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THE INFLUENCE OF MENTOR-YOUTH ACTIVITY PROFILES ON SCHOOL-BASED YOUTH MENTORING RELATIONSHIP PROCESSES AND OUTCOMES

A Dissertation Presented

by

STELLA S. KANCHEWA

Submitted to the Office of Graduate Studies,
University of Massachusetts Boston,
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2016

Clinical Psychology Program

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STELLA S. KANCHEWA

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ABSTRACT

THE INFLUENCE OF MENTOR-YOUTH ACTIVITY PROFILES ON SCHOOL-BASED YOUTH MENTORING RELATIONSHIP PROCESSES AND OUTCOMES

May 2016

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Although quality formal mentoring relationships are associated with beneficial effects on youth's academic and social-emotional development, these effects have been relatively modest. As such, research has focused on factors that may contribute to relationship quality. Within this context, relatively little is known about the effects of activities that matches engage in on relationship processes and youth outcomes. The purpose of the current study was to investigate associations between mentor-youth activities, and processes and outcomes of school-based mentoring. First, a person-centered approach using latent profile analysis (LPA) was employed to examine whether match activity (i.e., how matches spend their time together) could classify youth into distinct profiles. Second, descriptive analyses examined the characteristics of groups that emerged. Lastly, variable-centered regression analyses were used to examine whether

activity profiles predict youth outcomes and relationship processes (i.e., quality, duration and intensity). Participants included in the study (N=1,110) were from a larger quantitative dataset collected from a national, randomized study of youth in Big Brothers Big Sisters School-Based Mentoring Programs. Results of LPA indicated that a three-profile model was the best fit to the data. These three profiles were labeled *instructional*, *playful*, and *conversational*, and varied on the extent to which they engaged in a range of activities and conversations. Descriptive analyses indicated that there were some differences in gender, age, baseline stress, mentor goals, and program structure across the three groups. Further, when compared to youth who did not participate in mentoring, youth in the *playful* group demonstrated both academic and social-emotional benefits, while youth in the *instructional* group demonstrated largely academic benefits, and youth in the *conversational* group showed only one benefit. There were marginal differences in youth's emotional engagement with their mentor, with youth in the *playful* group reporting greater emotional engagement relative to youth in the other two profiles. Implications for research and practice are discussed.

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List of Abbreviations

1. TEAM - Theoretically Evolving Activities in Mentoring
2. LPA –Latent Profile Analysis
3. BBBSA - Big Brothers Big Sisters of America
4. ANOVA - analysis of variance
5. OLS - ordinary least square regression
6. 2SLS- two-stage least square regression
7. BIC -Bayesian Information Criterion
8. SSA-BIC - sample-adjusted Bayesian Information Criterion
9. LMRT - Lo-Mendell-Rubin test
10. BLRT - bootstrapped likelihood ratio test

CHAPTER 1

INTRODUCTION

Adolescents face a wide array of developmental tasks including changes related to biological, cognitive, identity, and socio-emotional adjustment. While youth exhibit individual strengths and resiliency in negotiation of these tasks, some youth encounter risks including academic failure and underachievement, delinquency, and poor relationships. Policymakers and youth providers alike have considered methods for promoting positive youth development (Benson & Scales, 2009), particularly for historically neglected and underserved populations. In this respect, findings from longitudinal studies of development suggest that in addition to individual strengths, extra-familial relationships also play an influential role in fostering positive adjustment, particularly for at-risk adolescents (Werner, 1992). These findings are consistent with research on positive youth development, which has outlined a bidirectional relationship between individual strengths and ecological resources that can be aligned to optimize healthy outcomes and youth contributions to the community context (Benson & Scales, 2009; Lerner, Jelicic, Smith & Alberts, 2006).

Mentoring relationships between youth and older, non-parental figures can be an important source of support. While natural mentoring relationships, or relationships that form organically between youth and an older individuals within their existing social networks have existed throughout history, over the last two decades, formal youth mentoring programs, in which youth are matched with volunteers, have garnered widespread recognition evidenced by the nearly three million youth engaged within these programs (Mentor/National Mentoring Partnership, 2010). Youth mentoring is thought to promote positive developmental trajectories by facilitating youth's access to caring non-parental adults who support growth across a broad array of developmental domains. This assertion is evidenced by a growing body of empirical research (e.g., Bernstein, Rappaport, Olsho, Hunt & Levin, 2009; DuBois, Holloway, Valentine & Cooper, 2002; DuBois, Portillo, Rhodes, Silverthorn & Valentine, 2011; Grossman & Tierney, 1998; Herrera, Grossman, Kauh, Feldman & McMaken, 2007; Karcher, 2008; Wheeler, Keller & DuBois, 2010), which support the efficacy of youth mentoring as a preventative intervention. The most widely cited random assignment, multi-site impact evaluations of both community-based (Grossman & Tierney, 1998) and school-based (Herrera et al. 2007; Herrera, Grossman, Kauh & McMaken, 2011) mentoring found that, relative to waitlist control groups, mentored youth demonstrated improvements across several areas of functioning. Both evaluations found positive program effects in relation to youth's parental and peer relationships. Additionally, Grossman and Tierney (1998) found relative benefits in behavioral misconduct and drug/alcohol use, and Herrera et al. (2007) found positive effects for outcomes related to perceived academic efficacy and academic achievement.

Background and Significance

Despite increased expansion of mentoring programs, meta-analyses focusing on overall effectiveness across studies suggest that, while youth mentoring has been associated with a range of beneficial outcomes (DuBois et al., 2002; DuBois et al., 2011; Wheeler et al., 2010), the magnitude of these effects, which range from .14 to .24, is relatively small (Cohen, 1988). It is thus important to consider factors that may account for variations in program effectiveness and thus maximize the benefits that youth derive from mentoring. Along these lines, researchers have found stronger effects for youth who are in more enduring (Grossman & Rhodes, 2002; Grossman, Chan, Schwartz & Rhodes, 2012) and higher quality (Rhodes, Reddy, Roffman & Grossman, 2005; Zand et al., 2009) relationships. Thus, research has focused on factors that may promote match strength and longevity in mentoring relationships. Among these, theoretical models (e.g., Rhodes, 2005) underscore the development of a quality relationship, particularly a strong connection characterized by trust, empathy and mutuality, as a necessary condition from which positive developmental benefits can emerge.

1.2. Quality of Mentoring Relationships

Despite its importance, there remains substantial unevenness in the quality of relationships forged through mentoring programs (Deutsch & Spencer, 2009). Since mentoring outcomes are largely contingent on the quality of the bond forged between the mentor and mentee, this variation may undermine mentoring effectiveness.

Relationship quality has typically been measured in terms of the balance of positive attributes (Zand et al., 2009), negative attributes (Rhodes, Reddy, Roffman &

Grossman, 2005), and/or the significance and perceived closeness of the relationship within youths' lives (DuBois, Neville, Parra & Pugh-Lilly, 2002). Numerous studies have shown that high quality mentor-youth relationships characterized by feelings of closeness, support and emotional connection are associated with better youth outcomes including increases in scholastic competence and achievement, social relationships and bonding, global self-worth, and life skills, as well as decreases in emotional and behavioral difficulties (DuBois et al., 2002; DuBois & Neville, 1997; DuBois, Neville, Parra & Pugh-Lilly, 2002; Goldner & Mayseless, 2009; Herrera et al., 2000; Langhout, Rhodes & Osborne, 2004; Parra, DuBois, Neville & Pugh-Lilly, & Pavinelli, 2002; Rhodes et al., 2005; Thomson & Zand, 2010; Zand et al., 2009). Other studies suggest that relationship closeness, as rated by youth, is a precondition for positive academic outcomes (Bayer, Grossman, & DuBois, 2015). Qualitative studies have also underscored the importance of the relationships forged between mentors and youth, particularly noting distinct relational themes unfolding across enduring, successful matches including empathy, authenticity, collaboration and companionship (Spencer, 2006). Furthermore, relationship quality has also been studied in the context of other key relationship dimensions, namely match longevity, and intensity or how frequently matches meet (Herrera et al., 2000; Rhodes et al., 2005), with the quality of the relationship serving as a partial mediating mechanism (Parra et al., 2002; Rhodes et al., 2005).

This wide variation in the quality of mentor-youth relationships may be due to a lack of consensus about what the functional role of mentors is within mentor-youth relationships. In light of its relationship-based, growth-promoting emphasis, it is not surprising that parallels between youth mentoring and other social roles (e.g., therapist,

tutor/teacher, friend) abound (Goldner & Mayseless, 2008; Keller & Pryce, 2010; Spencer, 2004). For instance, given the focus on relationship building, some mentors may conceptualize their role as that of a quasi-therapist. Alternatively, given the emphasis on academic outcomes, particularly within school-based programs, other mentors may consider their role as that of an instructor or tutor. Yet, despite similarities with these roles, mentoring relationships are inherently different from other social relationships. Indeed, researchers underscore the limitations of making such parallels, particularly because they may inadvertently foster unrealistic expectations and subsequently negatively impact the type and quality of relationship formed (Goldner & Mayseless, 2008; Keller & Pryce, 2010; Spencer, 2004). Madia and Lutz (2004) found that the discrepancy between mentors' expectations regarding anticipated roles relative to actual experiences within the mentoring relationship predicted mentors' intention to continue with the match. Similarly, Spencer (2007) highlighted mentors' unmet and developmentally inappropriate expectations of youth as a significant theme among unsuccessful matches.

Instead, others have suggested the need for flexibility in the mentoring role. Goldner & Mayseless (2008) note, that mentoring should be "characterized by the flexibility to move among the various roles without embodying any" (pg. 413), suggesting that the strength of mentoring as an intervention relates the mentors' ability to recruit interactional styles from a range of interpersonal relationships in order to support youth's varying needs. Keller and Pryce (2010) propose that high quality mentoring relationships are a "hybrid" of roles, encompassing elements of both horizontal relationships (e.g., friendships) and vertical relationships (e.g., parent-child) distinguished

by power and permanence, or the mutual/voluntary nature of the role, and power differential within the relationship.

Unfortunately, there remains a lack of clear guidance regarding the optimal functional role of mentors in their relationships with youth. This ambiguity may relate, in part, to a longstanding debate within the mentoring field regarding mentors' interactional approach to mentoring, or engagement strategies for interactions with youth. In a seminal qualitative study, Morrow and Styles (1995) identified two distinct approaches that mentors took within mentor-youth relationships, which related to differential relationship quality and match trajectories. Mentors who took a more "developmental" approach focused primarily on establishing consistent, mutually enjoyable connections that were collaborative and youth-centered, and served as foundation for subsequent youth receptivity to goal-setting and support-seeking. In contrast, from match onset, mentors who took a more "prescriptive" approach focused on mentor-directed goals and expectations, primarily those related to addressing youths' challenges. Further, relative to prescriptive matches, developmental matches met more regularly, were longer in duration, and reported greater feelings of closeness and satisfaction with the relationship. A similar distinction has been made between developmental and instrumental styles. While both types of approaches are collaborative and youth-centered, they differ in the initial focus of the match. Developmental relationships emphasize initial relationship building, whereas instrumental relationships initially focus on mutually determined goals or skill development (Karcher & Hansen, 2014; Karcher, Kuperminc, Portwood, Sipe & Taylor, 2006; Karcher & Nakkula, 2010).

The distinction between developmental, prescriptive, and instrumental approaches relates to a broader question about the purpose of mentoring, specifically considerations of whether the formation of a quality relationship is an end unto itself, with the presumption that this will lead to a broad range of positive outcomes (e.g., a more adaptive approach to subsequent relationships), or the means to the development of specific, prescribed goals (e.g., better grades). Historically, the inception of formal youth mentoring programs largely relied on the premise that relationships forged with non-parental adults could mitigate the impact of challenges encountered by youth who are at-risk of negative outcomes (Freedman, 1993; Rhodes, 2002). Within this context, the relationship, particularly one that was enduring and high in emotional connection, was thought to serve as the conduit for subsequent positive youth developmental outcomes (Deutsch & Spencer, 2009; Spencer, 2012; Thomson & Zand, 2010). Others, however, have challenged this premise, and propose that mentoring is a context within which youth may engage in activities and experiences with an explicit, intended goal or benefit without an emphasis on the strength of the mentor-mentee relationship (Cavell & Elledge, 2014). For instance, youth mentoring has been structured around specific skill acquisition outcomes such as intentional self-regulation (Mueller, Phelps, Bowers, Agans, Urban & Lerner, 2011), physical health management (Black et al. 2010), and leadership skills (Kuperminc, Thomason, DiMeo, & Broomfield-Massey (2011). Some have argued that prioritizing relationship development may not be appropriate in some contexts and for some age groups. For example, research suggests that mentoring relationships that form within the context of workplaces, in which youth and mentors collaborate on goal-oriented tasks (e.g., work-related activities) are effective, particularly

for older youth (Hamilton & Hamilton, 2005). In a randomized-control study, Mcquillin, Terry, Strait, & Smith (2013) found differential academic effects for a more instrumental versus developmental school-based model. Specifically, the study demonstrated that students who participated in a school-based program that emphasized relational aspects as the intervention had lower reading grades when compared to the control group. In contrast, students in an instrumental version of the program that focused on targeted academic outcomes and skill building (e.g., study skills, goal-setting) had higher math grades and less school-related behavioral infractions. Further, comparisons of the impact of mentoring between the two intervention groups indicated that the instrumental group had higher math, English language arts, and reading grades. Other studies have found positive behavioral outcomes among youth participating in a program that limited the duration and quality of relationships formed between mentors and youth (Cavell & Hughes, 2000; Cavell & Henrie, 2010). These findings may, however, relate to the specific outcomes, and the fact that the mentors approach was guided by the particular framework and goals of the programs.

There is also theory and a growing body of research to support the more relational approach. From a theoretical perspective, a quality connection with a mentor may be a "corrective experience" that generalizes to other relationships within youth's lives and subsequently improve these relationships (Rhodes & Lowe, 2008). In particular, conceptual models of youth mentoring have highlighted the key pathways between youth's mentoring relationships, and youth's revision of working models of attachment. These improvements, in turn, can facilitate subsequent relationships with parents, teachers, peers, and others. Studies have demonstrated that in both community-based and

school-based models improved parent and teacher relationships mediate the effects of mentoring on youth's academic, behavioral and psychosocial outcomes (Chan, Rhodes, Howard, Lowe, Schwartz, & Herrera, 2013; Karcher, Davis, & Powell, 2002; Rhodes, Grossman, & Resch, 2000; Rhodes, Reddy, & Grossman, 2005). From this perspective, these findings suggest that mentor-youth interactions that are relationship focused have the potential to foster a broader array of positive youth outcomes. This implies that a more instrumental approach may result in short-term educational or behavioral effects, but may miss the broader opportunities to make more fundamental and far-reaching changes in the ways in which youth approach relationships.

