☐ Sometimes
- ☐ Often
- ☐ Always

f) You tell your child that you like it when he/she helps around the house
- ☐ Never
- ☐ Almost never
- ☐ Sometimes
- ☐ Often
- ☐ Always

g) You threaten to punish your child and then do not actually punish him/her
- ☐ Never
- ☐ Almost never
- ☐ Sometimes
- ☐ Often
- ☐ Always

h) Your child talks you out of being punished after he/she has done something wrong
- ☐ Never
- ☐ Almost never
- ☐ Sometimes
- ☐ Often
- ☐ Always

i) You feel that getting your child to obey you is more trouble than it's worth
- ☐ Never
- ☐ Almost never
- ☐ Sometimes
- ☐ Often
- ☐ Always

j) You let your child out of a punishment early (e.g., lift restrictions earlier than you originally said)
- ☐ Never
- ☐ Almost never
- ☐ Sometimes
- ☐ Often
- ☐ Always

k) Your child is not punished when he/she has done something wrong
- ☐ Never
- ☐ Almost never
- ☐ Sometimes
- ☐ Often
- ☐ Always

l) The punishment you give your child depends on your mood
- ☐ Never
- ☐ Almost never
- ☐ Sometimes
- ☐ Often
- ☐ Always

m) You know who your child is with when he/she is away from home
- ☐ Never
- ☐ Almost never
- ☐ Sometimes
- ☐ Often
- ☐ Always

n) You know where your child is when he/she is away from home
- ☐ Never
- ☐ Almost never
- ☐ Sometimes
- ☐ Often
- ☐ Always

o) You know when your child will return when he/she is away from home
- ☐ Never
- ☐ Almost never
- ☐ Sometimes
- ☐ Often
- ☐ Always

46) What is your relationship to this child?
- ☐ Biological mother
- ☐ Stepmother
- ☐ Adoptive mother
- ☐ Foster mother
- ☐ Biological father
- ☐ Stepfather
- ☐ Adoptive father
- ☐ Foster father
- ☐ Other related female (e.g., grandmother, aunt, etc.)
- ☐ Other related male (e.g., grandfather, uncle, etc.)
- ☐ Unrelated female
- ☐ Unrelated male

47) Does your child have a biological parent residing outside of this household?
- ☐ Yes
- ☐ No → go to question #52

48) How would you describe your child's relationship with the absent biological father?

a) A trusting relationship?
   - ☐ Very true
   - ☐ Partly or sometimes true
   - ☐ Not very true

b) A warm and affectionate relationship?
   - ☐ Very true
   - ☐ Partly or sometimes true
   - ☐ Not very true

c) A close relationship?
   - ☐ Very true
   - ☐ Partly or sometimes true
   - ☐ Not very true

d) A happy relationship?
   - ☐ Very true
   - ☐ Partly or sometimes true
   - ☐ Not very true

e) A respectful relationship?
   - ☐ Very true
   - ☐ Partly or sometimes true
   - ☐ Not very true

49) How would you describe your child's relationship with the absent biological mother?

a) A trusting relationship?
   - ☐ Very true
   - ☐ Partly or sometimes true
   - ☐ Not very true

b) A warm and affectionate relationship?
   - ☐ Very true
   - ☐ Partly or sometimes true
   - ☐ Not very true

c) A close relationship?
   - ☐ Very true
   - ☐ Partly or sometimes true
   - ☐ Not very true

d) A happy relationship?
   - ☐ Very true
   - ☐ Partly or sometimes true
   - ☐ Not very true

e) A respectful relationship?
   - ☐ Very true
   - ☐ Partly or sometimes true
   - ☐ Not very true

50) What type of contact does your child have with the absent biological parent?
   - ☐ Shared living arrangement on an equal time basis
   - ☐ Shared living arrangement with most time with mother
   - ☐ Shared living arrangement with most time with father
   - ☐ Regular visiting
   - ☐ Irregular visiting
   - ☐ Telephone or letter contact only
   - ☐ No contact at all

51) If you are currently separated from your child's biological mother or father, please indicate the age of your child at the time of separation.

   |___|___| years old

MORE ABOUT YOUR CHILD

In this section we are going to ask you a few more questions about your child **(your child currently enrolled in this study)**.

52) What ethnic, racial, or cultural group comes closest to describing your child? (shade one box only)

☐ African Canadian or Black (e.g., African, Haitian, Jamaican, Somalian)

☐ Aboriginal or Native American (e.g., North American Indian, Inuit, Metis)

☐ White North European (e.g., British, Irish, Scottish, Scandinavian, French, Dutch, German)

☐ White Southern European (e.g., Spanish, Portuguese, Greek, Italian)

☐ White Other European (e.g., Polish, Ukrainian, Russian)

☐ East Asian (e.g., Chinese, Japanese, Korean)

☐ South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lankan)

☐ South-east Asian (e.g., Cambodian, Indonesian, Laotian, Vietnamese)

☐ Arab or South Asian (e.g., Egyptian, Jordanian, Iranian, Lebanese)

☐ Hispanic (e.g., Mexico, Central America or South America)

☐ Other (please specify)

_____

53) Does your child have a long-term illness or medical condition (some examples are allergies, asthma, cerebral palsy, diabetes, epilepsy, a hearing problem)?

☐ Yes
☐ No

a) If Yes, what is the illness or medical condition? (If he/she has more than one, please list them all).

_____
_____
_____

54) Does your child have any long-term conditions or health problems, which prevent or limit his/her participation in school, at play, or in any other activity for a child of his/her age?

☐ Yes
☐ No

55) Has your child visited a mental health or social services professional during the past 6 months?

☐ Yes
☐ No

a) If Yes, how many visits did he or she make?

|___|___| visits

56) Since your last questionnaire, has your child participated in BBBS waiting list programs and activities?

☐ Yes
☐ No→ go to question #59

a) If Yes, please list these programs and activities.

_____
_____

57) Since your last questionnaire, about how many hours in total did your child participate in BBBS waiting list programs and activities?

|___|___|___| hours

58) Since your last questionnaire, about how often did your child participate in BBBS waiting list programs and activities?

☐ Once a month
☐ Once or twice a month
☐ Three times a month
☐ Once a week
☐ More than once a week

59) Since your last questionnaire has your child participated in other community programs for youth?

☐ Yes
☐ No

a) If Yes, please list what these are.

_____

_____

ABOUT YOUR NEIGHBOURHOOD

This section asks questions about your neighbourhood.

60) Please indicate how strongly you agree or disagree with the following statements about your neighbourhood:

a) It is safe to walk alone in this neighbourhood after dark
☐ Strongly agree
☐ Agree
☐ Neither agree nor disagree
☐ Disagree
☐ Strongly disagree

b) It is safe for children to play outside during the day
☐ Strongly agree
☐ Agree
☐ Neither agree nor disagree
☐ Disagree
☐ Strongly disagree

c) There are good parks, playgrounds and play spaces in this neighbourhood
☐ Strongly agree
☐ Agree
☐ Neither agree nor disagree
☐ Disagree
☐ Strongly disagree

d) If there is a problem around here, the neighbours get together to deal with it
☐ Strongly agree
☐ Agree
☐ Neither agree nor disagree
☐ Disagree
☐ Strongly disagree

e) There are adults in the neighbourhood that children can look up to
☐ Strongly agree
☐ Agree
☐ Neither agree nor disagree
☐ Disagree
☐ Strongly disagree

f) People around here are willing to help their neighbours
☐ Strongly agree
☐ Agree
☐ Neither agree nor disagree
☐ Disagree
☐ Strongly disagree

g) You can count on adults in this neighbourhood to watch out that children are safe and don't get in trouble
☐ Strongly agree
☐ Agree
☐ Neither agree nor disagree
☐ Disagree
☐ Strongly disagree

h) When I'm away from home, I know that my neighbours will keep their eyes open for possible trouble
☐ Strongly agree
☐ Agree
☐ Neither agree nor disagree
☐ Disagree
☐ Strongly disagree

61) How much of a problem is the following in your neighbourhood:

a) Garbage, litter, or broken glass in the street or road, on the sidewalks, or in yards?
☐ A big problem
☐ Somewhat of a problem
☐ No problem

b) Selling or using drugs?
☐ A big problem
☐ Somewhat of a problem
☐ No problem

c) Alcoholics and excessive drinking in public?
☐ A big problem
☐ Somewhat of a problem
☐ No problem

d) Groups of young people who cause trouble?
☐ A big problem
☐ Somewhat of a problem
☐ No problem

e) Burglary of homes or apartments?
☐ A big problem
☐ Somewhat of a problem
☐ No problem

f) Unrest due to ethnic or religious differences?
☐ A big problem
☐ Somewhat of a problem
☐ No problem

MORE ABOUT YOU

Now we are going to ask you a few more questions about you.

