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## The Effects of Amount of Contact, Relationship Quality, and Types of Activities on Child Social and Emotional Functioning in a Youth Mentoring Program

Dorothy Maria Lipski  
*Minnesota State University, Mankato*

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The Effects of Amount of Contact, Relationship Quality, and Types of Activities on  
Child Social and Emotional Functioning in a Youth Mentoring Program

By

Dorothy M. Lipski

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of

Masters of Arts

In

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May 2011

The Effects of Amount of Contact, Relationship Quality, and Types of Activities on  
Child Social and Emotional Functioning in a Youth Mentoring Program

Dorothy M. Lipski

This thesis has been examined and approved by the following members of the thesis  
committee.

Dr. Sarah K. Sifers, Advisor

Dr. Daniel D. Houlihan

Dr. Christine Black-Hughes

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## ABSTRACT

Various factors in youth mentoring programs are associated with beneficial outcomes in youth. Extending mentoring research, this pilot study aimed to evaluate the effectiveness of the Y's Brother/Sister program. The particular factors under study included the influence of the amount of contact between mentors and mentees, the self-reported quality of the relationship, and the types of activities engaged in on mentee's mental health. Ten mentees between the ages of 8 and 17 years of age ( $M = 11.5$ ) were included in the study. Contrary to the hypothesis, the results show that more contact was associated with elevated levels of behavioral and emotional symptoms. However, an interaction between the amount of contact and relationship quality was found. The findings also indicate that discussions and, to a lesser degree, recreational/non-athletic activities predicted fewer symptoms than sports or educational/cultural activities. Implications for future research and mentoring programs are discussed.

## TABLE OF CONTENTS

	Page
ABSTRACT .....	ii
TABLE OF CONTENTS .....	iii
LIST OF TABLES .....	v
LIST OF FIGURES .....	vi
CHAPTERS	
I. INTRODUCTION .....	1
Structure of Mentoring Programs .....	1
Theoretical Framework Supporting Mentoring Programs .....	2
Amount of Contact .....	4
Relationship Quality .....	5
Types of Activities .....	8
Study Aims .....	9
II. METHODS .....	10
Program Description .....	10
Participants .....	10
Measures .....	10
Little Brother/Sister Survey .....	10
Amount of Contact .....	11
Types of Activities .....	11
Network of Relationships Inventory .....	11

	BASC-2 Behavioral and Emotional Screening System .....	13
	Reliability .....	13
	Validity .....	14
	Procedures .....	14
III.	RESULTS .....	16
IV.	DISCUSSION .....	18
	Amount of Contact .....	18
	Relationship Quality .....	19
	Type of Activities .....	19
	Limitations .....	20
	Directions for Future Research .....	22
	Implications for Formal Youth Mentoring Programs .....	24
	Conclusions .....	24
	REFERENCES .....	26
	TABLES .....	31
	FIGURES .....	34

## LIST OF TABLES

Table	Page
1. Sample Characteristics for Age, BESS t-score, and NRI Score .....	31
2. Sample Characteristics for Amount of Contact .....	32
3. Sample Characteristics for Frequency of Activities .....	33



## LIST OF FIGURES

Figure	Page
1. Graph of the relationship between amount of contact and BESS <i>T</i> -scores .....	34
2. Graph of the interaction between relationship quality and amount of contact by BESS <i>T</i> -scores .....	35
3. Graph of the relationship between types of activities and BESS <i>T</i> -scores .....	36

## **CHAPTER I**

### **INTRODUCTION**

Youth mentoring programs are gaining popularity as an intervention strategy for at-risk youth (DuBois & Neville, 1997; Rhodes, 2002). Recent estimates suggest that approximately three million youth participate in formal mentoring programs, with over 4,500 youth mentoring programs nationwide, the most prominent of these being Big Brothers Big Sisters of America (BBBS; MENTOR, 2006; Rhodes, 2002).

#### **Structure of Mentoring Programs**

Mentoring is defined as a one-to-one relationship between youth and adults who are non-professionals not related to the youth (Goldner & Mayseless, 2009). Mentoring can occur naturally, through teaching, coaching, or other unstructured relationships, or formally, through structured mentoring programs. Formal mentoring programs recruit and select mentors who are matched with mentees through a standardized process (Rhodes, Grossman, & Roffman, 2002). Such programs vary by the target population, the context, and the format of the mentoring relationship (Karcher, Kuperminc, Portwood, Sipe, & Taylor, 2006). Furthermore, programs differ significantly in how adult mentors are selected and matched with youth, the level of training and support mentors receive, and the time commitment required (Rhodes et al., 2002).

Mentoring programs are identified by their target population, which includes youth mentoring, academic mentoring, or career mentoring programs (Karcher et al., 2006). Youth mentoring programs, the subject of this study, vary by context, which is

categorized as field-based—in which interactions occur in the community—or site-based—in which interactions occur at a specific location, such as schools (Karcher et. al., 2006; Rhodes, 2002). Research suggests that 55% of youth mentoring programs are community-based (Sipe & Roder, 1999), including the program examined in this study. Youth mentoring programs are structured around specific types of mentor-mentee relationships, including one-on-one mentoring, adult-youth mentoring, cross-age peer mentoring, group mentoring, e-mentoring, and intergenerational mentoring (Kartcher et al., 2006). Although the age of the mentor may play a role in these relationships, it is outside of the scope of this study. Previous findings, however, suggest that age and marital status of mentors interact, such that married mentors between the ages of 26 and 30 have the highest likelihood of terminating the relationship (Grossman & Rhodes, 2002).