One way to consider roles and interactional styles within youth mentoring may be to better understand what matches do, or the types of activities that occur within mentoring relationships.

1.2. Theoretical Rationale

Despite what appears to be a dichotomy between relational and more instrumental approaches within the youth mentoring literature, some theoretical models that may help to elucidate the role of activities suggest a more nuanced process. Building off of theories of development and learning, Li and Julian (2012) have proposed "developmental relationships as the active ingredient for positive and lasting developmental change" (pg. 158). They define these relationships as ones "characterized by attachment, reciprocity, progressive complexity, and balance of power…" (pg. 157). Within this framework, a developmental relationship arises from interactions encompassed by a mutual emotional attachment or connection. Further, through joint activities over time, youth and adults

collaboratively negotiate a relationship in which youth experience increasing efficacy and autonomy, while adults reduce their level of instrumentality in response to these increasing capacities. Ultimately, youth experience increasing complexity and control within the relationship. Moreover, this negotiation is interactive and dynamic in nature as the relationship evolves. When applied to youth mentoring, this framework suggests that the activities that matches engage in provides a potential context in which characteristics of developmental relationships may be enacted, and thus such relationships may be established.

Karcher and Nakkula (2010) have presented another framework, Theoretically Evolving Activities in Mentoring (TEAM) that underscores the importance of activities, and suggests that mentor-youth interactions (i.e., activities and discussions that take place during meetings) develop into a specific relationship style (e.g., developmental, instrumental, or prescriptive) over time as the match matures. The TEAM framework proposes three interrelated aspects of mentor-youth interactions, namely the focus, purpose, and authorship (i.e., how decisions are made) of these interactions. The focus of mentor-youth interactions relates to whether these interactions are predominantly relational or goal-oriented. This distinction delineates a continuum with interactions that are largely focused on facilitating socio-emotional experiences within the relationship on one end, relative to interactions that are focused on influencing achievement of an explicit skill or outcome (e.g., academic performance) on the other end. The purpose of mentor-youth interactions refers to whether the interaction is more aligned with youth or adult needs. Specifically, Karcher and Nakkula (2010) suggest that interactions can be "conventional" (i.e., focused on more adult notions of development such as academic and

vocational accomplishments), or "playful" (i.e., consistent with youth's orientation towards engagement in fun). Thus, the purpose of mentor-youth interactions may be motivated by the mentor, mentee, as well as program expectations. Finally, authorship within mentor-mentee interactions refers to the collaborative nature of interactions (i.e., how decisions about activities and discussions that the match engages in are made). Taken together, these frameworks advance our understanding of the ways in which match activities may influence mentoring relationship processes and youth outcomes.

1.3. The Role of Activities

Despite the potential of match activities to shape interactional styles within mentoring relationships, which may inform the type of mentor-mentee relationship that is formed, what matches actually *do* during their time together, or the "day-to-day" interactions between mentors and youth, has been largely unexamined. Remarkably few studies have examined the actual activities in which mentor-youth matches engage. Yet, the types of activities that mentor-youth matches engage in the potential to influence relationship quality and subsequent mentoring impact; however, what unfolds within mentor-youth meetings (i.e., what matches do), and how what matches engage in reflects particular approaches and functions is not well understood. Further, there is wide variation in the guidance that mentors receive regarding the types of activities and conversations that contribute to relationship quality (Karcher, Herrera, & Hansen, 2010).

Few studies have examined how different activities influence mentoring relationship processes and youth outcomes; however, relevant research suggests that relational and goal-oriented activities may be related to differential relationship quality.

For instance, one study found that mentee- and mentor-rated interactions with a fun focus (e.g., “goofing around” or “hanging out”) were associated with greater relationship quality (Nakkula & Harris, 2010). Another study, found that engagement in more social activities resulted in relatively closer relationships (Herrera et al., 2000). Similarly, Langhout, Rhodes and Osborne (2004) found that matches in which there were high levels of activity and relatively lower levels of structured conversations around goals and problem solving were longer in duration. Moreover, Larose, Savoie, DeWit, Lipman, and DuBois (2015) found that more frequent engagement in recreational activities predicted greater youth-reported mentoring relationship quality. Further, whereas recreational activities increased associations between youth’s perceptions of received support in the relationship with their mentor and the quality of this relationship, tutoring activities decreased this association. Along similar lines, researchers have found that engagement in sports/athletic activities was most strongly associated with youth’s report of perceived benefits and intent to continue with the relationship (DuBois, Neville, Parra & Pugh-Lilly, 2002; Parra et al., 2002).

Most studies of mentor-youth activities have been conducted in the context of community-based mentoring. It is possible, however, that in schools and other site-based programs, activities may differ in scope and focus. For example, school-based programs, which typically serve more academically at-risk youth, may place a greater emphasis on academic activities. Further, given the context, matches may have a more limited range of possible activities to engage in (Herrera et al., 2000; Karcher & Herrera, 2007).

Despite differences in context and a relatively greater focus on academic activities, there does appear to be some overlap between the two types of programs. In an

evaluation of community-based and school-based programs, Herrera et al. (2000) found that matches spent comparable amounts of time talking about youth's social and personal concerns (71% and 62% respectively). Further, in a national evaluation of school-based programs, only 11% of programs reported focusing exclusively on academic activities (Herrera et al., 2007). Moreover, consistent with findings from studies of community-based programs, existing studies exploring school-based mentoring activities indicate that relational activities including games/crafts and conversations about youth's social relationships are associated with greater relationship quality and satisfaction (Hansen & Corlett, 2007; Herrera et al., 2000; Karcher, Herrera, & Hansen, 2010). Specifically, Karcher, Herrera and Hansen (2010) demonstrated that both goal-oriented conversations (i.e., those focused on academics, attendance and behavior) and relational conversations (i.e., those focused on relationships) were positively associated with relationship quality; however, the strength of the association was greater for relational conversations. Similarly, Herrera et al. (2000) found that social activities predicted greater perceived emotional supportiveness and closeness. Moreover, social activities have been correlated with increased match continuation (Hansen & Corlett; 2007). Collectively, studies of both community-based and school-based mentoring suggest that more relationally focused activities may foster stronger mentor-youth connections.

At the same time, studies across community-based and school-based models suggest that a balanced approach, inclusive of both relational and goal-orientated activities, may be the most effective strategy (Karcher & Hansen, 2014; Nakkula & Harris, 2010). For instance, Hansen and Corlett (2007) found that regardless of whether an activity was goal-oriented or relational, matches in which a single activity dominated

more than 50% of the meeting time reported lower relationship quality and satisfaction. Similarly, studies indicate that relationships with corresponding amounts of activity, support, guidance/advice, and structure (e.g., goals and problem-solving) were associated with more positive youth outcomes (Keller & Pryce, 2012; Langhout, Rhodes, & Osborne, 2004). Karcher and Hansen (2014) suggest that "playful doing," or incorporation of discussions into playful activities such as games may be a potential way in which matches can engage in both relational and goal-directed interactions.

While there is some research exploring associations between match activities and relationship processes, few studies have linked such activities to youth outcomes (Karcher & Hansen, 2014; Karcher et al., 2006). Langhout, Rhodes and Osborne (2004) used cluster analysis to determine whether youth's perceptions of their mentoring relationship in a community-based program could be grouped into distinct groups based on the level of perceived support, structure and engaged activities. Among four relationship types (i.e., "moderate," "active", "low-key", and "unconditionally supportive"), youth in relationships perceived as moderately supportive that engaged in structured activities (e.g., goal-setting and problem-solving conversations) had the most positive outcomes, including increased self-worth, better relationships with their peers and parents, and school competence. Further, youth in matches that were deemed "active" (high level of activities and relatively lower levels of structure) demonstrated the second greatest number of benefits. Although this study points to importance of activity, the specific nature of these activities was not independent of mentee's perceptions of support within the match. Likewise, another study of a college academic mentoring program for late adolescents pursuing science found that mentees in matches that

engaged in more activities (e.g., attending conferences together), and relatively fewer discussions (e.g., personal or academic concerns) and problem-solving (e.g., tutoring) reported greater academic motivation, persistence, and social adjustment when compared a control group. In contrast, mentees in relationships that focused on problem-solving derived the least benefits from mentoring (Larose, Cyrenne, Garceau, Brodeur, & Tarabulsy, 2010). These findings, however, were moderated by mentor's approach in the relationship. Specifically, mentees in matches with mentors who were more emotionally connected yet directive and collaborative had better outcomes.

In a related study of school-based mentoring, Keller and Pryce (2012) used qualitative data to identify profiles based on the primary activity of matches. Four types of profiles emerged relating to mentor's activity approach and primary role (i.e., "teaching assistant," "friend," "sage/counseling" and "acquaintance"). Quantitative analysis of these profiles showed differences in relationship quality and youth outcomes across the four groups. Specifically, youth in matches with a sage/counseling approach, in which mentors balanced relational activities and playfulness with guidance and advice, perceived the relationship as close and supportive. Further, there were significant differences in the change scores between youth's pre and post measures of depression and aggressive behavior. Whereas youth in "sage/counseling" matches showed decreases in symptoms of depression, youth in "friend" and "acquaintance" relationships demonstrated increases. Similarly, youth in "sage/counseling" and "teaching assistant" matches demonstrated decreases in aggressive behaviors, while youth in "acquaintance" relationships had increased aggressive behaviors. However, limitations of this study, including a small sample size (n =26), use of non-parametric analyses, and lack of a

control/comparison group, warrant the need for replication studies. Taken together, however, these studies provide some evidence for the influence of match activities on the effects of mentoring.

1.4. Mentee, Mentor and Program Characteristics, and Activity Engagement

In considering the role of match activities, it is important to note that several characteristics of mentees, mentors and the program may influence choices. For example, the age of both mentees and mentors is likely to play a role in the type of activities and discussions that occur in matches (Karcher & Hansen, 2014; Karcher, Herrera, & Hansen, 2010). Studies have found that youth mentoring matches with older adolescents are more likely to be shorter in duration (Grossman & Rhodes, 2002), less interpersonally close (Herrera et al., 2000), and that that younger mentees may derive greater benefits from mentoring relationships (Karcher, 2008). It may be that the choice of activities influences older youth's disengagement from mentoring. For instance, given their increasing orientation towards peers (e.g., Larson & Richards, 1998), older youth may be less inclined to self-disclose challenges to mentors if activities primarily focus on talking. Similarly, older youth may also disengage from academically focused interactions. At the same time, relative to younger mentees, adolescents may desire mentoring relationships that place an emphasis on skill-development, particularly skills related to work and vocational goals (Hamilton & Hamilton, 2005; Larose et al., 2010). The age of mentors, particularly in school-based programs in which high school students are increasingly recruited, is also likely to relate to the range of activities that matches engage in (Karcher, Herrera & Hansen, 2010). For instance, Herrera et al. (2007) found that high school

mentors spent more time engaging in social activities (e.g., games/sports) and conversations about mentee's relationships, whereas older mentors spent more time focusing on conversations about academic concerns and homework/tutoring.

There is also likely to be a range of demographic variables that relate to match activities. Studies indicate that relative to boys, girls have matches that are more enduring (Rhodes, Lowe, Litchfield, & Samp, 2008), and higher in relationship quality (Zand et al., 2010), suggesting that gender might be associated with distinct activities within mentoring relationships. Indeed, there is some evidence that suggests that engaging in craft activities is positively correlated with match continuation among girls, whereas this same association was found in relation to board games among boys (Hansen & Corlett, 2007). Likewise, research on afterschool settings suggests that successful programs engage youth in activities that are distinct from school-related ones (Lauver & Little, 2005).

It is also likely that program factors shape activity selection and youth outcomes. As previously discussed, mentoring programs differ in scope and purpose (Karcher et al., 2006). As such, program goals may constrain the range of activities that matches are encouraged to pursue. Finally, decision-making about activities (e.g., mentees, mentors, program staff) presents an additional factor. Research indicates that collaborative decisions between mentees and mentors are associated with greater relationship quality and satisfaction (Herrera et al., 2000; Karcher, Herrera, & Hansen, 2010; Karcher & Nakkula, 2010). Collaborative decision-making may be particularly salient for older youth, as it may be developmentally consistent with increasing efforts towards autonomy (e.g., McElhaney, Allen, Stephenson, & Hare, 2009).

1.5. Current Study

The current study investigated the association between mentor-youth activities on relationship processes and youth outcomes in school-based mentoring. Previous studies have examined the association between match activities and mentoring relationships using variable-centered approaches that examine associations between variables across individuals (e.g., correlations or regression analysis). In contrast, a person-centered approach considers potential simultaneous interactions among multiple characteristics within individuals. In other words, rather than considering characteristics as independent factors, a person-centered approach emphasizes a holistic examination of characteristics (Bergman & Trost, 2006; Magnusson, 2003). Within the current study, a person-centered approach allowed for simultaneous inclusion of multiple activities and conversations that may occur within mentor-youth relationships. Further, person-centered approaches were used to consider different patterns of activities among individuals, while also identifying homogenous subgroups of youth based on these patterns of activities. For example, some youth may engage in a range of activities within their match including tutoring, games, and talking, while others may primarily engage in only one of these activities. Subgroups comprised of different patterns of activities among matches were then included in subsequent analyses to examine whether there were differences in outcomes across groups.

A few studies have examined various constellations of activities among mentor-youth matches (e.g., Keller & Pryce, 2012; Langhout, Rhodes & Osborne, 2004; Larose et al., 2010). These studies drew on qualitative methods and cluster analysis to group individuals. Latent Profile Analysis (LPA), the model-based technique to be used in the

proposed study, is a more rigorous person-centered analysis that identifies latent class variables (i.e., subgroups) from observed continuous variables, and estimates probabilities for group membership. Moreover, LPA estimates model fit using several fit statistics (Pastor, Barron, Miller, & Davis, 2007).

In this study, I explored whether match activity could meaningfully classify youth into distinct profiles. I then explored whether mentee characteristics (including age, gender, minority status, free or reduced lunch status, and extracurricular activity involvement), mentor characteristics (including age, gender, minority status, parent status, student status, previous mentoring experience, and attitudes about youth), characteristics of the relationship (decision-making about activities), and characteristics of the program (focus/goals of the program) predicted membership into activity profiles. Lastly, I examined differences in relationship experiences and youth outcomes among the activity profiles.

1.6. Aims and Hypotheses

Aim 1: To examine whether youth can be grouped into meaningful profiles based on match activities.

Hypothesis 1: It was hypothesized that the match activities in which youth and mentors engage could be used to group mentor-mentee dyads into unique profiles.

Aim 2: To explore the baseline mentee (age, gender, race and ethnicity, free or reduced lunch status, single-parent household status, and extracurricular involvement), mentor (gender, parent status, student status, previous mentoring experience, attitudes towards youth, and perception of the most important goal with youth) and program characteristics

(when matches meet, match meeting duration, who decides activities, and the focus of the program) of activity profiles.