62) Do you own or rent your dwelling?
☐ Own
☐ Rent

63) Is your dwelling subsidized by the government for any reason (e.g., low income housing project, cooperative housing project, public housing)?
☐ Yes
☐ No

64) Is your home or dwelling in need of major repairs (e.g., defective plumbing or electrical wiring, structural repairs to walls, floors or ceilings, etc.)?
☐ Yes
☐ No

65) What is your estimated total household income (before taxes)?
☐ Under $5,000
☐ $5,000 to $9,999
☐ $10,000 to $19,999
☐ $20,000 to $29,999
☐ $30,000 to $39,999
☐ $40,000 to $49,999
☐ $50,000 to $59,999
☐ $60,000 or more

66) Do you currently receive social assistance from the government?
☐ Yes
☐ No

67) Do you have a long-term illness or medical condition (some examples are allergies, asthma, heart disease, kidney disease, multiple sclerosis, cancer, diabetes, epilepsy, a hearing problem)?
☐ Yes
☐ No

a) If Yes, what is the illness or medical condition? (If you have more than one, please list them all)

_____

_____

_____

b) Do you have difficulty physically getting around (e.g., walking to corner store, climbing stairs, driving a car etc.)?

☐ Yes

☐ No

SOME FINAL QUESTIONS ABOUT YOUR CHILD (your child currently enrolled in this study)

68 a) Before this study began, did your child participate in BBBS programs and activities (e.g., community match program, in-school mentoring program)?

☐ Yes

☐ No

b) If Yes, please list these programs

_____

_____

_____

c) Before this study began, was your child in a match relationship with a Big Brother or Big Sister?

☐ Yes

☐ No

d) If Yes, about how many months did the match relationship last?

|___|___| months

e) Does your child (in this study) have any siblings matched to a Big Brother/Big Sister either now or in the past?

☐ Yes, right now my child has a sibling matched to a Big Brother/Big Sister

☐ Yes, in the past my child had a sibling matched to a Big Brother/Big Sister (but match ended)

☐ No, my child has never had any siblings matched to a Big Brother/Big Sister → go to question #70

69) If you answered "Yes" to 68(e), please answer the following questions about the Big Brother/Big Sister of your child's sibling. If there is (was) more than one sibling matched to a Big Brother/Big Sister, please answer for the Big Brother/Big Sister of the sibling that is closest in age to your child in this study.

a) Does (did) the sibling's Big Brother/Big Sister often talk to or do things with your child in this study?

☐ Yes

☐ No

b) Does (did) the sibling's Big Brother/Big Sister have a close relationship with your child in this study?

☐ Yes

☐ No

c) Does (did) the sibling's Big Brother/Big Sister have a close relationship with you?

☐ Yes

☐ No

d) When did the sibling's match relationship with the Big Brother/Big Sister begin?

|___|___| |___|___|___|___|
month   year

70) Before this study began, did your child participate in other community programs for youth?

☐ Yes

☐ No

a) If Yes, please list these programs:

_____

_____

_____

ABOUT YOUR CHILD'S BIG BROTHER/BIG SISTER MATCH RELATIONSHIP IN THIS STUDY

Now we are going to ask you about your child's Big Brother/Big Sister match relationship in this study.

71) Since you entered this study (or since your last questionnaire) has your child been in the same match relationship with his/her Big Brother/Big Sister?

- ☐ Yes → go to question #77
- ☐ No (he/she was matched, but relationship ended) → go to question #72
- ☐ No (he/she has not been matched yet) → go to question #91

72) If No, why did the match relationship end? (please indicate single most important reason)

- ☐ Our family moved away
- ☐ Big Brother/Big Sister moved away
- ☐ I was not happy with the match
- ☐ Big Brother/Big Sister was not happy with the match
- ☐ My child was not happy with the match
- ☐ Big Brother/Big Sister agency asked to end the match
- ☐ My child finished the program (turned 17 years of age)
- ☐ Other reason (specify) _____

73) a) How long did the match relationship last?

|___|___| months

b) When did the match relationship begin?

|__|__| |__|__|__|__|
month   year

74) How many days each week on average did your child spend with his/her Big Brother/Sister?

- ☐ Less than every other week
- ☐ Every other week
- ☐ Less than one day a week
- ☐ One day a week
- ☐ Two days a week
- ☐ Three days a week
- ☐ Four days a week
- ☐ Five days a week
- ☐ More than five days a week

75) How would you describe the relationship your child had with his/her Big Brother/Big Sister?

a) A trusting relationship

- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

b) A warm and affectionate relationship

- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

c) A close relationship

- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

d) A happy relationship

- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

e) A respectful relationship

- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

76) Since your child's match ended, has he/she been rematched to another Big Brother/Sister?

☐ Yes → go to question #77

☐ No → go to question #90

77) About how many months has your child been in his/her current match relationship with his/her Big Brother/Big Sister? If your child has been in his/her match relationship for <u>less than one month</u>, mark a "0" in the space provided and please go to question #90.

\# |___|___| months

78) How would you describe your relationship with your child?

a) Confides in you about personal problems?
☐ Very true
☐ Partly or sometimes true
☐ Not very true

b) Listens to what you are saying?
☐ Very true
☐ Partly or sometimes true
☐ Not very true

c) Asks to do things with you?
☐ Very true
☐ Partly or sometimes true
☐ Not very true

d) Seems to enjoy the time you spend together?
☐ Very true
☐ Partly or sometimes true
☐ Not very true

e) Seems happy with you as a parent or guardian?
☐ Very true
☐ Partly or sometimes true
☐ Not very true

f) Expresses him/herself to you freely?
☐ Very true
☐ Partly or sometimes true
☐ Not very true

g) Shows an interest in the things you do together?
☐ Very true
☐ Partly or sometimes true
☐ Not very true

h) Trusts your advice?
☐ Very true
☐ Partly or sometimes true
☐ Not very true

i) Asks for your help?
☐ Very true
☐ Partly or sometimes true
☐ Not very true

j) Laughs or jokes with you?
☐ Very true
☐ Partly or sometimes true
☐ Not very true

k) Follows through on planned activities (i.e., keeps dates)
☐ Very true
☐ Partly or sometimes true
☐ Not very true

l) Helps to plan activities
☐ Very true
☐ Partly or sometimes true
☐ Not very true

79) Please describe your child's life.

a) Is confident in his/her abilities (i.e., perceived competence)
☐ Very true
☐ Partly or sometimes true
☐ Not very true

b) Gets along with friends
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

c) Gets along with teachers
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

d) Gets along with you as a parent or guardian
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

e) Is willing to openly discuss his/her problems
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

f) Has a positive attitude about school
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

g) Is happy with the way he/she looks
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

h) Has a sense of what his/her future looks like
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

i) Is trusting of others
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

j) Is easy going and relaxed
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

k) Is happy about who he/she is
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

l) Has a positive outlook on life (i.e., looks forward to doing things)
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

m) Is involved in community activities (e.g., sports, clubs, etc.)
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

n) Is polite and sociable with others
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

o) Makes decisions that are good for him/her
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

80) How many times in the <u>past month</u> did you meet face-to-face with your child's Big Brother/Sister volunteer?

|___|___| # times met face-to-face

81) How many times in the <u>past month</u> did you talk on the telephone with your child's Big Brother/Sister volunteer?

|___|___| # times talked on phone

82) How would you describe your relationship with your child's Big Brother/Sister?

a) A trusting relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

b) A warm and affectionate relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

c) A close relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

d) A happy relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

e) A respectful relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

83) Please indicate how strongly you agree or disagree with the following statements about your involvement in your child's match relationship.

a) I suggest activities that my child and his/her Big Brother or Big Sister might do together
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

b) I make my child's Big Brother or Big Sister feel welcome
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

c) I offer advice or help to my child's Big Brother or Big Sister to make the match relationship work better
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

d) I provide words of encouragement to my child's Big Brother or Big Sister
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

e) I make sure that there is enough time for my child and his/her Big Brother or Big Sister to meet
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

f) I respect and trust my child's Big Brother or Big Sister's views on ways to improve my child's life
- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

84) How would you describe your child's Big Brother/Sister relationship?

a) A trusting relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

b) A warm and affectionate relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

c) A close relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

d) A happy relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

e) A respectful relationship?
- ☐ Very true
- ☐ Partly or sometimes true
- ☐ Not very true

ABOUT YOUR RELATIONSHIP WITH YOUR LOCAL BIG BROTHERS/ SISTERS AGENCY

Finally we are going to ask you about you r relationship with your local B ig Brothers Big Sisters agency.