### **Theoretical Framework Supporting Mentoring Programs**

Research on youth mentoring programs has generally focused on the one-on-one adult-youth structure, which is the structure of the program evaluated in this study. Youth mentoring is based on the theoretical framework of resilience (Rhodes, 2002). Resilience refers to protective factors ameliorating the effects of risk, stress, and trauma, resulting in positive developmental outcomes in youth (Werner, 1995). Protective factors can be internal (e.g., temperament), related to the family (e.g., parental support), or related to the community (e.g., positive relationships with nonrelated adults; Rhodes, 2002; Werner, 1995). Formalized youth mentoring programs seek to match at-risk youth with a supportive non-related adult who serves as a positive role model and promote resilience in at-risk youth (Rhodes, 2002). A number of stressors can put youth at-risk

for failure, including poverty, psychological illness in parents or other caregivers, and dissolution of the family (Werner, 1995). Such factors can contribute to a lack of social support available to youth. For example, living in high-crime communities may result in parents secluding children to protect them, which could have the unintended consequence of reducing the child's ability to obtain social support from non-related adults (Jarrett, 1999; Rhodes, 2002).

Research suggests that youth mentoring is associated with positive outcomes. In their meta-analysis of 55 mentoring program evaluations, DuBois, Holloway, Valentine, and Cooper (2002) found evidence in support of the effectiveness of these programs; however, the magnitude of these effects was rather small, suggesting that specific aspects of the mentoring relationship may affect the degree to which youth benefit from mentoring. Youth mentoring program evaluations allow individual programs to be assessed on how various factors influence particular youth outcome measures (Goldner & Mayseless, 2009).

A process-oriented model has been used to explain how mentoring affects youths' development. The processes associated with mentoring that may produce changes in youth include improved social and emotional functioning, cognitive functioning, and encouraging identity development (Rhodes, 2002; Rhodes, Spencer, Keller, Lang, & Noam, 2006). There are several factors that moderate and mediate youth outcomes, including youths' previous experiences in relationships, the quality of the mentoring relationship, and the length of the relationship (Parra, DuBois, Neville, Pugh-Lilly, & Povinelli, 2002; Rhodes et al., 2006).

### **Amount of Contact**

The amount of contact between mentors and mentees may be an important factor affecting youth outcomes of mentoring relationships. Although frequent contact alone may not produce changes in youth, increases in time spent together should improve the likelihood of forming close relationships and increase the potential for learning to occur through processes such as modeling and scaffolding (Rhodes, 2002). Research suggests that increased contact in the mentoring relationship is beneficial. DuBois and Silverthorn (2005a) noted that amount of contact was associated with increased closeness and duration of the mentor-mentee relationship. Another study found that amount of contact was significantly correlated with youth report of feeling that they benefited from the mentoring relationship, which remained significant after controlling for the duration of the relationship (DuBois & Neville, 1997). Increased contact has also been associated with higher levels of supportiveness in the mentoring relationship (Herrera, Sipe, & McClam, 2000). These findings suggest that increased contact may promote positive outcomes for youth indirectly, by fostering greater closeness with the mentor, rather than having direct effects (DuBois & Silverthorn, 2005a). This conclusion was further supported by a path analysis testing a model of mentoring outcomes in which amount of contact was found to significantly affect perceived benefits through closeness of the relationship (Parra et al., 2002).

Further, there is some research suggesting that youth may benefit more from the mentoring relationship when parents also have consistent contact with the mentor, but that is beyond the scope of this study (Jekielek, Moore, Hair, & Scarupa, 2002). Socioeconomic status (SES) may also influence mentoring relationship outcomes.

Although SES is beyond the scope of this study, Grossman and Rhodes (2002) found that matches with mentors with higher incomes lasted longer. It may be that mentors with higher incomes have greater access to resources (e.g., access to transportation) that allow them to have increased contact with their mentor. Moreover, studies suggest that those youth who are most at-risk (e.g., have less social support, lowest academic achievers, attend lowest performing schools) benefit most from participating in formal mentoring programs (Johnson, 1999).

The age of the youth is another factor that may influence mentoring outcomes. Younger adolescents, between the ages of 10 and 14, may be more receptive to adult mentors than older adolescents (Rhodes, 2002). Studies have further found that mentor relationships with young adolescents (10 to 12 years old) last longer than relationships with older adolescents (13 to 16 years old; Grossman & Rhodes, 2002).

Research has not consistently indicated how much contact mentors and mentees must have for the relationship to be beneficial for youth. In their review, Rhodes and DuBois (2008) suggested that mentors and mentees have a minimum of 2 hr of face-to-face contact per week. In previous literature, however, Rhodes (2002) indicated that best practice for mentoring programs is at least 4 hr of weekly in-person contact between mentor-mentee dyads.

### **Relationship Quality**

In addition to the amount of contact between mentors and mentees, the quality of the relationship may be a significant factor affecting youth outcomes. Researchers have defined several relational features as central to the quality of the mentoring relationship. In their review, Nakkula and Harris (2005) found that closeness and support were

identifying features of the quality of mentoring relationships. Definitions of closeness have included feeling connected, having a sense of belonging, mutuality of the relationship, intimacy, and relationship satisfaction (Nakkula & Harris). In a qualitative study, authenticity, empathy, collaboration, and companionship were also identified as significant factors in close mentoring relationships (Spencer, 2006).

DuBois and Neville (1997) found that mentor-report of the closeness of the mentoring relationship was associated with greater perceived benefits for the mentees. A number of studies investigating the quality of these relationships and positive outcomes in youth have found similar results (c.f., Herrera et al., 2000; Morrow & Styles, 1995). However, relying on mentor report can be problematic in that the reports may be positively biased (Grossman, 2009). Additionally, the amount of support the mentee perceives may influence youth outcomes more than the actual amount of support the mentor provides. Therefore, evaluating youth-report of closeness may be a better predictor of positive youth outcomes (Grossman, 2009).

