

The Pennsylvania State University
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**RELATEDNESS WITH PARENTS, PEERS, TEACHERS, AND MENTORS IN MIDDLE
CHILDHOOD AND EARLY ADOLESCENCE: PERSON-ORIENTED AND VARIABLE-
ORIENTED APPROACHES**

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by
Alice Jane Davidson

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The dissertation of Alice Davidson was reviewed and approved* by the following:

Scott Gest
Associate Professor of Human Development and Family Studies
Dissertation Advisor
Chair of Committee

Doug Coatsworth
Associate Professor of Human Development and Family Studies

Susan McHale
Professor of Human Development and Family Studies

Constance Flanagan
Professor of Youth Civic Development

Doug Teti
Professor of Human Development and Family Studies
Professor-in-Charge of the Human Development and Family Studies Graduate
Program

*Signatures are on file in the Graduate School

ABSTRACT

Establishing and maintaining positive relationships with parents, non-familial adults, and peers are important tasks linked to social and academic adjustment during childhood and adolescence. Few studies have examined patterns of relatedness in youths' experiences with various social partners using person-oriented and variable-oriented approaches. The present research aims to address these limitations and provide new information about the antecedents and consequences of youths' experiences with parents, peers, teachers and mentors. In the first study, links between youths' perceptions of friendship intimacy and mothers' and fathers' reports of parental acceptance were examined among 246 Mexican American 7th graders. Three patterns of parent-peer linkage were identified using Latent Profile Analysis (LPA): Low Parent; Positive; and Low Friend. A mixed model ANCOVA indicated that youth in the Positive profile had higher bi-cultural orientations relative to other youth, reflected by their higher Anglo orientations, and familism and respeto values. Further, there was greater congruence between the familism values of youth and parents in the Positive profile than for youth and parents in the other profiles. Finally, univariate ANCOVA models indicated that youth in the Positive profile had better adjustment relative to youth in the Low Parent profile, but comparable adjustment to youth in the Low Friend profile. Findings revealed the benefit of a person-oriented approach to illuminate the within-group variability in parent and peer experiences and the unique cultural experiences of minority youth, as well as the implications of parent-peer linkages for the adjustment of minority youth. In the second study, links between youths' closeness with teachers, their social preference among peers, and their perceptions of peer competence were examined among 383 white, lower- to middle-class, rural students in the fall of 6th grade. Three patterns of teacher-peer relatedness were identified using LPA: Low Relatedness; Peer-Oriented; and Teacher-Oriented. A multinomial logistic regression analysis revealed that prosocial behavior in 5th grade positively predicted membership in the Teacher-Oriented and Peer-Oriented profiles in contrast to membership in the Low Relatedness profile, and aggressive behavior negatively predicted membership in the Teacher-Oriented profile in contrast to the Low Relatedness profile. In hierarchical

linear regression models, indicators of relatedness with teachers and with peers and patterns of teacher-peer relatedness were uniquely associated with youths' social and academic adjustment across middle school. Findings also indicated a maladaptive synergistic effect for Low Relatedness youth, such that having a pattern of poor relationships in the school context was worse than the additive effects of the independent indicators of relatedness. The third study examined patterns of association among mentoring match characteristics in 565 youth and 554 mentors participating in the Big Brothers Big Sisters school-based mentoring program. Four distinct mentoring match profiles were identified using LPA: Intuitive; Disengaged; Sufficiently Trained; and Efficacious. Hierarchical linear regression models indicated that the Disengaged profile tended to have less positive mentoring relationship outcomes compared to other profiles. Youth age moderated associations between mentoring profiles and adjustment, such that profiles characterized by mentors' perceptions of sufficient pre-match training in combination with average to high mentor efficacy and engagement in social and academic activities was associated with more positive outcomes for older youth. Collectively, findings from the present studies support the use of person-oriented techniques to examine how features of relationships with parents, peers, teachers and mentors are connected in different ways for different youth and associated with a host of adjustment outcomes. Implications include the importance of assessing relatedness patterns to address youths' adjustment in family, school and mentoring program contexts.

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Chapter 1

Introduction

Relatedness with Parents, Peers, Teachers, and Mentors in Middle Childhood and Early Adolescence:
Person-Oriented and Variable-Oriented Approaches

The importance of social connectedness and shared experience to human development has been recognized for many years (Dewey, 1916). Recently, studies on children's relationships during late middle childhood and early adolescence have noted the importance of interpersonal relatedness (Kuperminc, Blatt, Shahar, Henric & Leadbeater, 2004; Ryan & Deci, 2000). Also referred to as social relatedness (Furrer & Skinner, 2003), belonging (Goodenow, 1993; Baumeister & Leary, 1995), and connectedness (Grossman & Bulle, 2006), interpersonal relatedness involves "the development of intimate, mutually satisfying, reciprocal interpersonal relationships" (Kuperminc et al., 2004, p. 15). Such supportive and caring relationships with significant others, including parents, siblings, teachers, peers, and mentors are thought to promote youths' positive sense of self and emotional well-being, view of the social world as trustworthy (Furrer & Skinner, 2003; Parke et al., 2006; Rhodes, 2002), academic achievement (Goodenow, 1993) and social and behavioral adjustment (Gest, Welsh, & Domitrovich, 2005; Grossman & Rhodes, 2002; Rhodes, Reddy & Grossman, 2005).

Baumeister and Leary (1995) argued that the need to form and maintain strong, stable interpersonal relationships with a few close people is an essential human tendency, and failure to satisfy this need can result in detrimental psychological, behavioral, physical and social outcomes. This belongingness hypothesis is different from attachment theory (Bowlby, 1969; Ainsworth, 1989) in that it claims that the need to belong is not merely directed toward the primary caregiver, but it is an overarching need that can be directed toward and fulfilled by any other person. Considering the familial, school and neighborhood contexts in which youth develop in the United States, youths' interpersonal relationships with parents, peers, teachers and mentors in these contexts are arguably important for their positive development.

Studies support the significance of youths' relationships with multiple social partners in late middle childhood and early adolescence. During this developmental period, youth begin spending more time with peers than they did previously, and the establishment of close peer relationships and perceptions of relatedness to peers is increasingly important for youths' adjustment (Rubin, Bukowski, & Parker, 1998). However, relationships with parents remain important as well, as youth continue to rely on their parents for social and emotional support and guidance (McHale, Updegraff, Helms-Erikson, & Crouter, 2001; Youniss & Smollar, 1985). Relationships with non-familial adults, such as teachers and mentors, are also important as youth enter early adolescence (Eccles, 1999) and strive for autonomy (Ryan & Deci, 2000), yet continue to seek the guidance and support of caring, experienced elders (Eccles et al., 1993). Close, supportive teacher-student relationships are associated with developmental benefits for youth in late middle childhood and early adolescence, including consistent positive academic and social outcomes (Baker, 2006; Crosnoe, Johnson, & Elder, 2004; Eccles et al., 1993; Furrer & Skinner, 2003; Goodenow, 1993). In addition, research suggests that mentoring relationships are as or more important for early adolescents than they are for younger youth (DuBois, Holloway, Valentine & Cooper, 2002; Stanton-Salazar & Spina, 2003). Mentors may demonstrate parent-like behaviors and provide intimate guidance to youth, while also connecting them with supportive and resourceful adults in their community. In short, it is important to consider youths' relationships with various social partners and links between those relationships as they play an important role in youths' lives during middle childhood and early adolescence.

Connections among Youths' Relationships

Several studies on youths' relationships with significant others have examined how these relationships are connected (e.g., parents and peers; teachers and peers) (e.g., Fuligni, Eccles, Barber, & Clements, 2001; Goodenow, 1993). However, few studies have considered how important relationships

are connected in different ways for different youth (see Kan & McHale, 2007; and Updegraff, Madden-Derdich, Estrada, Sales, & Leonard, 2002 and for exceptions).

Patterns of parent-peer linkage. During late middle childhood and early adolescence, there are many ways in which significant relationships may be linked. For example, previous research has found congruent patterns of parent-peer linkage. This research indicates that high parental acceptance, attachment and monitoring are linked to more positive peer relationships (Dekovic & Meeus, 1997; Kan & McHale, 2007; Updegraff et al., 2002). From a social learning perspective, youth who indirectly learn positive, effective ways of socially interacting in the context of their parental relationships may generalize these skills to their peer relationships (Isley et al., 1999). In contrast, youth who learn negative, ineffective social interaction strategies with their parents may generalize these poor skills to their relationships with peers. Another incongruent, compensatory pattern of parent-peer linkage indicates that some youth with poor parent relationships turn to peers for advice and support, and they become actively involved with peers (Dekovic & Meeus, 1997; Fuligni et al., 1993; 2001). Still, other research has found a pattern of high mother acceptance and moderate father acceptance in combination with low peer competence, suggesting that youth may compensate for poorer peer relationships by turning to their mothers (Kan & McHale, 2007). In short, this work suggests that parent-peer linkages operate differently for different youth. Most studies, however, have focused on European American youth, and there is little evidence to suggest what patterns characterize the parent-peer linkages of ethnic minority youth or how such patterns are linked to youth adjustment. The first study in this dissertation addressed these limitations by focusing on the parent and peer experiences of Mexican-origin youth.

Patterns of teacher-peer relatedness. Relationships with teachers and peers may also be connected in different ways for different youth in school settings (Furrer & Skinner, 2003). For example, children who establish more supportive and less antagonistic relationships with their teachers are more socially accepted by peers (Ladd, Birch, & Buhs, 1999). Peers may use information about teachers'

closeness with a classmate to form their own perceptions about that student's competencies and their liking for the student (Hughes, Cavell, & Willson, 2001). The reverse pattern may also be true: peer acceptance and competence could foster teacher-student closeness, such that teachers may find it easier to be close to students who are not causing classroom management challenges related to their difficulties with peers. Thus, teacher and peer relatedness may be mutually supportive, and students may be more academically and socially engaged when they experience supportive relationships with both teachers and peers (Goodenow, 1993). These studies suggest a linear pattern of association between teacher and peer experiences, and they suggest that these experiences are uniquely and additively associated with youth adjustment. However, youth may demonstrate an excessive social or peer orientation when they experience strong peer, but not teacher, relationships, reflecting a non-linear pattern of association between teacher and peer experiences (Eccles, 1999). It is also possible that positive experiences in one relational context may buffer the impact of negative relational experiences in another context, reflecting a "protective" model (Luthar, Cicchetti, & Becker, 2000; Crosnoe et al., 2004). Conversely, negative experiences in one relational context may amplify the impact of negative experiences in another context on youths' adjustment, reflecting a "vulnerability" model. These "configural" models are plausible possibilities of how distinct patterns of teacher-peer relatedness may be differentially associated with a range of youth adjustment outcomes. Few studies, however, have examined patterns of relatedness between youths' experiences with peers and teachers. The second study in this dissertation addressed these limitations by utilizing both person-oriented and variable-oriented analytic approaches to examine youths' experiences with teachers and peers.

Patterns of association among mentoring match characteristics. Another body of research on interpersonal relatedness that has received increasing attention in recent years is mentoring relationships between an adult mentor and a youth mentee. Mentoring relationships have been promoted as a means of fostering youths' sense of support and trust, interpersonal skills, and as providing youth with new

emotional and intellectual learning experiences (Larson, 2006; Rhodes, Spencer, Keller, Liang, & Noam, 2006). Mentoring relationships provide opportunities for youth to engage in various social, recreational, and academic activities with adults (Herrera, Sipe, & McClanahan, 2000; Langhout, Rhodes, & Osborne, 2004). Evidence suggests that mentors' expectations about the relationship, as well as their personal feelings of efficacy, also contribute to the effectiveness of the relationship (Karcher, Nakkula & Harris, 2005). In addition, sufficient pre-match and ongoing training for mentors appears to facilitate positive youth outcomes, including a sense of relatedness to adults, and an enhanced mentoring experience (DuBois et al., 2002; Karcher et al., 2005; Spencer, 2007). Although certain individual factors have shown promise, additional work is needed to understand how constellations of mentoring match characteristics combine to affect the quality and longevity of the mentoring relationship and positive youth adjustment in middle childhood and early adolescence. The third study in this dissertation addressed limitations of previous work by examining different patterns of association among mentoring match characteristics in a sample of youth mentees and adult and teen mentors participating in Big Brother Big Sisters school-based mentoring programs. To examine youths' experiences with multiple social partners in each of the three studies, I used an integrated methodological approach.

Integrating Variable-Oriented and Person-Oriented Approaches

The studies in this dissertation take a unique approach to understanding youths' interpersonal relatedness by integrating variable- and person-oriented research strategies. Each study adopts an underutilized person-oriented approach to examine patterns of association among youths' relational experiences with multiple social partners. Further, two of the studies adopt variable-oriented approaches to examine predictors of the patterns, and all studies test associations between the patterns and youth adjustment. Although conceptually and methodologically distinct, variable-oriented and person-oriented analyses represent complementary approaches to developmental research (Bergman & Trost, 2006; Crosnoe & Needham, 2004; Laursen, Furman, & Mooney, 2006; Laursen & Hoff, 2006; Masten et al.,

1999). For example, results from the integrated person- and variable-oriented approach used in one of the present studies imply the importance of examining the effect of both independent indicators of relatedness, as well as patterns of relatedness on youths' adjustment.

Variable-oriented approaches have dominated research on youths' interpersonal relatedness. The assumption within this paradigm is that the sample is homogenous and that developmental processes should operate similarly for all individuals. At the theoretical level of variable-oriented approaches, statements are made about causal relations between two or more variables (Bergman & Trost, 2006). At the methodological level, associations between these independent variables are studied over time using linear statistics, such as hierarchical linear regression. A variable-centered approach is useful for understanding differences between people in a particular sample and for identifying characteristics or behaviors that are associated with other characteristics or behaviors among individuals in the sample (Laursen & Hoff, 2006). Analyses are used to identify processes found to a similar degree among all members of a group, and they account for the proportion of variance in a given outcome explained by the independent variables; thus, predictive power is a strength of variable-oriented strategies. As noted by Magnusson (1998), however, predictive power should not be the overriding criteria for the usefulness of an approach, but rather, how well the approach helps to better understand developmental processes. Furthermore, generalizability can be problematic with variable-oriented techniques because variance is not often distributed equally across the sample (Laursen & Hoff, 2006).

In contrast to variable-oriented approaches, person-oriented approaches assume that the sample is heterogeneous (Bergman & Magnusson, 1997; Cairns & Rodkin, 1998; Gest, Mahoney, & Cairns, 1999; Graber & Brooks-Gunn, 1996; Von Eye, & Bergman, 2003). This perspective assumes a holistic, interactionist view of development, such that an individual functions as an integrated totality of multiple, interacting components (Magnusson, 1998). Considering all these components simultaneously is the core of the theoretical aspect of a person-oriented perspective (Bergman & Trost, 2006). The methodological

aspect of this perspective identifies patterns of relevant characteristics or relationships that describe individuals, rather than examining associations between variables removed from the social and personal contexts in which they occur (Berman & Magnusson, 1997; Cairns & Rodkin, 1998). A person-centered approach allows for the possibility that relationships and characteristics of relationships may be connected in different ways for different youth. Advocates of this approach have suggested that there typically exist a small number of more frequently observed patterns of individuals (i.e., “common types”) based on shared similarities in several interwoven personal characteristics (Bergman & Magnusson, 1997; Laursen & Hoff, 2006).

A common misconception about person-centered analyses is that they are empirically soft and inexact (Laursen & Hoff, 2006). Person-centered approaches are designed to identify qualitatively different groups of individuals based on the clustering of several variables, but the measurement of these variables and identification of common types is quantitative and involves the use of empirically-sound statistical techniques. Latent Profile Analysis, specifically, is an analytic person-oriented procedure that derives information about categorical latent variables from the observed values of continuous manifest variables. This procedure is model-based and generates probabilities for group membership. Often, variable-centered analyses are then used to identify antecedent or outcome variables of the typologies that were identified by person-centered methods (Bergman & Trost, 2006; Crosnoe & Needham, 2004; Laursen & Hoff, 2006; Laursen et al., 2006; Masten et al., 1999).