85) In the past month, did <u>you</u> ever contact your Big Brothers/Sisters agency caseworker?
- ☐ Yes
- ☐ No → go to question #87

86) If "Yes" to the above, about how m any times did you contact your Big Brothers/Sisters agency caseworker:

a) About a problem you were having with your child's Big Brother/Sister match?
- ☐ Never
- ☐ Once
- ☐ Two or more times

b) About a problem your child was having with his/her Big Brother/Sister?
- ☐ Never
- ☐ Once
- ☐ Two or more times

c) To obtain more information on your match agreement with the Big Brothers/Sisters agency?
- ☐ Never
- ☐ Once
- ☐ Two or more times

d) To clarify your responsibilities in your match agreement with the Big Brothers/Sisters agency?
- ☐ Never
- ☐ Once
- ☐ Two or more times

e) For advice on ways you could better accommodate your child's match relationship?
- ☐ Never
- ☐ Once
- ☐ Two or more times

f) To get help with another family issue?
- ☐ Never
- ☐ Once
- ☐ Two or more times

g) To get help obtaining scholarships?
- ☐ Never
- ☐ Once
- ☐ Two or more times

h) To get help regarding camp?
- ☐ Never
- ☐ Once
- ☐ Two or more times

i) To notify the agency of a change in your marital status?
- ☐ Never
- ☐ Once
- ☐ Two or more times

j) To notify the agency of a change in your address?
- ☐ Never
- ☐ Once
- ☐ Two or more times

k) Other? (please specify):

_____
_____
_____

87) In the past month, did your Big Brothers/ Sisters agency caseworker ever contact you?

☐ Yes

☐ No → go to question #89

88) If "Yes" to the above, about how m any times did your Big Brothers/Sisters agency caseworker contact you:

a) About a problem you were having with your child's Big Brother/Sister match?

☐ Never
☐ Once
☐ Two or more times

b) About a problem your child was having with his/her Big Brother/Sister?

☐ Never
☐ Once
☐ Two or more times

c) To provide more information on your match agreement with the Big Brothers/Sisters agency?

☐ Never
☐ Once
☐ Two or more times

d) To clarify your responsibilities in your match agreement with the Big Brothers/Sisters agency?

☐ Never
☐ Once
☐ Two or more times

e) To provide advice on ways you could better accommodate your child's match relationship?

☐ Never
☐ Once
☐ Two or more times

f) To provide help with another family issue?

☐ Never
☐ Once
☐ Two or more times

g) To provide help obtaining scholarships?

☐ Never
☐ Once
☐ Two or more times

h) To provide help regarding camp?

☐ Never
☐ Once
☐ Two or more times

i) To provide information about upcoming agency activities for Big and Little Brother/Sisters?

☐ Never
☐ Once
☐ Two or more times

j) To verify a change in your marital status?

☐ Never
☐ Once
☐ Two or more times

k) To verify a change in your address?

☐ Never
☐ Once
☐ Two or more times

l) Other? (please specify):

_____
_____
_____

89) In the past month, how would you describe your Big Brothers/Sisters agency caseworker? Was he/she:

a) Supportive?

☐ Very true
☐ Somewhat true
☐ Not very true

b) Accessible?
- ☐ Very true
- ☐ Somewhat true
- ☐ Not very true

c) Knowledgeable?
- ☐ Very true
- ☐ Somewhat true
- ☐ Not very true

d) Friendly?
- ☐ Very true
- ☐ Somewhat true
- ☐ Not very true

e) Eager to answer questions or provide help?
- ☐ Very true
- ☐ Somewhat true
- ☐ Not very true

f) Helpful?
- ☐ Very true
- ☐ Somewhat true
- ☐ Not very true

g) Other? (please specify):

_____

_____

_____

90) Please describe any problems/concerns you encountered during the match process.

a) It took too long for a match to be found
- ☐ Very true
- ☐ Kind of true
- ☐ Not very true

b) I did not feel happy about the match
- ☐ Very true
- ☐ Kind of true
- ☐ Not very true

c) Not enough time to meet with potential match partner to make an informed decision
- ☐ Very true
- ☐ Kind of true
- ☐ Not very true

d) I don't think enough thought was given to things my child and his/her match partner both like to do
- ☐ Very true
- ☐ Kind of true
- ☐ Not very true

e) Other (please specify):

_____

_____

_____

91) Why did you decide to enroll your child in the Big Brothers/Sisters program? (shade all that apply)

- ☐ A friend recommended the program
- ☐ A referral from a social service agency (e.g., Children's Aid)
- ☐ A family member recommended the program
- ☐ A referral from my child's school
- ☐ I was not able to spend enough quality time with my child
- ☐ I felt that my child needed another adult in his/her life to give him/her guidance and support
- ☐ A referral from a psychologist or psychiatrist
- ☐ I wasn't able to keep track of my child's activities and whereabouts
- ☐ My child learned of the program and asked to become enrolled
- ☐ Other? (please specify):

_____

_____

_____

92) Do you think your local B ig Brothers/Sisters agency adequately prepared you for your responsibilities as a parent/guardian in the match agreement?

☐ Yes
☐ No

a) Please explain your answer:

_____
_____
_____

Thank you for your time!

APPENDIX E

Table E.1. Study Constructs and Items

Constructs	Items
Global Mentoring Relationship Quality (Mentor, child, parent)	A trusting relationship
	A warm and affectionate relationship
	A close relationship
	A happy relationship
	A respectful relationship
Engagement Mentoring Relationship Quality (Mentor)	Confides in you about personal problems
	Listens to what you are saying
	Asks to do things with you
	Calls you on the telephone
	Seems to enjoy the time you spend together
	Seems happy with you as a Big Brothers/Sisters volunteer
	Expresses him/herself to you freely
	Shows an interest in the things you do together
	Trusts your advice
	Asks for your opinion or what you think about things
	Laughs or jokes with you
	Follows through on planned activities (i.e., keeps dates)
	Helps to plan activities
Engagement Mentoring Relationship Quality (Child)	IS there for me when I have a problem
	Listens carefully to what I am saying
	Asks to do things with me
	Calls me on the telephone
	Enjoys the time he/she spends with me
	Understands my problems
	Accepts me for who I am
	Shows an interest in the things we do together
	Trusts me
	Asks for my opinion or what I think about things

	Laughs or jokes with me
	Follows through on planned activities (i.e., keeps dates)
	Teaches me a skill or how to do things
	Helps me think about my future
	When I have a problem, tells me that things will be OK
	Takes what I have to say seriously
	Does not try to force me to tell him/her about private or personal things in my life
	Tries to find out what I like to do
	Is patient with me
	Shows an interest in getting to know my family
	Sees things the same way as I do
	Is a lot like me in many ways
Mentor Self-efficacy	Sharing with them a personal experiences of your own
	Giving advice on how to deal with a problem that is important to them
	Helping them to achieve or set goals
	Making them feel good about themselves
	Discussing issues or problems occurring in their family
	Planning activities with them
	Providing guidance around their future
	Teaching them a practical skill
	Helping them get along with others (e.g., peers, teachers, family)
	Educating them about various subject areas
	Convincing them about the importance of doing well in school
Mentor Training Satisfaction	Clarity of rules and responsibilities as a Big Brothers/Sisters volunteer
	Strategies for fostering a positive relationship with Little Brother/Sister
	Length of training period
	Time of day training offered

	Medium of presentation (e.g., video, small group discussions, etc.)
	Effectiveness and competency of trainers/orientation leaders
	Friendliness and supportiveness of trainers/orientation leaders
	Availability of written material (i.e., guidelines, rules and responsibilities)
	Clarity of rules and responsibilities of the Big Brothers/Sisters agency
	Caseworker monitoring
	Explanation of mission statement and goals of Big Brothers/Sisters agencies
	Information on economic and social situation of single parents
	How to indentify physical or sexual abuse
Parent Support of the Mentoring Relationship (Mentor)	Suggests activities that me and my Little Brother/Little Sister might do together
	Makes me feel welcome
	Offers me advice or help to make the match relationship work better
	Provides words of encouragement to me as a Big Brother or Big Sister
	Ensures that there is enough time for me and my Little Brother or Little Sisters to meet
	Respects and trusts my views on ways to improve my Little Brothers or Little Sister's life

APPENDIX F: Measurement Properties of the Global Mentoring Relationship Quality Scales among 249 Currently Matched Mentor, Child, and Parent Triads