Research investigating the relationship between child-reported quality of the mentoring relationship and positive youth outcomes has yielded similar outcomes. Goldner and Mayaseless (2009) found that the mentees' report of the quality of the relationship was associated with increases in youth's academic and social functioning. Additionally, they found that these results remained significant across both mentor and mentee-reports of closeness. Thompson and Zand (2010) also investigated the role of youth-reported relationship quality in predicting better social functioning in outside relationships. Their study found that youth who rated the quality of their relationship with their mentors more highly were also more likely to rate outside relationships (e.g.,

with parents and peers) more highly after eight months, possibly suggesting that the quality of youth relationships with their mentors is related to improved social functioning in other areas (Thompson & Zand). A close mentoring relationship has also been found to be a significant predictor of decreases in depression and likelihood of using drugs, as well as increases in self-esteem and life satisfaction (DuBois & Silverthorn, 2005a).

Another potential factor that may influence mentoring outcomes is racial/ethnic differences; however, research on this topic has not yielded conclusive results. In their study, Herrera et al. (2000) found that mentors with cross-race matches reported no significant differences in relationship quality compared to mentors with same-race matches. Grossman and Rhodes (2002) further found that mentoring relationships with cross-race matches were marginally more likely to end than same-race matches, but these differences disappeared when the mentor and mentee shared common interests. This factor, however, is outside the scope of this study.

The affect of gender (also not included in this study) on mentoring relationship outcomes has received limited study, which may be because the largest and most researched mentoring program, BBBS, only allows same-gender matches (Grossman & Rhodes, 2002). Although there is some evidence to suggest that matches with girls may be slightly more likely to end than matches with boys, the difference was only marginally significant (Grossman & Rhodes, 2002). Further, a meta-analysis of 55 youth mentoring programs found no significant gender differences (DuBois et al., 2002). Herrera et al. (2000) found similar results, reporting that mentors did not report significant differences in the closeness or supportiveness of the relationship when comparing same-gender and cross-gender matches, indicating that gender match differences do not seem to affect



relationship quality. The ambiguous results found in research on the affect of race and gender differences in mentoring programs suggests that matching mentor pairs on the bases of shared interests may be a more important consideration in producing positive outcomes (Darling, Bogat, Cavell, Murphy, & Sanchez, 2006; Herrera et al.).

### **Types of Activities**

The types of activities that mentors and mentees spend their time engaging in also may be an important predictor of outcomes of the relationship. DuBois and Neville (1997) compared discussions/talking, sports/athletic activities, recreational/non-athletic activities, and educational/cultural activities and found that more frequent discussions across various topics and recreational/non-athletic activities, as reported by mentors, were associated with increases in perceived benefits for youth by mentors. Herrera et al. (2000) found that mentor-report of engaging in more social activities (e.g., having fun, visiting new places, hanging out) was the single strongest predictor of a close and supportive relationship. Academic activities (e.g., reading) were associated with a significantly smaller increase in closeness and support (Herrera et al.).

Limited research has considered the potential relationship between the types of activities engaged in and mentoring outcomes across genders, with mixed results (Bogat & Liang, 2005). Rhodes (2002) suggested that boys might not find mentoring relationships that rely heavily on meaningful discussion helpful, unless such interaction is directly solicited. Therefore, relationships in which boys engage in more social activities than discussions with mentors may yield outcomes that are more positive. Extending the research to include mentee's self-report on the types of activities they engage in may provide further support for the results found in previous literature.

## **Study Aims**

Literature evaluating the effects of youth mentoring indicates that amount of contact, closeness of the relationship, and specific activities (e.g., discussion, recreational activities) may be associated with positive outcomes for youth (e.g., increased social functioning, decreased drug use, perceived benefits). The purpose of this pilot study was to evaluate the effectiveness of the Y's Brother/Sister program in a small metropolitan area in the Midwest. The particular factors under study included the amount of contact between mentors and mentees, the self-reported quality of the relationship, and the types of activities engaged in. It was hypothesized that (a) more frequent contact with mentors would be associated with lower levels of behavioral and emotional symptoms, (b) relationship quality and amount of contact with mentors would interact, such that high quality relationships would moderate less frequent contact, and (c) more time spent engaging in discussions and recreational/non-athletic activities would be associated with fewer behavioral and emotional symptoms than sports/athletic or educational/cultural activities.

## CHAPTER II

### METHODS

#### Program Description

This study reported on data from a program evaluation of the Mankato Y's Brother/Sister Program, a formal community-based youth mentoring program. The program matches adult mentors (Bigs) with youth (Littles) in a formalized matching process involving background checks, psychological assessment, and interviews. The program requires a nine-month commitment for a minimum of 2 hours per week (Ojanpa, 2010).

#### Participants

The participants included in this study were 10 mentees in the Brother/Sister program. Of the participants, 60% ( $n = 6$ ) were boys and 40% ( $n = 4$ ) were girls. The participants ranged in age from 8-to 17-years ( $M = 11.50$ ,  $SD = 2.46$ ). The majority of youth (60%,  $n = 6$ ) identified themselves as Caucasian, 20% ( $n = 2$ ) identified themselves as multi-racial, 10% ( $n = 1$ ) identified themselves as Latino, and 10% ( $n = 1$ ) identified themselves as other. All participants were treated in accordance to the American Psychological Association (2010) code of ethics.

#### Measures

**Little brother/sister survey.** Research evaluating child outcomes in youth mentoring programs was reviewed and a list of factors found significant in past research was compiled. Thirteen items were generated for the youth survey based on those factors.