Hypothesis 2: It was hypothesized that there would be differences in mentee, mentor and program characteristics amongst distinct activity profiles. Specifically, female and younger youth, as well as those who engage in extracurricular activities, were expected to be more likely be in relationally focused matches. Matches with older, non-student mentors who perceived behavioral or academic change as a primary goal were expected to be in more likely be in goal-directed (i.e., academic activities) profiles. In contrast, mentors with previous mentoring experience and those who held positive attitudes about youth were expected to be in matches that engaged in both relational and goal-directed activities. Lastly, matches in programs with an academic focus and programs in which matches met during school hours were expected to engage in more goal-directed activities, whereas matches characterized by more collaborative decision-making about activities were expected to engage in a balance of relational and goal-directed activities.

Aim 3: To compare the outcomes (i.e., effects of mentoring) of youth with different activity profiles.

Hypothesis 3: It was hypothesized that that match activity profiles would predict differential youth outcomes. More specifically, distinct activity profiles were expected to predict positive outcomes in the corresponding life domain. Relationships that were inclusive of both relational and goal-directed activities were expected to be associated with both social-emotional (e.g., improved relationships) and skills-based (e.g., academic) outcomes. By contrast, relationships with largely goal-directed activity

profiles were expected to result in skills-based but not social-emotional outcomes, while relationships that were largely relationally focused in terms of activities will result in social-emotional but not skills-based outcomes.

Aim 4: To explore whether match activity profiles predict relationship processes including match duration, quality and meeting frequency.

Hypothesis 4: It was hypothesized that match activity profiles would predict differential relationship characteristics. Specifically, matches that were inclusive of both relational and goal-directed activities were expected to be associated with better relationship quality, longer match duration, and higher frequency of match meetings.

CHAPTER 2

RESEARCH DESIGN AND METHODS

This study drew on data from a multi-site, random assignment impact evaluation of the Big Brothers Big Sisters of America School-Based Mentoring Program (Herrera et al., 2007). BBBSA data were collected during the 2004-2005 school year from ten nationally representative BBBSA agencies operating within 71 schools. Agencies were selected to participate in the evaluation if they had been in operation for at least four years, had strong connections to participating schools, and an existing school-based program matching at least 150 youth (both boys and girls) with a diverse pool of volunteers.

2.1. Participants

The sample for this study consisted of 1,110 youth from the original evaluation, and excludes 39 youth who were randomly assigned to the treatment group but were never matched with a mentor. Demographic information of the 1,110 participants included in the current study is presented in Table 1. Among these participants, 54% were female. Forty-seven percent of youth self-identified as White, 26% as Non-white

Hispanic or Latino, 23% as Black or African-American, 12% as Native American, 2% as Asian or Pacific Islander, and 5% as other. Thirty-six percent of youth lived in a single-parent household and 60% were receiving free/reduced lunch. Sixty-one percent of students were in elementary school (fourth and fifth grade), 35% were in middle school (sixth through eighth grade), and 5% were in high school (ninth grade). This sample includes a smaller percentage of elementary-aged students than are typically served in school-based mentoring programs. This sampling strategy was used in the impact evaluation in order to allow for an understanding of the effects of school-based mentoring across a wider range of age groups (Herrera et al., 2007). The average age of youth within the sample was approximately 11 years old.

A total of 554 mentors completed baseline surveys. Among these mentors, 72% were female and 77% identified as White. Over 80% of mentors were single (5% within this group were single but living with a partner). A notable percentage (48%) of mentors were high school students. The inclusion of high school students distinguishes school-based mentoring from more traditional models of mentoring (i.e., community-based) as a broader pool of volunteers can be recruited (Herrera et al., 2007). Most of the high school mentors (approximately 70%) were matched with elementary aged mentees. Approximately 60% of matches were mixed-race, typically comprised of white mentors paired with youth of color. Lastly, 19% of matches were mixed-gender, with female mentors paired with male youth.

2.2. Procedure

BBBSA agencies largely recruited youth from referrals by school personnel including teachers and other school staff. Youth who met the following criteria were

invited to participate in the evaluation study: 1) in fourth through ninth grade at the start of the study, 2) had parental consent, and 3) not referred for mentoring through emergency services (e.g., Child Protective Services). A total of 1,139 youth who assented to participation and had parental consent were included in the evaluation. Youth completed baseline surveys, administered by researchers in small groups at school in the fall 2004 (T1).

Youth with completed baseline surveys were randomly assigned into either treatment (n=565) or waitlisted control (n=574) group. A stratified randomization was used so that each participating school had approximately 50% of youth in each group. Follow-up surveys were administered either in person within the school setting, or via other means (e.g., phone) if students had moved or were absent. Follow-up surveys were administered at two time-points: spring 2005 (T2; approximately 93% student response rate) and fall 2005 (T3; approximately 85% student response rate).

At baseline, teachers of 1,009 youth (of the 1,139) and 554 mentor completed surveys. Mentors and teachers completed follow-up surveys at subsequent time-points as well. In the middle and high school context, in which students have multiple teachers, youth's science, social studies, English as a Second Language (ESL) or homeroom teachers completed the survey.

While programs typically require mentors to make a commitment for the duration of the school year (i.e., nine months), school-based matches generally begin after the start of the school year in order to accommodate volunteer recruitment, screening and training, as well as school schedules. Thus due to delayed starts, and in some cases early terminations, youth had received an average of 4.9 months of mentoring by the first

follow-up (T2), and had met with their mentor an average of 3.1 times per month. By the second follow-up (T3) in late fall 2005, about 52% of youth were still meeting with their mentor. Among these, 41% were meeting with the same mentor, and 11% were meeting with a new mentor. About a third of this attrition was attributed to transitions to a new school (e.g., to middle school or high school) among youth.

Programs included in the impact evaluation varied in terms of match meeting time and space. Programs reported that forty-nine percent of matches met during school, while 47% met after school, and 4% met during both times. In addition, 89% of after-school meetings took place in one large space (e.g., gym, cafeteria). In contrast, with the exception of matches that met during lunch, only 11% of school-day matches met in large group spaces. For about 40% of matches, the length of each meeting was one hour or more (Herrera et al., 2007).

2.3. Measures

This secondary analysis study's focus was on data from baseline surveys (T1) and from the first follow-up at the end of the 2005 school year (T2). Data from the second follow-up point in fall of 2005 were excluded because a notable percentage (about 48%) of matches ended after the first year; further, within the context of this study's primary question of interest, activities could not be considered beyond the first follow-up (T2) as this measure was not assessed at the second follow-up point.

This study includes measures of youth social-emotional, behavioral and academic outcomes, encompassing outcomes across a range of developmental domains. Included measures were multi-informant including self, teacher and mentor report, as well school

and program records. Cronbach's alphas (α_1, α_2) at baseline (T1) and the first follow-up (T2) respectively are reported for each scale.

2.3.1. Measure of Match Activities

Match Engagement in Activities is a 17-item mentor-reported scale using the Study of Mentoring in the Learning Environment Log (Karcher, 2007). Mentors were asked to report how much time during meetings with their mentees that they spent engaging in a range of activities and conversations. Six items asked about activities (e.g., tutoring/homework, sports, creative arts), ten items related to conversations (e.g., talking about behavior, family, future), and one item related to listening. Mentors indicated the frequency of each activity or conversation within their match on a 4-point scale from 0 = "none" " to 4 = " most".

2.3.2. Academic Outcome Measures

Overall Academic Performance is single-item teacher rating of youth's academic performance on a five-point scale from 1= "below grade level" to 5= "excellent" (Pierce, Hamm & Vandell, 1999).

Self-Perceptions of Academic Abilities is a six-item youth-reported subscale of the Self Perception Profile for Children (Harter, 1985). Items assess youth's perception of their academic competence. Scale items include, "I am slow in finishing school work" and "I do well at class work", scored on a 4-point scale ranging from 1="not at all true" to 4="very true" (α_1= .70, α_2 = .72). A mean score was calculated and higher scores indicate higher academic efficacy.

Classroom Effort is a teacher-reported six-item subscale of the Research Assessment Package for Schools-Teachers (RAPS-T; Institute for Research and Reform in Education, 1998). The scale asks teachers to assess how often students display effort in classroom tasks, such as doing "more than is required of him/her", on a four-point scale ranging from 1="never" to 4="very often" (α_1= .90, α_2 = .90). A mean score was calculated and higher scores indicate greater student effort in the classroom.

2.3.3. Behavioral Outcome Measures

Unexcused Absences is a teacher-reported single-item measure indicating how many times youth had been absent from school without an excuse in the previous four weeks. This variable was dichotomized so that 0 = no unexcused absences, 1 =one or more unexcused absences in the previous four weeks.

School-Related Misconduct is a teacher-reported single-item indicating how many times youth had been sent to the principal's office for misbehavior within the teacher's classroom in the previous four weeks. This item is dichotomized so that 0= none 1= student was sent to the principal's office.

2.3.4. Social-Emotional Outcome Measures

Peer-Self Esteem Enhancement is a four-item youth reported scale assessing youth's perceived support from their peers (Berndt & Perry, 1986). Scale items include, "do your friends make you feel that your ideas and opinions are important and valuable," rated on a 4-point scale ranging from 1="hardly ever" to 4="pretty often" (α_1= .76, α_2 = .79). A mean score was calculated so that higher scores indicate greater perceived support from peers.

Teacher-Student Relationship Quality is an 11-item youth-reported scale adapted from the Teacher– Student Relationship Scale (Eccles et al., 1993) and the Teacher Connectedness Scale (Karcher, 2003). Items on this measure include, "I get along well with my teachers this year" and "I care what my teachers think of me," scored on a 4-point scale ranging from 1 = "not at all true" to 4 = "very true" (α_1= .82, α_2 = .82). A mean score was calculated, with higher scores indicating more positive teacher–student relationships.

Parent Relationship Quality is a seven-item youth-reported scale derived from the Parent Trust subscale of the Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987). Youth indicate the level of support felt in the relationship with their parent/guardian. Items include, "my parents respect my feelings" and "I trust my parents" rated on a 4-point scale ranging from 1= "hardly ever" to 4="pretty often" (α_1=.83, α_2 =.87). A mean score was calculated, with higher scores indicating more positive parent–youth relationships.

Global Self Worth is an eight-item youth-reported measure of self-worth derived from a subscale of the Self-Esteem Questionnaire (DuBois, Felner, Brand, Phillips & Lease, 1996). Items include, "I am the kind of person I want to be" and "I often feel ashamed of myself." Responses are indicated on four-point scale ranging from 1= "not at all true" to 4= "very true" (α_1= .76, α_2 =.80). Three items were reverse coded and mean score was calculated so that higher scores indicate greater self-worth.

Prosocial Behavior is an eight-item teacher-reported scale that asks teachers to rate how often a given student engages in prosocial behavior (Ladd & Profilet, 1996). Items include, [this child] "seems concerned when classmates are distressed." Items are

scored on a on a 4-point scale ranging from 1 = "never" to 4 "very often" (α_1= .92, α_2 =.92). A mean score was calculated so that higher scores indicate higher prosocial behavior.

Presence of Special Adult is a single-item asking youth whether they have a "non-parental special adult in [their] life." This item is dichotomized so that 0= no 1= presence of non-parental special adult.

2.3.5. Mentor-Youth Relationship Process Measures

Youth Emotional Engagement is an eight-item, youth-reported measure of relationship quality. Items include, "When I am with my mentor I feel happy" (Jucovy, 2002). Items are scored on a 4-point scale from 1= "not true at all" to 4= "very true" (α_2 = .84). A mean score was calculated so that higher scores indicate greater emotional engagement within the mentoring relationship.

Youth-Centered Relationship is a five-item, youth-reported relationship quality scale. Items on this measure include, "My mentor is always interested in what I want to do" (Jucovy, 2002). Items are scored on a 4-point scale from 1= "not true at all" to 4= "very true" (α_2 = .70). A mean score was calculated so that higher scores indicate a relationship that is more youth centered or youth focused.

Match Meeting Frequency is a single-item indicating the number of times the match met within the last four weeks.

Match Duration is a single-item referring to the total number of days youth had been in a match at the time of the first follow-up survey (T2).

2.3.6. Covariate Measures

Demographic Characteristics include youth's age and gender (coded as a dichotomous variable, 1=female), as well as race and ethnicity (coded as a dichotomous variable, 1=minority), household composition (coded as a dichotomous variable; 1=single-parent household), and school lunch status (coded as a dichotomous variable; 1=receiving free or reduced lunch), a proxy of socioeconomic status.

Stressful Life Events is a measure adapted from the Social Readjustment Rating Scale (Holmes & Rahe, 1967) asks youth whether they have experienced any of 12 events including, "have you moved or changed where you live" in the last six months. Youth responded "yes" or "no" to each item, and responses are calculated as a sum of the 12 items, with higher scores indicating a greater number of stressful life events.

Extracurricular Involvement is a six-item measure of youth's participation in a range of after-school and out of school activities including sports, homework help or tutoring, and clubs. Responses are calculated as a sum of the six items, with higher scores indicating greater involvement.

Program Meeting Time is a single-item school-level measure completed by program staff (i.e., BBBSA agency staff who supervise matches within individual programs) indicating whether the program is implemented during the school day, including lunch, or after school. This item is dichotomized so that 1= program ran during the school day, including during lunchtime.

Match Meeting Time Duration is a single-item school-level variable completed by program staff (i.e., BBBSA agency staff who supervise matches within individual

programs) asking how long matches met at each meeting. This item is dichotomized so that 0 =matches met for less than 60 minutes, and 1=matches met for 60 minutes or more.

Program Focus is a single-item, dichotomous school-level variable completed by program staff (i.e., BBBSA agency staff who supervise matches within individual programs) indicating whether or not a program was academically focused.

Substance Abuse is a four-item measure adapted from the Self-Reported Behavior Index (Brown, Clasen, & Eicher, 1986) that asks about use of tobacco, alcohol, marijuana, and other drugs. The reference period were modified for the current study so that youth were asked about frequency of use in the past 3 months (the original scale asks about the past month). Items were combined so that 0 = no reported history of substance use, 1 =any previous substance use. In the current study, this variable was included as a covariate in analyses that estimated treatment effects compared to the control group since previous studies have found baseline differences between youth who participate in mentoring and those in the waitlist control group (Herrera et al., 2007; Herrera et al., 2011).

2.3.7. Data Analysis

Both person- and variable- centered analyses were conducted to examine the association between youth mentoring match activity (i.e., what matches engage in during their time together), relationship characteristics, and youth outcomes.

Person-centered analysis was used to examine research question one, whether youth could be grouped into meaningful profiles based on the type of activities that they engage in with their mentor. Specifically, research question one was examined using latent profile analysis (LPA), a model-based person-centered approach that identifies

latent profiles, or unobserved homogenous subgroups of individuals with similar patterns of response across an observed measure(s), within a heterogeneous sample. Further, for each observation or individual, LPA estimates probabilities of group membership into the varying profiles. Lastly, LPA allows for comparison of goodness-of-fit indices across several models (Berlin, Williams & Parra, 2014; Muthén & Muthén, 2000; Pastor, Barron, Miller, & Davis, 2007).