Confirmatory factor analyses (CFA) were employed on data from 249 currently matched mentor, child, and parent triads which were guided by the results of the principal component analyses (PCA) and CFA among the larger sample of 272 mentors, 491 children, and 554 parents (Chapter 5).
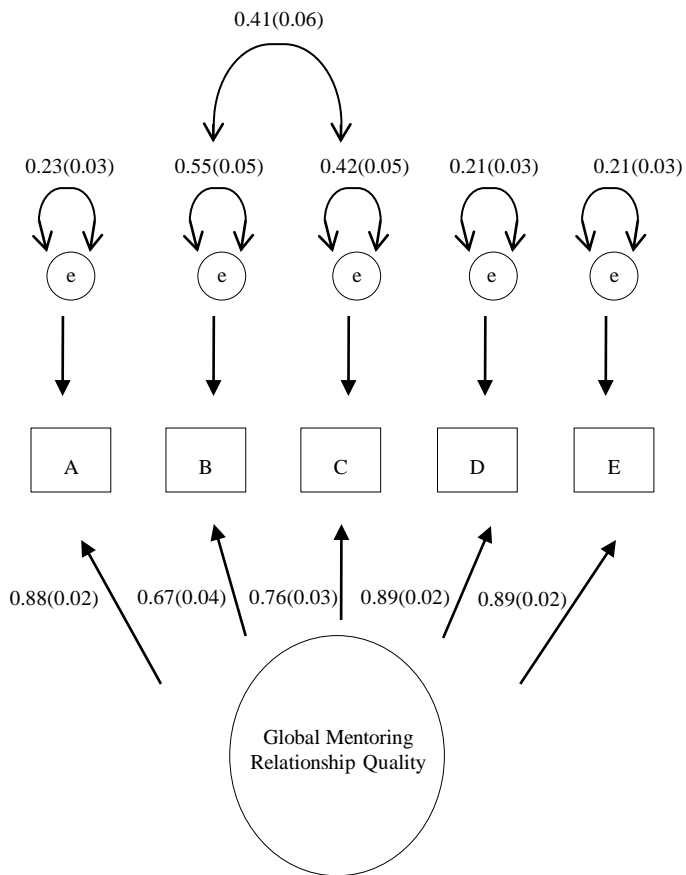
Global Mentoring Relationship Quality Scale (Mentor)

Results of the CFA demonstrated good model fit among the sample of 249 currently matched mentors [χ^2=31.5(4), p<0.001; CFI=0.95; TLI=0.94; RMSEA=0.08, 90% CI (0.07, 0.09); SRMR=0.03] (Figure F.1). The internal consistency reliability was good (α=0.80).
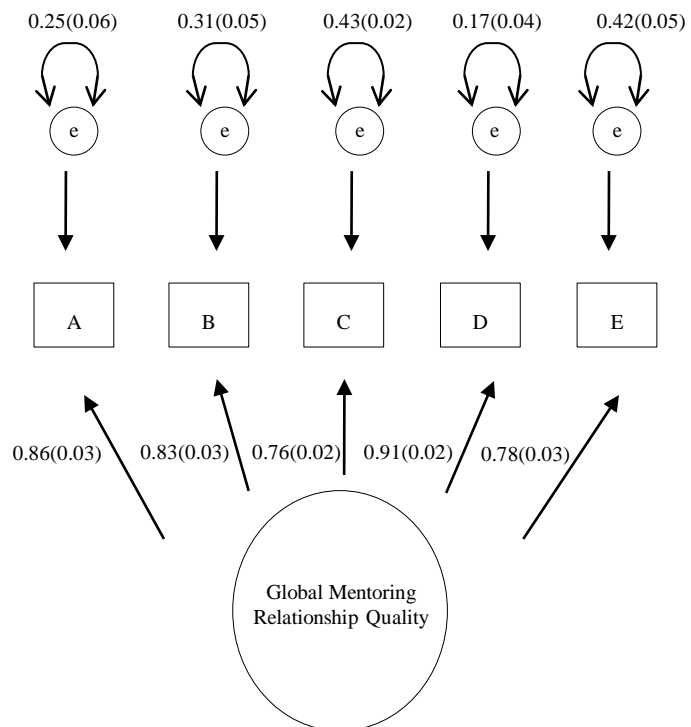
Global Mentoring Relationship Quality Scale (Child)

Results of the CFA yielded good model fit among the sample of 249 currently matched children [χ^2=11.02(5), p=0.04; CFI=0.99; TLI=0.99; RMSEA=0.04, 90% CI (0.00, 0.08); SRMR=0.02] (Figure F.2). The internal consistency reliability was good (α=0.88).
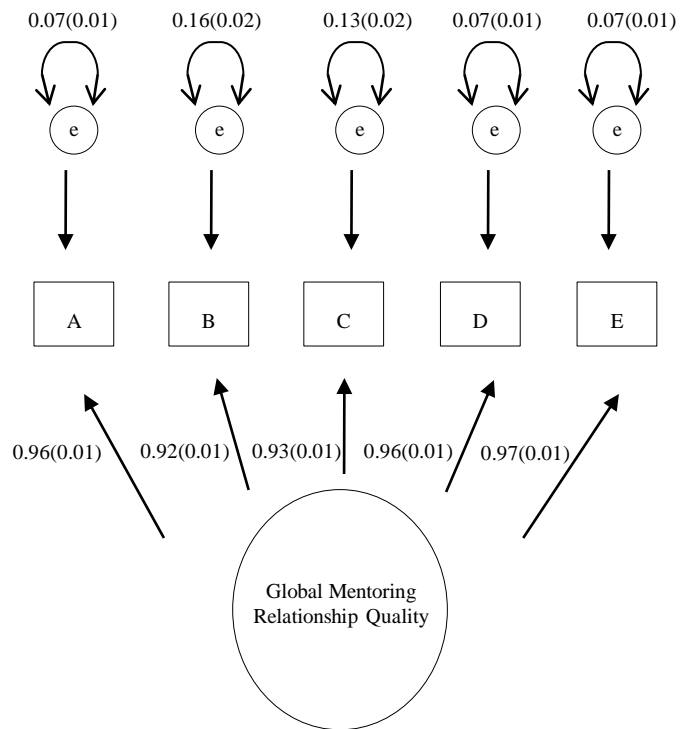
Global Mentoring Relationship Quality Scale (Parent)

Results of the CFA demonstrated satisfactory model fit among the sample of 249 currently matched parents [χ^2=47.82(5), p<0.001; CFI=0.95; TLI=0.91; RMSEA=0.09, 90% CI (0.08, 0.11); SRMR=0.02] (Figure F.3). The internal consistency reliability was good (α=0.88).

Figure F.1. Confirmatory factor analysis model for the *Global Mentoring Relationship Quality Scale* (mentor report). A, trust; B, warm; C, close; D, happy; E, respect; e, error term; Standardized estimate (standard error); All parameters p<0.0001.

Figure F.2. Confirmatory factor analysis model for the *Global Mentoring Relationship Quality Scale* (child report). A, trust; B, warm; C, close; D, happy; E, respect; e, error term; Standardized estimate (standard error); All parameters p<0.0001.

Figure F.3. Confirmatory factor analysis model for the *Global Mentoring Relationship Quality Scale* (parent report). A, trust; B, warm; C, close; D, happy; E, respect; e, error term; Standardized estimate (standard error); All parameters p<0.0001.

APPENDIX G: Measurement Properties of the Exogenous Constructs among Mentors in Currently Matched or Terminated Mentoring Relationships and Exclusively among Mentors in Currently Matched Mentoring Relationships

Mentor Training Satisfaction

Among 272 mentors in currently matched or terminated mentoring relationships, two factors emerged in the initial solution under principal component analysis (PCA). However, factor one was the only factor to have an eigenvalue >1 (eigenvalue=7.02). It also explained a substantially greater amount of variance (53.9%) compared to subsequent factors (≤8.5%), and the scree plot supported a unidimensional solution. Furthermore, the items loading onto the first factor were conceptually cohesive in terms of reflecting satisfaction regarding orientation training received by the BBBS agency (e.g., effectiveness and competency of trainers/orientation leaders, friendliness and supportiveness of trainers/orientation leaders). Therefore, a one factor solution was retained for further study. PCA was subsequently re-examined by extracting a one factor solution and all items had strong factor loadings (0.53-0.85). Next, a confirmatory factor analysis (CFA) was run and the model fit was satisfactory [χ^2=229.08(65), p<0.0001; CFI=0.92; TLI=0.90; RMSEA=0.08, 90% CI (0.07, 0.09); SRMR=0.04] (Figure G.1). The internal consistency reliability was good (α=0.92).

Confirmatory factor analyses (CFA) were employed on data from 249 currently matched mentors which was guided by the results of the principal component analyses (PCA) and CFA among the larger sample of 272 mentors. The CFA model demonstrated satisfactory model fit [χ^2=283.43(65), p<0.0001; CFI=0.92; TLI=0.90; RMSEA=0.09, 90% CI (0.08, 0.12); SRMR=0.05] (Figure G.2). The internal consistency reliability was good (α=0.92).