The items of the youth survey assessed youth demographic data as well as attitudes and opinions related to the program and the mentor. The format of survey items included seven open-ended responses, three multiple-choice ratings, and three responses asking youth to select all that apply.

***Amount of contact.*** Amount of contact was assessed using a single item directly referring to amount of contact (i.e., how many hours a week did you spend in-person, on the phone, or online with your Big?). The item was scored on a 3-point scale (1 = *less than 3*, 2 = *3-6*, and 3 = *more than 6*).

***Types of activities.*** Types of activities were assessed using eight items, which asked how often the mentor and mentee spent doing each activity in the last month (i.e., how many times a month did you do the following with your Big). Items were categorized into four types of activities: discussion (i.e., discuss your behavior, discuss your relationships, just chat, discuss social issues), sports/athletic activities (i.e., sports/athletic activities), recreational/non-athletic activities (i.e., fun, non-athletic activities), and educational/cultural activities (i.e., educational/cultural activities). Items were rated on a 4-point scale (1 = *0*, 2 = *1-3*, 3 = *3-6*, and 4 = *more than 6*). The four items comprising the discussion category were averaged to maintain a 4-point scale on all activity items.

***Network of Relationships Inventory.*** The Network of Relationships Inventory (NRI; Furman & Buhrmester, 1985) is a 33-item rating scale assessing children's perceptions of their personal relationships (Furman & Buhrmester, 1985). The anchors for most items are based on a 5-point scale (1 = *little or none* and 5 = *the most*), except for the anchors on the relative power subscale (1 = *Little almost always* and 5 = *Big*

*almost always*) and anchors on the satisfaction subscale (1 = *little or not happy* and 5 = *the most*). Ratings for the 33-items yield 11 subscale scores with 3-items each (i.e., companionship, conflict, instrumental aid, satisfaction, intimacy, nurturance, affection, punishment, admiration, relative power, and reliable alliance) as well as a total score, where higher scores indicate greater levels of reliance on the relationship in question (Furman & Buhrmester, 2009). The questions on the NRI are flexible and can be changed to refer to the specific person or relationship being assessed (Furman & Buhrmester, 1985). In this study, the items of the NRI referred specifically to the mentoring relationship.

Several studies have used the NRI to assess the quality of the mentoring relationship (Cavell, Elledge, Malcom, Faith, & Hughes, 2009; Goldner & Mayseless, 2009). Consistent with previous research, the eight subscale scores assessing positive relational qualities (i.e., companionship, instrumental aid, intimacy, nurturance, affection, admiration, satisfaction, and reliable alliance) were combined to assess the quality of the mentoring relationship. As in previous mentoring research that used the NRI (Cavell et al., 2009; Goldner & Maseless, 2009), the three subscales assessing negative relational qualities (i.e., relative power, conflict, and punishment) were not included in the analysis because the goal of this study was to assess positive relationship qualities. A higher score on this measure indicates increased closeness and supportiveness in the relationship being assessed; therefore, the inclusion of the negative subscales would not be consistent with a total score that indicates high relationship quality.

Furman and Buhrmester (1985) found that the NRI demonstrated acceptable internal reliability, with an average subscale alpha of .80. In this study, all eight

subscales included in the analysis had good internal reliability: reliable alliance ( $\alpha = .99$ ), admiration ( $\alpha = .95$ ), instrumental aid ( $\alpha = .95$ ), companionship ( $\alpha = .80$ ), affection ( $\alpha = .86$ ), intimacy ( $\alpha = .92$ ), satisfaction ( $\alpha = .98$ ), and nurturance ( $\alpha = .73$ ). The subscales have acceptable 1-month test-retest reliability ( $r = .66$  to  $r = .70$ ; Fine, 2001). Concurrent validity has been assessed by comparing scores between pairs of adolescent friends ( $r = .34$  to  $r = .63$ ; Furman, 1996).

**BASC-2 Behavioral and Emotional Screening System.** The BASC-2 Behavioral and Emotional Screening System (BESS; Kamphaus & Reynolds, 2007) is used to assess behavioral, emotional, and academic problems, as well as adaptive functioning. The 30-item BESS Student Form, a youth self-report questionnaire, was used. The anchors are based on a 4-point scale (1 = *never* and 4 = *almost always*). Ratings are summed to produce a total score, which is converted into a standardized *T*-score. The BESS Student Form was normed on a nationally representative sample of 3,330 youth. Combined gender norms are available for youth ages 8- to 18-years. Gender and age (i.e., 8 to 10 years old, 10 to 14 years old, and 15 to 18 years old) specific norms are also available. Co-ed, age-specific norms were used in this study. Using these norms, a *T*-score of 60 or lower indicates normal risk for behavioral and emotional problems, a *T*-score of 61 to 70 indicates elevated risk, and a *T*-score of 71 and higher indicates extremely elevated risk (Kamphaus & Reynolds, 2007).

**Reliability.** The BESS Student Form has demonstrated high internal consistency ( $SEM = 2.87$ ). Split-half reliability of the student form for combined and gender-based *t*-scores all exceed .90 (Kamphaus & Reynolds, 2007). Average test-retest reliability for

time intervals ranging from 0 to 88 days was acceptable ( $r = .85$ ; Kamphaus & Reynolds, 2007).