Few studies have used a person-centered approach to examine youths’ experiences with interpersonal relatedness in middle childhood and early adolescence. In the present dissertation, I argue that a person-centered methodological approach can reveal different linear and non-linear patterns of relatedness and provide a more comprehensive understanding of links between [patterns of] young adolescents’ relationships and their adjustment. In other words, there may be a few common types of relationship profiles in each of the studies in this dissertation. Such profiles may be associated with youth

adjustment. Even fewer studies have combined both a person-centered and a variable-centered approach to examine youths' relationships with multiple social partners. It is plausible that relationships are connected in different ways for different youth, but some features of relationships may be similarly associated with adjustment for most youth. Guided by perspectives on the importance of youths' relationships with multiple social partners during early adolescence (Eccles et al., 1993; Furrer & Skinner, 2003; Goodenow, 1993; McHale et al., 2001; Rubin et al., 1998; Youniss & Smollar, 1985), the studies in this dissertation use a person-oriented approach to examine how relational experiences are connected in different ways for different youth, and a variable-oriented approach to examine antecedents and consequences of patterns of interpersonal relatedness.

The Present Studies

The three studies in this dissertation were designed to fulfill three primary aims: (a) to use a person-oriented approach to identify profiles of youth who exhibited different patterns of relationship linkage (i.e., patterns of parent-peer linkage; or patterns of teacher-peer relatedness) or different patterns of association among mentoring match characteristics; (b) to explore cultural and contextual antecedents of features of relationships and relationship profiles; and (c) to examine associations between relatedness patterns (and independent indicators of relatedness) and youth adjustment across a range of social and academic outcomes.

The first study in this dissertation addressed limitations in previous research on parent-peer linkages. First, I focused on the parent and peer experiences of Mexican-origin youth, a growing, but understudied population in the U.S. Second, I adopted a person-oriented approach (Bergman & Magnusson, 1997) to test whether relationships with mothers and fathers and peers were connected in different ways for different youth. Specifically, I used Latent Profile Analysis (LPA) to typologize parent and peer experiences based on mothers' and fathers' reports of parental acceptance and youths' reports of friendship intimacy. Third, I attended to the important role of culture in the lives of these Mexican-origin

youth and their families by examining cultural correlates of parent-peer linkage patterns, including Anglo and Mexican orientations, and familism and respeto values. Finally, I examined youth adjustment associated with patterns of parent-peer linkage, including youths' grades in school, depressive symptoms, and risky behavior.

In examining associations between youths' experiences with teachers and peers, the second study in this dissertation embraced a stage-environment fit perspective (Eccles et al., 1993) that assumes that youths' school adjustment is optimal when the environmental and social contexts—particularly, experiences with teachers and peers—are supporting youths' developmental needs for relatedness. This perspective also recognizes that behavioral styles contribute to youths' teacher and peer experiences (Ladd, 1996). First, I used LPA to identify patterns of teacher-peer relatedness in 6th grade based on teachers' reports of the closeness characterizing their relationships with students, peer-nominated social preference, and youths' perceptions of peer competence among 383 white, rural, lower- to middle-class youth. Second, I tested whether prosocial and aggressive behavior in 5th grade predicted teacher-peer relatedness in 6th grade. Finally, I examined how unique teacher and peer experiences and patterns of teacher-peer relatedness were associated with adjustment, including academic skills and self-concept, school bonding, global self-worth, and loneliness.

The third study in this dissertation expanded on previous mentoring research by clarifying important characteristics of mentoring relationships in a sample of 565 youth mentees in 4th through 9th grade and 554 adult and teen mentors participating in Big Brothers Big Sisters school-based mentoring programs. First, I adopted a person-oriented approach (Bergman & Magnusson, 1997; Cairns & Rodkin, 1998) to examine how mentoring match characteristics collectively form mentoring match profiles. Using LPA, I identified relatively homogenous sub-groups of mentoring relationships based on a constellation of mentoring match characteristics – mentors' pre-match perceptions of efficacy regarding the match, mentors' perceptions of sufficient pre-match training, and social and academic activities in the

relationship – rather than solely viewing these characteristics as independent factors. Second, I examined whether mentoring match profiles predicted future mentoring relationship outcomes, including mentee- and mentor-perceived relationship quality, length of the relationship, and mentee emotional engagement in the relationship. Finally, I examined whether there were associations between mentoring-match profiles and youth academic and social adjustment over a 15 month period.

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Chapter 2

Links between Parent and Peer Relationships in Mexican-Origin Adolescents

Abstract

This study used a person-centered approach to examine links between mothers' and fathers' reports of parental acceptance and youths' perceptions of friendship intimacy among 246 Mexican-origin 7th graders. Three patterns of parent-peer linkage were identified using Latent Profile Analysis: (a) high father acceptance, average mother acceptance, and high friendship intimacy (Positive); (b) low mother and father acceptance, and average friendship intimacy (Low Parent); and (c) high mother acceptance, average father acceptance, and low friendship intimacy (Low Friend). Profiles differed with respect to youths' and parents' cultural characteristics and youth adjustment. Findings demonstrated the benefit of a person-centered approach to illuminate how experiences with parents and peers are connected in different ways for different youth during early adolescence and the connections between parent-peer linkages and youth adjustment. Results also highlighted the important role of culture in normative youth development and the need for more research to attend to the unique cultural experiences of minority ethnic youth.

Links between Parent and Peer Relationships in Mexican-Origin Adolescents

The importance of youths' relationships with both parents and peers during early adolescence has been established (Youniss & Smollar, 1985; Rubin, Bukowski & Parker, 1998). During early adolescence, youth re-negotiate their family relationships and roles, but they continue to rely on their families for social and emotional support. At the same time, youth spend increasing amounts of time with peers, and peers become more influential (Buhrmester, 1990). Although parent and peer relationships are changing, most often these relationships are studied separately. Few studies have examined the ways in which relationships with parents are linked to relationships with peers during early adolescence (Kan & McHale, 2007; Isley, O'Neil, Clatfelter & Parke, 1999; Lieberman, Doyle & Markiewicz, 1999).

Our study extends previous work in several ways. First, we focused on the parent and peer experiences of Mexican-origin youth, a growing, but understudied population in the U.S. Second, we adopted a person-oriented approach (Bergman & Magnusson, 1997) to test whether relationships with mothers and fathers and peers were connected in different ways for different youth. Third, we attended to the important role of culture in the lives of these Mexican-origin youth and their families by examining cultural correlates of parent-peer linkage patterns. Finally, we examined youth adjustment associated with patterns of parent-peer linkage.

Patterns of Parent-Peer Linkage in Early Adolescence

The first goal of this study was to use a person-oriented approach to identify patterns of parent-peer linkages in a sample of Mexican-origin youth from two-parent families. Studies that have examined parent-child relationships and peer experiences in early adolescence have tended to use variable-centered approaches; within this paradigm, the goal of the researcher is to identify universal associations between variables (Fuligni & Eccles, 1993; Lieberman et al., 1999; Updegraff, McHale, Crouter, & Kupanoff, 2001). The assumption underlying an alternative, person-oriented approach is that parent and peer relationships may be connected in different ways for different youth (Bergman & Magnusson, 1997).

Some research suggests that multiple patterns of parent-peer linkage are evident among young adolescents (Parke & Buriel, 1998; Parke & O'Neil, 1999). First, congruent patterns of parent-peer linkage have been identified, such that high parental acceptance, attachment and monitoring are linked to more positive peer relationships (Dekovic & Meeus, 1997; Updegraff, Madden-Derdich, Estrada, Sales, & Leonard, 2002; Kan & McHale, 2007). Similarly, parental responsiveness and positive affect have been linked to more supportive friendships and less deviant peer orientations (Bogenschneider, Wu, Raffaelli, & Tsay, 1998; Engels, Dekovic, & Meeus, 2002). These studies indicate that youth who have positive relationship experiences with their parents also tend to have positive relationships with their peers. From a social learning perspective, youth who indirectly learn positive, effective ways of socially interacting in the context of their parental relationships may generalize these skills to their peer relationships (Isley et al., 1999). In contrast, youth who learn negative, ineffective social interaction strategies with their parents may generalize these poor skills to their relationships with peers.

Some youth with poor parent relationships turn to peers for advice and support, and they become actively involved with peers. This reflects a second, incongruent and compensatory pattern of parent-peer linkage. Dekovic and Meeus (1997) reported, for example, that low levels of parental monitoring were associated with more peer involvement. Fuligni et al. (1993; 2001) observed that youth who perceived their relationships with their parents as extremely restrictive and as offering few decision-making opportunities tended to exhibit an "extreme peer orientation"; these youth tended to conform to peers at the expense of other relationships, and they engaged in more problem behavior and had lower academic achievement compared to other youth.

Kan and McHale (2007) used multi-informant reports, including mothers' and fathers' reports of parental acceptance and youths' reports of perceived peer competence, to typologize youths' relationships with parents and peers. They found a third incongruent and, to some extent, compensatory pattern: a pattern of high mother acceptance and moderate father acceptance in combination with low peer competence. The authors suggested that these youth may have compensated for poorer relationships with peers by turning to their mothers. These youth were more likely to report lower self-worth and higher

depressive symptoms than were youth with high peer competence and high mother and father acceptance, and youth with high peer competence and low mother and father acceptance. The latter “High Peer” profile, however, was more likely than the other profiles to report engaging in risky behavior.

In short, research suggests that links between youths’ relationships with parents and peers are not characterized by a single pattern, but that parent-peer linkages operate differently for different youth. Most prior work, however, has focused on European American youth, and we do not know what patterns characterize the parent-peer linkages of ethnic minority youth or how such patterns are linked to youth adjustment. Maintaining positive relationships with parents and limiting peer contact may describe the relational pattern of some Mexican-origin youth, one that may be beneficial for them (Portes & Rumbaut, 2001). For example, Mexican-origin youth may be less involved in friendships because emotional support is widely available from family members (Sharabany, 2006). Also, parents’ encouragement of peer interactions may be limited to extended family networks (i.e., cousins, siblings, etc.), such that there is little space for non-kin friendship development or peer involvement (Chen & French, 2008). Given that over 70% of immigrant parents in one study were concerned about the negative influences their children faced in school from friends and peers, as well as the gap between their own goals and values and those of their children’s friends (Portes, Fernández-Kelly, & Haller, 2005), it is possible that a pattern of high parental acceptance and low friendship intimacy may characterize some Mexican-origin youth. Further, this pattern may be linked to positive youth adjustment.

The Role of Culture in Normative Youth Development

The second goal of the present study was to examine the associations between cultural characteristics and parent-peer linkage patterns among Mexican-origin youth. Cultural ecological models of development (García Coll et al., 1996; Phillips Swanson et al., 2003; Portes & Rumbaut, 2001) describe the role of culture as at the core, rather than at the periphery, of youth development. These models view culture as complex and multi-faceted, and as including both values and practices. They emphasize the importance of considering the development of youth within specific ecologies, and of examining within-group variability as opposed to differences between ethnic groups (McLoyd, 1998). For

example, it is likely that much variability exists in the parent and peer experiences of Mexican-origin youth. Many of these acculturating youth are simultaneously developing in Anglo-oriented school and peer contexts, and Mexican-oriented family contexts, in which their parents embrace and encourage the adoption of Mexican cultural values and practices to varying degrees. Such differences in youths' and parents' cultural orientations, practices, and values may contribute to differences in patterns of youths' relationships with their parents and friends.

(Author citation) found that Mexican-origin parents' cultural values explained within-group variability in parents' involvement in their adolescent offspring's peer relationships: Parents who were more Anglo-oriented and more educated tended to have more knowledge about their children's peer activities and reported fewer restrictions on their children's peer relationships compared to parents who were more Mexican-oriented. Highly educated Mexican-oriented parents were less restrictive of their children's peer relationships compared to Mexican-oriented parents who were less educated. These findings direct attention to the role of culture in links between youths' relationships with their parents and their peers. In the present study, we examined the same sample of Mexican-origin families, but we focused on parents' reports of acceptance and youths' reports of friendship intimacy in relation to cultural characteristics and youth adjustment.

Understanding positive functioning in minority children requires consideration of how these youth adapt and function in two cultures—the host culture and their culture of origin (Coatsworth, Maldonado-Molina, Pantin, & Szapocznik, 2005; García Coll et al., 1996; Portes & Rumbaut, 2001). Portes and Rumbaut described the benefits of intergenerational *selective acculturation* (or biculturalism), by which they mean that parents and youth acquire new cultural knowledge, but retain important norms and values from their culture of origin within a supportive familial and community context. For example, key Mexican-origin cultural values include *familism*, that is, an emphasis on family loyalty, support, and interdependence (Cauce & Domenech-Rodríguez, 2002; Rumbaut, 2005), and *respeto*, that is, respect for parents and other authority figures (Marín & Marín, 1991). Coatsworth and colleagues (2005) found that Hispanic youth who strongly endorsed Hispanic and Anglo-American practices (i.e., bicultural youth)

demonstrated greater academic competence, peer competence, and parental monitoring. Such bicultural youth can negotiate multiple contacts: they can interact with Spanish-speaking relatives and negotiate school settings. Many Mexican-origin youth are likely to be exposed to key Mexican cultural values in the home, but some of their parents may not be exposed to Anglo-oriented cultural practices and values. Thus, parents and children may differ in cultural orientations and selective acculturation may be more common for youth than for parents. Portes and Rumbaut (2001) have argued, however, that selective acculturation is more typical for parents who have more resources and human capital (e.g., higher education, economic status, or support of strong co-ethnic communities).

Abandoning the practices and values of their culture of origin may not be adaptive for youth (Portes & Hao, 2002) and research suggests the protective benefits of cultural values, such as familism, for Mexican-origin youth (Fuligni, 2004). Strong familism values may protect youth from engaging in risky behavior or succumbing to negative peer influences. Bámaca and Umaña-Taylor (2006) found, for example, that Mexican-origin youth who reported lower levels of emotional autonomy from their parents also tended to report higher levels of resisting peer pressure. These findings suggest that, consistent with the central role of families in Mexican culture, when youth did not perceive the parental context in negative ways, they exhibited more positive peer behavior. It is also possible that peers may be particularly risky for youth who do not share cultural orientations with their parents. Conceptually, acculturation gap theories suggest that when parents are low and children high on American acculturation, the child is at risk for maladjustment (Portes & Rumbaut, 2001). The empirical evidence for such acculturation gaps, however, is inconclusive (Birman, 2006). Still, with a large parent-child acculturative gap (i.e., differences in cultural orientations, values, and/or language use and preference), youth may adopt an extreme peer orientation (i.e., one in which they regard friendships as their primary sources of support, advice and attitudes) (Fuligni & Eccles, 1993; Fuligni, Eccles, Barber & Clements, 2001). In contrast, when the acculturative gap is small, and youth and parents share a cultural orientation and values, parents may be more accepting of their children and more likely to guide, participate in, and monitor their children's peer activities and relationships, such that peer involvement does not constitute a

risk factor. Parent-child cultural gaps within patterns of parent-peer linkage may provide an explanation for the different ways in which experiences with parents and with peers are connected for different Mexican-origin youth.

Parent-Peer Linkage and Adjustment among Mexican-Origin Youth

The final goal of the present study was to explore whether patterns of parent-peer linkage were associated with youth adjustment. Numerous studies have revealed links between parent and peer experiences (studied separately) and youth adjustment. For example, youths' self-disclosure to their parents has been linked to positive outcomes, and children with poorer social adjustment may discuss their extra-familial activities with parents less frequently than do well-adjusted children (Kerr & Stattin, 2000; Parke et al., 2006). This point may be particularly relevant for Mexican-origin youth who may experience tension with their parents over their adoption of Anglo-oriented and discarding of Mexican-oriented practices and values (Birman, 2006). Research also indicates that a warm and supportive relationship with a parent serves as a protective factor and as a positive influence on children's social and emotional development (Patterson, Cohn, & Kao, 1989). For example, a recent study by Van Voorhies and colleagues (2008) found that parental warmth was a protective factor against depressive episodes among adolescents. Positive experiences with peers can also promote youths' social and academic adjustment (Rubin et al., 1998), whereas susceptibility to negative peer pressure contributes to risky behavior (Bogenschneider et al., 1999).