Parent Support of the Mentoring Relationship

Using PCA on data collected from 249 currently matched mentors, one factor emerged (eigenvalue=3.16) and accounted for 52.6% of the variance. All items had

strong factor loadings (0.65-0.78). A CFA was subsequently run and model fit was fair [χ^2=62.38(9), p<0.0001; CFI=0.92; TLI=0.91; RMSEA=0.09, 90% CI (0.08, 0.11); SRMR=0.03] (Figure G.3). The internal consistency reliability was good (α=0.81).
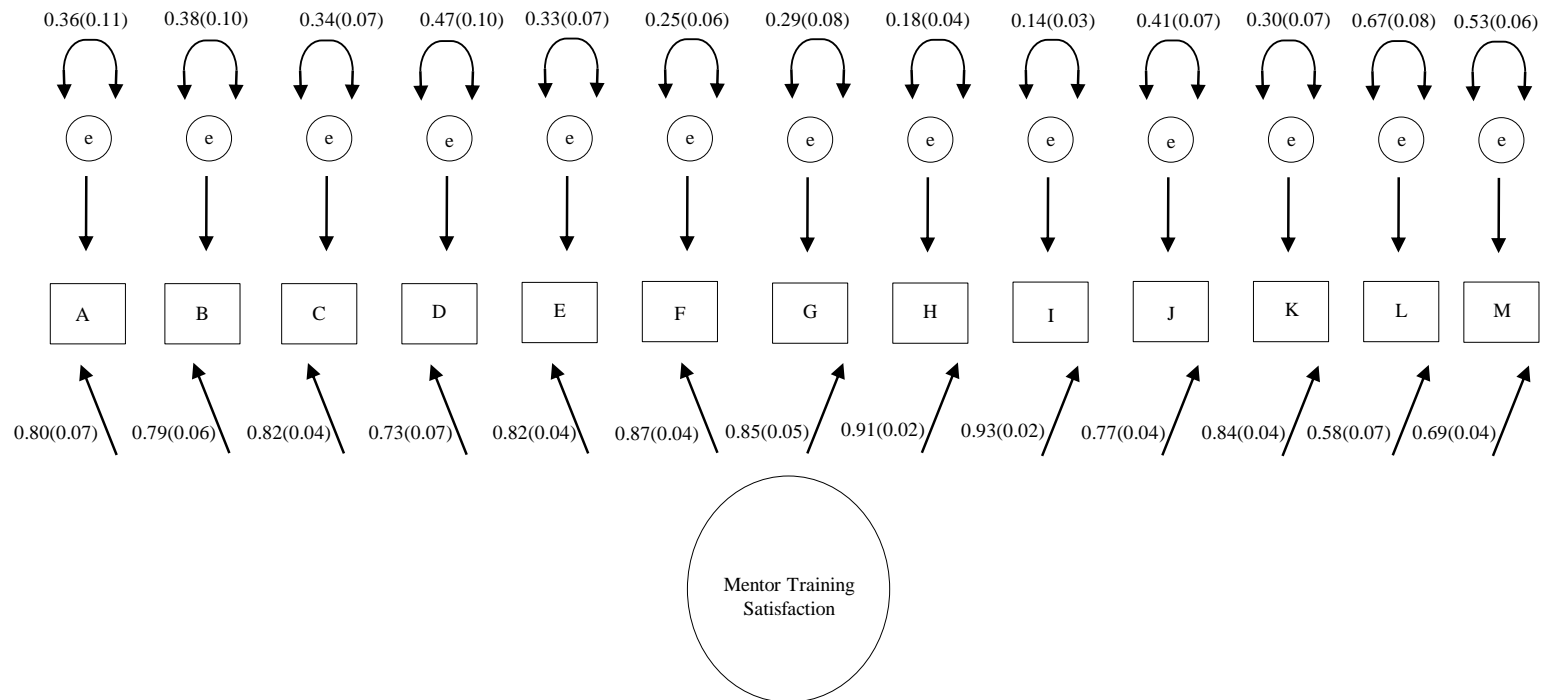
Figure G.1. Confirmatory factor analysis model for the *Mentor Training Satisfaction Scale* (n=272). A=rules as volunteer; B=strategies; C=length; D=time; E=medium; F=leader effectiveness; G=leader friendliness; H=written material; I=rules of agency; J=caseworker monitoring; K=mission statement; L=information; M=identify abuse; e, error terms; Standardized estimate (standard error); All parameters p<0.0001.
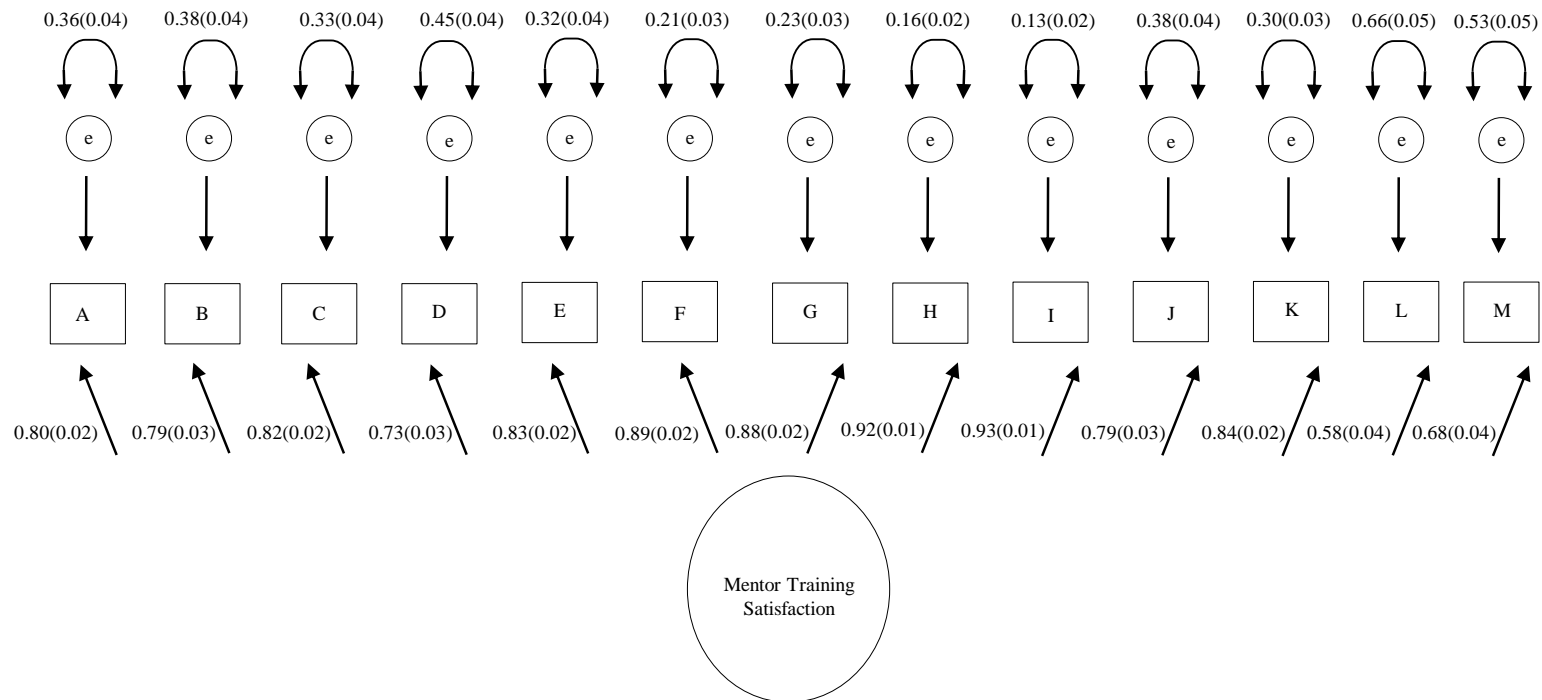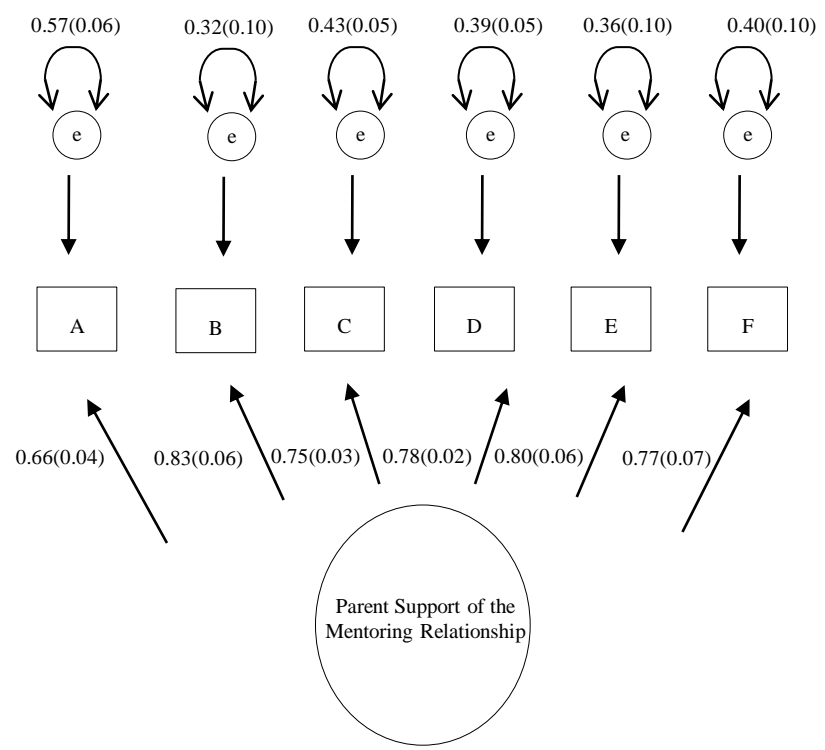
Figure G.2. Confirmatory factor analysis model for the *Mentor Training Satisfaction Scale* (n=249). A=rules as volunteer; B=strategies; C=length; D=time; E=medium; F=leader effectiveness; G=leader friendliness; H=written material; I=rules of agency; J=caseworker monitoring; K=mission statement; L=information; M=identify abuse; e, error terms; Standardized estimate (standard error); All parameters p<0.0001.