**Validity.** The items of the BESS were derived from those items of the BASC-2 (Reynolds & Kamphaus, 2004) that were the best predictors of the internalizing and externalizing composite scores, which provides evidence for content validity (Kamphaus & Reynolds, 2007). The BESS has been validated against several measures, demonstrating good concurrent validity. The BESS Student Form was compared to the BASC-2 Self Report of Personality (Reynolds & Kamphaus, 2004), with correlations ranging from  $r = -.79$  to  $r = .86$  ( $M = 50.6$ ,  $SD = 10.2$ ). The measure has also been compared to the Achenbach System of Empirically Based Assessment Youth Self-Report Form ( $r = .81$ ; Achenbach & Rescorla, 2000), the Conners-Wells' Adolescent Self-Report Scale, ( $r = .47$  and  $r = .65$ ; Conners, 1997), the Children's Depression Inventory ( $r = .48$ ; Kovacs, 2001), and the Revised Children's Manifest Anxiety Scale ( $r = .53$ ; Reynolds & Richmond, 2000).

## **Procedures**

Data collection began in October 2009 after institutional review board approval and was received in March 2011. Parental consent and child assent to participate in the study was obtained for all participants through written forms prior to the completion of the measures. Data was collected in-person at a Brother/Sister Program sponsored event, by mail (for individuals who did not attend the in-person event or did not have email addresses on file with the Y), and via SurveyMonkey® online survey software. At Time 1, five participants out of the 83 who were contacted completed surveys in-person. Participants were followed-up with twice in order to obtain data from those mentees who

did not complete the survey, as well as mentees new to the program. Two participants responded online of 78 at the first follow-up. At the second follow-up, two participants responded online and one participant responded via mail of the 84 contacted. The overall response rate was 10 out of 119 (8.40%).



## CHAPTER III

### RESULTS

Not all participants completed all items. As can be seen in Table 1, NRI relationship quality scores were obtained for nine participants ( $M = 57.44$ ,  $SD = 24.38$ ). The scores ranged from 22 to 98, with a lowest possible score of 0 and a highest possible score of 120. Six participants completed the BESS ( $M = 48$ ,  $SD = 7.10$ ). The  $T$ -scores ranged from 39 to 57, indicating that all participants in this sample were at a normal risk level for behavioral and emotional symptoms.

It was hypothesized, first, that more contact with mentors would be associated with lower levels of behavioral and emotional symptoms. Amount of contact scores were obtained from nine participants. The distribution of scores for amount of contact is presented in Table 2. This hypothesis was not supported, largely due to lack of variability in amount of contact, as can be seen from Figure 1.

Second, it was hypothesized that relationship quality and amount of contact with mentors would interact, such that high quality relationships would moderate less frequent contact. Relationship quality was dichotomized by the mean NRI relationship quality score (57.44), comprised by summing the eight positive subscale scores, to create a high quality and low quality category. Amount of contact was not dichotomized, as the range of scores was limited to two categories. Support for this hypothesis was found, as can be seen in Figure 2. Relationship quality moderated amount of contact in predicting behavioral and emotional symptoms.

Finally, the hypothesis that more time spent engaging in discussions and recreational/non-athletic activities would be associated with fewer behavioral and emotional symptoms than athletic or educational/cultural activities was supported. The distribution of scores for frequency of activities is given in Table 3. As can be seen in Figure 3, engaging in more frequent discussions was associated with the lowest behavioral and emotional symptoms, followed by recreational activities. Conversely, engaging in more frequent educational/cultural activities was associated with the highest level of problems. More frequent sports/athletic activities were also associated with slightly higher levels of symptoms.

## **CHAPTER IV**

### **DISCUSSION**

This study examined the effects of mentoring on youth's social and emotional functioning. Support for two of the three hypotheses emerged from the current study. First, the findings supported the conclusion that relationship quality moderated amount of contact in mentoring relationships. The results also supported the conclusion that discussions and recreational activities predicted fewer behavioral and emotional symptoms. However, the findings from this study suggest that more contact with mentors was associated with worse outcomes on measures of behavioral and emotional symptoms, the opposite of the hypothesis.

#### **Amount of Contact**

The finding that more contact increased risk of emotional and behavioral problems is inconsistent with past literature, which suggests that more contact is associated with increased closeness and perceived benefit of the mentoring relationship (DuBois & Silverthorn, 2005a; DuBois & Neville, 1997). Several factors could have contributed to this surprising finding. The small sample and lack of variability could largely explain these unexpected results. It is important to note that a single data point caused the results to be positively skewed. As all but one participant indicated that they had three or fewer hours of contact with their mentors per week, it is likely that the results would not remain with a more diverse sample, including more participants and assessing smaller ranges of hours spent with mentors. Additionally, there was very little

variability in behavioral and emotional problems ( $T: 39-57$ ), making it difficult to find a significant relationship between the two variables.

Another interpretation of these results is that there may be outside factors affecting the results found in this study. It may be that the amount of mentoring a youth receives is driven by the child's need of additional support. Therefore, elevated levels of behavioral and emotional problems may be the precipitant, rather than the result, of increased contact with the mentor. Longitudinal research would be needed to support this conclusion. Moreover, previous research suggests that amount of contact may not directly affect youth outcomes (DuBois & Silverthorn, 2005a; Parra et al., 2002), but rather indirectly through increased closeness. Therefore, the results found in this study may be consistent with the conclusion that the relationship between amount of contact on youth outcomes may be mediated by other factors such as quality of the mentoring relationship.

### **Relationship Quality**

The finding that increased closeness in the mentoring relationship moderated amount of contact was consistent with the hypothesis and past research. These results support previous findings that suggest that the quality of the mentoring relationship has greater direct effects on youth outcomes than amount of contact (DuBois & Silverthorn, 2005a; Herrera et al., 2000; Parra et al., 2002).