We expected different adjustment consequences as a result of different patterns of parent-peer linkage. Although scarce, previous research has shown that patterns of parental warmth/acceptance and friendship quality are associated with adolescent functioning, including self-worth, depressive symptomatology and risky behavior in European American youth (Kan & McHale, 2007). One study suggested that positive experiences in one relational context (e.g., with peers) may buffer the harmful effects of negative experiences in the other context (e.g., with parents) in regard to adjustment, such as GPA, risky behavior or depressive symptoms (Laible, Carlo, & Raffaelli, 2000). Research also shows, however, that youth who detach from their parents and adopt an extreme peer orientation demonstrate

greater problem behavior and poorer academic achievement (Ary, Duncan, Duncan and Hops, 1999; Fuligni & Eccles, 1993; Fuligni et al., 2001). What remains unknown is whether a lack of connectedness to peers in combination with positive experiences with parents is associated with positive or negative adjustment for ethnic minority youth. Kan and McHale's (2007) finding that European American youth with low peer competence, but average to high mother and father acceptance had lower self-worth and higher depressive symptoms compared to other youth may not apply to Mexican-origin youth. As suggested, such a parent-peer linkage pattern may be linked with positive adjustment for some immigrant youth whose parents are concerned about negative peer influences and place constraints on their children's peer involvement (Portes et al., 2005; Chen & French, 2008). Indeed, Updegraff, Killoren, and Thayer (2007) found that some Mexican-origin parents who had strong Mexican orientations tended to place more restrictions on their children's peer relationships.

Study Goals and Hypotheses

In sum, the goals of the present study were to: (a) identify patterns of parent-peer linkages in Mexican-origin youth; (b) examine whether cultural practices and values were associated with parent-peer linkage patterns; and (c) assess the associations between parent-peer patterns and youth adjustment. Based on the literature reviewed, we expected that youth would exhibit congruent as well as incongruent patterns of parental acceptance and friendship intimacy. We expected that a positive, congruent pattern of high mother and father acceptance and high friendship intimacy would be associated with more bi-cultural orientations for youth and with positive youth adjustment. We also expected that a negative, incongruent pattern of low mother and father acceptance and high friendship intimacy would be associated with relatively stronger Anglo orientations and weaker Mexican orientations for youth and with poorer youth adjustment.

Method

Participants

Data from this study were drawn from a larger longitudinal study of family socialization and adolescent development in 246 Mexican-origin two parent families. The overarching goal of the study

was to examine normative cultural and family processes in Mexican-origin families with adolescents. Criteria for participation in the study included: (a) all mothers were of Mexican origin; (b) seventh graders were living in the home and were not learning disabled; (c) at least one older sibling was also living in the home; (d) biological mothers and biological or long-term (≥ 10 years) adoptive fathers lived in the home; and (e) fathers worked at least 20 hours/week. Most (93%) fathers were also of Mexican origin.

Families were recruited from schools in a southwestern city. Letters and brochures were sent to families of 7th graders; these letters described the study in English and Spanish and follow-up calls were made by bilingual staff to determine eligibility and interest in study participation. Families represented a range of education and income levels; 18.3% of families met the federal poverty guidelines, though annual median family income was \$40,000, and incomes ranged from \$5,000 to \$400,000. Parents had completed an average of 10 years of education: Means were 10.33 ($SD = 3.73$) and 9.88 ($SD = 4.37$) for mothers and fathers, respectively. Most parents were born outside of the U.S. (71 % of mothers and 69 % of fathers), but as a group, they had resided in the U.S. for an average of 12.4 ($SD = 8.9$) and 15.2 ($SD = 8.9$) years for mothers and fathers, respectively. About two-thirds of the interviews with mothers and fathers were conducted in Spanish. The target youth were in 7th grade and included 125 girls and 129 boys, who averaged 12.8 ($SD = .58$) years of age. Most of these youth were born in the United States (62%) and interviewed in English (82%). We used only the data for these 7th graders and their parents to focus on the important role of both parents and peers during the early adolescence developmental period.

Procedure

Data were collected during in-home interviews in English or Spanish and lasted an average of 3 hours for parents and 2 hours for adolescents. First, informed consent/assent was obtained, and then interviews were conducted individually with bilingual staff in separate locations within the home. Family members reported on their family relationships, cultural values, and psychosocial adjustment. Questions were read aloud, and interviewers entered family members' responses into laptop computers. Youth were able to enter their answers directly into the computers for sensitive questions (e.g., risky behavior).

Measures

All measures were forward- and back-translated into Spanish by two separate individuals (Foster & Martinez, 1995). Final translations were reviewed by a third native Mexican-origin translator, and any discrepancies were resolved (Authors, 2006).

Friendship quality. Youths' perceptions of friendship quality were assessed with 8 items from Blyth and Foster-Clark's (1987) Intimacy Scale. Youth rated items on a 5-point scale, ranging from 1 = *not at all* to 5 = *very much* (e.g., "how much do you go to your best friend for advice?"). Items were averaged, with higher scores reflecting greater intimacy, and means were slightly above the scale midpoint, $M = 3.76$, $SD = .71$. Cronbach's alpha was .84.

Parental acceptance. Mothers and fathers completed the short form of the parental responsiveness scale of the Child's Report of Parental Behavior Inventory-Parent Version (CRPBI; Schwarz, Barton-Henry & Pruzinsky, 1985). This subscale consists of 8 items that were rated on a 5-point Likert scale ranging from 1 = *almost never* to 5 = *almost always*. An example item is, "I am a parent who makes my child feel better when he/she talks over his/her worries with me." Higher scores on this summed scale reflected greater parental acceptance, and means were above the scale midpoint, $M = 4.32$, $SD = .57$ for mothers; $M = 4.11$, $SD = .59$ for fathers. Cronbach's alphas ranged from .81 to .82. This scale has been shown to be reliable and valid with Latino populations in its English and Spanish version (Knight, Virdin, & Roosa, 1992).

Socio-cultural characteristics. Mothers and fathers reported their annual household incomes, education levels, years living in the U.S., and generation status for youth. Generation status was assessed on a 1 to 4 scale: 1 = *first generation (youth and all earlier family members were born in Mexico)*; 2 = *second generation (youth born in U.S., mother and father born in Mexico)*; 2.5 = *2.5 generation (youth and one parent born in U.S., second parent born in Mexico)*; 2.75 = *2.75 generation (youth and one parent + family born in U.S., second parent + family born in Mexico)*; 3 = *third generation (youth and both parents born in U.S., all grandparents born in Mexico)*; 3.5 = *3.5 generation (youth, both parents, and one set of grandparents born in U.S.; one set of grandparents born in Mexico)*; and 4 = *fourth*

generation: youth, parents and all grandparents born in U.S.; all earlier family members born in Mexico) ($M = 2.11$; $SD = 1.09$). Parents and youth reported their cultural orientations on the Acculturation Rating Scale for Mexican-origins – II (ARSMA-II) (Cuellar, Arnold, & Maldonado, 1995). The ARSMA– II includes Mexican and Anglo orientation subscales (e.g., “I think in English” and “I think in Spanish”). On this 30-item scale, respondents used a 5-point rating scale to show how often (1 = *not at all* to 5 = *extremely often or always*) each experience applied to them during the past year. (For Anglo orientation, $M = 3.98$, $SD = .59$ for youth; $M = 2.92$, $SD = .96$ for mothers; and $M = 2.97$, $SD = .92$ for fathers. For Mexican orientation, $M = 3.66$, $SD = .78$ for youth; $M = 4.02$, $SD = .70$ for mothers; and $M = 3.90$, $SD = .79$ for fathers.). Cronbach’s alphas ranged from .82 to .91 for family members’ reports in English and Spanish.

Familism and respeto values were reported by parents and youth using the Mexican-origin Cultural Values Scale (Knight et al., under review). The 16-item familism scale includes three subscales (i.e., support, obligations, family as referents); items such as “Family provides a sense of security because they will always be there for you” and “Children should always do things to make their parents happy” were rated on a 5-point Likert scale (1 = *almost never*; 5 = *almost always*; $M = 4.26$, $SD = .52$ for youth; $M = 4.43$, $SD = .39$ for mothers; and $M = 4.46$, $SD = .42$ for fathers). Alphas ranged from .76 to .86. The respeto scale consisted of 10 items (e.g., “No matter what, children should always treat their parents with respect”; $M = 4.21$, $SD = .59$ for youth; $M = 4.34$, $SD = .48$ for mothers; and $M = 4.39$, $SD = .47$ for fathers). Alphas ranged from .61 to .80.

Adjustment outcomes. Four domains of youth adjustment were assessed. Youths’ *grade point averages (GPAs)* were computed from their self-reported grades in four subjects: English, Social Studies, Math, and Science. Grades were converted to a 5-point scale (A = 4.0; B = 3.0; C = 2.0; D = 1.0; F = 0; $M = 2.74$, $SD = .92$). Youth rated the frequency with which they engaged in each of 24 *risky behaviors* during the past year on a 4-point rating scale (1 = *never* to 4 = *more than 10 times*; Eccles & Barber, 1990). Example items include, “skipped a day of school” and “got drunk or high,” with higher scores indicating more risky behaviors ($M = 1.37$, $SD = .39$). Cronbach’s alpha was .91. Youth reported their

depressive symptoms on the Center for Epidemiological Study's Inventory (CES-D; Radloff, 1977). This scale consists of 20 items (e.g., "I was bothered by things that don't usually bother me), and each item was rated on a 4-point scale to describe the frequency with which the symptom was experienced in the past week (1 = *rarely or none of the time*; 4 = *most or all of the time*; $M = 1.82$, $SD = .50$). Cronbach's alpha was .85.

Results

Results are organized around our three research goals: (a) To identify patterns of parent-peer relationship linkage among Mexican-origin youth; (b) To examine whether cultural characteristics of youth and parents were associated with parent-peer patterns; (c) To examine associations between patterns of parent-peer patterns and youth adjustment outcomes, including GPA, risky behaviors, and symptoms of depression.

Profiles of Parent-Peer Relationship Linkage among Mexican-origin Youth

Preliminary descriptive analyses showed that, for the sample as a whole, mothers' acceptance and fathers' acceptance were correlated, $r = .23$, $p < .001$, but that youths' friendship intimacy was uncorrelated with both mothers' acceptance, $r = -.07$, *ns*, and fathers' acceptance, $r = .02$, *ns*.

Parent-peer linkages were typologized based on mothers' and fathers' reports of acceptance and youths' reports of friendship intimacy using Latent Profile Analysis (LPA) in M-Plus (Muthén & Muthén, 1998-2008). Before analyzing the data, all three variables were standardized so that results could be more readily interpreted. To determine the best solution, we examined multiple models, starting with one latent profile and increasing hierarchically. The three-profile solution provided the best fit based on observed AIC (2014.12), sample adjusted BIC (2020.66), and the extraction limitations due to the number of mixture components; it also was a substantively meaningful solution (Loken & Molenaar, 2007). Average latent class probabilities for the most likely latent class membership were all acceptable (.88, .75, and .84, respectively). Means and standard errors for the three profiles are reported in Table 1. Relatively low scores were $\geq 1/3$ a standard deviation below the mean; average scores were \leq plus or minus $1/3$ a standard deviation from the mean; and relatively high scores were $> 1/3$ a standard deviation above the

mean. As Figure 1 illustrates, Profile 1 ($n = 55$) was characterized by average friendship intimacy, and relatively low mother and father acceptance (labeled “Low Parent”). Profile 2 ($n = 45$) was characterized by high friendship intimacy, average mother acceptance, and high father acceptance (labeled “Positive”). Profile 3 ($n = 144$) was characterized by low friendship intimacy, high mother acceptance, and average father acceptance (labeled “Low Friend”).

Descriptive information for the three profiles is presented in Table 2. A χ^2 test indicated that profile was significantly associated with gender, $\chi^2(2, n = 244) = 25.94, p < .001$. The Low Parent profile was equally divided between boys ($n = 27$) and girls ($n = 28$), but the Positive profile included five times as many girls ($n = 38$) as boys ($n = 7$), and the Low Friend profile, the most common parent-peer linkage pattern, included more boys ($n = 85$) than girls ($n = 59$). A univariate ANOVA revealed that parent-peer linkage profiles also differed by household income, $F(2, 242) = 4.65, p < .05$. Follow-up tests indicated that youth in the Positive profile had significantly greater household incomes than did those in both the Low Parent ($p < .05$) and Low Friend ($p < .01$) profiles. There were no profile differences in either mothers’ or fathers’ education, years living in the U.S., or generation status. Nevertheless, in all subsequent analyses, the log of household income, and mothers’ and fathers’ education were standardized and averaged to create a composite socioeconomic status (SES) score that was included as a covariate to control for the potential effects of SES on social-cultural characteristics and adjustment outcomes. In preliminary analyses, we also examined the effect of gender on associations between cultural characteristics and parent-peer linkage profiles. No significant effects were found, so we report findings for the sample as a whole, and gender was not included as a covariate. Although there was no evidence of differences in patterns of associations between parent-peer profile and adjustment outcomes by gender, we did include gender as a covariate in these analyses to control for its main effect on adjustment. Girls ($M = 2.92; SD = .88$) had significantly higher GPAs than boys ($M = 2.54; SD = .93$), $F(1, 233) = 10.41, p < .01$, and boys ($M = 1.43; SD = .41$) reported significantly more risky behavior than girls ($M = 1.31; SD = .37$), $F(1, 245) = 5.43, p < .05$. There were no statistically significant gender differences in depression symptoms ($M(\text{girls}) = 1.86; SD = .56; M(\text{boys}) = 1.78; SD = .41$), $F(1, 245) = 1.82, ns$.

Associations between Parent-Peer Linkage Patterns and Cultural Characteristics of Youth and Parents

To test whether there were profile differences in youths' cultural values and orientations, a 3 (Profile) X 4 (Cultural Orientation Dimension) mixed model ANCOVA for youth Anglo and Mexican orientations, and familism and respeto values was conducted with socioeconomic status included as a covariate in the model. This multivariate analysis allowed us to look at cultural differences across the three parent-peer linkage profiles. Parent-peer linkage profile was treated as a between-groups factor, and dimension of cultural orientation was treated as a within-group factor. As seen in Figure 2, pairwise comparison tests of a significant profile effect, $F(2, 240) = 6.61, p < .01$, indicated that youth in the Positive profile had an overall pattern of significantly higher cultural orientations/values than did youth in the Low Parent profile ($p < .001$) and in the Low Friend profile ($p < .05$). Follow-up tests on each cultural dimension indicated that youth in the Positive profile ($p < .01$) and the Low Friend profile ($p < .01$) had significantly higher Anglo orientations than did youth in the Low Parent profile. Youth in the Positive Profile also had significantly higher familism values compared to youth in both the Low Parent ($p < .01$) and the Low Friend ($p < .05$) profiles. Further, youth in the Positive Profile had significantly higher respeto values than youth in the Low Parent profile ($p < .05$), and marginally higher respeto values than youth in the Low Friend profile ($p < .10$). These findings indicated that youth with relatively high friendship intimacy and father acceptance and average mother acceptance had higher bi-cultural orientations relative to other youth, such that they embraced a relatively high Anglo cultural orientation as well as family values consistent with their Mexican culture of origin.

Because youth and their parents completed the same measures of Anglo and Mexican orientation and familism and respeto values, we were also able to examine family patterns of cultural orientations as a function of parent-peer linkage profiles. To do so, we ran 3 (Profile) X 3 (Informant) mixed model ANCOVAs for each of the cultural variables, with socioeconomic status included as a covariate in the model (see Table 3).

Anglo orientations. A main effect was found for informant, $F(2, 480) = 222.63, p < .001$ on Anglo orientations. Follow-up paired samples *t*-tests revealed that youth reported significantly higher

Anglo orientations than their mothers, $t(243) = 18.34, p < .001$, and their fathers, $t(244) = 18.08, p < .001$. Follow-up tests on a significant profile effect, $F(2, 240) = 3.10, p < .05$, revealed that, overall, family members in the Positive and Low Friend profiles had significantly higher Anglo orientations than did the Low Parent profile (both, $p < .05$).