Figure G.3. Confirmatory factor analysis model for the *Parent Support of the Mentoring Relationship Scale* (n=249). A=suggests activities; B=welcome; C=offers advice; D=encouragement; E=time; F=respects; e, error terms; Standardized estimate (standard error); All parameters p<0.0001.

APPENDIX H: Intraclass Correlation Coefficient Formula

The intraclass correlation coefficient (ICC) is a measure of the degree of dependence among individuals and can be used to examine whether clustering effects are present in the data.

ICC Formula (MacKinnon, 2008):

$$\rho = \frac{MS_B - MS_W}{MS_B + (k-1)MS_W}$$
where, MS_B is the mean squared error between groups;

MS_W is the mean squared error within groups; and,

k is the mean number of subjects per agency

F-test formula to determine the statistical significance of the ICC (MacKinnon, 2008):

$$F_{g-1,g(k-1)} = \frac{1 + (k-1)\rho}{1 - \rho}$$
where, k is the mean number of subjects per clinical site; and,

g is the number of agencies

The ICC was calculated using analysis of variance for the endogenous constructs in this thesis (i.e., global and engagement mentoring relationship quality and mentor self-efficacy) across 20 Big Brothers Big Sisters of Canada agencies.

Reference

MacKinnon, D. (2008). *Introduction to statistical mediation analysis*. New York, NY: Lawrence Erlbaum Associates.

APPENDIX I: Ethics Approval from Western University Research Ethics Board

Office of Research Ethics

The University of Western Ontario

Use of Human Subjects - Ethics Approval Notice

Principal Investigator: Dr. D.J. DeWit

Review Number: 15617E   **Review Level:** Expedited

Review Date: October 20, 2008

Protocol Title: Longitudinal analysis of the effects of adult mentoring on children's health and well-being: An Examination of the Big Brothers Big Sisters community match program

Department and Institution: Centre for Addiction and Mental Health, University of Western Ontario

Sponsor: CIHR-CANADIAN INSTITUTE OF HEALTH RESEARCH

Ethics Approval Date: October 20, 2008   **Expiry Date:** September 01, 2009

Documents Reviewed and Approved: CAMH Protocol

Documents Received for Information:

This is to notify you that The University of Western Ontario Research Ethics Board for Health Sciences Research Involving Human Subjects (HSREB) which is organized and operates according to the Tri-Council Policy Statement: Ethical Conduct of Research Involving Humans and the Health Canada/ICH Good Clinical Practice Practices: Consolidated Guidelines; and the applicable laws and regulations of Ontario has reviewed and granted approval to the above referenced study on the approval date noted above. The membership of this REB also complies with the membership requirements for REB's as defined in Division 5 of the Food and Drug Regulations.

The ethics approval for this study shall remain valid until the expiry date noted above assuming timely and acceptable responses to the HSREB's periodic requests for surveillance and monitoring information. If you require an updated approval notice prior to that time you must request it using the UWO Updated Approval Request Form.

During the course of the research, no deviations from, or changes to, the protocol or consent form may be initiated without prior written approval from the HSREB except when necessary to eliminate immediate hazards to the subject or when the change(s) involve only logistical or administrative aspects of the study (e.g. change of monitor, telephone number). Expedited review of minor change(s) in ongoing studies will be considered. Subjects must receive a copy of the signed information/consent documentation.

Investigators must promptly also report to the HSREB:

     a) changes increasing the risk to the participant(s) and/or affecting significantly the conduct of the study;
     b) all adverse and unexpected experiences or events that are both serious and unexpected;
     c) new information that may adversely affect the safety of the subjects or the conduct of the study.

If these changes/adverse events require a change to the information/consent documentation, and/or recruitment advertisement, the newly revised information/consent documentation, and/or advertisement, must be submitted to this office for approval.

Members of the HSREB who are named as investigators in research studies, or declare a conflict of interest, do not participate in discussion related to, nor vote on, such studies when they are presented to the HSREB.

Chair of HSREB: Dr. Joseph Gilbert

Ethics Officer to Contact for Further Information			
☐ Janice Sutherland (jsutherl@uwo.ca)	☐ Elizabeth Wambolt (ewambolt@uwo.ca)	☐ Grace Kelly (grace.kelly@uwo.ca)	☒ Denise Grafton (dgrafton@uwo.ca)

This is an official document. Please retain the original in your files.   cc: ORE File

APPENDIX J: Ethics Approval from Centre for Addiction and Mental Health Research Ethics Board

October 01, 2008

De Wit, D.

Dear Dr. De Wit

Re: Renewal Approved for Research Protocol #047/2008 *"Previously"* Protocol #206/2007 & 220/2006-
**"Longitudinal Analysis of the Effects of Adult Mentoring on Children's Health and Well-Being: An
Examination of the Big Brothers, Big Sisters Community Match Program"**

Thank you for returning the Annual Renewal of Ethics Approval form for the above-named research protocol.

We are writing to advise you that the Centre for Addiction and Mental Health Research Ethics Board has granted approval to the above-named research protocol for a period of one year.[1] Please keep a copy of this letter in your files.

If the research is expected to continue beyond the expiry date, you are responsible for ensuring the study receives re-approval by submitting the CAMH "Annual Renewal of Ethics Approval" form by 1 September 2009.

During the course of research, any significant deviations from the approved protocol (**that is, any deviation which would lead to an increase in risk or a decrease in benefit to human subjects**) and/or any unanticipated developments within the research should be brought to the attention of the Research Ethics Office. *Best wishes for the successful completion of your project.*

Sincerely,

Susan Pilon, MHSc
Manager, Research Ethics Office
Centre for Addiction and Mental Health

SP/md

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[1] CAMH Investigators are reminded that should they leave CAMH, they are required to inform the Research Ethics Board of the status of any on-going research. If a study is to be closed or transferred to another facility, the REB must be informed and any advertisements must be discontinued.

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APPENDIX K

Table K.1. Summary of Measures Designed to Capture Mentoring Relationship Quality

Instrument, References	Informant, Total # Items, Characteristics	Sample	Reliability Cronbach's α	Validity	Strengths (+) and Limitations (-)
Child Network of Relationships Inventory (C-NRI) (Cavell, et al., 2009)	Child 11 Satisfaction Intimacy Affection Admiration Reliable	145 aggressive children in grades 2/3	0.88-0.92	Moderate association between *C-NRI* and *Mentor Alliance Scale* (r=0.65, p<0.0001)	+ Complements *Mentor Network of Relationships Inventory* - Dimensionality unknown - Analyses based on restricted sample - External validity unknown for older and/or unaggressive children
Mentor Network of Relationships Inventory (M-NRI) (Cavell, et al., 2009)	Mentor 11 Satisfaction Intimacy Nurturance Affection Admiration Reliable	145 college aged mentors	0.91-0.94	Strong association between *M-NRI* and *Mentor Alliance Scale* (r=0.74, p<0.0001)	+ Complements *Child Network of Relationships Inventory* - Dimensionality unknown - Analyses based on restricted sample of participants of university-based research project - External validity unknown for older and/or community-based volunteers
Youth Mentoring Survey (YMS)	Child 50	Unknown	0.74-0.90	N/A	+ Complements *Match Characteristics Questionnaire* - External validity unknown since sample demographics not

(Nakkula and Harris 2005; Harris and Nakkula 2010)	Internal Quality: Relational Instrumental Prescription Structure: Fun Sharing Growth					reported
Match Characteristics Questionnaire (MCQ) (Karcher, et al., 2005; Harris and Nakkula 2008)	Mentor 69 Internal Quality: Compatibility Handle issues Closeness Discomfort Satisfaction Nonacademic support-seeking Academic support-seeking Structure: Fun Sharing Character development Outlook Academics	63 high school aged mentors	0.54-0.87	Mentee support seeking predicted *Internal Quality* after 6 months, controlling for program quality, parental involvement, mentee disposition, mentor efficacy and mentor motivation (β=0.43, p<0.001)	+ Complements *Youth Mentoring Survey* - Analyses based on restricted sample (i.e., 100% Caucasian, 79% female) from one school - External validity unknown to mentors in other formal mentoring programs and/or those of different age, ethnicity, and/or gender