### **Type of Activities**

In this study, sports/athletic activities and educational/cultural activities were associated with greater behavioral and emotional problems than discussions and recreational/non-athletic activities, consistent with the hypothesis. This supports

previous findings, which suggest that discussions and recreational activities predict greater benefits and closeness in the mentoring relationship (DuBois & Neville, 1997; Herrera et al., 2000). The results revealed that educational/cultural activities, rather than sports/athletics, predicted the highest level of behavioral and emotional symptoms. This finding contradicts previous research that has found that educational activities predicted a small increase in closeness and supportiveness (Herrera et al., 2000). However, the positive relationship between symptom levels and sports/athletic activities resulted from one data point; therefore, further research would be necessary to determine whether these results would be replicated. Furthermore, conclusions from these results also are limited by the lack of variability in behavioral and emotional symptoms and the cross-sectional nature of this study.

### **Limitations**

There are several significant limitations of this study that should be addressed. Most notably, the small sample size due to a low response rate limited the analyses of the data to descriptive analyses; therefore, the results found in this study should be interpreted with caution and the generalizability of the results is quite limited. Furthermore, not all participants completed the full survey battery, which may constitute a threat to the internal validity of this study. For instance, only six participants completed the BESS; therefore, the results are based on the responses of 6 out of 10 participants included in the study.

Several factors could have contributed to the low response rate, including the population, the length of the questionnaires and the data collection methodology. As this program was for at-risk youth, there is a high probability that the families included in this

study were stressed, which likely contributed to the low response rate. The survey battery was comprised of 85-items. Previous mentoring research utilizing child-report surveys found similar problems with low response rates (DeWit et al., 2007). In their study, De Wit et al. (2007) found that 55% of children reported that the surveys included in the study were too long. Although the battery in the aforementioned study was approximately twice as long as that used in this study, the length of the questionnaires may have contributed to the low response rates seen in this study. Methodological issues may have also had an impact on response rates. The highest response rate was obtained for data collected in-person, as opposed to via mail or online, which suggests that collecting all data in-person may have yielded a better response, but was not feasible in this study due to requests from the mentoring program.

Another significant limitation of this study is the limited variability that was observed in behavioral and emotional symptoms. As this study utilized a community sample, it is not surprising to find that this population appears to be relatively well adjusted. The small sample size likely contributed to the limited variability, as well. This finding, however, does limit the generalizability of the results found in this study. The limited range of BESS scores observed in this population ( $T: 39-57$ ) was just over 1  $SD$  (Kamphaus & Reynolds, 2007). Furthermore, given that all the scores fell within the range of normal risk for behavioral and emotional problems, the variability in BESS scores does not constitute a clinically significant difference. While the findings seen in this study are interesting and suggest directions for future research, the implications of this study are limited in that the variability in symptom levels was not clinically significant.

The sole reliance on child-report data is another limitation of this study. The advantages of using child-report are that youth's perceptions of the mentoring relationship may be a more accurate predictor of various outcome measures (e.g., social and emotional functioning; Nakkula & Harris, 2005). In addition, much of the research evaluating mentoring programs has utilized mentor-report data (c.f., DuBois & Neville, 1997; Herrera et al., 2000); therefore, evaluating mentoring programs using child-report data may yield different information and contribute important findings to mentoring literature. However, youth's feelings about their mentor may bias their reporting on such measures as the amount of time spent with their mentor (Nakkula & Harris, 2005). Additionally, youth may not be reliable sources of such information, especially those younger than 9 years old (Grossman, 2009). Therefore, future research comparing youth, mentor, and parent-report data would be helpful in determining the potential for inaccurate reporting.

### **Directions for Future Research**

This study provides many implications and directions for future research. The lack of variability in amount of contact found in this study suggests that future researchers should break down amount of contact further, into smaller increments of time than were used in this study (e.g., 0-1 hour, 2-3 hours, 4-5 hours rather than less than 3 hours, 3-6 hours, and more than 6 hours). Additionally, longitudinal research would be needed to further investigate the relationship between amount of contact and behavioral and emotional symptoms to determine whether the results found in this study would remain stable over time. Longitudinal data would be useful to further investigate the

notion that youth who are experiencing more stress may seek out support through more frequent contact with their mentors.

Additionally, information on many potentially important variables, including historical data (e.g., length of time in the program, length of the relationship with the current mentor, number of mentors) and family demographic information (e.g., SES, education level, parental involvement), were not included in this study. Future research should be conducted on the potential impact of these variables as moderators of outcome measures to better understand their influence on the processes by which mentoring leads to improved outcomes for youth.

Other directions for future research include more rigorous experimental designs, such as inclusion of a control group. For example, future research could include data from mentees who have not yet been matched with a mentor as a comparison control group in order to demonstrate more rigorous experimental control (DuBois & Silverthorn, 2005b). Furthermore, few studies have included long-term follow-up data, which would be helpful in determining the durability of changes gained during the intervention (DuBois & Silverthorn, 2005b).

Among the purposes of this pilot study was to assess the feasibility of the methodology. Several important conclusions can be drawn from the limitations of this study. The response rates obtained through various methods of data collection in this study clearly highlight the superiority of in-person data collection. There are many advantages for community-based mentoring programs to collaborate with researchers on program evaluations, including greater adherence to rigorous methodology (DuBois & Silverthorn, 2005b). However, this study also exemplified the potential problems



associated with collaborative efforts, including several changes in data collection methodology due to unforeseen practical limitations. The problems encountered in the implementation of this study highlight the importance for both researchers and mentoring programs to consider the practicalities of data collection at the outset of a program evaluation in order to ensure that the research yield useful results.