Variable-centered analyses were used to examine research questions two, three and four, which compared the profile groups on a range of measures. Descriptive analyses, as well as Chi-Square tests and analysis of variance (ANOVA) were used to examine the baseline mentee, mentor and program characteristics of distinct activity profiles (research question 2). In addition, ordinary least square (OLS) and logistic regressions were used to explore whether different activity profiles predict differential mentoring impact including socio-emotional and skills-based (e.g., academic, behavioral) youth outcomes (research question 3), and relationship processes including relationship quality, duration and intensity (research question 4). Lastly, two-stage least square regression analyses (2SLS) were attempted in order to examine potential self- selection bias in any observed associations between activity profiles, relationship processes, and youth outcomes. For instance, it could be that youth who are doing well within certain measured domains (e.g., academic work) self-select into specific types of activities, so that any observed associations would not be due to activity profile, but rather an unmeasured characteristic of youth across profiles. The 2SLS technique adjusts for bias by generating unbiased estimates of the association between two variables by creating an "instrument" variable that is similar to the observed variable (i.e., activity profile in this

study) but not correlated with the error term of the outcome variable, in this case youth outcomes and relationship processes (Angrist, Imbens, & Rubin, 1996).

CHAPTER 3

RESULTS

3.1. Hypothesis One

Match activities in which youth and mentors engage can be used to group dyads into unique profiles.

3.1.1. Preliminary Results

Prior to hypothesis testing, descriptive analyses were conducted to examine frequencies and relationships among the17 items encompassing the measure of match activity (see Table 2 and Table 3). Three items had low endorsement. Specifically, over half of mentors reported never going to school events during meetings (71.7%), never going to BBBSA events during meetings (50.4%), or never talking about little's romantic friend during meetings (51.5%). Low endorsement of these three activities may, in part, relate to the constraints of the school context, as well as the age of the mentees, over two-thirds of whom were under the age of 11. These three items were removed from subsequent analyses. In addition, based on their moderate correlations, the ten items related to conversations were collapsed into four types including casual conversations, conversations about social issues, conversations about the future, and conversations about relationships (see Table 4). Despite moderate correlations between the listening item and

some of the talking items, these items were not combined as they represent conceptually distinct activities. Specifically, listening and learning (e.g., about a mentee's hobbies, interests and feelings) may occur during other activities. Correlations, means and standard deviations of the final items that were used for LPA analyses are presented in Table 5.

3.1.2. LPA Results

LPA was performed using mixture model in Mplus 7.2 software (Muthén & Muthén, 2012) on mentor-reported activities. All variables were standardized into z-scores prior to the LPA analysis. Multiple models were tested in an iterative process that started with estimation of a one-group model and increased the number of groups until the data indicated that additional groups would not contribute substantive information and/or problems with estimation were encountered.

For each model, multiple starting values were used in estimation in order to avoid accepting solutions reflecting local maxima, which is an issue that often arises in mixture models when "…the estimation algorithm converges on a local best solution rather than the overall, global best solution" (Schmiege, Meek, Bryan, & Petersen, 2012). Consistent with recommendations for addressing local maxima, after the initial analysis each model was rerun with two and four times the starting value (1,000 and 2,000 random starts). With the exception of the six and seven profile model, the best log-likelihood for each model was replicated with higher start values, suggesting that the results were not local maxima (e.g., Hipp & Bauer, 2006; McLachlan & Peel, 2000, Muthén, 2001).

Consistent with recommendations for model evaluation (e.g., Berlin, Williams & Parra, 2014; Nylund, Asparouhov, & Muthén, 2007; Pastor et al., 2007; Schmiege et al., 2012), the following criteria were used to evaluate which model was the best fit to the data a) statistical indices of model fit b) classification quality, and c) interpretability of each model within the context of theory and previous research. The following fit indices were used to examine one to seven profile models: Log-likelihood, Akaike Information Criterion (AIC; Akaike, 1974), Bayesian Information Criterion/sample-adjusted Bayesian Information Criterion (BIC/SSA-BIC; Schwarz, 1978), Lo-Mendell-Rubin test (LMRT; Lo, Mendell, & Rubin, 2001), bootstrapped likelihood ratio test (BLRT; McLachlan & Peel, 2000) and entropy (Celeux, & Soromenho, 1996). Models with lower values of AIC and sample-adjusted BIC (i.e., positive numbers closer to zero) indicate better fit. In contrast, higher values of log-likelihood (i.e., negative numbers closer to zero) suggest better fit to the data. Both the LMRT and BLRT compare an estimated model to the preceding one (i.e., a model with one less profile), and a significant *p*-value on either of these tests indicates that the higher profile is a better fit than the lower profile. Entropy, which ranges between 0 and 1, measures the accuracy of classification into classes with values closer to 1 indicating greater accuracy (Berlin, Williams & Parra, 2014; Pastor, Barron, Miller, & Davis, 2007).

Table 6 presents fit indices of evaluated models. These results demonstrated that the two-profile model was a better fit to the data than a one-profile model, evidenced by a lower log-likelihood, AIC and BIC/SSA-BIC, as well as significant LMRT and BLRT *p*-values. Similarly, the three-profile model was a better fit than the two-profile model with analogous changes in log-likelihood, AIC and BIC/SSA-BIC, significant LMRT

(marginal) and BLRT *p*-values, as well as a higher entropy value. With the exception of the LMRT and entropy, the fit indices continued to improve with subsequent solutions, suggesting that larger profiles were a better fit to the data up until the six-profile and seven-profile solutions, which had model identification errors. These models also had groups comprised of zero to two individuals, suggesting that they were over-extracted or forced solutions (Nylund, Asparouhov, & Muthén, 2007). Thus, only the three-, four- and five-profile solutions were examined further. The LMRT of the four- and five-profile model was non-significant suggesting that the lower profile in each comparison, a three- and four-class solution respectively, was a better fit to the data.

Next, the classification quality, or how well individuals were classified into profiles, of the three-, four- and five-class models was examined. Among the three solutions, the three-class model had a higher entropy value (.84 versus .81) suggesting that across all of the profiles within this model, overall classification of participants into groups based on match activities was estimated with relatively greater precision and differentiation between classes. Classification quality was further examined using average latent class probabilities of each group within a profile (see Table 7). Values in bold along the diagonal represent the average probability that individuals assigned into a specific profile belong in that group. Class probabilities for the three-profile model ranged from .914 to .931 with an overall diagonal average of .924. The four-profile model had class probabilities that ranged from .875 to .931 with an overall diagonal average of .898. Class probabilities for the five-profile model ranged from .856 to .938 with an overall diagonal average of .891. These results suggest that a three-profile model presents relatively better classification of participants.

Additional attributes of the classes in each model were also examined, including the size, uniqueness and interpretability of the classes. Relative to the three-profile model, groups in the four- and five- profile models either had a small sample size, were already subsumed by an existing group, or were difficult to interpret within the context of previous research and theory. For example, the five-class model had one profile with 25 individuals. Typically, groups with less than 25 individuals are indicative of an over-extracted or forced solution (Nylund, Asparouhov, & Muthén, 2007). Overall, based on fit indices, classification quality and substantive interpretability, a three-profile solution was selected as the most parsimonious and representative model for the data.

3.1.3. Description of three-profile model

Mean pattern of response regarding activities among the three profiles are displayed in Table 8 and Figure 1. Based on previous youth mentoring research using LPA (e.g., Karcher, Davidson, Rhodes, & Herrera, 2010), results were deemed low if they were ≥1/3 standard deviation below the mean, moderate if they were ±1/3 standard deviation from the mean, and high if they were ≥1/3 standard deviation above the mean.

Instructional

The first profile, which was labeled as *Instructional*, described 33% of the sample (n =141). This profile was characterized by moderate engagement in tutoring/homework and sports/athletic activities. In contrast, this group had low engagement in conversations, including casual conversations, future oriented conversations, conversations about social issues, and conversations about relationships, as well as listening/learning, creative activities, and relatively low engagement in indoor games.

Playful

Profile 2, which was labeled as *Playful*, comprised 57.8% of the sample (n =247). This profile was characterized by high engagement in creative and indoor activities, as well as casual conversations, conversations about relationships, listening/learning, and relatively high engagement in sports/athletic activities, as well as in conversations about social issues and the future. This group engaged in moderate levels of tutoring/homework.

Conversational

Profile 3, was labeled as *Conversational*, included approximately 9.1% of the sample (n = 39). This profile was characterized by high engagement in conversations about casual topics, conversations about social issues, conversations about the future, and conversations about relationships, as well as relatively high listening/learning. This group also engaged in moderate levels of tutoring/homework activities; however, they engaged in low levels of sports/athletic, creative, indoor activities.

3.2. Hypothesis Two

Distinct activity profiles will have different mentee, mentor and program characteristics.

Results of group differences among the three profiles in relation to mentee, mentor and program characteristics are presented in Table 9. Among mentee characteristics, there were two marginally significant differences. Specifically, there was a higher proportion of girls in the *conversational* or *playful* rather than *instructional* profile, x^2 (2, 427) = 5.00, p =.08. In addition, there were differences in age among the

profiles, F (2, 424) = 2.84, p =.06. Youth in the *instructional* group had a mean age of 10.84 (SD =1.38), youth in the *playful* group had a mean age of 11.06 (SD =1.56), and youth in the *conversational* group had a mean age of 11.49 (SD =1.86). Post-hoc analyses revealed that youth in the *conversational* profile were significantly older than youth in the *instructional* profile. Youth in the three groups also had differential levels of stressful life events including moving, family illness, parental/guardian unemployment, F (2, 424) = 3.01, p =.05. Whereas youth in the *instructional* profile had a mean of 4.61 (SD =2.42), youth in the *playful* and *conversational* profiles had respective means of 4.98 (SD =2.46) and 5.67 (SD =2.53). Post-hoc analyses revealed that youth in the *conversational* profile had a significantly greater number of stressful life events compared to youth in the *instructional* profile.

Only one mentor characteristic demonstrated marginally significant differences between the three profiles. Compared to mentors in the *instructional* or *playful* groups, there were proportionally fewer mentors in the *conversational* group who reported that helping their mentee feel good about her/himself was the most important goal, x^2 (2, 361) = 5.34, p =.07.

In terms of program characteristics, matches in the *instructional* and *conversational* profiles were more likely to be in academically focused programs compared to matches in the *playful* profile, x^2 (2, 427) = 8.65, p <.05. Similarly, when compared to the *playful* profile, matches in the *instructional* and *conversational* profiles were more likely to be in programs in which match meetings lasted for one hour or more, x^2 (2, 427) = 12.89, p <.01. In contrast, relative to matches in the *conversational* group, matches in the *playful* and *instructional* groups were more likely to be in programs that

ran during the day, including during lunch time, x^2 (2, 426) = 6.16, p <.05. Interestingly, only one characteristic related to decision-making about activities (i.e., whether the program, teacher, mentor, mentee or match chose the activities) was significantly different among the three profiles. Specifically, there was a higher proportion of programs in which teachers chose the activity in the *playful* and *instructional* group compared to the *conversational* group, x^2 (2, 427) = 11.29, p <.01.

Group differences among the three profiles in relation to mentee, mentor and program characteristics were included as covariates in subsequent relevant analyses of mentoring impact and relationship processes.

3.3. Hypothesis Three

Match activity profiles will predict differential youth outcomes.

Prior to hypothesis testing, descriptive analyses were conducted to examine the relationships among the profiles, outcomes of interest, and potential covariates (see Table 10 and 11). In addition, baseline differences for outcome variables of interest between the three profiles and the control group were examined. Results indicated no significant differences at baseline between groups on any outcome variables. Means and standards deviations of outcomes of interest are presented in Table 12.

To test hypothesis three, OLS and logistic regression models were estimated to explore whether there were significant post-mentoring differences between youth in each activity profile and those in the waitlisted control group (i.e., youth who did not receive mentoring) on measures of academic, behavioral, and social-emotional outcomes, after accounting for several baseline factors. While not all covariates were considered to be

associated with each outcome, all regression models included the same set of covariates for consistency. The following covariates were included in each regression model: youth (sex, minority status, age, stressful life events, free/reduced lunch status, single-parent household status, and extracurricular activity participation), program characteristics (academic focus, meeting time, meeting time length, and activity decision-making by teachers), and baseline measures of each outcome.

Compared with the control group, youth in the *playful* profile demonstrated higher teacher reported academic performance (p =.06) and marginally higher self-perceptions of academic abilities (p =.08). Further, youth in this group were less likely to engage in school-related misconduct (OR =.59, p =.07). Youth in the *playful* profile also demonstrated increased peer self-esteem enhancement (p <.05) and parent relationship quality (p <.01), and were more likely to report the presence of a non-parental special adult in their lives (OR =1.47, p =.05). Compared with the control group, youth in the *instructional* profile showed higher teacher reported academic performance (p <.05) and classroom effort (p <.05), and reported higher self-perceptions of academic abilities (p =.05) and marginally higher global self-worth (p =.07). Finally, with the exception of increased self-perceptions of academic abilities (p <.05), youth in the *conversational* profile showed no significant differences from the control group on any other outcomes of interest. There were no effects on youth's relationships with teachers, prosocial behavior, and unexcused absences across the three profiles (See Tables 13, 14 and Table 15).

3.4. Hypothesis Four

Match activity profiles will predict differential relationship characteristics, including match duration, meeting frequency, and relationship quality.

Analyses of relationship processes including quality, duration and intensity (i.e., meeting frequency) between the three profiles are presented in Table 16. Based on youth outcome findings from the previous section, in which youth in the *playful* profile demonstrated the broadest range of outcomes, we focused on relationship process analyses comparing this group to the other two profiles. All models controlled for youth (sex, minority status, age, stressful life events, free/reduced lunch status, single-parent household status, and extracurricular activity participation), mentor (helping child feel good about self as most important goal), and program (academic focus, meeting time, meeting time length, and activity decision-making by teachers) characteristics. No baseline measures of relationship process variables were included as these measures are typically assessed at follow-up as they pertain to aspects of the mentoring relationship. When compared with both the *instructional* and *conversational* group, youth in the *playful* profile reported marginally strong emotional engagement with their mentor (p =.07). The activity profiles did not differentially predict any other dimension of relationship quality, including how youth centered the relationship was, as well as match duration and intensity.

3.5. Two-Stage Least Square Analyses (2SLS)

Efforts to re-run the OLS regressions using 2SLS regressions to parse out potential self-selection bias were ineffective as we were unable to develop a viable

instrument that adequately correlated with activity patterns to accurately estimate the effect of mentoring. Consequently, we cannot dismiss the potential role of self-selection bias in accounting for the relationship between activity profiles, relationship processes, and youth outcomes.