Mexican orientations. Next, Mexican orientations were examined for youth and their mothers and fathers as a function of parent-peer linkage profiles. A main effect for informant, $F(2, 480) = 21.70, p < .001$, indicated reliable within-family differences in Mexican orientations. Follow-up paired samples t -tests revealed that youth had lower Mexican orientations than their mothers, $t(243) = -8.03, p < .001$, and their fathers, $t(244) = -5.71, p < .001$, and that mothers had higher Mexican orientations than fathers, $t(243) = 2.89, p < .01$. There was no main effect for profile, $F(2, 240) = .13, ns$.

Familism values. Familism values were next examined for youth and their parents as a function of parent-peer linkage profile. Mauchly's test indicated that the assumption of sphericity had been violated, $X^2(2) = 11.93, p < .01$, because the variance of familism scores was greater for youth than for parents; therefore, degrees of freedom were corrected using Huynh-Feldt estimates of sphericity, $\epsilon = .97$. A statistically significant informant effect, $F(1.95, 465.05) = 9.42, p < .001$, indicated reliable differences in familism values. Paired sampled t -tests revealed that youth reported significantly lower familism values than did mothers, $t(242) = -4.24, p < .001$, and fathers, $t(243) = -4.74, p < .001$. This informant effect was qualified by a significant informant X profile interaction, $F(3.15, 465.05) = 3.42, p < .05$. A follow-up univariate test on the difference score between youth and mothers revealed a statistically significant profile effect, $F(2, 233) = 7.13, p < .01$. Youth and mothers in the Low Parent ($M_{dif} = .31, SD = .08$) and Low Friend ($M_{dif} = .23, SD = .05$) profiles had significantly larger differences in familism values (favoring mothers) than did youth and mothers in the Positive profile ($M_{dif} = -.12, SD = .09$), both $p < .01$. Similarly, a follow-up univariate test on the difference score between youth and fathers revealed a marginal profile effect for differences in familism, $F(2, 233) = 2.99, p < .10$. Youth and fathers in the Low Parent ($M_{dif} = .27, SD = .08$) and Low Friend ($M_{dif} = .23, SD = .05$) profiles had significantly larger differences in familism values (favoring fathers) than did youth and fathers in the Positive profile ($M_{dif} = -$

.01, $SD = .09$, both $p < .05$. There were no significant profile differences in familism between mothers and fathers.

Respeto values. Finally, values of respeto were examined for youth and their parents as a function of parent-peer linkage profile. As with familism values, Mauchly's test indicated that the assumption of sphericity had been violated, $X^2(2) = 10.79$, $p < .01$, because the variance of respeto scores was greater for youth than for parents; degrees of freedom were corrected using Huynh-Feldt estimates of sphericity, $\epsilon = .98$. A statistically significant informant effect was found for respeto values, $F(2.77, 467.12) = 5.87$, $p < .01$. Follow-up paired samples t -tests revealed significant differences in respeto, such that youth reported significantly lower respeto values than did mothers, $t(242) = 2.80$, $p < .01$, and fathers, $t(243) = 3.87$, $p < .001$. There were no profile differences in respeto values, $F(2, 239) = 1.07$, ns .

Differences in Youth Adjustment as a Function of Parent-Peer Linkage Profile

Finally, we tested for differences in youth adjustment across the parent-peer linkage profiles. Gender was included along with socioeconomic status as covariates in univariate ANCOVA models. Means and standard errors for the adjustment outcomes corresponding to each profile are presented in Table 4.

Follow-up tests of a significant profile effect on *GPA*, $F(2, 228) = 3.23$, $p < .05$, indicated that youth in the Low Friend profile had significantly higher GPAs than did youth in the Low Parent profile, $p < .05$, and that youth in the Positive profile tended to have higher GPAs than did youth in the Low Parent profile, $p < .10$. Follow-up tests of a significant profile effect on *risky behavior*, $F(2, 239) = 6.31$, $p < .01$, indicated that youth in both the Positive and Low Friend profiles reported significantly less risky behavior as compared to youth in the Low Parent profile (both, $p < .01$). Finally, follow-up tests of a statistically significant profile effect on depression symptoms, $F(2, 239) = 6.30$, $p < .01$, indicated that youth in the Positive and Low Friend profiles also had significantly fewer *depression symptoms* than did youth in the Low Parent profile, $p < .01$ and $p < .05$, respectively. Collectively, results suggested that youth in both the Positive and Low Friend profiles had better overall social and academic adjustment in 7th grade compared to their Low Parent profile peers.

Discussion

The present study represents an extension of previous research on parent-peer linkages that has focused on European American samples, neglected the role of culture in explaining parent and peer experiences, and primarily used variable-oriented analytic approaches. We tested: (a) whether different patterns of parent-peer linkage emerged in a sample of Mexican-origin youth; (b) whether cultural characteristics were associated with parent-peer linkage profiles; and (c) whether there were associations between parent-peer linkage profiles and youth adjustment.

We identified three distinct profiles of parent-peer linkage using LPA and found that youth exhibited congruent (i.e., average to high parental acceptance and high friendship intimacy) as well as incongruent patterns (i.e., average to high parental acceptance and low friendship intimacy; low parental acceptance and average friendship intimacy). Our findings strongly support the notion of within-ethnic group variability in parent and peer relationship linkages among Mexican-origin youth. Youth in the Positive profile had higher bi-cultural orientations relative to other youth, reflected by the fact that they had significantly higher Anglo orientations, and familism and respeto values. Further, there was greater congruence between the familism values of youth and parents in the Positive profile than for youth and parents in the Low Parent and Low Friend profiles. Finally, youth in the Positive profile had more positive social and academic adjustment relative to youth in the Low Parent profile, but comparable adjustment to youth in the Low Friend profile. This was in line with our expectation that a positive, congruent pattern of high mother and father acceptance and high friendship intimacy would be associated with more positive youth adjustment, and it also indicated that when parental acceptance was high, having high *or* low friendship intimacy was similarly associated with a range of adjustment outcomes.

A Person-Oriented Approach to Uncovering Within-Group Variability

This study supports the use of a person-oriented approach to examining how parent and peer relationships are connected because our results did not reveal a universal pattern of linkage between parental acceptance and friendship intimacy. Had we used only a variable-oriented approach, we would have concluded that friendship intimacy was uncorrelated with mother and father acceptance. Instead, our

analyses revealed that the connection between parental acceptance and friendship intimacy operated in *different* ways for *different* youth. For some youth, high parental acceptance was associated with high friendship intimacy, whereas for other youth, high parental acceptance was associated with low friendship intimacy. For others still, low parental acceptance was associated with average friendship intimacy. Person-oriented analyses also revealed that different patterns of parent-peer linkage were differentially associated with cultural practices and values and a range of adjustment outcomes. The adoption of person-oriented approaches to study youth development demands that researchers attend to the within-group variability in particular samples, whether particular ethnic groups, gender, or geographic region. Our findings support previous research documenting that links between relationships with parents and peers are not universal and move beyond the notion that there will be positive correlations between experiences in one context and experiences in another (Cooper & Cooper, 1992; Dekovic & Meeus, 1997; Laible et al., 2000; Updegraff et al., 2001).

Cultural Explanations for Parent-Peer Linkage Profiles

In line with cultural-ecological models of development (García Coll et al., 1996), results underscored the important role of culture in normative youth development. Youth in the Positive profile had an overall pattern of higher bi-cultural orientations that did youth in the Low Parent and Low Friend profiles: they embraced an Anglo cultural orientation as well as family values and practices consistent with their Mexican culture. A bicultural orientation, in which youth acquire new cultural knowledge but retain norms and values from their culture of origin, has been shown to be adaptive for immigrant youth who are negotiating two cultures, and seeking success in the host culture while simultaneously maintaining ties to the ethnic culture (Coatsworth et al., 2005; Phinney, 2003; Portes & Rumbaut, 2001; Portes & Hao, 2002). These youth may enjoy listening to English language music and thinking and writing in English, which may help them to succeed in their school. At the same time, they may embrace Mexican cultural values, such as an orientation to the family and thereby preserve their connection with their culture of origin (Bámaca & Umaña-Taylor, 2006; Fuligni, 2004).

We found that patterns of parent-peer linkage were associated with congruence between one cultural value of youth and their parents. Youth had higher Anglo orientations and lower Mexican orientations and respeto values than their parents in all three profiles. Youth in the Positive profile, however, did not significantly differ from their parents in their familism values, but youth in the Low Parent and Low Friend profiles had significantly lower familism values than did their mothers and fathers. Familism is a Mexican cultural value that emphasizes the loyalty, support and interdependence of family (Cauce & Domenech-Rodríguez, 2002; Rumbaut, 2005). The fact that youth and parents in the Positive profile were similar in their endorsement of this key cultural value may reflect family cohesiveness. As youth in the Positive profile were also well-adjusted, this finding supports the conceptual argument of acculturation gap theories as well: in contrast to youth whose cultural values are discrepant with their parents and who are at risk for maladjustment, a match in parent-child cultural values is protective for youth (Birman, 2006). Further, to the extent that these youth and parents shared this cultural value, parents may have been more likely and better able to guide, participate in, and monitor their children's peer activities (Portes & Rumbaut, 2001).

It is worth mentioning that parents' ability to socialize their children is also facilitated through the efforts of many individuals in their social networks who share similar family values and norms (Parke et al., 2006). When parents are unable to assume their socialization role, other adults in their network may assist with this responsibility. Such social capital tends to be more common in families with more financial resources (Portes & Rumbaut, 2001). Given that household income was greater for families in the Positive profile, it is likely that these parents had more resources for structuring and supervising their children's extracurricular activities with peers. Consequences of greater adult supervision and direct involvement may be reflected in the findings that youth in the Positive profile held similar familism values as their parents and achieved relatively closer and more positive friendships compared to other youth. Why, then, did youth in the Low Friend profile demonstrate comparable adjustment to youth in the Positive profile? These youth came from families with significantly lower household incomes than youth in the Positive profile, and they differed from their parents across a range of cultural values and practices.

It is possible that, because they had more disagreement about the extent to which family support and obligation were important, parents of these youth attempted to protect them from risky non-familial influences by placing more restrictions on their peer relationships (Chen & French, 2008; Updegraff et al., 2007). Alternatively, the fact that these youth also had a warm and accepting relationship with their parents may have served as a protective factor for them.

Implications of Parent-Peer Linkage Patterns among Mexican-Origin Youth

Spending increasingly more time with peers, and turning from parents to peers for more social and emotional support during adolescence, while still receiving guidance and support from parents, is a normative developmental process (Buhrmester, 1990; Rubin et al., 1998; Laible et al., 2000). Much of the research on parent-peer linkages suggests that youth transfer the relational behaviors they learn in the family context to their peer relationships (Parke et al., 2006; Grusec & Ungerer, 2003; Burks & Parke, 1996). As noted, this research has tended to focus on European American, non-immigrant samples (Lieberman et al., 1999; Updegraff et al., 2001; Kan & McHale, 2007; Fuligni et al., 2001). Our findings from a Mexican-origin sample partially support these notions of parent-peer linkage. Youth in the Positive profile had average mother acceptance and high father acceptance and high friendship intimacy, suggesting that they transferred aspects of their positive parental relationships to their peer relationships. This pattern of parent-peer linkage is also consistent with research on the role of fathers in youths' success with peers: fathers' affect and play predicts children's social acceptance and successful peer relationships (MacDonald & Park, 1984), and fathers also promote autonomy and instrumental behavior, which may help youth to assert themselves with peers (Collins & Russell, 1991; Youniss & Smollar, 1985). On the other hand, the Low Parent profile may reflect a compensatory pattern of parent-peer linkage: youth who do not have positive relationships with their parents may turn from their parents to peers. Although these youth did not have ratings of acceptance as high as the other groups, it is noteworthy that they still scored approximately 3.5 on a 5.0 scale for both mother and father acceptance indicating that, at the absolute level, their parents were somewhat accepting of them. Still, this pattern is in line with research that suggests that youth who view their parents as restrictive or not accepting of them

tend to seek advice from their friends (Fuligni & Eccles, 1993), and youth may judge their parents' acceptance of them in relation to the parental acceptance of their peers. Although we did not assess the degree to which parent-peer linkage profiles differed in terms of parental knowledge, youths' disclosure to parents, and parental support and restrictions, this is an important next step for future research among Mexican-origin youth. For example, parents may gain greater knowledge about their children's activities and peer relationships when they share cultural orientations, with parental knowledge promoting more positive and less risky behavior by youth.

Our findings regarding youth in the Low Friend profile were somewhat consistent with previous research and theory. These youth had high mother acceptance and average father acceptance, yet contrary to attachment and social learning theories, they exhibited low friendship intimacy. This pattern of results is similar to the Low Peer group that emerged in Kan and McHale's (2007) study of European American youth. In contrast to Kan and McHale's findings, however, Mexican-origin youth in the Low Friend profile did not fare poorly. Instead, these youth exhibited comparable adjustment to youth in the Positive profile. Thus, the benefits associated with this relational pattern may be unique to Mexican-origin youth. Conversely, this pattern may be uniquely associated with poor adjustment among European American youth. Although experiencing supportive friendships with peers has been linked to social-emotional and academic adjustment in early adolescence in European American samples (Rubin et al., 1998), avoiding negative peer influences may protect Mexican-origin youth from engaging in risky behavior (Portes & Rumbaut, 2001). Avoidance of negative peer influences also may preserve youths' relationships with their parents as they undergo acculturation and develop practices and values that differ from those of their parents. In our study, youth in the Low Friend profile exhibited higher Anglo orientations, lower Mexican orientations and lower familism and respeto compared to their parents, yet they still demonstrated positive adjustment. This suggests that acculturation is acceptable for youth, as long as they maintain close relationships with their parents. Future studies on Mexican-origin youth would benefit from examining the characteristics of youth and parents who fit a "High Parent/Low Friend" profile, as well as how they stay close during the acculturative process.

Limitations

This study is limited to cross-sectional analyses of links between parent and peer experiences and associations with cultural correlates and adjustment. In order to illuminate the direction of effect among these variables, future studies will need to adopt a longitudinal design. Such a design would allow for examination of sociocultural factors that contribute to connections between parent and peer relationships and the effects of parent-peer linkage at one point in time on later youth adjustment; it also would illuminate how patterns of parent-peer linkage may change over time for some youth. In addition, this study reflects the parent-peer linkage patterns of a particular sample of Mexican-origin youth and cannot be generalized to the experiences of other immigrant groups. The focus on normative developmental processes within this Mexican-origin sample was a primary goal of this study, and future studies should attempt to replicate these findings with other samples of Mexican-origin youth.

Conclusion

Despite its limitations, this study is an important step in understanding connections between relationships with parents and peers in its extension into a non-European American cultural group. The use of a person-oriented approach allowed for the identification of three distinct, theoretically and practically meaningful profiles of youth who exhibited different patterns of parent-peer linkage that were associated with cultural characteristics and a range of adjustment outcomes. Understanding how the growing population of Mexican-origin youth adapts and functions in two cultures remains an important task for researchers. As our study suggests, this understanding will require acknowledgement of the substantial within-group variability that exists among these youth.

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Table 1.
Means (and Standard Deviations) for 3-Profile Latent Profile Analysis (LPA) Solution (n = 244)

Variable	Profile 1 Low Parent	Profile 2 Positive	Profile 3 Low Friend	Profile Differences $F(2, 243) =$
	n = 55 (51% girls)	n = 45 (84% girls)	n = 144 (41% girls)	
Friendship intimacy	3.73 (.73) ^b	4.61 (.19) ^c	3.50 (.59) ^a	64.13***
Mother acceptance	3.53 (.52) ^a	4.43 (.39) ^b	4.56 (.29) ^c	161.13***
Father acceptance	3.67 (.67) ^a	4.52 (.30) ^c	4.14 (.53) ^b	32.56***

Note. ^{a,b,c}Means with different superscripts differ significantly by profile.