### **Implications for Formal Youth Mentoring Programs**

Due to the descriptive nature of this pilot study, as well as the lack of clinically significant variability in symptom levels, the practical implications of this study are somewhat limited. These results suggest that in their training of mentors, programs should consider stressing the importance of, not only regular and frequent contact with mentees, but also of developing high quality relationships characterized by closeness and supportiveness. Although it is impossible to artificially create close relationships among mentor-mentee dyads, there may be methods that increase their likelihood. Among these could be careful matching of mentors with mentees, taking into account age, gender, and other demographic variables, as well as similar interests and goals for the relationship. For example, if a mentee expresses interest in certain activities, such as sports or cultural activities, rather than wanting someone to talk to, it may be advantageous to pair him/her with a mentor with similar preferences.

### **Conclusions**

This study attempted to investigate the effects of a formal youth mentoring program on the emotional and social functioning of youth. As mentoring programs grow in popularity as an intervention for at-risk youth (Rhodes, 2002), further research is needed to better understand the complex relationships between mentors and mentees. In

particular, more complex, longitudinal research designs must be utilized in order to ensure greater generalizability of results. This study suggests that further theory-driven research is needed in mentoring literature. The results found in this study suggest that amount of contact, relationship quality, and types of activities may be interdependent influences affecting youth outcomes, as suggested by the interaction of amount of contact and relationship quality. The findings also indicate that discussions and, to a lesser degree, recreational/non-athletic activities predicted fewer symptoms than sports or educational/cultural activities. Although this study failed to provide support for the hypotheses that more frequent contact would promote fewer behavioral and emotional symptoms, the results indicate areas of focus for future research.

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## TABLES

Table 1

*Sample Characteristics for Age, BESS T-Score, and NRI Score*

	<i>M</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>
Age <sup>a</sup>	11.50	2.46	8	17
BESS <i>t</i> -score <sup>b, c</sup>	48.00	7.10	39	57
NRI Relationship Quality Score <sup>d, e</sup>	57.44	24.38	22	98

<sup>a</sup>*N* = 10. <sup>b</sup>*n* = 6. <sup>c</sup>Based on co-ed normative sample. <sup>d</sup>*n* = 9. <sup>e</sup>Network of Relationships

Inventory (NRI) relationship quality score using sum of eight positive subscales.



Table 2

*Sample Characteristics for Amount of Contact*

	> 3	3-6	6+
Amount of Contact <sup>a</sup>	7	2	0

*Note.*  $n = 9$ .

<sup>a</sup>Hours per week.

Table 3

*Sample Characteristics for Frequency of Activities*

<i>Frequency of Activities<sup>a</sup></i>	<i>0</i>	<i>1-3</i>	<i>3-6</i>	<i>6+</i>
Discussion	2	7	0	0
Sports/Athletic	2	5	2	0
Recreational/Non-Athletic	1	5	3	0
Educational/Cultural	4	3	0	1

*Note.*  $n = 9$ .

<sup>a</sup>Hours per month.

## FIGURES

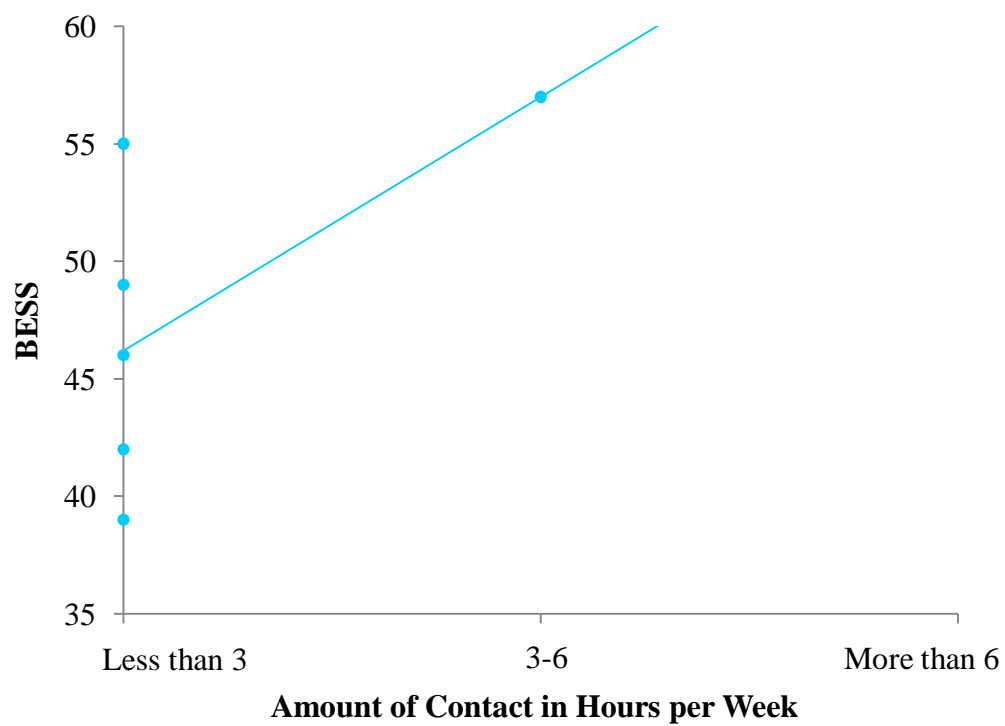
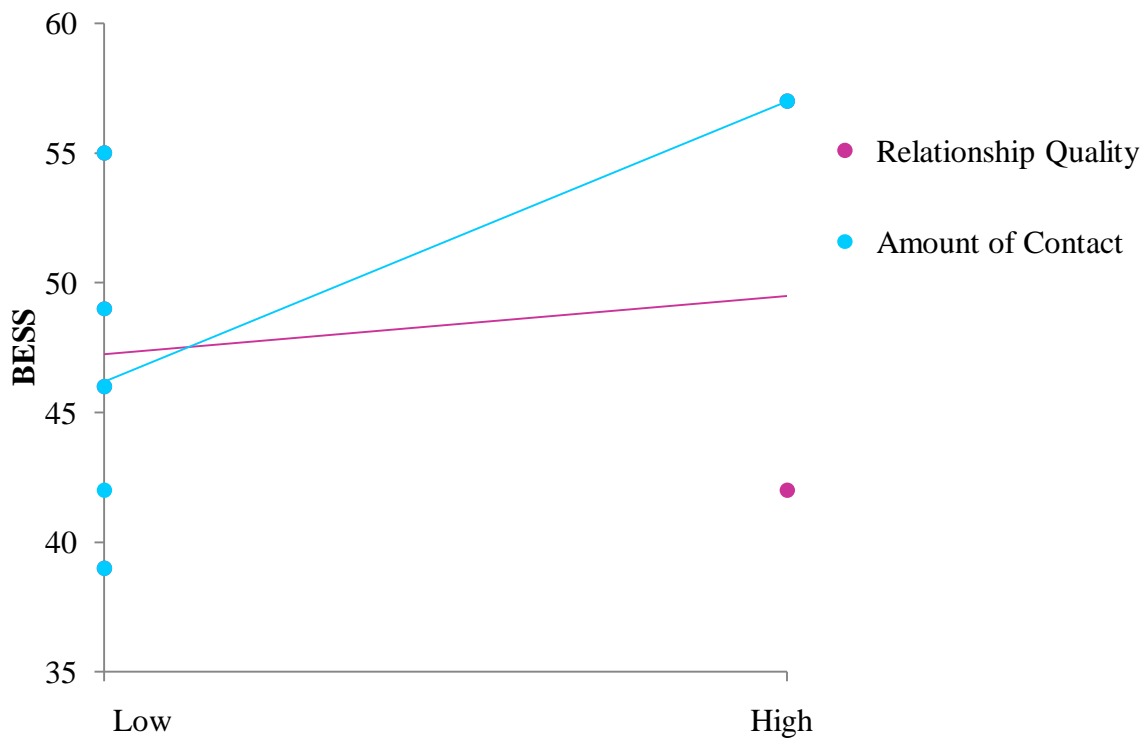