CHAPTER 4

DISCUSSION

The goal of this study was to investigate the association between mentor-youth activities, relationship processes, and youth outcomes in school-based mentoring. Overall, as hypothesized, results indicated statistically meaningful subgroups based on similar patterns of response about the type of activities that matches engaged in. Further, the profiles were distinguished by differences in youth, mentor, and program characteristics. Lastly, these profiles predicted differential youth outcomes and relationships processes when compared to the waitlist control group.

4.1. Summary of Findings

Mentor-reported match activities classified youth into three distinct activity profiles in which certain activities were more dominant relative to others. More specifically, matches in one profile, labeled as the *instructional* profile, primarily engaged in tutoring/homework activities along with minimal play (e.g., games and sports). Another group was labeled as the *playful* profile. Matches in this profile primarily engaged in simultaneous play (e.g., games, sports, and crafts), relatively light-hearted talking, and listening. Finally, a third group, labeled as the *conversational* profile

primarily spent time talking, more typically about emotionally-laden topics. The finding of unique groups is consistent with other research examining match activities within mentoring relationships (e.g., Keller & Pryce, 2012; Langhout, Rhodes & Osborne, 2004; Larose et al., 2010, Larose et al., 2015). These studies have included other aspects of the match in addition to activities such as the mentor's provision of support and functional role within the relationship, or have employed qualitative, variable-centered, or person-centered cluster analyses to examine activities. In contrast, the current study focused exclusively on activities and conversations, and used LPA, which allows for consideration of individual patterns inclusive of a range of activities and conversations that may occur within mentor-youth relationships, while simultaneously identifying subgroups of individuals with similar patterns or profiles of activities.

To further examine the activity profiles that emerged, we evaluated potential differences related to characteristics of the mentee, mentor, and program across the three groups. In terms of mentee characteristics, as predicted, girls were more likely to be in the *playful* and *conversational* profiles relative to the *instructional* profile, a finding that partially supports this study's hypothesis. This finding is consistent with Larose et al. (2015) who found that girls were involved in more relational activities within mentoring when compared to boys, while Hansen and Corlett (2007) found that in addition to tutoring, girls spent more time talking and working on craft activities, whereas boys received homework help, and engaged in board games and sports activities with their mentor. Theory suggests youth may enter mentoring relationships with different gendered relational patterns (e.g., intimacy) and help-seeking styles (Liang, Bogat, & Duffy, 2014). These differences may relate to differences in activity group membership for girls relative

to boys. Similarly, age differences among the three groups may relate to developmental differences. Specifically, results revealed that youth in the *conversational* profile were the oldest while youth in the *instructional* profile were the youngest. Given older youth's increasingly complex cognitive and social capacities, relative to those of younger children, mentors in the *conversational* group may have been drawn into deeper levels of conversation with the older mentees. Results also demonstrated that youth in the *conversational* profile also had the highest number of stressful life events (e.g., family move or deaths, and parental/guardian unemployment or separation), a finding that was not hypothesized. In consideration of youth's stress levels in the *conversational* group, mentors may have been compelled to take on a quasi-therapist role in efforts to help youth understand and resolve some of their stressful experiences. Indeed, matches in this profile spent time casually talking and talking about social issues, but they also spent relatively more time talking about youth's relationships and school-related problems (e.g., academic issues, behavior, and attendance). Mentors who place emphasis on such discussions, particularly when they are not trained and supported in this capacity, may find themselves treading into topics that lead both parties feeling overwhelmed and confused (Herrera, DuBois, & Grossman, 2013; Spencer, 2007).

Contrary to hypotheses, there were no differences by activity group in mentor characteristics including gender, parent status, student status, previous mentoring experience, and attitudes towards youth among the three groups. These results are surprising, particularly given past findings regarding differences between student mentors relative to older mentors. For example, Herrera et al. (2007) found that high school mentors spent relatively more time talking about mentee's relationships and engaged in

social activities, while older mentors engaged in relatively more conversations and activities focused on academic youth's academic issues. Similarly, given parallels between parenting and mentoring, it is surprising that parental status was not a differentiating factor across the three profiles (e.g., Goldner & Mayseless, 2008; Keller & Pryce, 2010; Spencer, 2004). For instance, Larose et al. (2010) distinguished mentor's behavioral styles to conceptually parallel parenting styles delineated in research on adolescent development and found better relationship and youth outcomes for mentees who perceived their mentor's style to be authoritative.

Results indicated several program distinctions among the three activity profiles, including their relative academic focus, meeting times, and match meeting duration. Relative to the *playful* group, the *instructional* and *conversational* were more likely to be in an academically focused program, and to have relatively longer match meetings. Given this context, matches in the *instructional* and *conversational* profiles might have been more obliged to address academic concerns directly, and took more time to do so, at the expense of other activities. Relative to the *conversational* group, matches in the *playful* and *instructional* profiles were more likely to be in programs that ran during the school day, including at lunchtime. It may have been the case that matches that met after school provided the needed privacy and space to engage in more personal topics.

Given the importance and positive relational effects of collaborative decision-making (e.g., Herrera et al., 2000; Karcher, Herrera, & Hansen, 2010; Karcher & Nakkula, 2010), we examined this variable across the three profiles. Results indicated no differences across the three profiles in terms of whether the program, mentor, youth, or dyad selected the activities. In part, these results may reflect the school-based context in

which matches met, which might have served to standardize options that were available to matches (Karcher & Herrera, 2007). There were differences, however, in the extent to which teachers chose match activities across the profiles, such that teachers were more likely to choose activities for the *playful* and *instructional* group relative to the *conversational* group. This finding, in part, may relate to the fact that the *conversational* group was less likely to meet during school hours and thus teachers might have had fewer opportunities to provide input within these matches. On the other hand, teachers' involvement with the *playful* group seems counterintuitive. Teachers often refer youth to SBM and may know which youth in their classrooms are participating in mentoring. Although this does not necessarily bias their ability to report on outcomes related to mentoring (e.g., Herrera, Grossman, Kauh, & McMaken, 2011), teachers might be more inclined to encourage activities that are more academic in focus. Further research is needed to examine this particular finding. For instance, while there is increasing recognition of the role of other important adults from youth's social contexts within the youth mentoring relationship (Keller, 2005; Spencer & Basualdo-Delmonico, 2014; Spencer, Basualdo-Delmonico, & Lewis, 2011), no research has examined teachers' conceptions about the intent and goal of mentoring, particularly their perspectives about approaches that might best facilitate these goals.

Next, we were interested in whether there were differences in youth outcomes and relationship processes across the three activity profiles. Results supported some of the study's hypotheses. With a few exceptions, youth across all three profiles demonstrated improvements in at least one area when compared to the control group, a finding that is consistent with the mentoring literature (e.g., DuBois et al. 2011). There were, however,

distinct differences in these outcomes across the three profiles. Although youth in all three groups reported more positive perceptions of their academic efficacy, teachers of youth in the *instructional* and *playful* groups also reported improvements in these youth's academic performance. Additionally, youth in the *playful* profile reported better support from peers and relationships with their parents/guardians, were more likely to report having a special non-parental adult in their lives, and less likely to engage in school-related misconduct (e.g., being sent to the principal's office). In contrast, teachers for youth in the i*nstructional* group reported that the youth made more effort in the classroom, and youth themselves reported increased global self-worth. These results suggest that youth in the *playful* profile demonstrated the most benefits, and across several domains, while youth in the *instructional* profile showed largely academic benefits, and youth in the *conversational* profile demonstrated benefits only on one outcome (i.e., academic efficacy).

These results further suggest that, relative to matches that largely engaged in tutoring or conversation, youth in matches that engaged in a mix of playing, talking, and listening benefited the most from mentoring. This finding supports results from Bayer, Grossman, DuBois (2015) which indicated that programs with an emphasis on academic activities did not foster better academic outcomes relative to those that focus on social activities. Similarly, in a study of academic mentoring with youth in late adolescence, Larose et al. (2010) found that college mentees in matches with a focus on problem-solving (i.e., talking about the mentee's personal and academic problems) demonstrated few, and in some cases even negative, outcomes. More generally, consistent with other studies that have examined the relationship between activities and youth outcomes (e.g.,

Keller & Pryce, 2012; Langhout et al., 2004; Larose et al., 2010), these findings suggests that a balanced approach, in which matches can flexibly engage in a range of activities and conversations, may be most beneficial. There were no effects of mentoring on youth's prosocial behavior, relationships with teachers, and unexcused absences across the three profiles.

Differences were found in relationship processes across the three activity profiles. Relative to the other two profiles, youth in the *playful* group reported feeling more emotionally connected to their mentors. Although this finding was marginally significant, it is consistent with other studies that suggest that engagement in activities and conversations that tap into more relational and social experiences is associated with more positive perceptions of the mentoring relationship (Hansen & Corlett, 2007; Herrera et al., 2000; Karcher, Herrera, & Hansen, 2010; Larose et al., 2015). As noted, mentors in the *playful* profile also spent a considerable amount of time listening to and learning about their mentee's interests, hobbies, and feelings. Some researchers suggest that, above and beyond whether interactions are relational or goal-oriented in focus, interactions that also include high levels of such sharing may contribute to stronger relationship quality and closeness (Karcher & Nakkula, 2010; Nakkula & Harris, 2010). Thus, in the current study, it may be that, in the midst of activities, mentees' perceptions of the mentors' interest in their individual experiences may have contributed to mentee's feelings of emotional closeness. Interestingly, no significant differences were found in mentees' report of how youth-centered the relationship was. A youth-centered approach is more flexible and responsive to mentees' needs, rather than those of the mentor or program, and has been found to be associated with greater relationship quality (Morrow

& Styles, 1995). It may be that more subtle, unmeasured aspects of relationship quality, including some negative perceptions, would differentiate activity profiles. Similarly, measures of the instrumental quality and support (e.g., Herrera et al., 2000; Nakkula & Harris, 2010), or relationship quality as a function of achievement of some particular goal, may be more salient for matches who engage in more academically focused activities. Future studies could examine these measures of relationship quality as mediational processes in models of the influence of activities on youth outcomes.

Hypotheses about differences in match duration and match intensity (i.e., frequency of meetings) across the three profiles were not supported. Despite the case that matches in the *instructional* and *conversational* profiles were more likely to be in longer-lasting meetings, there were no differences in the frequently or duration of these particular matches. These findings are in contrast with previous studies that have found some evidence suggesting that matches in programs with a more academic focus and matches that engage in largely academic activities are less likely to endure (Grossman et al., 2012; Hansen & Corlett, 2007). Other studies have found that youth report greater intent to remain in the relationship when they engage in recreational activities with their mentors (Parra et al., 2002). Additionally, other studies have found that mentors feel closer to their mentee when engaged in both activities and discussions, while mentees only do so when engaged in activities (Parra et al., 2002).

More broadly, this study's findings may reflect a distinction between mentoring relationships and other growth-promoting relationships. For instance, meeting times largely spent talking about youth's problems may parallel therapy for some mentees, while working on academic assignments may be experienced as an extension of school,

which has the potential to elicit negative perceptions of mentoring, particularly if the purpose of mentoring was not fully conveyed. Likewise mentors who take on these roles may experience challenges and frustration, or harbor unrealistic expectations about their role within the relationship (Larose et al., 2015; Spencer, 2007). Although mentors may be well-intentioned in their efforts to address mentee's academic and behavioral challenges by spending time talking about them, the approach that some may take in the service of these efforts may at times not align with mentee's developmental capacities or needs. Research suggests that engagement in play and activities is an important aspect of how children and adolescents learn, communicate, and make sense of the world around them (Brown, 2009; Elkind, 2007). Similarly, some activities may be more consistent with what mentees and mentors imagine engaging in when they sign up for mentoring. For instance, programs such as BBBSA often advertise being a friend as a key component of mentoring (Rhodes, 2002). Implicit in this sort of messaging is the idea of having fun (i.e., activities that one is likely to engage in with a friend) as a primary goal of mentoring. Relative to the other two profiles, the *playful* group may be more consistent with this notion. Future research can examine models that consider the manner in which program goals are conveyed to mentors and mentees, as well as the type of training that mentors and mentees report receiving, and how this relates to the type of activities that the match ultimately engages in over the course of the relationship.

Taken together, this study's findings do not suggest that goal-directed and relationally focused activities are mutually exclusive, but rather that a balanced approach inclusive of a range of activities and discussions may facilitate positive mentoring relationship experiences and subsequent benefits, which is consistent with previous

research (e.g., Karcher &Hansen, 2014; Keller & Pryce, 2012; Langhout, Rhodes & Osborne, 2004; Nakkula & Harris, 2010). In this respect, it is interesting to examine these findings within the context of the primary activities of the groups. The three groups engaged in all of the nine activities and conversations to some extent, but where distinct in how *much* of each type of activity or conversation was most prevalent. Studies have found that youth and mentors report negative experiences when their time together is dominated by a single activity or the activity is within a group context (Hansen & Corlett, 2007). Relatedly, matches that are solely focused on fun and play may be just as problematic as they may miss the uniqueness of the mentoring relationship – the potential to have another non-parental adult who may provide guidance and support. In a study that used naturalistic observations of matches, Keller and Pryce (2012) found that matches in which mentors "…were youth-focused, attending to student interests and having fun. Yet, they also preserved their adult sense of purpose, attempting to improve the student's circumstances through their instrumental support" (pg. 61), were the ones that fared the best. Similarly, Karcher and Hansen (2014) note that activities or "doing" may be an important aspect of the mentoring relationship, and suggest that "playful doing" may be a way to incorporate play with structure and purpose in order to facilitate a relational context in which growth and learning may occur, or a context in which developmental relationships may emerge (e.g., Li & Julian, 2012).

It is important to note that what activities and discussions are emphasized, and how a balance of these is negotiated, needs to be informed by the mentee's needs and preferences, which may be influenced by developmental stage, individual history, and interests. For instance, in the current study, youth in the *conversational* profile were

relatively older. Time spent mostly talking with an adult might not be particularly appealing to older youth who are more likely to orient towards and disclose to peers rather than adults (Larson & Richards, 1998; Thomson & Zand, 2010). Moreover, older youth may have a preference for activities and interactions that support necessary skills for the transition to adulthood, such as academic, vocational, and career development (Larose et al., 2010). These negotiations, however, are also informed by parent/guardian expectations, as well as program goals.