*** $p < .001$

Table 2.
Means (and Standard Deviations) for Household Income, Mother and Father Education, Years Living in the U.S., and Generation Status for Parent-Peer Linkage Profiles (n = 244)

Background characteristics	Profile 1	Profile 2	Profile 3	Profile Differences <i>F</i> (2, 242) =
	Low Parent	Positive	Low Friend	
	n = 55 (51% girls)	n = 45 (84% girls)	n = 144 (41% girls)	
Household income	\$50938 (33,386) ^a	\$72263 (71,351) ^b	\$49470 (36,795) ^a	4.65*
Mother education	10.72 (3.43)	11.01 (4.06)	10.03 (3.70)	1.62
Father education	10.73 (4.14)	10.46 (4.59)	9.42 (4.33)	2.24
Mothers' years living in the U.S.	19.75 (15.27)	23.24 (16.11)	19.92 (14.33)	.95
Fathers' years living in the U.S.	21.80 (14.78)	24.62 (15.35)	23.05 (14.75)	.45
Generation status	2.06 (1.08)	2.28 (1.23)	2.08 (1.05)	.62

Note. ^{a,b}Means with different superscripts differ significantly by profile.

**p* < .05

Table 3.
Means (and Standard Errors) for Cultural Characteristics Associated with Parent-Peer Linkage Profiles

Cultural characteristics	Profile 1 Low Parent				Profile 2 Positive				Profile 3 Low Friend				Total		
	Youth	Mothers	Fathers	Family Mean	Youth	Mothers	Fathers	Family Mean	Youth	Mothers	Fathers	Family Mean	Youth	Mothers	Fathers
Anglo orientations	3.79 ^a (.07)	2.77 (.10)	2.90 (.10)	3.15 ^a (.07)	4.11 ^b (.08)	2.99 (.11)	2.98 (.11)	3.36 ^b (.08)	4.02 ^b (.05)	2.97 (.06)	3.00 (.06)	3.33 ^b (.04)	3.99 ^d (.58)	2.92 ^c (.96)	2.97 ^c (.92)
Mexican orientations	3.65 (.09)	3.98 (.09)	3.96 (.10)	3.87 (.08)	3.74 (.10)	3.91 (.10)	3.82 (.11)	3.82 (.08)	3.64 (.06)	4.07 (.06)	3.90 (.06)	3.87 (.05)	3.66 ^c (.78)	4.02 ^e (.70)	3.90 ^d (.79)
Familism Values	4.16 ^{ac} (.07)	4.44 ^d (.05)	4.44 ^d (.05)	4.34 (.04)	4.44 ^b (.08)	4.34 (.06)	4.46 (.06)	4.41 (.04)	4.25 ^{ac} (.04)	4.46 ^d (.03)	4.46 ^d (.03)	4.39 (.02)	4.26 (.52)	4.43 (.39)	4.46 (.42)
Respeto Values	4.11 ^a (.08)	4.33 (.07)	4.38 (.06)	4.28 (.04)	4.39 ^b (.09)	4.28 (.07)	4.44 (.07)	4.37 (.05)	4.20 ^a (.05)	4.36 (.04)	4.40 (.04)	4.31 (.03)	4.21 ^c (.59)	4.34 ^d (.48)	4.40 ^d (.47)

Note. ^{a,b}Means with different superscripts differ significantly by profile.
^{c,d,e}Means with different superscripts differ significantly by informant.
Means are adjusted for the mean value of socioeconomic status.

Table 4.
Means (and Standard Errors) for Adjustment Outcomes Associated with Parent-Peer Linkage Profiles

Adjustment outcomes	Profile 1 Low Parent	Profile 2 Positive	Profile 3 Low Friend
GPA	2.47(.12) ^a	2.82(.14) ^b	2.82(.08) ^b
Risky behavior	1.52(.05) ^a	1.26(.06) ^b	1.34(.03) ^b
Depression symptoms	1.99 (.06) ^a	1.64(.07) ^b	1.81(.04) ^b

Note. ^{a,b}Means with different superscripts differ significantly by profile.
Means are adjusted for the mean value of covariates, socioeconomic status and gender.

Figure Captions

Figure 1. LPA Three-Profile Solution for Patterns of Parent-Peer Linkage

Figure 2. Cultural Orientations for Youth in Low Parent, Positive, and Low Friend Profiles

Figure 1.

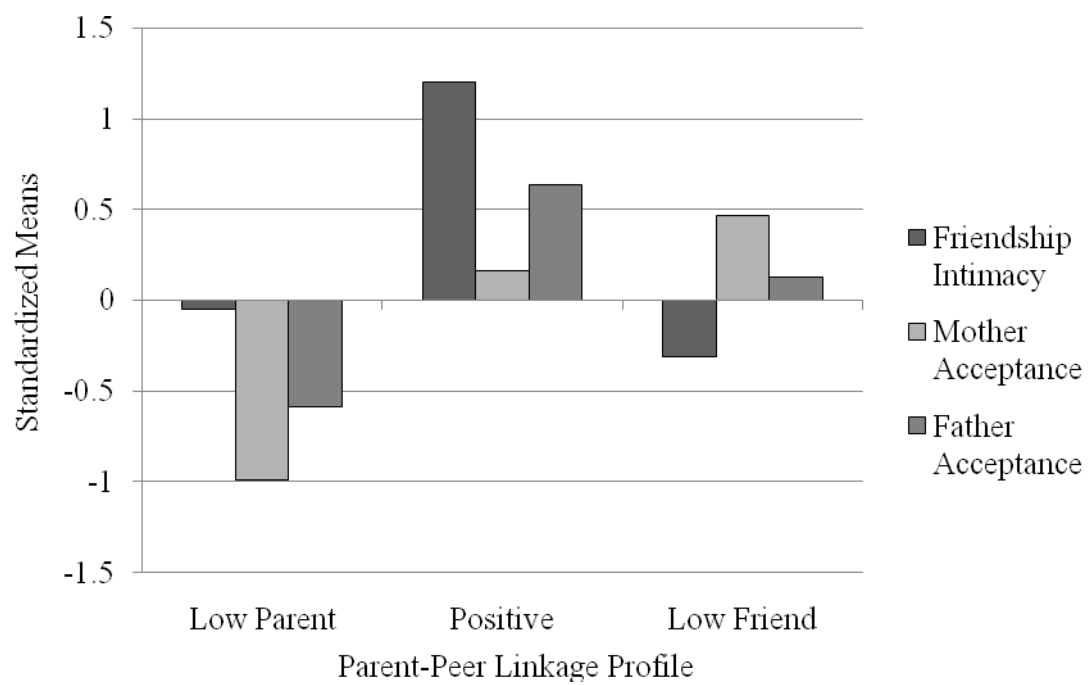
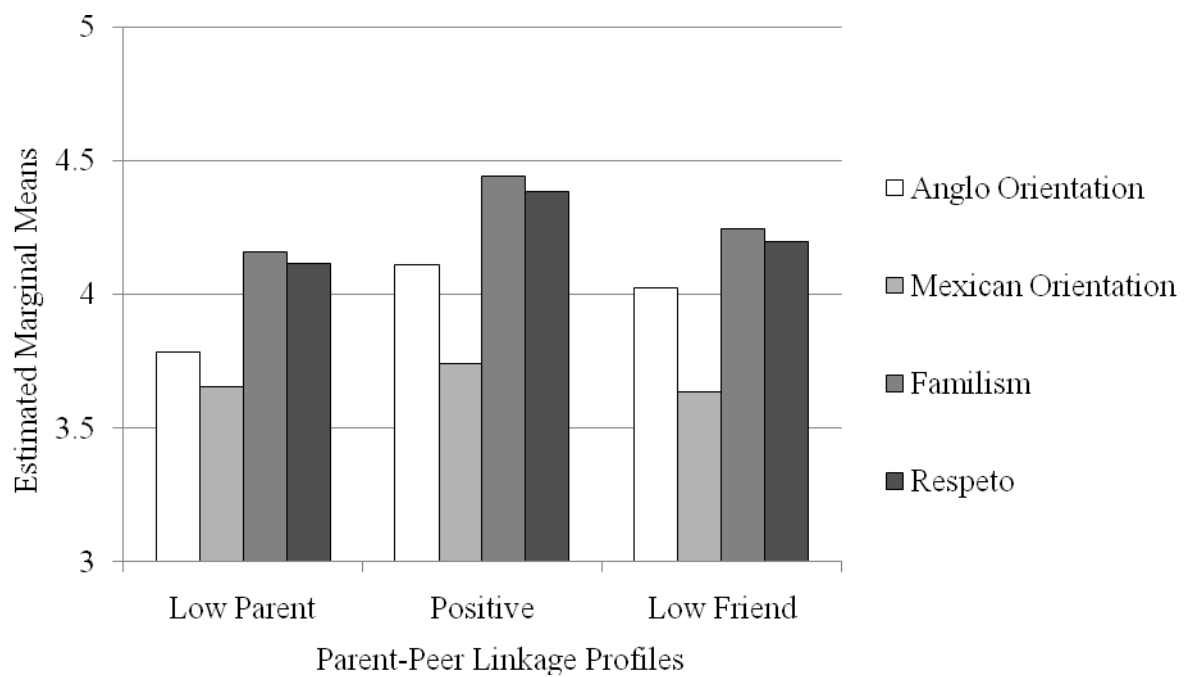


Figure 2.



Note. Means are adjusted for the mean value of socioeconomic status.

Chapter 3

Relatedness with Teachers and Peers during Early Adolescence: An Integrated Variable-Oriented and Person-Oriented Approach

Abstract

Establishing positive relationships with teachers and peers is an important task during early adolescence. Youth who experience support from teachers and peers enjoy and value school more, are more academically engaged, and have higher achievement. Few studies have examined patterns of relatedness between youths' experiences with peers and teachers. The primary aims of the present longitudinal study were to examine: (a) patterns of teacher-peer relatedness in 6th grade; (b) whether behavioral characteristics in 5th grade predicted teacher-peer relatedness in 6th grade; and (c) how unique teacher and peer experiences and patterns of teacher-peer relatedness were associated with academic and social adjustment among 383 rural, lower- to middle-class, white youth. This study is unique in that it adopted a variable-oriented and person-oriented approach to examine youths' experiences with teachers and peers. Results suggest that behavioral characteristics in elementary school may contribute to teacher-peer relatedness patterns in middle school. Findings also indicate a maladaptive synergistic effect for Low Relatedness youth, such that having a pattern of poor relationships with the primary social partners in the school context is worse than the straight additive effects of the independent components of relatedness. Discussion focuses on the implications of experiences with teachers and with peers, particularly for Low Relatedness youth.

Relatedness with Teachers and Peers during Early Adolescence: An Integrated Variable-Oriented and Person-Oriented Approach

Two important tasks during early adolescence are establishing positive relationships with teachers and with peers. Studies indicate that youth who experience support from teachers and peers enjoy, value, and bond with school more, are more engaged in class activities, have higher academic achievement, are less lonely, and feel better about themselves (Crosnoe, Johnson, & Elder, 2004; Furrer & Skinner, 2003; Gest, Welsh, & Domitrovich, 2005; Goodenow, 1993; Kingery & Erdley, 2007; Ladd, Birch, & Buhs, 1999; Maddox & Prinz, 2003; O'Connor & McCartney, 2007; Parker & Asher, 1993). These relationships may be compromised during the transition to middle school—a period of increased complexity and developmental demands in the form of an expanded group of peers and teachers, and greater academic expectations and demands (Felner et al., 2001; Eccles et al., 1993). In the present study, I examine the unique and combined role of relationships with teachers and with peers during the beginning of middle school using a variable-oriented research approach, and use a person-oriented approach to explore whether relationships with teachers and peers are connected in different ways for different youth. Specifically, I examine whether youths' pre-transition behavioral styles predict their post-transition patterns of relatedness, and whether post-transition patterns of relatedness predict youths' social and academic adjustment across middle school.

The Middle School Transition and Stage-Environment Fit

Entry into early adolescence consists of various complex and demanding transitional events, such as beginning puberty and moving from a single-classroom based elementary school format to a middle school context of changing classes multiple times during the day. Features of the school context, such as more social comparison-based grading, less personal and positive teacher-student relationships, emphasis on lower-level cognitive skills, and more competition appear to exacerbate the demands of these transitions (Eccles et al., 1993; Graber & Brooks-Gunn, 1996). Features of the school context are in contrast to young adolescents' developmental needs of autonomy, competence and relatedness as well

(Lerner & Steinberg, 2004; Ryan & Deci, 2000). Perhaps as a result, this period is often associated with a decline in feelings of self-worth and in school performance (Eccles et al., 1993; Fenzel, 2000; Simmons & Blyth, 1987).

The effect of transitions in early adolescence depend, in part, on the personal characteristics that students bring with them to the new school setting (Ladd, 1996), as well as on the conditions of the setting youth are entering and opportunities afforded to them in the new setting, including relational opportunities with teachers and peers (Felner et al., 2001; Ladd, 1996; Eccles et al., 1993). A stage-environment fit perspective considers the social and relational contexts that promote (or hinder) youths' optimal adjustment in school during early adolescence. This perspective emphasizes the importance of the fit between the developmental needs of youth and the opportunities provided to them by the school environment (Eccles et al., 1993). Research has demonstrated the potential of supportive relationships with teachers and peers to buffer the stressful challenges associated with the new school environment, and to meet youths' needs for interpersonal relatedness during the middle school transition (Crosnoe et al., 2004; Felner et al., 2001; Kuperminc, Blatt, Shahar, Henric & Leadbeater, 2004; Seidman, Allen, Aber, Mitchell, & Feinman, 1994). In the present study, I embrace a stage-environment fit perspective, assuming that youths' adjustment is optimal when the environmental and social contexts—particularly, experiences with teachers and peers—are supporting their needs for relatedness. To elucidate the role of teachers and peers during early adolescence, I examined youths' relationships with teachers and peers in the fall of 6th grade, the first semester of middle school.

Importance of Youths' Relationships with Teachers and Peers

Close, supportive teacher-student relationships are associated with developmental benefits for youth from kindergarten through high school, including consistent positive academic and social outcomes (Crosnoe et al., 2004; Furrer & Skinner, 2003; Goodenow, 1993; Hughes, Cavell, & Willson, 2001; Ladd et al., 1999; O'Connor & McCartney, 2007). Across elementary school, teacher-student relationships characterized by more closeness and lower conflict have been linked to more positive perceptions of school (Ladd, 1996); higher academic skills and classroom adjustment (Baker, 2006; Pianta & Stuhlman,

2004); and prosocial behavior (Gest, et al., 2005b). Although youth become increasingly peer-oriented during early adolescence (Wigfield, Eccles, Mac Iver, Reuman, & Midgley, 1991), their need for positive relationships with and guidance from non-familial adults, including teachers, remains important (Eccles, 1999; Zimmer-Gembeck, Chipuer, Hanisch, Creed, & McGregor, 2006). Yet, youth may experience decreasing feelings of relatedness during this period. Eccles and colleagues (1993) observed that teacher-student relationships deteriorated over the transition to junior high school. Compared to elementary classrooms, junior high classrooms emphasized more teacher control and discipline, and gave fewer opportunities for student decision-making, choice and self-management. This structure may undermine a sense of community and trust which may lead to youths' feelings of alienation and loneliness. Despite these discouraging findings, it is noteworthy that students who moved from teachers they perceived to be unsupportive in elementary school to highly supportive teachers in junior high school showed an increase in the value they attached to math (Eccles et al., 1993). This underscores that although there were general declines in motivation across the transition to junior high school, such declines were *not* universal when students perceived high teacher support. In the present study, I consider youths' relationships with teachers an important aspect of their interpersonal relatedness during early adolescence.

Positive peer experiences are an important component of interpersonal relatedness during early adolescence as well. Two of the most common measures of peer relatedness include youths' likeability or social acceptance by peers, and youths' own perceived peer competence. Acceptance among children's peers is thought to promote a sense of belonging in the school context (Goodenow, 1993). Peer preference, a measure of how much a child is liked or disliked by classmates, has been positively linked with children's GPAs (Ladd, Buhs, & Troop, 2002; Wentzel & Caldwell, 1997) and future academic progress (Lubbers, Van der Werf, Snijders, Creemers, & Kuypers, 2006). Buhs & Ladd (1997) argued that acceptance among peers provides children with a sense of relatedness and connection to the classroom that empowers them to engage in, rather than withdraw from class activities. Accepting peers may provide access to more collaborative learning experiences, group activities and opportunities for

active participation. As many academic activities occur in a social context (e.g., group assignments), it is plausible that being disliked and unaccepted by peers may compromise youths' academic experience.