Figure 1. Graph of the relationship between amount of contact and BESS T-scores.



*Figure 2.* Graph of the interaction between relationship quality and amount of contact by BESS *T*-scores.

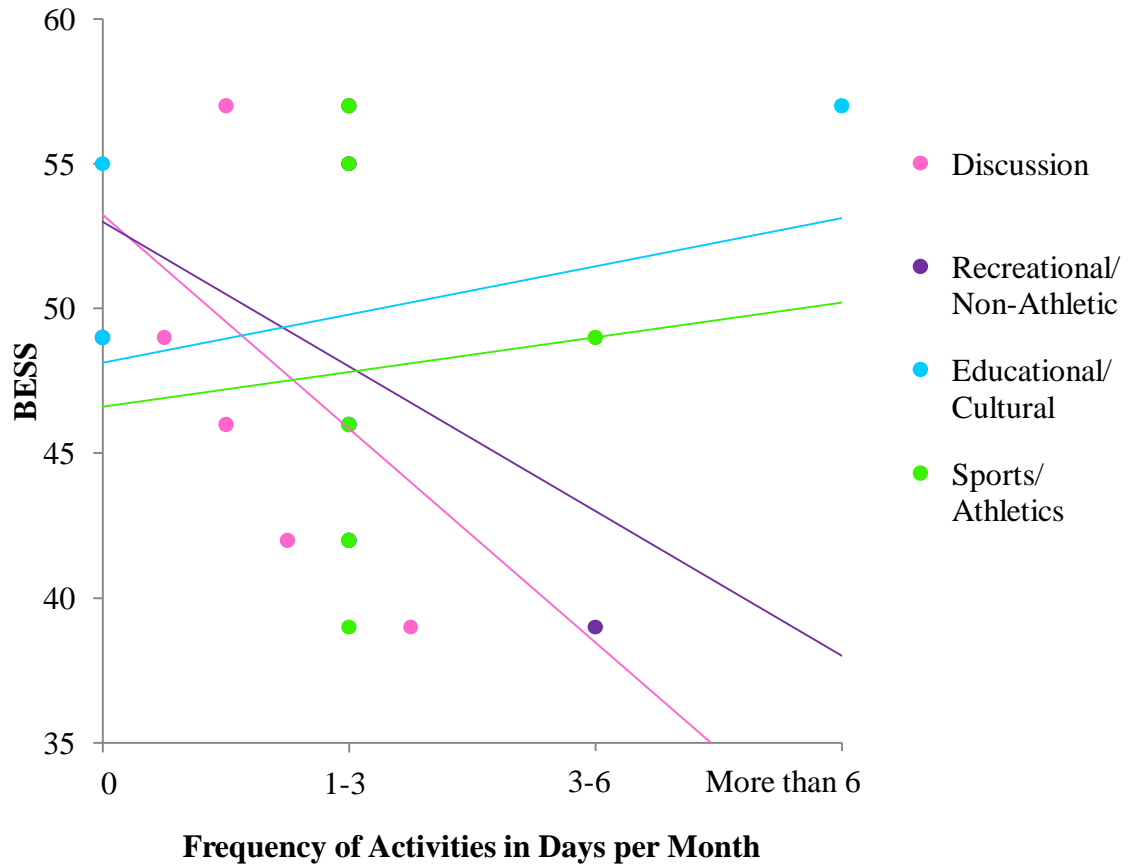


Figure 3. Graph of the relationship between types of activities and BESS T-scores.