4.2. Limitations

While this study has several strengths, including longitudinal, multi-informant data from a large, nationally representative evaluation, there are limitations that must be considered. Most notably, while youth were randomly assigned to the treatment (receive mentoring) and control conditions, mentees and mentors were not randomly assigned to different activities. Further, we were unsuccessful in establishing a viable instrument to carry out 2SLS analyses, which limits our ability to make casual conclusions. While our results indicate that the three activity profiles were associated with different youth outcomes, it is also possible that other unmeasured or underlying factors relate to both activity selection and youth outcomes. For example, highly engaging youth may have greater ease interacting with mentors in less structured activities, as well as establishing the kinds of relationships with mentors that would lead to better outcomes. Likewise, youth who enter the relationship with more severe academic or emotional difficulties might engage with the mentors in ways that shape the activities. Although the analyses controlled for relevant baseline levels of each outcome, we cannot necessarily determine

causality as self-selection could remain the driving force for these effects. Future studies could deploy instrumental variable techniques that might help control for self-selection bias. Likewise, random assignment into different activity groupings would help to tease out these causality issues.

In addition, while a range of differences in outcome between profiles were detected, it is possible that more subtle, unmeasured differences may also exist. Future studies using more sensitive measures, including qualitative components (e.g., observations, in-depth interviews), are needed to further explore the role that activities may play in dyadic relationships. For example, Keller and Pryce (2012) used a mixed-method approach with naturalistic observations of match interactions and quantitative measures. Further, although dyads were constrained by the school context in which the relationships unfolded, it would have been helpful to have collected data on a wider range of these activities. For example, additional measures of playful activities and interactions might have led to a more nuanced assessment of what transpired.

Similarly, the activity reports were derived only from mentors. It would have been helpful to have a multi-informant approach, including youth activity reports, and determine their convergence with those of their mentors. Separate analyses of youth reports and mentor reports would enable tests of whether the models hold across informants and their associations with predicted outcomes. For example, Parra and colleagues (2002) tested a mentor and youth model of several relationship processes, and found differences in significant pathways between the two models. Other studies have used mentee reports of activities (e.g., Larose et al., 2015). Likewise, given its association

with stronger impacts (e.g., DuBois et al., 2011), it would have been helpful to determine the extent to which dyads engaged in activities that drew on shared interests.

Relatedly, the mentor report of activities was a retrospective account, measured contemporaneously with outcome variables at follow-up. As such, it possible that mentors recollections did not accurately capture what they did with their mentees. Similarly, the post-relationship assessment limited our ability to examine activities dynamically. Measuring the type of activities that matches engaged in over the course of a relationship may have elucidated trends over time, as certain interactions may evolve after a strong relationship is established (e.g., Keller, 2005). For example, the focus of activities may become interactional as mentor and mentee learn about and respond to each other's interests and relational styles. Further, this sort of approach may also provide a better understanding of stages in a mentoring relationship, and the points at which it may be beneficial to place an emphasis on certain activities relative to others (Karcher & Nakkula, 2010). In this respect, some studies have examined match interactions prospectively, using more than one time point (e.g., Keller & Pryce, 2012; Larose et al., 2015); however, more studies are needed to better understand how activities evolve, as well as what points in the relationship these shifts occur. For instance, with potential pressure from other stakeholders (e.g., parents, program administrators), mentors and mentees may feel compelled to engage in activities that address youth's problems, or take on a more prescriptive approach before a relational connection has developed.

Finally, it should be noted that the analyses are based on a relatively short pre- to post period and that additional "sleeper" effects, particularly from the more *conversational* group, might emerge over time.

Other limitations relate to characteristics of the sample of this study. First, youth in the sample were relatively young, with approximately 60% in 4-5th grade. Similarly, the sample included a relatively large percentage of high school mentors, a function of a deliberate oversampling of this age group. Although studies suggest that high school mentors may be less effective than older mentors (Herrera, Kauh, Cooney, Grossman, & McMaken, 2008), no differences in mentor age and student status were found among the three profiles. Although age was controlled for in all analyses, it is possible that there were age variations in the salience of certain activities relative to others. Future research with a larger, broader age range sample would allow for more nuanced models of the influence of age, such as moderator analyses. Second, this study drew on data from a BBBSA SBM program, which limits the generalizability of findings to mentoring programs that may differ in context and structure. Although some program characteristics were controlled for in the analyses, there might be additional school-level factors that might account for variation. For instance, relative to other programs, school-based programs, which typically serve youth with greater academic difficulties, may place a greater emphasis on academic activities. Similarly, given the context, there are limitations in terms of the breadth of activities available to matches, as well as the amount of time that matches spend together. Studies examining the role of activities across a range of mentoring contexts would greatly inform the field.

Despite these limitations, this study contributes to the literature in considering the role that activities play in mentoring relationship processes and outcomes. Few studies have examined associations between match activities and youth outcomes (e.g., Keller & Pryce, 2012; Langhout, Rhodes, & Osborne, 2004; Larose et al. 2010), and even fewer

have examined these associations with a control group (e.g., Langhout, Rhodes, & Osborne, 2004; Larose et al. 2010). The use of a longitudinal data from a multi-informant, large national sample of formal youth mentoring programs is a strength of the current study. In addition, this study examined the influence of activities on specific outcomes, with use of a control group and a rigorous statistical approach (LPA).

4.3. Future Research

The current study results revealed distinct groups based on the type of activities and discussions that mentor-youth matches engaged in, and that these groups differed in youth, mentor, and program characteristics, as well as youth outcomes and relationship processes. Further research is needed to extend these findings, particularly the processes through which activities may influence mentoring experiences. Given the importance placed on match strength and connection, structural equation modeling (SEM) moderated mediation models of youth outcomes with relationship quality as a mediator and various mentor and youth characteristics as moderating mechanisms would be an important contribution. Moreover, qualitative studies may provide further understanding of the ways in which specific activities and discussions contribute to the mentoring relationship and subsequent youth outcomes. For instance, it would be interesting to get a sense of the valance of certain discussions that mentors and youth engage in, such as whether mentors place an emphasis on negative or positive aspects of youth's relationships (e.g., with parents, peers, teachers), both, or whether discussions of relationships are a more general "check-in".

4.4. Implications

Results of this study have potential implications for practice, including the potential of specific activities to influence outcomes that programs may desire. It is important to note, however, that the findings should not be taken to imply that certain activities should be excluded altogether from program practices. The groupings in this study reflect the primary focus but necessarily the only activity and, as such, the activities are not mutually exclusive. For example, youth in the *playful* group also engaged in academic and conversational activities. What may be more influential is how certain activities align with program goals and resources (Karcher et al., 2006; Mcquillin, Terry, Strait, & Smith, 2013); how the program's goals are communicated to mentees and their parents, and mentors; as well as how supported all parties feel in meeting these goals across the duration of the relationship.

4.5. Conclusion

Overall, this study provides evidence for the role of activities on mentoring experiences, and the benefits derived from mentoring. Findings from this study support those from the existing and growing body of empirical studies, as well as theoretical frameworks (e.g., TEAM) focusing on activities within youth-mentor relationships.

APPENDIX

Table 1. *Demographic Characteristics of Youth (N =1,100)*

	Whole Sample	Control Group	Treatment Group
Age[a]	11.2 (1.62)	11.2 (1.66)	11.2 (1.57)
Sex (%)			
Female	54	54	54
Male	46	46	46
Single-parent household (%)	36	35	36
Free/reduced lunch (%)	60	59	61
Race/ethnicity (%)			
Non-white	26	26	26
Hispanic/Latino			
Black/African American	23	21	24
Native American	12	13	12
Asian/Pacific Islander	2	2	2
White	47	47	47
Other	5	5	4
Grade level (%)			
4	36	35	37
5	25	24	26
6	24	25	23
7	10	10	9
8	.5	.7	.4
9	5	6	4

Notes. [a] Mean and standard deviation presented. All other values in table are percentages. Percentage totals may be more than 100% due to rounding.

Table 2. *Frequencies, Mean and Standard Deviation of 17 Activity Items*

Time spent engaging in…	None (%)	Very Little (%)	Some (%)	A lot (%)	Most (%)	Mean (SD)
tutoring/homework during meetings	18.3	20.6	33.5	19.4	8.2	1.79 (1.19)
sports/athletics during meetings	31.4	15.3	29.0	16.7	7.5	1.54 (1.29)
creative activities during meetings	15.1	16.2	33.4	26.6	8.7	1.98 (1.18)
indoor games during meetings	10.1	5.6	30.0	36.3	18.0	2.47 (1.15)
going to school events during meetings	71.7	14.5	13.1	.7	0	.43 (.74)
going to BBBS events during meetings	50.4	16.9	23.3	5.4	4.0	.96 (1.15)
talking about little's academic issues during meetings	6.6	18.1	44.6	25.6	5.2	2.05 (.95)
talking about little's behavior during meetings	25.4	25.9	34.1	11.5	3.1	1.41 (1.08)
talking about attendance, staying in/importance of school during meet	14.3	24.4	39.4	18.5	3.3	1.72 (1.03)
talking about future during meetings	9.9	20.0	40.6	22.3	7.3	1.97 (1.05)
having casual conversations during meetings	1.2	1.9	26.1	42.1	28.7	2.95 (.85)
talking about social issues during meetings	28.2	32.6	24.9	10.8	3.5	1.29 (1.09)
talking about little's friends during meetings	3.7	12.2	41.5	33.3	9.4	2.32 (.94)
talking about little's teachers during meetings	6.8	20.1	41.5	27.9	3.7	2.02 (.95)
talking about little's family during meetings	4.3	15.1	36.9	34.0	9.7	2.30 (.98)
talking about little's romantic friend during meetings	51.5	20.9	15.8	9.4	2.4	.90 (1.12)
listening and learning during meetings	1.6	2.1	26.5	45.4	24.4	2.89 (.85)

Table 3. *Zero-Order Correlations of 17 Activity Items*

Table 3. *Zero-Order Correlations of 17 Activity Items*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.tutoring/homework																
2. sports/athletics	-.15**															
3. creative activities	.05	.16**														
4. indoor games	-.12*	.23**	.32**													
5. going to school events	-.02	.25**	.10*	.10*												
6. going to bbbs events	-.07	.28**	.24**	.25**	.25**											
7. talking about little's academic issues	.35**	-.16**	.05	-.07	.05	.01										
8. talking about little's behavior	.12*	.11*	.06	.06	.12*	.17**	.44**									
9. talking about attendance, staying in/importance of school	.13**	.02	.09	.00	.17**	.14**	.55**	.52**								
10. talking about future	.15**	-.01	.08	-.02	.13**	.10*	.53**	.37**	.62**							
11. having casual conversations	-.06	.18**	.12*	.20**	.13**	.03	.25**	.13**	.25**	.33**						
12. talking about social issues	.04	.08	.19**	.02	.17**	.21**	.31**	.30**	.36**	.39**	.30**					
13. talking about little's friends	-.04	.17**	.23**	.19**	.11*	.18**	.25**	.23**	.35**	.31**	.52**	.38**				
14. talking about little's teachers	.02	.07	.12*	.07	.12*	.04	.38**	.24**	.39**	.36**	.44**	.36**	.57**			
15. talking about little's family	.04	-.04	.14**	.07	.12*	.00	.36**	.18**	.31**	.40**	.48**	.23**	.50**	.55**		
16. talking about little's romantic friend	-.05	.06	.13**	.08	.18**	.18**	.05	.22**	.20**	.23**	.22**	.20**	.40**	.28**	.29**	
17. listening and learning	.04	.08	.24**	.19**	.08	.09	.32**	.13**	.31**	.32**	.52**	.27**	.53**	.40**	.42**	.18**

Notes. ** $p < .01$ * $p < .05$

Table 4. *Conceptual Organization of Activity Items*

Conversations	Casual	Casual conversations (e.g., sports, weekend activities, holiday plans).
	Social Issues	Talking about social issues (e.g., current events/news, poverty, crime, religion, race issues, etc.).
	Future	Talking about your Little's academic issues (e.g., grades, schoolwork, testing). Talking about your Little's behavior (e.g., detention, misbehavior). Talking about attendance, staying in school, the importance of school. Talking about the future (e.g., high school, college, career, goals, dreams, etc.).
	Relationships	Talking about your Little's friends. Talking about your Little's teachers. Talking about your Little's family.
Tutoring/Homework		Helping with reading, library, computer work, etc.
Sports/athletics		Playing basketball, soccer, catch, etc.
Creative activities		Drawing, arts & crafts, reading and writing for fun, photography, etc.
Indoor games		Board games, cards, chess, puzzles, computer games, etc.
Listening		Listening and learning about Little's hobbies, interests, and feelings

Table 5. *Zero-Order Correlations, Mean, SD of Activity Measures Included in Latent Profile Analysis (LPA)*

	1	2	3	4	5	6	7	8	Mean (SD)
1. Tutoring/ homework									1.79 (1.19)
2. Sports/athletics	-.15**								1.54 (1.29)
3. Creative activities	.05	.16**							1.98 (1.18)
4. Indoor games	-.12*	.23**	.32**						2.47 (1.15)
5. Casual talk	-.06	.18**	.12*	.20**					2.95 (.85)
6. Social issues talk	.04	.08	.19**	.02	.30**				1.29 (1.10)
7. Future talk	.27**	-.05	.10	.00	.33**	.36**			2.44 (.88)
8. Relationships talk	-.00	.08	.18**	.14**	.57**	.32**	.39**		2.63 (.82)
9. Listening and learning	.04	.08	.24**	.19**	.52**	.27**	.36**	.57**	2.89 (.85)

Notes. $^{**}p < .01$ $^{*}p < .05$

Table 6. *Fit Indices for One- to Seven-Profile Latent Profile Analysis (LPA) Solutions*

Number of Profiles	Log-Likelihood	AIC	BIC	Sample-Size Adjusted BIC	LMRT *p-value*	BLRT *p-value*	Entropy
1	-5437.124	10910.247	10983.269	10926.149	n/a	n/a	n/a
2	-5223.947	10503.893	10617.483	10528.629	.000	.000	.76
3	-5156.120	10388.239	10542.397	10421.809	.07	.000	.84
4	-5105.521	10307.041	10501.767	10349.444	.29	.000	.81
5	-5062.544	10241.089	10476.382	10292.326	.11	.000	.81
6[a]	-5028.989	10193.977	10469.839	10254.049	.39	.000	.82
7[b]	-4661.775	9479.551	9795.980	9548.456	.88	1.00	.95

Notes. AIC = Akaike Information Criterion, BIC=Bayesian Information Criterion, LMR = Lo-Mendell-Rubin likelihood test, BLRT = bootstrap likelihood ratio test.

[a] Error message obtained during model estimation indicating issues with model identification and that subsequently that the model parameter estimates may not be trustworthy.

[b] Error message obtained during model estimation indicating that the best log-likelihood was not replicated, and there were issues with model identification and that subsequently that the model parameter estimates may not be trustworthy.