Being disliked by peers predicts loneliness among elementary-aged youth (Gest et al., 2005b; Parker & Asher, 1993) and across the middle school transition (Kingery & Erdley, 2007), as well as lower academic self-concept and more internalizing symptoms among early adolescents (Flook, Repetti, & Ullman, 2005). Low peer preference has also been linked with later maladjustment, including school drop-out, criminal activity and psychopathology (Parker & Asher, 1987). Youth who are disliked and unaccepted have limited opportunities for positive peer interactions and, thus, fewer opportunities to learn and practice valued and adaptive interpersonal skills. In addition to social preference, in the present study I consider the importance of youths' perceived peer competence, a construct that captures youths' perceptions of acceptance in their friendships as well as in the larger peer network. Multiple studies have indicated that youths' perceptions of social competence among peers have been strongly associated with their perceptions of competence in other domains (e.g., academic competence; Gest, Domitrovich & Welsh, 2005a) and their perceptions of overall self-worth (Fenzel, 2000; Harter, Whitesell & Junkin, 1998).

Associations between Youths' Relationships with Teachers and with Peers

Despite the evidence that youth display better school adjustment when they are accepted by peers and when they have supportive and non-conflictual relationships with teachers, few studies have examined links between youths' relationships with peers and with their teachers. Multiple processes are likely involved in the association between youths' relationships with teachers and with peers; and in the unique and combined consequences of these relationships.

Common antecedents. Several common antecedents are associated with youths' relationships with teachers and peers in a new school setting including personal characteristics, such as aggressive or prosocial behavioral styles (Ladd, 1996). Some studies indicate that youth who have positive relationships with teachers and peers tend to be more helping, sharing and cooperative (Chen, Li, Li, Li, & Liu, 2000; Coie, Dodge, & Kupersmidt, 1990; Ladd, Birch & Buhs, 1999). These prosocial youth may provide

others with social benefits (e.g., a listening ear to a peer with injured feelings; a good attitude towards the teacher's assignment) that promote positive, supportive relationships. Ladd and colleagues (1999) found that a prosocial orientation predicted children's peer acceptance, whereas children with an antisocial orientation were less likely to be accepted by peers or have close relationships with their teachers. Stormshak, Bierman, Brushi, Dodge, and Coie (1999) observed that aggressive behavior tended to reduce, and prosocial behavior tended to enhance peer social preference. Several studies have reported that teacher ratings of closeness are correlated with children's aggression (Birch & Ladd, 1997; Ladd & Price, 1987), and Gest and colleagues (2005b) found that aggressive behavior undermined relatedness with teachers over an academic year. Aggressive youth likely disrupt the classroom climate and learning environment that teachers attempt to establish, and thereby reduce teachers' perceptions of the closeness in their relationships with those students. In short, whereas prosocial behavior tends to be linked with positive relational experiences, aggressive, antisocial behavior tends to be linked with negative relational experiences, and this appears to be true for children's relationships with peers and teachers (see Ladd et al., 2002). In light of this research, one aim of the present study was to examine whether youths' behavioral styles before the transition to middle school predicted their post-transition teacher and peer experiences.

Mutually supportive relationships. Youth who establish more supportive and less discordant relationships with their teachers are more socially accepted by peers (Ladd et al., 1999). Hughes and colleagues (2001) found that peers' perceptions of teacher support predicted social preference for youth, suggesting that children are aware of teacher support for a classmate, and they may use this information to form their perceptions of the child's competencies and their liking for the child. In other words, concurrent associations between teacher-support and peer-support for a student may be partly explained by peers' use of information about teachers' interactions with their classmates to form opinions about those classmates. When a student has a more positive, supportive relationship with a teacher, classmates may perceive that student in a more favorable light. In addition, close, supportive relationships with teachers may provide youth with a sense of confidence that contributes to their increased engagement in

the classroom. Such active engagement may be viewed positively by classmates and, in turn, contribute to greater social acceptance among peers (Hughes & Kwok, 2006). Consequently, youth may feel a stronger sense of social competence among peers. The reverse pattern may also be true. Peer acceptance and competence could also foster teacher-student closeness, such that teachers may find it easier to be close to youth who are not causing classroom management challenges related to their difficulties with peers. In short, teacher and peer relatedness may be mutually supportive.

Divergent associations. Although youth begin to distance themselves from their parents and become more peer-focused during early adolescence, they still want to share their ideas with other, nonfamilial adults, and benefit from adult guidance and wisdom (Petersen, 1988; Eccles, 1999). Eccles suggested that youth turn disproportionately to peers for guidance during this period, *only* when they do not have opportunities to bond with nonfamilial adults. When youth and teachers are not close to each other in the school context, it is more likely that a student's struggles may go unnoticed and he or she may turn increasingly to peers for support and advice. As youth feel a sense of alienation in the school environment, they may disengage from school and become involved with a risky peer group. Such youth may experience support from peers and feel connected to them, while experiencing poor relationships with their teachers.

Combined Consequences of Youths' Relationships with Teachers and with Peers

Additive effects. Positive relationships with teachers and peers may also provide youth with an overall sense of belonging and support that is associated with positive adjustment in school. Thus, another aim of the present study was to examine associations between experiences with teachers and peers and youth adjustment. Studies indicate the importance of a good fit between the values and norms of teachers and peers (Crosnoe & Needham, 2004; Battistich, Schaps, & Wilson, 2004; Felner et al., 2001; Goodenow, 1993). Reinforcing messages of positive norms and values across multiple levels (e.g., school, teachers, peers, families) appear to promote more positive adjustment in early adolescence. These studies suggest unique, but additive effects on adjustment, such that the total effect of experiences in multiple relational domains is equal to the sum of the unique effects of the relational indicators.

Configural models. Positive experiences in one relational context, however, may buffer the impact of negative relational experiences in another context, reflecting a “protective” model (Luthar, Cicchetti, & Becker, 2000). For example, Crosnoe and colleagues (2004) found that students with negative friendships were more likely to get better grades and less likely to get in trouble at school when they had more positive views of teachers. Conversely, negative experiences in one relational context may amplify the impact of negative experiences in another context on youths’ adjustment, reflecting a “vulnerability” or a “vulnerability and *reactive*” model (Luthar et al., 2000). This would imply that youth would not simply have overall worse adjustment, as indicated by the additive effects of negative teacher and peer experiences, but that low peer preference and peer competence, for example, may exacerbate the negative impact of low teacher-student closeness on youths’ adjustment. These protective and vulnerability models are two plausible possibilities among a larger family of “configural” models of how distinct patterns of teacher-peer relatedness may be differentially associated with youth adjustment. Yet, few studies have examined such patterns of teacher-peer relatedness among early adolescents.

One exception was a study by Furrer and Skinner (2003), in which they identified profiles of relatedness based on youths’ relationships with parents, teachers, and peers. Relatedness profiles revealed that even when relatedness to parents and peers was low, children who felt high relatedness to teachers had higher behavioral and emotional engagement compared to children who had low teacher-relatedness. Children who reported high relatedness to peers (but less relatedness to parents and teachers) had higher behavioral and emotional engagement compared to children who were less related to all social partners. These findings indicate the unique importance of different configurations of relatedness to multiple social partners. For the most part, however, research on the role of teachers and peers has neglected to explore how these relationships may have non-linear associations; how they may be connected in different ways for different youth; and how different patterns of teacher-peer relatedness may be associated with children’s adjustment. I sought to address the limitations in this field by examining patterns of youths’ experiences with teachers and with peers using a person-oriented approach (Bergman & Magnusson, 1997; Cairns & Rodkin, 1998; Von Eye & Bergman, 2003). This approach allows me to look at relatively

homogenous sub-groups of youth based on various linear and non-linear patterns of teacher-peer relatedness, rather than solely view teacher and peer experiences as independent factors. Further, this approach provides a more comprehensive understanding of links between youths' social relationships and their adjustment in school; thus, I also sought to examine the consequences of relatedness patterns for youths' social and academic adjustment.

Study Aims and Hypotheses

In the present study, I examined the extent to which behavior in the year preceding the middle school transition (5th grade) predicted interpersonal relatedness patterns in the first year of middle school (6th grade); and the extent to which unique indicators of relatedness and patterns of relatedness were associated with overall school adjustment in the second year of middle school (7th grade). Relatedness patterns were identified using a person-oriented analytic approach and were based on one indicator of teacher relatedness (teacher-reported teacher-student closeness) and two indicators of peer relatedness (peer-nominated social preference and youths' perceptions of peer competence). Multi-informant reports were used to provide a comprehensive picture of youths' teacher-peer relatedness from the perspective of teachers, peers, and youth. Based on the literature reviewed, I expected to identify at least three patterns of teacher-peer relatedness: positive relationship experiences across the three indicators, negative relationship experiences across the three indicators, and relatively high peer relatedness, but low teacher relatedness.

In terms of the antecedents of relatedness, I expected prosocial behavior in 5th grade to positively predict, and aggression to negatively predict a pattern of positive experiences with teachers and peers. In contrast, I expected prosocial behavior to negatively predict, and aggression to positively predict a pattern of negative experiences with teachers and peers. I expected both prosocial and aggressive behavior to predict non-linear patterns of teacher-peer relatedness (e.g., positive peer experiences and negative teacher experiences).

The final aim of the study was to integrate variable-oriented and person-oriented approaches to examine associations between teacher and peer experiences and youth adjustment. Variable-oriented

analyses are used to identify processes found to a similar degree among all youth and they account for the proportion of variance in a given adjustment outcome explained by constructs of relatedness with teachers and with peers. Variable-oriented analyses have dominated research on links between youths' teacher and peer experiences: these studies have revealed that positive experiences with teachers tend to be associated with positive peer experiences, and positive experiences in each relational context are additively linked with better adjustment (Goodenow, 1993). Accordingly, I expected teacher-student relationship quality, social preference and perceptions of peer competence in the fall of 6th grade to positively predict youths' academic and social adjustment concurrently and in the spring of 7th grade. It is also possible that linear and non-linear patterns of teacher-peer relatedness identified through a person-oriented approach predict social and academic adjustment above and beyond the unique, additive effects of youths' experiences with teachers and peers (Bergman & Magnusson, 1997; Bergman & Trost, 2006). I expected youth with positive relationship experiences across the three domains to have more positive social and academic outcomes compared to youth with negative relationship experiences across the three domains. I expected youth who exhibited patterns of relatively high social preference and peer competence, but poor relationships with teachers, to have worse academic outcomes but comparable social outcomes to youth with positive experiences with teachers and peers.

Method

Participants

Data for this study are drawn from a larger five-year longitudinal study. Participants were initially enrolled in grade 3, 4 or 5 at an elementary school serving a rural, working class community in the northeastern United States in the fall of 2001. Assessments were conducted in the fall and spring of every school year until each cohort completed 7th grade. In the fall of each year, parents provided consent for their children to participate in the fall and spring assessments. For the present study, data are drawn from all three cohorts when the students were enrolled in 5th, 6th, and 7th grade only. Utilizing these waves of assessment allowed for examination of the role of youths' behavioral characteristics in 5th grade on youths' relationships at the beginning of middle school, and the role of youths' relationships on

concurrent and later school adjustment for all three cohorts. Ninety-six percent (427/443) of the students who were enrolled in the targeted grades in the fall of 2001 received parental consent and provided data on at least 2 of the first 5 assessment occasions. Of these core 427 students part of the larger longitudinal study, I analyzed data for 383 students (170 girls, 213 boys) who were enrolled in the school and were not exempt in the fall of 6th grade, and were classified into teacher-peer relatedness groups based on their relationships with their teacher, their social preference among peers and their peer competence. (The larger number of boys reflect the percentage in the overall school population). Almost all students at the school (99%) were European American, reflecting the demographics of the larger community served by the school district. On statewide assessments of reading and math, the distribution of scores for 5th grade students at the school closely matched the distribution for the overall population of 5th graders in the state. However, rates of many social problems (e.g., poverty, school dropout) exceeded state averages. This community profile is typical for rural areas, where nearly one third of all U.S. children attend public school (Beeson & Strange, 2003).

Procedures

This project originated as a component of a Safe Schools/ Healthy Students grant obtained by the school district. Students and teachers completed surveys in October and May of each school year. Several weeks prior to the October survey date, parents were sent a letter describing the project with a form to sign and return if they did not wish their child to participate. At each assessment, parental consent for participation of any new students in the school was sought. This ensured very high participation rates at each assessment. Students who received parental consent were asked to complete a group administered survey lasting approximately 45 minutes. Students were free to decline to participate in the survey.

Measures

Students and teachers responded to various items describing youths' behavioral characteristics, relatedness with teachers and peers, and academic and social adjustment.

Behavioral characteristics. Students identified peers in their grade matching various behavioral descriptors. All students were provided with a roster containing the names of children in their grade and

were free to list as many or as few classmates (in 5th grade) and same-grade peers (in 6th grade) as they wished in response to each item. Both same-sex and other-sex nominations were tallied. Raw scores were standardized within sex and class (or grade) to account for varying sex and class (or grade) size distribution. Two items described youths' *Prosocial Behavior*: Always does nice things for others, and Helps other kids a lot. Scores on each item could range from zero (no nominations received) to the total number of nominators in the grade. These two items were averaged and standardized to comprise the peer-rated prosocial behavior composite score in the fall of 5th grade. *Peer-rated Aggression* was computed as the standardized average of two standardized items in the fall of 5th grade: Starts fights, and Picks on other kids a lot.

Relatedness. One indicator of relatedness, *Teacher-Student Closeness*, was described by three items on which teachers rated the trust (i.e., trust me), security (i.e., has a secure relationship with me) and avoidance (i.e., avoids contact with me) (reversed) they perceived in the relationship in the fall of 6th grade. The composite of these three items were used to match the conceptual core of the 11-item Closeness subscale of the Student-Teacher Relationship Scale (Pianta, 1992) because several items on the STRS are developmentally inappropriate for youth in the middle school grades (e.g., "Child is uncomfortable with affection from me"). Each item was rated on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The 3-item scale was internally consistent ($\alpha = .77$ to $.83$ for each cohort; $M = 4.29$, $SD = .72$). One peer-nominated item was included as another indicator of youths' relatedness with peers. *Peer Social Preference* was computed as the standardized difference between youths' standardized "liked most" and "liked least" scores in the fall of 6th grade (Asher & Coie, 1990). Finally, a third indicator of youths' peer relatedness, *Perceived Competence with Peers*, was drawn from the Self-Perception Profile for Children (Harter, 1982), which assessed various dimensions of youths' self-concept. Students were asked to choose which of two statements was more true for them, then to indicate whether that statement was "sort of true" or "really true" for them. Four items described youths' perceptions of social competence with peers in the fall of 6th grade: find it easy to make friends; some kids have a lot of friends; feel that most kids like them; and are popular with others their age ($\alpha = .77$ to

.84 for each cohort; $M = 3.30$, $SD = .73$). Scores were standardized within grade.

Middle school adjustment. Three items described youths' academic adjustment. Students' home-room teachers rated the degree to which they agreed or disagreed with statements describing multiple aspects of student adaptation (1 = strongly disagree, 5 = strongly agree). Items were drawn from existing, well-validated rating scales, including the Social Health Profile (CPRG, 1999). Teacher ratings of youths' *Academic Skills* focused on competence in four academic subjects (good at math, reading, science, writing) and formed an internally consistent composite scale ($\alpha = .83$ to $.93$; $M = 3.71$, $SD = .98$ in 6th grade; $M = 3.30$, $SD = .83$ in 7th grade). Youth responded to four statements corresponding to positive *Academic Self-Concept* that were drawn from the Self-Perception Profile for Children (Harter, 1982): feel they are very good at their school work; feel like they are just as smart as other kids their age; almost always figure out the answers; and do very well in their class work. Across the assessments examined in the present study, these items formed an internally consistent composite scale ($\alpha = .71$ to $.88$; $M = 3.18$, $SD = .73$ in 6th grade; $M = 3.04$, $SD = .77$ in 7th grade). Students responded to five items on a 5-point Likert scale regarding their *School Bonding*, including: I feel sure about schoolwork; kids in our school have a good chance in the future; I like going to school; doing well in school is important to me; and I like class activities. The internal consistency for this scale was acceptable ($\alpha = .56$ to $.79$; $M = 3.95$, $SD = .60$ in 6th grade; $M = 3.65$, $SD = .65$ in 7th grade).