	External Quality: Program support Parent engagement Interference				
Mentor Alliance Scale (MAS) (Cavell and Hughes 2000; Cavell, et al., 2009; Elledge, et al., 2010)	Child 11 Strength of alliance	145 aggressive children in grades 2/3	0.74	Moderate association between *Child Network of Relationships Inventory* and *MAS* (r=0.65, p<0.0001)	+ Complements *Mentor Alliance Scale* (mentor report) - Analyses based on restricted sample used to examine *C-NRI* - External validity unknown for older and/or unaggressive children - Item examples not reported
	Mentor 13 Strength of alliance	145 college aged mentors	0.82	Strong association between *Mentor Network of Relationships Inventory* and *MAS* (r=0.74, p<0.0001)	+ Complements *Mentor Alliance Scale* (child report) - Analyses based on restricted sample used to examine *M-NRI* - External validity unknown for older mentors or community-based volunteers
Mentor-Youth Alliance Scale (MYAS) (Zand, et al., 2009)	Child 10 Caring Acceptance	276 children aged 9 – 19 years old	0.85	Moderate association between *MYAS* and *Adult Relationship Scale* (r=0.30, p<0.001) Moderate associations between *Caring* and *ARS* (r=0.27, p<0.001), and *Acceptance* and *ARS* (r=0.28, p<0.001)	+ Large sample of participants in a national multi-site study of mentoring programs in United States - Single informant type - Item examples not provided - Analyses based on restricted sample (i.e., children deemed 'high-risk' for substance use) - External validity unknown for

|				*MYAS* significantly predicted youths' ability to form relationships with adults (β=0.33, p<0.001); primary caregivers (β=0.25, p<0.001); youth's school bonding (β=0.26, p<0.001); and, life skills (β=0.33, p<0.001) after 8 months, controlling for gender, age, and baseline status	low-to-moderate risk children and/or broader-based community mentoring programs
Youth-Mentor Relationship Questionnaire (YMRQ) (Rhodes, et al. 2005)	Child 15 Not dissatisfied Helped to cope Not unhappy Trust not broken	347 children aged 9 to 16 years	0.74-0.85	Moderate-to-strong inter-factor correlations (r=0.30-0.77) that were reported as being conceptually distinct	+ Analyses based on sample from multiple BBBS agencies across United States - 40% of sample no longer in mentoring relationships and reasons for termination unknown. Children may have recalled more negative experiences. Therefore measure more useful in identifying problematic matches. - Recall bias may have impacted results (i.e., retrospective data up to 18 months) - Single informant type
Youth Mentoring Survey (YMS)	Child 50	Unknown	0.90	N/A	+ Complements *Match Characteristics Questionnaire* + Psychometric testing peer-

|					
(Nakkula and Harris 2005; Harris and Nakkula 2010)	Internal Quality: Relational Instrumental Prescription Structure: Fun Sharing Growth				reviewed (but in older version) - External validity of results is unknown because sample demographics not reported
The Youth Survey (YS) (Public/Private Ventures 2002)	Child 19 Youth-centered Youth's emotional engagement Youth dissatisfaction	N/A	N/A	N/A	- Measurement properties unknown - Single informant
Youth Participant Form (YPF) (Sale, et al., 2008)	Child 23 Trust Care Support Empathy Common interests	370 children aged 8 to 18 years old	0.94	N/A	- Single informant type - Sample from multi-site Centre for Substance Abuse Programs. Therefore, external validity of results unknown for low-risk children.

References

Cavell, T., Elledge, L., Malcolm, K., Faith, M., & Hughes, J. (2009). Relationship quality
and the mentoring of aggressive, high-risk children. *Journal of Clinical Child and
Adolescent Psychology, 38*(2), 185-198.

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selective prevention for bullied children: A preliminary test. *Journal of Primary
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Karcher, M., Nakkula, M., & Harris, J. (2005). Developmental mentoring match
characteristics: Correspondence between mentors' and mentees' assessments of
relationship quality. *Journal of Primary Prevention, 26*(2), 93-110.

Nakkula, M., & Harris, J. (2005). Assessment of mentoring relationships. In D. Dubois &
M. Karcher (Eds.), *Handbook of youth mentoring* (pp. 100-117). Thousand Oaks,
CA: Sage Publications.

Public/Private Ventures. (2002). Measuring the quality of mentor-youth relationships: A
tool for mentoring programs: Public/Private Ventures.

Rhodes, J., Reddy, R., Roffman, J., & Grossman, J. (2005). Promoting successful youth
mentoring relationships: A preliminary screening questionnaire. *Journal of
Primary Prevention, 26*(2), 147-167.

Sale, E., Bellamy, N., Springer, F., & Wang, M. (2008). Quality of provider-participant
relationships and enhancement of adolescent social skills. *Journal of Primary
Prevention, 29*, 263-278.

Zand, D., Thompson, N., Cervantes, R., Espiritu, R., Klagholz, D., LaBlanc, L., &
Taylor, A. (2009). The mentor-youth alliance: The role of mentoring relationships
in promoting youth competence. *Journal of Adolescence, 32*, 1-17.

APPENDIX L: Discriminant Validity of Global and Engagement Mentoring Relationship Quality

The discriminant validity of global and engagement mentoring relationship quality for mentor and child reporters was tested using confirmatory factor analysis. The inter-factor correlations of global and engagement mentoring relationship quality for both reporters were found to be high [mentor scales: r=0.95, p=0.0001 (Figure L.1); child scales: r=0.83, p=0.0001 (Figure L.2)]. The factor loadings and error variances are not illustrated in the figures. Kline (2005) states that very high inter-factor correlations (r>0.85) suggest poor discriminant validity. As such, global and engagement mentoring relationship quality as reported by mentors may be tapping into the same underlying dimension of mentoring relationship quality. Future research should include an examination of the discriminant validity of the constructs.

0.95 (0.04)
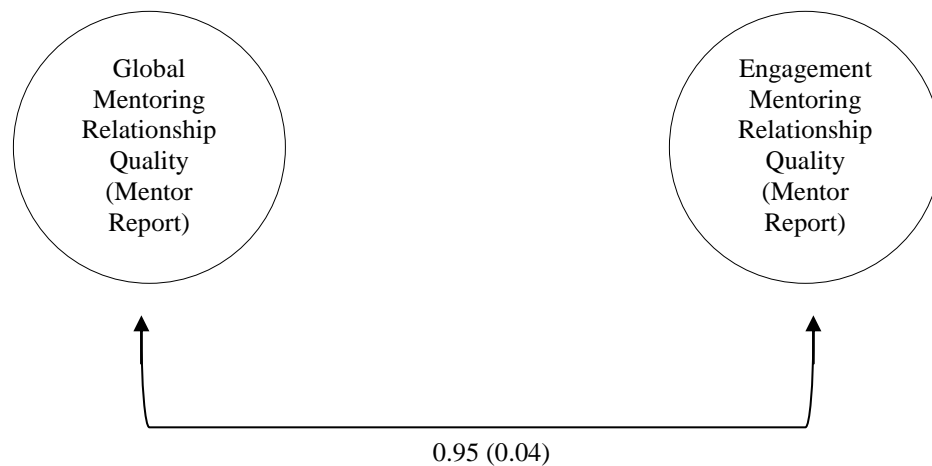
Figure L.1. Inter-factor correlation of mentor reported global and engagement mentoring relationship quality (n=249). Model fit: χ^2=294(116), p<0.001; CFI=0.95; TLI=0.94; RMSEA=0.08, 90% CI (0.06, 0.09); SRMR=0.04; Inter-factor correlation p=0.0001.
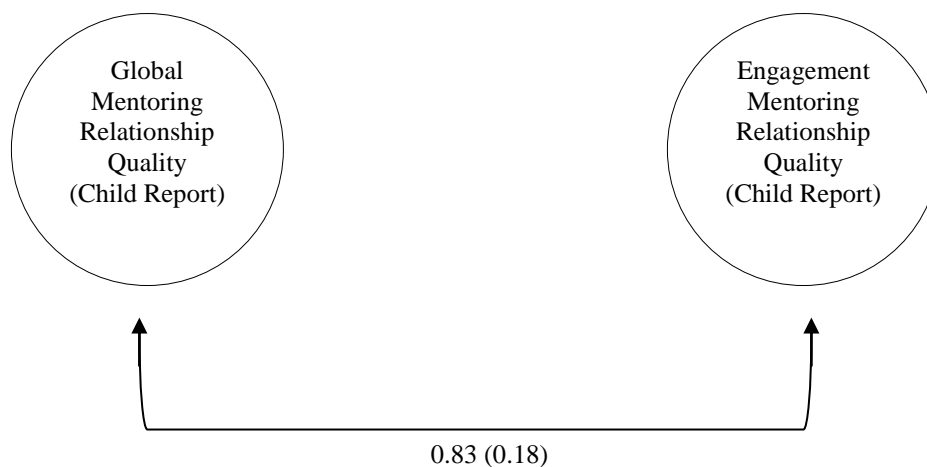
Figure L.2. Inter-factor correlation of child reported global and engagement mentoring relationship quality (n=249). Model fit: χ^2=527(289), p<0.001; CFI=0.97; TLI=0.96; RMSEA=0.06, 90% CI (0.05, 0.07); SRMR=0.01; Inter-factor correlation p=0.0001.