Table 7. *Class Counts (N), Proportions (%) and Average Latent Class Probabilities for One- to Seven-Profile Latent Profile Analysis (LPA) Solutions*

	1	2	3	4	5	6	7
One-profile							
1, *n* = 427, 100%							
Two-profile							
1, *n* = 155, 36.3%	**.913**	.087					
2, *n* = 272, 63.7%	.057	**.943**					
Three-profile							
1, *n* = 141, 33.0%	**.914**	.071	.015				
2, *n* = 247, 57.8%	.059	**.931**	.011				
3, *n* = 39, 9.1%	.032	.039	**.928**				
Four-profile							
1, *n* = 37, 8.7%	**.931**	.000	.042	.026			
2, *n* = 37, 8.7%	.014	**.886**	.100	.000			
3, *n* = 176, 41.2%	.012	.029	**.875**	.084			
4, *n* = 177, 41.4%	.008	.000	.094	**.898**			
Five-profile							
1, *n* = 25, 5.9%	**.897**	.051	.052	.000	.000		
2, *n* = 33, 7.7%	.017	**.886**	.080	.001	.015		
3, *n* = 172, 40.3%	.015	.037	**.856**	.087	.005		
4, *n* = 160, 37.5%	.000	.000	.111	**.880**	.009		
5, *n* = 37, 8.7%	.000	.012	.029	.021	**.938**		
Six-profile[a]							
1, *n* = 2, .5%	1	.000	.000	.000	.000	.000	
2, *n* = 47, 11.0%	.000	**.873**	.071	.014	.041	.000	
3, *n* = 70, 16.4%	.000	.040	**.874**	.002	.083	.000	
4, *n* = 37, 8.7%	.000	.014	.001	**.937**	.031	.017	
5, *n* = 193, 45.2%	.000	.015	.038	.006	**.870**	.071	
6, *n* = 78, 18.3%	.000	.000	.000	.009	.136	**.855**	
Seven-profile[b]							
1, *n* = 32, 7.5%	**.841**	.159	.000	.000	.000	.000	.000
2, *n* = 122, 28.6%	.058	**.942**	.000	.000	.000	.000	.000
3, *n* = 0, 0%	.000	.000	**.000**	.000	.000	.000	.000
4, *n* = 29, 6.8%	.000	.000	.000	**1**	.000	.000	.000
5, *n* = 187, 43.8%	.000	.000	.000	.000	**1**	.000	.000
6, *n* = 36, 8.4%	.000	.000	.000	.000	.000	**.924**	.076
7, *n* = 21, 4.9%	.000	.000	.000	.000	.000	.098	**.902**

Notes. Percentages of *Ns* in each class may be more than 100% due to rounding.
Average latent class probabilities for most likely latent class membership (row) by latent class (column)
Values in **bold** represent the average probability that individuals assigned into a specific profile belong in that group.

Table 8. *Means and Standard Deviations of Activity Measures for Each Profile in the 3-Profile Solution*

Activity	Instructional	Playful	Conversational
Tutoring/homework	.11 (.11)	-.05 (.07)	-.07 (.19)
Sports/athletics	-.10 (.11)	.20 (.07)	-.79 (.15)
Creative activities	-.34 (.10)	.34 (.07)	-.79 (.23)
Indoor games	-.24 (.12)	.47 (.06)	-1.93 (.07)
Casual conversations	-.85 (.12)	.43 (.08)	.45 (.33)
Conversations about social issues	-.49 (.09)	.23 (.08)	.39 (.29)
Conversations about the future	-.52 (.13)	.24 (.07)	.44 (.18)
Conversations about relationships	-.93 (.10)	.47 (.09)	.49 (.28)
Listening	-.85 (.15)	.47 (.07)	.24 (.22)

Figure 1. *Standardized Means of Activity Measures for Each Profile in the 3-Profile Solution*

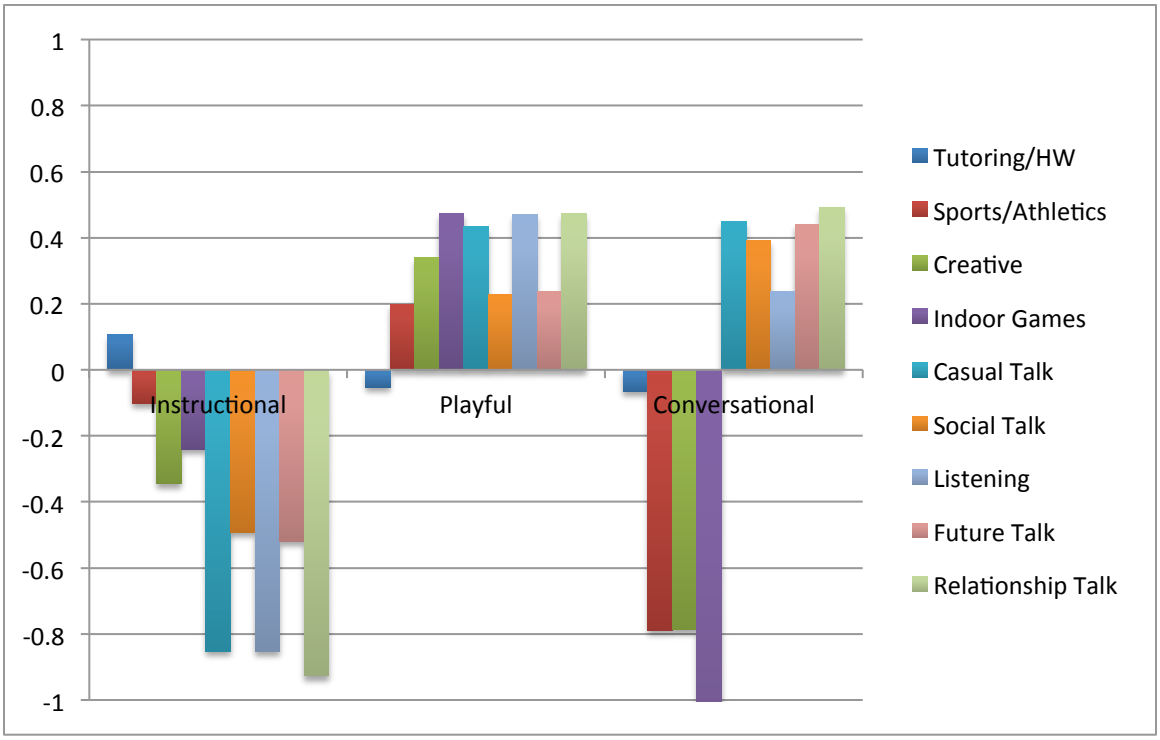

Table 9. *Mentee, Mentor, and Program Characteristics Among the Three Activity Profiles*

	Profile 1: Instructional (n = 141)	Profile 2: Playful (n = 247)	Profile 3: Conversational (n = 39)	x^2/ F test
Mentee				
Minority status	89 (63.1%)	144 (58.3%)	23 (59%)	x^2 (2, 427) = .89
Free/reduced lunch	86 (68.3%)	149 (68.3%)	23 (63.9%)	x^2 (2, 380) = .29
Single-parent HH	41 (31.5%)	94 (39.8%)	16 (43.2%)	x^2 (2, 403) = 3.04
Female	**64 (45.4%)**	**137 (55.5%)**	**24 (61.5%)**	**x^2 (2, 427) = 5.00‡**
Age	**10.84 (1.38)$_a$**	**11.06 (1.56)**	**11.49 (1.86)$_b$**	**F (2, 424) = 2.84‡**
Extracurricular	2.36 (1.56)	2.52 (1.42)	2.56 (1.43)	F (2, 424) = .62
Stressful life events	**4.61 (2.42)$_a$**	**4.98 (2.46)**	**5.67 (2.53)$_b$**	**F (2, 424) = 3.01‡**
Mentor				
Parent status	14 (10.4%)	34 (15.0%)	5 (13.2%)	x^2 (2, 399) = 1.50
Minority status	25 (18.5%)	47 (20.2%)	8 (21.1%)	x^2 (2, 406) = .20
Female	89 (66.4%)	172 (74.8%)	29 (76.3%)	x^2 (2, 402) = 3.31
Married/cohabitating	23 (17.2%)	53 (23.3%)	6 (15.8%)	x^2 (2, 399) = 2.56
Student status	87 (68.5%)	155 (70.1%)	25 (69.4%)	x^2 (2, 384) = .10
Age	24.60 (12.83)	23.74 (11.37)	24.03 (11.92)	F (2, 399) = .23
Previous formal	38 (29.0%)	45 (20.3%)	9 (24.3%)	x^2 (2, 390) = 3.50
Previous informal	80 (61.1%)	127 (57.2%)	20 (54.1%)	x^2 (2, 390) = .80
Academic goal	12 (9.9%)	19 (9.3%)	5 (13.9%)	x^2 (2, 361) = .93$_c$
School behavior goal	1 (.8%)	3 (1.5%)	0 (0%)	x^2 (2, 361) = .38$_c$
Friend goal	56 (46.3%)	103 (50.5%)	22 (61.1%)	x^2 (2, 361) = 2.46
Relationships goal	4 (3.3%)	6 (2.9%)	2 (5.6%)	x^2 (2, 361) = 1.07$_c$
Feel good goal	**40 (33.1%)**	**54 (26.5%)**	**5 (13.9%)**	**x^2 (2, 361) = 5.34‡**
Attitudes	3.46 (.50)	3.51 (.51)	3.47 (.46)	F (2, 372) = .42
Program				
Meeting time	**15 (10.7%)**	**43 (17.4%)**	**2 (5.1%)**	**x^2 (2, 426) = 6.16***
Meeting time duration	**55 (39.0%)**	**61 (24.7%)**	**18 (46.2%)**	**x^2 (2, 427) = 12.89***
Program focus	**66 (46.8%)**	**82 (33.2%)**	**19 (48.7%)**	**x^2 (2, 427) = 8.65***
BBBS chose activity	86 (61.0%)	160 (64.8%)	28 (71.8%)	x^2 (2, 427) = 1.65
Teacher chose activity	**17 (12.1%)**	**52 (21.1%)**	**1 (2.6%)**	**x^2 (2, 427) = 11.29***
Mentor chose activity	122 (86.5%)	222 (89.9%)	32 (82.1%)	x^2 (2, 427) = 2.63$_c$
Youth chose activity	118 (83.7%)	215 (87.0%)	32 (82.1%)	x^2 (2, 427) = 1.22
Match chose activity	115 (81.6%)	210 (85.0%)	31 (79.5%)	x^2 (2, 427) = 1.24

Notes. Means with differing subscripts differ significantly by profile. Scheffe post hoc tests were used.

$_c$ Fisher's Exact Test for Chi-Square tests in which some cells had an expected count less than 5.

* p <.05 ‡p < .10

Table 10. *Zero-order Correlations Among Youth Academic, Behavioral, and Social-Emotional Outcomes*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	-																	
2	-.23**	-																
3	-.08**	-.12**	-															
4	-.07*	.02	.03	-														
5	-.07*	-.03	.04	-.02	-													
6	.00	.08*	.08**	.06	-.03	-												
7	.02	-.03	-.01	.01	.11**	.06*	-											
8	.00	.00	-.02	.04	.08*	.13**	.19**	-										
9	-.06	.02	.02	-.01	.02	.05	.02	.09**	-									
10	-.03	.03	.02	.04	.01	.27**	.05	.03	-.02	-								
11	-.04	-.01	-.02	-.10**	.22**	.15**	.06*	.07*	-.02	.01	-							
12	.08*	-.05	.05	-.04	-.13**	-.12**	.04	.01	-.01	-.06*	-.10**	-						
13	-.02	.08**	-.05	-.01	-.09**	-.04	-.17**	.04	.03	-.08**	.05	-.28**	-					
14	.05	-.10**	.06	.02	-.01	-.08*	.10**	.03	.04	.00	-.05	.40**	-.26**	-				
15	-.03	.10**	-.07*	.00	-.27**	-.02	-.02	-.01	.01	-.02	-.02	.05	.38**	-.30**	-			
16	.00	.00	.03	.15**	-.06	-.11**	-.01	-.04	-.03	.03	-.17**	-.03	-.05	.08*	-.05	-		
17	.03	.00	-.01	-.02	-.08**	-.12**	.12**	.01	-.01	.04	-.09**	.02	-.05	.18**	-.05	.29**	-	
18	-.03	-.01	.02	.29**	-.07*	-.13**	.07*	-.05	-.10**	-.01	-.15**	.02	-.08*	.09**	.02	.55**	.23**	-
19	.01	-.02	.06*	.11**	.01	-.03	.08*	-.02	-.01	.11**	-.02	.03	-.02	.09**	.01	.09**	.28**	.09**
20	.02	.05	.04	.14**	-.25**	-.05	-.10**	-.08*	-.06	.02	-.21**	.03	.06*	.01	.13**	.17**	.26**	.22**
21	.00	-.02	.02	.03	-.16**	-.05	.03	-.01	-.04	.07*	-.17**	.03	-.06	.08*	-.06	.13**	.32**	.14**
22	.00	-.02	-.01	-.04	-.02	-.22**	.07*	.03	.00	.02	-.09**	.06*	-.06*	.17**	-.04	.18**	.54**	.12**
23	-.04	-.02	.03	.28**	-.11**	-.03	.05	.01	-.11**	.02	-.17**	-.03	-.08*	.02	-.02	.31**	.05	.60**
24	.02	-.02	.00	-.01	.04	.03	-.03	.10**	.08*	-.03	.08*	-.07*	.12**	.01	-.01	-.16**	.01	-.17**
25	.00	.00	-.04	-.20**	.10**	.08*	.04	.05	.08*	-.04	.14**	-.06*	.04	-.02	-.01	-.23**	-.06*	-.31**
26	.01	.00	.00	.05	-.03	.24**	.03	.06	.08*	.20**	.01	-.03	.01	.01	.02	-.10**	.04	-.07*
27	.04	.04	.01	.15**	-.08*	-.09**	.01	-.02	.03	-.02	-.13**	-.05	-.03	.11**	-.04	.76**	.29**	.52**
28	.08*	.03	.03	-.02	-.11**	-.02	.09**	.02	-.02	.09**	-.08**	-.04	-.05	.13**	-.02	.34**	.52**	.25**
29	.02	.00	.04	.28**	-.07*	-.10**	.08*	-.06	-.05	-.01	-.12**	-.03	-.02	.09**	-.02	.47**	.24**	.72**
30	-.02	.06	.02	.11**	.05	-.03	.03	-.01	.00	.12**	-.01	.04	-.07*	.05	-.04	.04	.15**	.04
31	.02	.02	.02	.14**	-.20**	-.05	-.10**	-.08*	-.08*	.03	-.15**	-.01	.04	.00	.04	.15**	.17**	.26**
32	.00	.05	-.02	-.03	-.14**	-.01	.01	-.01	-.04	.08**	-.10**	-.03	-.04	.04	-.05	.07*	.23**	.06*
33	.05	.00	.00	-.03	-.06	-.09**	.06	.02	.00	.03	-.04	-.03	-.04	.15**	-.04	.20**	.33**	.14**
34	-.01	.00	.04	.28**	-.09**	-.05	.05	-.03	-.07*	-.01	-.13**	-.07*	-.04	-.02	-.01	.25**	.06	.50**
35	-.06	-.06	.02	.01	.07*	.04	.03	.15**	.06	-.05	.08*	-.01	.10**	.02	.03	-.13**	-.02	-.15**
36	.05	-.08*	-.04	-.20**	.10**	.04	.01	.06	.07*	-.01	.13**	.05	-.06	.05	-.05	-.17**	-.03	-.29**
37	-.03	.08*	.03	.07*	-.06*	.07*	.00	-.04	.02	.11**	-.06	.05	-.01	.11**	.02	.02	.12**	.04