Two items described youths' social adjustment. *Loneliness* described the degree to which youth felt alone and left out. This construct was assessed with a 3-item subscale of the 24-item measure of loneliness and social disaffection (Guay, Boivin, & Hodges, 1999). The three items (I feel lonely; I feel left out; I feel alone) formed an internally consistent scale across assessments ($\alpha = .72$ to $.90$; $M = 1.62$, $SD = .91$ in 6th grade; $M = 1.68$, $SD = .89$ in 7th grade). Finally, youth responded to four statements corresponding to their sense of *Self-Worth* that were drawn from the Self-Perception Profile for Children (Harter, 1982): aren't happy with the way they do things (reversed); are happy with themselves most of the time; don't like the way they are leading their life (reversed); and like the kind of person they are ($\alpha = .74$ to $.86$; $M = 3.30$, $SD = .83$ in 6th grade; $M = 3.30$, $SD = .69$ in 7th grade).

Students' self-report data in the fall of 6th grade and spring of 7th grade were available for 82% to 89% of the longitudinal sample. Peer-nomination data were available for 91% and 90% of the longitudinal sample in the fall of 5th and 6th grade. Across the teacher rating assessments, data were available for 88% of the longitudinal sample in the fall of 6th grade and 79% of the sample in the spring of 7th grade.

Results

Analytic Plan

In line with my research questions, primary analyses were performed in the following order: First, I identified patterns of teacher-peer relatedness with Latent Profile Analysis. Second, I performed multinomial logistic regression to assess prediction of membership in the identified teacher-peer profiles. Finally, I tested hierarchical linear regression models to examine the unique and additive contribution of teacher and peer experiences and patterns of teacher-peer relatedness on youths' concurrent and longitudinal adjustment.

Inter-Correlations among Behavioral Characteristics, Relatedness, and Adjustment

First, inter-correlations, means and standard deviations for the indicators of relatedness in the fall of 6th grade, youth behavioral characteristics in the fall of 5th grade, and youth social and academic adjustment in the fall of 6th grade and spring of 7th grade were computed as maximum-likelihood estimates from EM Estimation (Table 1). The three indicators of relatedness (*teacher-student closeness*, *peer preference*, and *perceived peer competence*) were weakly correlated ($.09 \leq r \leq .29$). *Aggressive behavior* was weakly correlated with indicators of relatedness ($r = -.17, -.32$, and $-.00$ for *teacher-student closeness*, *peer preference*, and *peer competence*, respectively). *Prosocial behavior* was weakly correlated with *teacher-student closeness* and *peer competence* (both, $r = .23$), and moderately correlated with *peer preference* ($r = .42$). *Teacher-student closeness* was weakly correlated with *academic skills* ($r = .27$ in 6th and 7th grades), *academic self-concept* ($.20 \leq r \leq .23$), *loneliness* ($-.04 \leq r \leq -.06$), *school bonding* ($.19 \leq r \leq .22$), and *self-worth* ($.14 \leq r \leq .16$). *Peer preference* was weakly correlated with *academic skills* ($.21 \leq r \leq .29$), *academic self-concept* ($.08 \leq r \leq .16$), *loneliness* ($-.16 \leq r \leq -.26$), *school*

bonding ($.06 \leq r \leq .17$), and *self-worth* ($.16 \leq r \leq .17$). *Perceived peer competence* was weakly correlated with *academic skills* ($.04 \leq r \leq .19$) and *school bonding* ($.13 \leq r \leq .17$), and moderately correlated with *academic self-concept* ($.32 \leq r \leq .54$), *loneliness* ($-.32 \leq r \leq -.46$), and *self-worth* ($.43 \leq r \leq .58$).

Patterns of Teacher-Peer Relatedness

To address my first aim, I used Latent Profile Analysis (LPA) in M-Plus (Muthén & Muthén, 1998-2008), a person-oriented analytic procedure, which allowed for the emergence of profiles of youth with similar response patterns for teacher-student closeness, peer preference, and peer competence in the fall of 6th grade. Before analyzing the data, the relatedness indicators were standardized in order to interpret the resulting profiles on the same metric. Multiple models starting with one latent profile and increasing hierarchically were examined to determine the best LPA solution for the data. The three-profile solution provided the best fit based on observed AIC (3064.80), sample-adjusted BIC (3081.90), and extraction limitations due to the number of mixture components. Average probabilities for the most likely latent class membership were acceptable (.95, .82, .89, respectively).

After the classification of these teacher-peer relatedness groups, I conducted multiple imputation with NORM software for handling missing data (see Table 1) among the target sample in 5th, 6th and 7th grade (Schafer, 1997; Graham, Cumsille & Elek-Fisk, 2003; Graham, 2009). This process involves imputing m data sets, such that each data set contains a different imputed value for every missing value; analyzing the m data sets and saving the parameter estimates and standard errors from each; and combining the parameter estimates and standard errors to arrive at a single set of parameter estimates and corresponding standard errors (see Graham et al., 2003 for a detailed description of NORM). In addition to the dependent and predictor variables of interest in the missing data model, I also included gender and 15 relevant variables from the spring of 5th and 6th grade and the fall of 7th grade to improve estimates of the missing cases (teacher-rated academic skills, academic self-concept, loneliness and school bonding). I first calculated the Expectation Maximization (EM) covariance matrix and EM converged normally in 474 iterations in Maximum Likelihood mode. I then used 474 steps of data augmentation between imputed datasets as recommended by Graham et al. (2003). I imputed 40 data sets, so 18960 (474*40)

steps of data augmentation were used in total. Diagnostic plots suggested that the 474 steps of data augmentation were sufficient for multiple imputation, thus, I retained the 40 imputed data sets for the primary regression analyses.

Imputed values for missing data on the teacher-peer relatedness profile dummy variables were then coded using Allison's (2002) strategy for handling imputation of missing data for categorical variables under a normal model (i.e., where the value 1 is assigned to the dummy variable with the highest imputed value, and 0 is assigned to all others in the dummy variable set). The proportion of participants in each teacher-peer relatedness profile was provided by the EM parameter estimates (Graham, 2009). Relatively low scores were $\geq 1/3$ standard deviation below the mean; average scores were $< \text{plus or minus } 1/3$ standard deviation from the mean; and relatively high scores $\geq 1/3$ standard deviation above the total mean. Profile 1 ($n = 168$) was characterized by low teacher-student closeness, peer preference, and peer competence (Low Relatedness) (Table 2). Profile 2 ($n = 93$) was characterized by average teacher-student closeness and high peer preference and peer competence (Peer-Oriented). Profile 3 ($n = 122$) was characterized by high teacher-student closeness, peer preference and peer competence (Teacher-Oriented) (Figure 1). Boys and girls were equally distributed among the three teacher-peer relatedness profiles: the Low Relatedness profile consisted of 76 girls and 92 boys; the Peer-Oriented profile consisted of 41 girls and 52 boys; and the Teacher-Oriented profile consisted of 53 girls and 69 boys.

Associations between Youths' Behavioral Styles and Patterns of Relatedness

To address my second aim, a multinomial logistic regression analysis was performed using SPSS NOMREG to assess prediction of membership in one of the three teacher-peer relatedness profiles in the fall of 6th grade on the basis of youths' behavioral characteristics in the fall of 5th grade. The resulting parameter estimates and standard errors from the 40 imputed datasets were stacked and analyzed in NORM. Results indicated that prosocial behavior in 5th grade was positively associated with membership in the Peer-Oriented profile, $t(383) = 3.39$, $b = .49$ (.14), $p < .001$, and Teacher-Oriented profile, $t(383) = 3.93$, $b = .53$ (.13), $p < .001$, in contrast to the Low Relatedness profile (Table 3). In addition, aggression

in 5th grade was negatively associated with membership in the Teacher-Oriented profile in contrast to the Low Relatedness profile in 6th grade, $t(383) = -2.42$, $b = -.34$ (.14), $p < .05$.

Associations between Teacher and Peer Experiences and Youth Adjustment

I addressed my third research aim by testing hierarchical linear regression models in NORM to examine the unique and additive contribution of teacher and peer experiences and patterns of teacher-peer relatedness in the fall of 6th grade on youths' concurrent and longitudinal academic (skills, self-concept, and school bonding) and social (loneliness and self-worth) adjustment. In the regression models, blocks of youths' level of baseline adjustment for the outcome being measured (i.e., adjustment in the fall of 6th grade in the 7th grade models), indicators of teacher and peer relatedness (teacher-student closeness, peer preference, and peer competence), and dummy variables for the teacher-peer relatedness profiles were entered in this order. Separate hierarchical linear regression analyses were conducted for each of the youth adjustment outcomes in the fall of 6th grade (Table 4) and in the spring of 7th grade (Table 5).

Academic adjustment. Teacher-student closeness predicted concurrent *academic skills* in the fall of 6th grade, $t(383) = 3.81$, $b = .26$ (.07), $p < .001$. In addition, membership in the Low Relatedness profile was marginally associated with lower academic skills compared to membership in the Teacher-Oriented profile, $t(383) = -1.93$, $b = -.33$ (.17), $p < .10$, and significantly associated with lower skills compared to membership in the Peer-Oriented profile, $t(383) = -2.18$, $b = -.35$ (.16), $p < .05$. In the model predicting academic skills in the spring of 7th grade, teacher-student closeness no longer predicted skills, but peer social preference in the fall of 6th grade significantly predicted skills, $t(383) = 3.66$, $b = .16$ (.04), $p < .001$, over and above the effect of academic skills in the fall of 6th grade, $t(383) = 10.78$, $b = .47$ (.04), $p < .001$. The teacher-peer relatedness profiles in the fall of 6th grade did not predict academic skills in the spring of 7th grade. Teacher-student closeness marginally predicted concurrent *academic self-concept*, $t(383) = 1.74$, $b = .08$ (.04), $p < .10$, and peer competence significantly predicted academic self-concept in the fall of 6th grade, $t(383) = 6.75$, $b = .30$ (.04), $p < .001$. In addition, membership in the Low Relatedness profile was marginally associated with lower academic self-concept compared to membership in the Teacher-Oriented profile, $t(383) = -1.93$, $b = -.22$ (.11), $p < .10$, and significantly

associated with lower self-concept compared to youth in the Peer-Oriented profile, $t(383) = -3.00$, $b = -.32$ (.11), $p < .01$. Teacher-student closeness in the fall of 6th grade significantly predicted academic self-concept in the spring of 7th grade, $t(383) = 1.98$, $b = .11$ (.05), $p < .05$, over and above the effect of academic self-concept in the fall of 6th grade, $t(383) = 8.58$, $b = .42$ (.05), $p < .001$. The teacher-peer relatedness profiles did not predict academic self-concept in the spring of 7th grade.

Teacher-student closeness marginally predicted *school bonding* in the fall of 6th grade, $t(383) = 1.89$, $b = .09$ (.05), $p < .10$. Membership in the Low Relatedness profile was marginally associated with lower school bonding compared to youth in the Teacher-Oriented profile, $t(383) = -1.67$, $b = -.19$ (.12), $p < .10$, and compared to youth in the Peer-Oriented profile, $t(383) = -1.91$, $b = -.21$ (.11), $p < .10$. No relatedness indicators or profiles predicted school bonding in the spring of 7th grade over and above the effect of school bonding in the fall of 6th grade, $t(383) = 6.73$, $b = .25$ (.04), $p < .001$.

Social adjustment. Perceived peer competence significantly predicted concurrent *loneliness* in the fall of 6th grade, $t(383) = -6.55$, $b = .38$ (.06), $p < .001$. Peer competence also predicted loneliness in the spring of 7th grade, $t(383) = -2.57$, $b = -.19$ (.07), $p < .05$, over and above the effect of loneliness in 6th grade, $t(383) = 4.00$, $b = .23$ (.06), $p < .001$. In addition, peer social preference predicted loneliness in 7th grade, $t(383) = -2.45$, $b = -.13$ (.05), $p < .05$. Finally, peer competence predicted *self-worth* in the fall of 6th grade, $t(383) = 7.70$, $b = .30$ (.04), $p < .001$. In addition, membership in the Low Relatedness profile was negatively associated with self-worth compared to membership in either the Teacher-Oriented profile, $t(383) = -2.05$, $b = -.21$ (.10), $p < .05$, or membership in the Peer-Oriented profile, $t(383) = -2.30$, $b = -.22$ (.10), $p < .05$. Peer competence continued to predict self-worth in the spring of 7th grade, $t(383) = 2.44$, $b = .12$ (.05), $p < .05$, over and above the effect of self-worth in the fall of 6th grade, $t(383) = 5.68$, $b = .25$ (.04), $p < .001$. The teacher-peer relatedness profiles did not predict self-worth in 7th grade.

Collectively, results indicated that unique indicators of relatedness predicted social and academic adjustment across middle school and that patterns of teacher-peer relatedness were associated with concurrent adjustment over and above these independent effects.

Discussion

Youth exhibited three distinct patterns of teacher-peer relatedness in 6th grade, immediately after the transition to middle school, that could be characterized as Teacher-Oriented, Peer-Oriented and Low-Relatedness. As expected, prosocial behavior in 5th grade positively predicted membership in the Teacher-Oriented and Peer-Oriented profiles; whereas Aggressive behavior in 5th grade predicted membership in the Low Relatedness profile. Each indicator of relatedness in 6th grade was uniquely associated with at least one indicator of concurrent or future academic and social adjustment. Even after taking these linear associations into account, being in the Low Relatedness profile was additively associated with a range of adjustment problems in 6th grade, including lower academic skills, academic self-concept, school bonding and self-worth in comparison to youth in the Teacher-Oriented and Peer-Oriented profiles. These findings provide support for the view that patterns of interpersonal relatedness in middle school have antecedents in elementary school patterns of social behavior, and that relatedness at the start of middle school is predictive of multiple domains of adjustment. The fact that configural effects existed after the additive, linear effects were taken into account strongly supports the integration of variable-oriented and person-oriented approaches to study youths' relatedness with teachers and peers (Bergman & Trost, 2006), and the extent to which experiences within these relational contexts contribute to students adjustment and 'fit' in the middle school environment (Eccles et al., 1993).

Patterns of Teacher-Peer Relatedness

Youth in the Teacher-Oriented profile experienced very close teacher-student relationships as well as high levels of peer preference and high perceptions of competence with their peers. On average, these youth scored one standard deviation above the mean for teacher- student closeness. Given the mean of 4.1 and standard deviation of .8 on this scale, this finding suggests that Teacher-Oriented youth scored very near the maximum of 5 on this scale, reflecting an "ideal" relationship. It is possible that other students used information about these youths' positive relationships with teachers to inform their favorable opinions about them (Hughes et al., 2001; Hughes & Kwok, 2006). Teacher-Oriented youth also averaged about 3.5 on the perceived peer competence scale, indicating that they felt that making friends and being well-liked by other

kids was “sort of” to “really true” for them. This pattern of teacher-peer relatedness suggests that these youth experienced an overall positive relational context that promoted their feelings of support, belonging and connectedness in the school environment, including their feelings of competence regarding their social abilities (Crosnoe & Needham, 2004; Furrer & Skinner, 2003). Consistent with hypotheses, prosocial behavior in 5th grade also positively predicted membership in the Teacher-Oriented, as well as the Peer-Oriented profile in contrast to the Low Relatedness profile. These findings support research that suggests that positive relationships with teachers and peers are associated with helping and cooperative behavior (Chen et al., 2000; Coie, Dodge, & Kupersmidt, 1990; Ladd et al., 1999; 2002). When youth demonstrate prosocial behavior, such as voluntarily helping the teacher push in chairs, clean up a mess, or pass out papers, offering to help out with technology issues, recommending a book a classmate might enjoy, or demonstrating compassion to a peer whose feelings have been hurt, they are likely to invite positive responses from their teachers and peers, which in turn promote close, supportive relationships with these social partners.