Reference

Kline, R. (2005). *Principles and practice of structural equation modeling*. New York, NY: The Guilford Press.

ANNALISE FERRO

EDUCATION

PhD, Population Epidemiology, Department of Epidemiology and Biostatistics
Western University
Supervisor: Dr. David J. DeWit
<u>Dissertation:</u> Measuring and understanding distal and proximal determinants of mentoring relationship quality in Big Brothers Big Sisters community-based programs
2012

BScN (Distinction), Nursing, University of Victoria
2001

HONOURS AND AWARDS

- Western Graduate Research Scholarship — 2006-12
- Social Sciences and Humanities Research Council, Doctoral Fellowship — 2008-11
- Children's Hospital of Eastern Ontario Graduate Award (declined) — 2008-10
- Social Sciences and Humanities Research Council, Master's Award — 2007-08
- Children's Hospital of Eastern Ontario Graduate Award (declined) — 2007-08
- Ontario Graduate Scholarship (declined) — 2007-08
- Ontario Graduate Scholarship — 2006-07

RESEARCH GRANT

- Graduate Thesis Research Award, Western University — 2008-09

RESEARCH AND ACADEMIC EXPERIENCE

<u>Research Associate:</u> — 2011-Present
Centre for Addiction and Mental Health
Department of Social and Epidemiological Research
Researching Health in Ontario Communities
Principal Investigator: Dr. Samantha Wells

- Conduct interviews out of mobile research lab
- Data transcription and analysis
- Database creation and management

<u>Graduate Teaching Assistant:</u> — 2009-11
Western University
Department of Epidemiology & Biostatistics

- Led computer lab sessions and formal tutorials
- Provided guidance to students on course theory and assignments
- Marked assignments and examinations

PROFESSIONAL AFFILIATIONS

- Canadian Society for Epidemiology & Biostatistics — 2008-Present

CERTIFICATION
- Interagency Advisory Research Ethics Panel, Tri-council Policy   2007
  Statement: Ethical conduct for research involving humans
  introductory tutorial

PUBLICATIONS
1. Ferro MA, Ferro AL, Boyle MH. (2012). A systematic review of self-concept in adolescents with epilepsy. *Journal of Pediatric Psychology* doi:10.1093/jpepsy/JSS076.
2. Ferro A, DeWit DJ, Wells S, Speechley KN, Lipman E. The measurement properties of the *Global Mentoring Relationship Quality Scale* and *Quality of Mentoring Relationship Engagement Scale* among mentors, children, and parents participating in Big Brothers Big Sisters of Canada programs. Manuscript under review.
3. Ferro A, DeWit DJ, Wells S, Speechley KN, Lipman E. An evaluation of the measurement properties of the *Mentor Self-efficacy Scale* among participants in Big Brothers Big Sisters of Canada community mentoring programs. Manuscript under review.
4. Ferro A, DeWit DJ, Wells S, Speechley KN, Lipman E, Shaver K. Does Mentor Self-efficacy Mediate the Relationship Between Environmental Supports and Mentoring Relationship Quality? A Study of Mentors, Children, and Parents Participating in Big Brothers Big Sisters Community Mentoring Programs. Manuscript under review.
5. DeWit DJ, Graham K, Lipman E, Bisanz J, Da Costa J, La Rose S, Pepler D, Shaver K, Coyle J, DuBois D, Manzano-Munguia M, & Ferro A. Investigation of the Longevity of Community Mentoring Relationships as a Predictor of Youth Internalizing and Externalizing Problems. Manuscript under review.
6. DeWit DJ, Lipman E, Bisanz J, Da Costa J, Graham K, La Rose S, Pepler D, Shaver K, Coyle J, DuBois D, Manzano-Munguia M, & Ferro A. Predictors of Youth Mentoring Relationship Onset: A Multilevel Hazard Regression Analysis. Manuscript under review.

ABSTRACT
1. Ferro A, DeWit DJ, Wells S, Speechley KN. The association between environmental factors and the quality of Big Brothers Big Sisters community match relationships in Canada: A thesis proposal. *Chronic Diseases in Canada*, March 2010, 30(2).

BOOK REVIEW
1. Jensen AL, Nelson S, Ferro MA, Rayner J, Muir SW. Review of: Lopez AD, Mathers CD, Ezzati M, Jamison DT, Murray CJL, editors. Global disease burden and risk factors. Review in: *Canadian Journal of Public Health*, 2008, 99(2):157.

CONFERNCE PRESENTATIONS
1. A mediation analysis testing the hypothesis that mentor self-efficacy transmits the association between environment and mentoring relationship quality in Big Brothers Big Sisters programs. London Health Research Day, London, Ontario, 2012.

2. Mentor self-efficacy as a hypothesized mediator between environment and match relationship quality in Canadian Big Brothers Big Sisters programs, Social and Epidemiological Research Day, Centre for Addiction and Mental Health, Toronto, Ontario, 2011.
3. Mentor self-efficacy as a hypothesized mediator between environment and match relationship quality in Canadian Big Brothers Big Sisters programs, North American Congress of Epidemiology, Montreal, Quebec, 2011.
4. Mentor self-efficacy as a hypothesized mediator between environment and match relationship quality in Canadian Big Brothers Big Sisters programs, Canadian Society of Epidemiology and Biostatistics Student Conference, Montreal, Quebec, 2011.
5. The association between environmental factors and the quality of Big Brothers Big Sisters community match relationships in Canada: A thesis proposal. Canadian Society for Epidemiology and Biostatistics Student Conference, Ottawa, Ontario, 2009.
6. The association between environmental factors and the quality of Big Brothers Big Sisters community match relationships in Canada: A thesis proposal. Margaret Moffat Research Day, Western University, Schulich School of Medicine and Dentistry, London, Ontario, 2009.
7. Examining the influence of environmental factors on the quality of Big Brothers Big Sisters match relationships in Canada. Margaret Moffat Research Day, Western University, Schulich School of Medicine and Dentistry, London, Ontario, 2008.
8. Understanding the influence of environmental factors on the quality of Big Brothers Big Sisters match relationships in Ontario. Western Research Forum, Western University, London, Ontario, 2008.

INVITED PRESENTATIONS
1. Measuring and understanding distal and proximal determinants of mentoring relationship quality in Big Brothers Big Sisters community-based programs, McMaster University, Offord Centre for Child Studies, Lunch and Learn Seminar Series, Hamilton, Ontario, 2012.
2. Case-control, cohort, and cross-sectional studies. Western University, Department of Epidemiology and Biostatistics, E3330b: Introduction to Medical Epidemiology, Professor: Dr. M. Speechley, London, Ontario, 2011.
3. The association between environmental factors and the quality of Big Brothers Big Sisters community match relationships in Canada. Western University, Department of Epidemiology and Biostatistics, Seminar Series, London, Ontario, 2009.
4. The application of epidemiological concepts to construct a PhD thesis proposal. Western University, Department of Epidemiology and Biostatistics, E3330b: Introduction to Medical Epidemiology, Professor: Dr. M. Speechley, London, Ontario, 2009.
5. The association between environmental influences and the quality of Big Brothers Big Sisters community match relationships in Canada: A thesis proposal. Centre for Addiction and Mental Health, London, Ontario, 2008.

RESEARCH INTERESTS

- Social Epidemiology
- Child and Youth Mentoring
- Community-based Intervention Programs

- Measurement
- Structural Equation Modeling
- Mixed Methods Research

RESEARCH QUALIFICATIONS

- Operating Systems: Windows 2000, XP, Vista
- Software: Endnote, Epi Info, Outlook, PowerPoint, Word
- Literature Databases: Cochrane, Medline, OVID
- Statistical Analysis: M-Plus, SPSS, SAS, Excel
- Methodology: observational studies, quantitative analyses, exploratory and confirmatory factor analyses, structural equation modeling

EXTRACURRICULAR SERVICE

- Sigma Theta Tau International Honor Society of Nursing, Iota Omicron Chapter, Western University, Executive Board Secretary — 2008-10
- Sigma Theta Tau International Honor Society of Nursing, Iota Omicron Chapter, Western University, Research Program Planning Committee Member — 2008-10
- Department of Epidemiology & Biostatistics, Western University, Book Club Member — 2007-10
- Department of Epidemiology & Biostatistics, Western University, Society of Graduate Studies Student Council, Departmental Representative — 2006-07