Note. 1= Instructional Profile (coded as 0= Playful profile, Conversational profile, and control group; 1=Instructional)
2= Playful Profile (coded as 0= Instructional profile, Conversational profile, and control group; 1= Playful)
3= Conversational Profile (coded as 0= Instructional profile, Playful profile, and control group; 1= Conversational)
4=Female, 5=Youth Age, 6= Stressful live events, 7=Minority status, 8= Free/reduced lunch, 9=Single-parent household, 10=Extracurricular activities, 11=Substance abuse
12=Program focus, 13=Program meeting time, 14=Match meeting time duration, 15=Teacher chose activity
16= Overall Academic Performance (T1), 17= Self-Perceptions of Academic Abilities (T1), 18= Classroom Effort (T1), 19= Peer-Self Esteem Enhancement (T1), 20= Teacher-Student Relationship Quality (T1), 21= Parent Relationship Quality (T1), 22 = Global Self Worth (T1), 23= Prosocial Behavior (T1), 24= Unexcused Absences (T1), 25= School-Related Misconduct (T1), 26= Presence of Special Adult (T1), 27= Overall Academic Performance (T2), 28= Self-Perceptions of Academic Abilities (T2), 29= Classroom Effort (T2), 30= Peer-Self Esteem Enhancement (T2), 31= Teacher-Student Relationship Quality (T2), 32= Parent Relationship Quality (T2), 33 = Global Self Worth (T2), 34= Prosocial Behavior (T2), 35= Unexcused Absences (T2), 36= School-Related Misconduct (T2) , 37 = Presence of Special Adult (T2)
**p <.01, *p<.05

Table 10. *Zero-order Correlations Among Youth Academic, Behavioral, and Social-Emotional Outcomes*

	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19	-																	
20	.26**	-																
21	.38**	.39**	-															
22	.41**	.27**	.40**	-														
23	.07*	.20**	.09**	.05	-													
24	.02	-.05	.00	.02	-.11**	-												
25	-.06	-.22**	-.08**	-.07*	-.38**	.09**	-											
26	.07*	.10**	.15**	.01	-.04	.06	.06	-										
27	.06*	.15**	.08*	.13**	.33**	-.13**	-.18**	-.07*	-									
28	.21**	.21**	.20**	.32**	.11**	-.04	-.09**	.09**	.34**	-								
29	.11**	.23**	.12**	.14**	.52**	-.13**	-.27**	-.06	.60**	.31**	-							
30	.37**	.15**	.20**	.22**	.01	.02	-.06	.10**	.04	.28**	.08*	-						
31	.20**	.50**	.28**	.15**	.26**	-.03	-.20**	.02	.18**	.28**	.32**	.22**	-					
32	.24**	.22**	.56**	.28**	.08*	.06	-.04	.17**	.07*	.30**	.12**	.36**	.38**	-				
33	.29**	.19**	.31**	.48**	.08*	.00	-.10**	.03	.18**	.55**	.21**	.34**	.31**	.45**	-			
34	.08**	.16**	.08*	.05	.69**	-.07*	-.30**	-.02	.34**	.12**	.64**	.05	.30**	.09**	.11**	-		
35	-.04	-.08*	-.04	.00	-.08*	.29**	.16**	.07*	-.15**	-.08*	-.19**	-.02	-.16**	-.02	-.07	-.12**	-	
36	-.05	-.14**	.00	-.02	-.34**	.11**	.29**	.07*	-.22**	-.08*	-.36**	-.05	-.20**	.00	-.06	-.42**	.20**	-
37	.13**	.08*	.12**	.07*	.03	-.01	-.04	.23**	.00	.11**	.03	.13**	.08**	.15**	.08*	.04	.01	.01

Note. 1= Instructional Profile (coded as 0= Playful profile, Conversational profile, and control group; 1=Instructional)
2= Playful Profile (coded as 0= Instructional profile, Conversational profile, and control group; 1= Playful)
3= Conversational Profile (coded as 0= Instructional profile, Playful profile, and control group; 1= Conversational)
4=Female, 5=Youth Age, 6= Stressful live events, 7=Minority status, 8= Free/reduced lunch, 9=Single-parent household, 10=Extracurricular activities, 11=Substance abuse
12=Program focus, 13=Program meeting time, 14=Match meeting time duration, 15=Teacher chose activity
16= Overall Academic Performance (T1), 17= Self-Perceptions of Academic Abilities (T1), 18= Classroom Effort (T1), 19= Peer-Self Esteem Enhancement (T1), 20= Teacher-Student Relationship Quality (T1), 21= Parent Relationship Quality (T1), 22 = Global Self Worth (T1), 23= Prosocial Behavior (T1), 24= Unexcused Absences (T1), 25= School-Related Misconduct (T1), 26= Presence of Special Adult (T1), 27= Overall Academic Performance (T2), 28= Self-Perceptions of Academic Abilities (T2), 29= Classroom Effort (T2), 30= Peer-Self Esteem Enhancement (T2), 31= Teacher-Student Relationship Quality (T2), 32= Parent Relationship Quality (T2), 33 = Global Self Worth (T2), 34= Prosocial Behavior (T2), 35= Unexcused Absences (T2), 36= School-Related Misconduct (T2) , 37 = Presence of Special Adult (T2)
**p <.01, *p<.05

Table 11. *Zero-order Correlations Among Mentoring Relationship Process Outcomes*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Instructional	-																		
Playful	-.82**	-																	
Conversational	-.22**	-.37**	-																
Female	-.10*	.07	.06	-															
Youth Age	-.09	.03	.09	-.02	-														
Stressful life events	-.09	.03	.10*	.06	-.03	-													
Minority status	.05	-.04	-.01	.01	.11**	.06*	-												
Free/reduced lunch	.01	.01	-.03	.04	.08*	.13**	.19**	-											
Single-parent household	-.08	.06	.04	-.01	.02	.05	.02	.09**	-										
Extracurricular activities	-.05	.04	.02	.04	.01	.27**	.05	.03	-.02	-									
Substance abuse	-.03	.04	-.02	-.10**	.22**	.15**	.06*	.07*	-.02	.01	-								
Program focus	.11*	-.14**	.06	-.04	-.13**	-.12**	.04	.01	-.01	-.06*	-.10**	-							
Program meeting time	-.07	.11*	-.08	-.01	-.09**	-.04	-.17**	.04	.03	-.08**	.05	-.28**	-						
Match meeting time duration	.12*	-.17**	.10*	.02	-.01	-.08*	.10**	.03	.04	.00	-.05	.40**	-.26**	-					
Teacher chose activity	-.08	.15**	-.12*	.00	-.27**	-.02	-.02	-.01	.01	-.02	-.02	.05	.38**	-.30**	-				
Feel good most important goal	.09	-.02	-.10	.05	.11*	.03	.11*	.09	-.04	.03	.04	-.02	-.06	-.17**	-.08	-			
Youth emotional engagement	-.05	.11*	-.10*	.08	-.08	.07	-.02	.05	-.14**	.10*	.00	-.07	.08	-.10*	.04	.01	-		
Youth- centered relationship	-.01	.06	-.09	.09*	-.08	.07	-.05	.07	-.17**	.07	.05	.01	.04	.00	.00	-.01	.70**	-	
Match duration	.02	-.06	.07	.00	-.05	.03	.02	.02	-.02	.00	-.05	.09**	.00	.04	.02	-.09	.07	.06	-
Match meeting frequency	.02	.03	-.08	.07	-.19**	-.08	-.05	.04	-.02	.02	-.05	.14**	.12*	-.17**	.11*	.12*	.15**	.13**	.10*

**p <.01, *p<.05

Table 12. *Means (standard deviations) for Baseline Values of Outcome Variables by Activity Profiles and Control Group*

	Instructional	Playful	Conversational	Control
Academic performance	2.48 (1.06)	2.48 (1.04)	2.64 (1.11)	2.47 (1.09)
Self-perception of academic abilities	2.81 (.61)	2.76 (.63)	2.73 (.73)	2.75 (.64)
Classroom effort	2.70 (.71)	2.74 (.73)	2.81 (.86)	2.77 (.76)
Peer self-esteem enhancement	3.03 (.79)	2.98 (.85)	3.27 (.70)	3.00 (.80)
Teacher relationship	3.38 (.52)	3.39 (.53)	3.44 (.47)	3.31 (.54)
Parent relationship	3.22 (.49)	3.19 (.62)	3.29 (.59)	3.22 (.58)
Global self-worth	3.16 (.48)	3.15 (.57)	3.14 (.56)	3.18 (.57)
Prosocial behavior	3.06 (.53)	3.09 (.59)	3.21 (.56)	3.13 (.57)
Unexcused absences [a]	13.8%	11.1%	11.8%	12.2%
School-related misconduct[a]	12.4%	13%	5.9%	13.3%
Presence of special adult[a]	64%	63.1%	63.9%	63%

Notes.
[a] dichotomous variables. Scores presented are percentages from Chi-Square tests of baseline values of the dichotomous outcome variable.
Value in parentheses is standard deviation.

Table 13. *Regression Coefficient of Different Activity Profiles Predicting Academic Outcomes*

	Instructional	Playful	Conversational
Academic performance (N=659)			
B (*SE*)	**.21 (.09)***	**.13 (.07)‡**	-.05 (.15)
t	2.41	1.87	-.36
95% CI	.04, .37	-.01, .26	-.34, .24
Self-perception of academic abilities (N=824)			
B (*SE*)	**.11 (.05)‡**	**.08 (.04)‡**	**.20 (.09)***
t	1.96	1.78	2.13
95% CI	0, .21	-.01, .16	.02, .38
Classroom effort (N=682)			
B (*SE*)	**.15 (.06)***	.04 (.05)	.11 (.10)
t	2.47	.95	1.05
95% CI	.03, .27	-.05, .14	-.09, .31

Notes. Reference group is the control condition (i.e., coefficient is difference between the mean of each profile and the mean of non-mentored control group).
Covariates in each model included: youth (sex, minority status, age, stressful life events, substance use, free/reduced lunch status, single-parent household status, extracurricular activity participation), program characteristics (academic focus, meeting time, meeting time length, and activity decision-making by teachers), and baseline measure of each outcome.
CI =confidence interval, SE = standard error.
* $p < .05$ ‡$p < .10$

Table 14. *Regression Coefficient of Different Activity Profiles Predicting Behavioral Outcomes*

	Instructional	Playful	Conversational
Unexcused absences (N=622)			
B (*SE*)	-.47 (.41)	-.38 (.31)	.13 (.56)
OR	.63	.68	1.13
95% CI	.28, 1.40	.37, 1.26	.38, 3.41
School-related misconduct (N=668)			
B (*SE*)	.11 (.31)	**-.52 (.29)‡**	-3.43 (.96)
OR	1.12	.59	.31
95% CI	.60, 2.06	.34, 1.04	.07, 1.42

Notes. Reference group is the control condition.
Covariates in each model included: youth (sex, minority status, age, stressful life events, substance use, free/reduced lunch status, single-parent household status, extracurricular activity participation), program characteristics (academic focus, meeting time, meeting time length, and activity decision-making by teachers), and baseline measure of each outcome.
CI =confidence interval, SE = standard error, *OR* = odds ratio.
‡p < .10

Table 15. *Regression Coefficient of Different Activity Profiles Predicting Social-Emotional Outcomes*

	Instructional	Playful	Conversational
Peer self-esteem enhancement (N=824)			
B (*SE*)	.04 (.08)	**.15 (.06)***	-.02 (.13)
t	.55	2.34	-.13
95% CI	-.11, .20	.02, .27	-.28, .25
Teacher-student relationship (N=825)			
B (*SE*)	.02 (.05)	.01 (.04)	.06 (.08)
t	.58	.28	.69
95% CI	-.07, .12	-.07, .09	-.10, .22
Parent relationship (N=824)			
B (*SE*)	.02 (.05)	**.12 (.04)****	-.03 (.09)
t	.34	2.79	-.33
95% CI	-.08, .12	.03, .20	-.20, .14
Global self-worth (N=825)			
B (*SE*)	**.10 (.05)‡**	.04 (.04)	.06 (.09)
t	1.79	.83	.68
95% CI	-.01, .20	-.05, .12	-.12, .24
Prosocial behavior (N=683)			
B (*SE*)	.07 (.05)	.05 (.04)	.13 (.09)
t	1.31	1.15	1.44
95% CI	-.03, .17	-.03, .13	-.05, .30
Presence of special adult[a] (N=794)			
B (*SE*)	-.01 (.23)	**.38 (.19)***	.33 (.42)
OR	.99	**1.47**	1.39
95% CI	.63, 1.54	1.01, 2.14	.61, 3.15

Notes. Reference group is the control condition (i.e., coefficient is difference between the mean of each profile and the mean of non-mentored control group).
Covariates in each model included: youth (sex, minority status, age, stressful life events, substance use, free/reduced lunch status, single-parent household status, extracurricular activity participation), program characteristics (academic focus, meeting time, meeting time length, and activity decision-making by teachers), and baseline measure of each outcome.
CI =confidence interval, SE = standard error, *OR* = odds ratio.
[a] Dichotomous variable, odds ratio (OR)reported. The reference group is the control condition.
**$p < .01$ * $p < .05$ ‡$p < .10$

Table 16. *Regression Coefficient of Playful Activity Profile Compared to Instructional and Conversational Profiles Predicting Process outcomes*

Youth Emotional Engagement (N=314)	
B (*SE*)	**.11 (.06)‡**
t	1.81
95% CI	-.01, .23
Youth-Centered Relationship (N=314)	
B (*SE*)	.08 (.07)
t	1.16
95% CI	-.06, .22
Match Meeting Frequency (N=265)	
B (*SE*)	-.04 (.15)
t	-.28
95% CI	-.35, .26
Match duration (N=315)	
B (*SE*)	.03 (6.14)
t	.01
95% CI	-12.05, 12.11

Notes. Comparisons are between the *playful* profile and the other two profiles, coded as 0=*instructional* and *conversational* 1= *playful*.
Covariates in each model included: youth (sex, minority status, age, stressful life events, free/reduced lunch status, single-parent household status, and extracurricular activity participation), mentor (helping child feel good about self as most important goal), and program (academic focus, meeting time, meeting time length, and activity decision-making by teachers) characteristics.
CI =confidence interval, SE = standard error.
‡p < .10

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