In contrast, youth in the Low Relatedness profile experienced distant relationships with their teachers, were disliked by their peers, and felt socially incompetent. These youth averaged .53 standard deviations below the mean for teacher-student closeness, indicating that they scored closer to the scale midpoint, and often below it. Further, these youth scored well below the mean for peer social preference, and they averaged a 2.8 on the perceived peer competence scale, indicating that many felt it was not very easy for them to make friends or that most kids did not like them. Also, as expected, aggressive behavior negatively predicted membership in the Teacher-Oriented profile in contrast to the Low Relatedness profile. When youth are mean or pick fights with other peers, it is likely to disrupt the classroom climate and hinder their relationships in the school context. Such behavior may also evoke negative reactions from teachers and peers and contribute to a negative pattern of relational experiences that carries over to middle school. This pattern of low relatedness suggests that these youth did not have the socially supportive and connected school climate that their peers in the Teacher-Oriented profile had. Such low teacher-peer relatedness may

further erode social support for these youth, putting them at risk for estrangement and failure in the school environment and possibly withdrawing from school.

Youth in the Peer-Oriented profile represented an interesting, mixed pattern of teacher-peer relatedness characterized by average teacher-student closeness and high peer preference and peer competence. These youth scored slightly below the mean for teacher-student closeness, indicating that teachers tended to agree (although not strongly) that they had a close relationship with the students. These youth scored well above the mean for peer social preference and perceived peer competence, indicating that they feel they were popular and well liked by other kids, and found it easy to make friends. This pattern is in line with research that has documented a tendency for youth to become increasingly peer-focused during the early adolescent years (Wigfield et al., 1991). Youth in the Peer-Oriented profile had significantly higher perceptions of social competence than their peers in the Teacher-Oriented profile, despite the fact that these peers also had high peer competence and preference. Youth in the Peer-Oriented profile were sociable 6th graders, well-liked by their peers and confident about their social skills, yet they did not necessarily turn disproportionately to peers for support and guidance (Eccles, 1999; Petersen, 1988). I expected a pattern of teacher-peer relatedness to emerge in which youth had high peer preference and peer competence, but low teacher-student closeness, yet Peer-Oriented youth did not exactly fit this profile. They were moderately close to their teachers and appeared to experience an overall supportive school climate in which they were well-adjusted. Further, as stated, prosocial behavior in 5th grade positively predicted membership in the Peer-Oriented profile in contrast to the Low Relatedness profile, supporting previous findings regarding associations between positive teacher and peer experiences and kind and helpful behavior (Chen et al., 2000; Ladd et al., 1999; 2002). Finally, it is noteworthy that approximately 56 percent of youth were identified as being Teacher-Oriented or Peer-Oriented, with less than half of youth falling into the Low Relatedness profile. This suggests that a majority of youth experienced positive relationships with teachers and with peers in the fall of 6th grade.

Concurrent and Longitudinal Correlates of Unique Indicators and Patterns of Relatedness

Concurrent academic correlates of relatedness. Teacher-student closeness predicted concurrent academic skills, academic self-concept and school bonding in the fall of 6th grade. These findings are in line with previous research that has shown that close teacher-student relationships are linked to higher academic skills (Baker, 2006; Goodenow, 1993) and more positive perceptions of school (Ladd, 1996; Eccles et al., 1993). They also suggest that, despite the fact that youth become increasingly peer-focused during early adolescence, their relationships with teachers and other non-familial adults in the school context continue to have a significant impact on their adjustment (Crosnoe et al., 2004; Furrer & Skinner, 2003; Goodenow, 1993; Zimmer-Gembeck et al., 2006). Perceived peer competence predicted youths' academic self-concept in 6th grade as well. This is consistent with previous research that found perceptions of competence in one domain was associated with perceptions of competence in another domain (Gest et al., 2005a), and it likely reflects an association between two important developmental tasks (i.e., academic achievement and social success with peers) of early adolescence (Masten & Coatsworth, 1998).

Above and beyond these independent effects of teacher-student closeness, peer preference and peer competence, patterns of teacher-peer relatedness (i.e., configural effects) predicted concurrent academic adjustment as well. Even when all indicators of relatedness were included in the regression model, youth in the Teacher-Oriented and Peer-Oriented profiles had higher academic skills, academic self-concept, and school bonding compared to youth in the Low Relatedness profile. It is interesting that youth in the Peer-Oriented profile had significantly higher academic skills compared to Low Relatedness youth in 6th grade: these youth had high peer preference and peer competence, neither of which was independently associated with concurrent academic skills, and they only had average teacher-student closeness, which was significantly associated with concurrent skills. Perhaps, this generally positive pattern of teacher-peer relatedness provided a supportive school climate for youth that encouraged their participation in learning activities and ultimately enhanced their academic performance (Goodenow, 1993; Furrer & Skinner, 2003). Contrary to expectations, youth in the Peer-Oriented profile did not have worse academic adjustment than youth in the Teacher-Oriented profile. This is likely due to the fact that,

although youth in the Peer-Oriented profile had high peer preference and peer competence, they did not have *poor* relationships with teachers, which may have reflected an extreme peer orientation (Eccles, 1999). Instead, these youth had moderately close relationships with their teachers, relationships that were significantly closer compared to their peers in the Low Relatedness profile. In contrast to the unsupportive relational context experienced by Low Relatedness youth, Peer-Oriented youths' positive experiences with peers and their relatively close relationships with teachers likely facilitated a supportive relational context that promoted their positive academic adjustment in school.

Concurrent social correlates of relatedness. Perceived peer competence in the fall of 6th grade also predicted concurrent feelings of global self-worth. This finding is consistent with theoretical models of self-worth development (Harter, 1987; 1993), and suggests that youths' perception of how competent they are among their peers is linked to their overall feelings of contentment with the way they are leading their life. Patterns of teacher-peer relatedness also predicted concurrent self-worth, such that Teacher-Oriented and Peer-Oriented youth had higher self-worth compared to Low Relatedness youth. Collectively, these configural effects suggest a maladaptive synergistic effect for Low Relatedness youth, such that having a pattern of poor relational experiences with teachers and peers is worse than the straight additive effects of the independent components of relatedness. These findings are consistent with a "vulnerability and *reactive*" model, in which risk factors enhance the negative effects of other risk factors that are present (Luthar et al., 2000), and they suggest that a lack of positive experiences with these primary social partners in the school context may indicate youth who are at risk for maladjustment.

Longitudinal academic correlates of relatedness. Teacher-student closeness predicted academic self-concept 7th grade. Despite the relative stability of youths' beliefs about their academic abilities in early adolescence (Dweck, 2002), this finding suggests that close, supportive relationships with teachers at the beginning of middle school can have a positive and lasting influence on youths' perceptions of their academic skills (Eccles, Wong & Peck, 2006). It is likely that experiencing a supportive relationship with a person who grades one's academic performance, provides a young adolescent with more confidence in his or her academic abilities. This finding is encouraging as it suggests the potential for teachers to

positively impact youth during the tumultuous middle school years. It also supports previous research that points to youths' enduring need for positive relationships with and guidance from teachers and other non-familial adults, even as they become increasingly peer-focused (Eccles, 1999; Zimmer-Gembeck et al., 2006; Wigfield et al., 1991). Results indicated a lagged effect of peer preference in 6th grade, such that preference was positively associated with academic skills in 7th grade. Being liked by peers provides youth with an accepting climate to practice and engage in effective peer interaction strategies. Such an accepting peer climate may provide youth with more opportunities to actively engage in collaborative learning experiences in the classroom, which may enhance their academic skills across middle school.

Longitudinal social correlates of relatedness. Results also indicated a lagged effect of peer preference in 6th grade on loneliness in 7th grade. The fact that the extent to which youth were liked or disliked by their peers in the fall of 6th grade predicted how lonely they felt and how well they were doing in school in the spring of 7th grade, strongly supports previous research that peer preference not only contributes to youths' social adjustment over time (Gest et al., 2005b; Kingery & Erdley, 2007; Parker & Asher, 1993), but to their academic adjustment as well (Buhs et al., 2002; Furrer & Skinner, 2003; Lubbers et al., 2006; Wentzel & Caldwell, 1997). Youth spend a substantial amount of their waking hours with peers during early adolescence, and being liked and accepted by those peers contributes to an overall positive social and academic experience during middle school (Goodenow, 1993). When youth are disliked and unaccepted by their peers, they are not given ample opportunities to learn and practice effective interpersonal skills with their age-mates. Repeatedly using ineffective peer interaction strategies likely contributes to feelings of loneliness and ostracism over time. The finding that both indicators of relatedness with peers (i.e., peer preference and perceived peer competence) predicted loneliness in 7th grade, suggests the importance of youths' experiences with peers in facilitating their feelings of connectedness during middle school (Kingery & Erdley, 2007). Perceptions of peer competence also predicted youths' feelings of global self-worth in 7th grade. This supports previous research in which perceptions of social competence in peer relations predicted global self-worth among young adolescents over time (Harter, 1985; Fenzel, 2000).

Integrating variable- and person-oriented approaches to study relatedness. In sum, integrating a variable-oriented and a person-oriented analytic approach revealed interesting findings that would not have been captured had I solely used one approach. Patterns of teacher-peer relatedness predicted all concurrent academic and social outcomes except for one, even when controlling for the additive effects of the relatedness indicators. This provides strong support for the use of a person-oriented approach to complement variable-oriented studies of relatedness, and it supports the notion that relevant characteristics of relatedness must be considered simultaneously as they interact in different ways for different youth (Bergman & Magnusson, 1997; Bergman & Trost, 2006; Von Eye & Bergman, 2003). Interestingly, only the unique indicators of relatedness predicted adjustment in 7th grade. This suggests that specific teacher and peer experiences may be more strongly linked to particular adjustment outcomes (e.g., perceived peer competence and loneliness) than any particular pattern of interpersonal relatedness. Still, our findings indicate that various configurations of youths' teacher and peer experiences provide unique, important information about youths' adjustment. Also, patterns of teacher-peer relatedness may evolve as youth move through middle school and engage with many other teachers and peers, and future research would benefit from studying changes in links between youths' experiences with teachers and with peers.

Limitations and Future Directions

The present study has several features that limit its generalizability. Due to the homogeneity of the rural school district in which the study was conducted, the sample included almost exclusively white, lower- to middle-class students. These findings may not necessarily generalize to middle school students in more ethnically and economically diverse and urban school settings. Studying the effects of teacher-peer relatedness in more diverse samples is an important next step. For youth who have limited opportunities to develop close and meaningful relationships with teachers in some large, urban schools, experiences with peers may be particularly important for their adjustment in school. On the other hand, when youth are marginalized because of their race or socio-economic status, a close relationship with a teacher may be especially important or protective, even when youth have negative experiences with peers (Crosnoe et al., 2004; Seidman et al., 1994).

Future studies on patterns of relatedness during early adolescence could include more specific measures of experiences with reciprocated friends (Hartup, 1996), as well as with other authority figures with whom youth are in relationships in the school setting (Eccles, 1999; Zimmer-Gembeck et al., 2006), and measures of youths' relatedness with parents (Furrer & Skinner, 2003). Given the prominence of teachers and peers in the school context and the important developmental task of establishing positive relationships with these social partners (Gest et al., 2005b; Kuperminc et al., 2004), studying youths' teacher-peer relatedness and its association with behavioral characteristics and adjustment highlights key antecedents and consequences of relational experiences during early adolescence.

Conclusion

This study is unique in that it integrates variable-oriented and person-oriented analyses to more comprehensively examine experiences with teachers and peers during the stressful period of middle school. The use of a person-oriented approach allowed for the identification of unique patterns of teacher-peer relatedness that were associated with earlier behavioral characteristics and concurrent and future adjustment above and beyond the independent indicators of relatedness. A better understanding of how experiences with teachers and peers are connected in different ways for different youth will allow educators to better serve this early adolescent population. In response to the poor adjustment outcomes that were associated with membership in the Low Relatedness profile, I argue that it is especially important to promote the quality of youths' relationships with teachers and peers during the early months of middle school.

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Table 1.
Inter-correlations for Behavioral Characteristics, Indicators of Relatedness, and Academic and Social Adjustment

Measure	Behavioral Characteristics (Fall 5 th)		Indicators of Relatedness (Fall 6 th)			Academic Adjustment (Fall 6 th)			Social Adjustment (Fall 6 th)		Academic Adjustment (Spring 7 th)			Social Adjustment (Spring 7 th)	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Prosocial Behavior	1														
2. Aggressive Behavior	-.25	1													
3. Teacher-Student Closeness	.23	-.17	1												
4. Peer Preference	.42	-.32	.29	1											
5. Peer Competence	.23	-.00	.09	.28	1										
6. Academic Skills	.42	-.20	.27	.21	.19	1									
7. Academic Self-Concept	.26	-.11	.20	.16	.54	.43	1								
8. School Bonding	.08	-.14	.22	.10	.17	.13	.24	1							
9. Loneliness	-.11	.08	-.06	-.16	-.46	-.10	-.38	-.31	1						
10. Self-Worth	.17	-.15	.14	.16	.58	.26	.70	.29	-.40	1					
11. Academic Skills	.43	-.25	.27	.29	.04	.58	.35	.12	-.05	.22	1				
12. Academic Self-Concept	.24	-.13	.23	.08	.32	.37	.60	.19	-.22	.42	.43	1			
13. School Bonding	.05	-.13	.19	.06	.13	.11	.23	.42	-.14	.17	.18	.40	1		
14. Loneliness	-.15	.16	-.04	-.26	-.32	-.09	-.27	-.15	.38	-.29	-.07	-.37	-.22	1	
15. Self-Worth	.16	-.16	.16	.17	.43	.27	.51	.25	-.29	.54	.25	.63	.36	-.50	1
Means(SD)	.05 (.99)	.02 (.98)	4.12 (.83)	.01 (.97)	3.28 (.74)	3.71 (.98)	3.18 (.73)	3.95 (.60)	1.62 (.91)	3.38 (.66)	3.30 (.83)	3.04 (.77)	3.65 (.65)	1.68 (.89)	3.30 (.69)
% Missing Data	4	4	<1	0	4	2	4	<1	1	4	14	11	1	11	11

Note. Correlations among variables were computed as maximum-likelihood estimates from EM Estimation.
 $n = 383$. For $r > .12$, $p < .05$; for $r > .14$, $p < .01$; for $r > .19$, $p < .00$

Table 2.
Means (Standard Deviations) for Indicators of Teacher-Peer Relatedness Profiles

Relatedness Indicator	1	2	3	Profile Differences <i>F</i> (2, 382) =
	Low Relatedness n = 168	Peer-Oriented n = 93	Teacher-Oriented n = 122	
Teacher-Student Closeness	-.53 (.97) ^a	-.18 (.64) ^b	1.01 (.11) ^c	166.45***
Peer Social Preference	-.44 (1.05) ^a	.51 (.65) ^b	.36 (.75) ^b	45.44***
Perceived Peer Competence	-.65 (1.01) ^a	.80 (.26) ^b	.33 (.64) ^c	126.20***

Note. ^{a,b,c}Means with different superscripts differ significantly by profile.

*** $p < .001$

Table 3.
Means (Standard Deviations) for 5th Grade Behavioral Characteristics Associated with 6th Grade Teacher-Peer Relatedness Profiles

Behavioral Characteristics in 5 th Grade	6 th Grade Teacher-Peer Relatedness Profile			Profile Differences <i>t</i> (383) =
	1 Low Relatedness	2 Peer-Oriented	3 Teacher-Oriented	
Prosocial Behavior	-.21 (.83) ^a	.23 (1.08) ^b	.32 (.95) ^b	^c 3.39***; ^d 3.93***
Aggressive Behavior	.21 (1.11) ^a	-.04 (.95) ^{ab}	-.17 (.70) ^b	^c -1.05, ^d -2.42*

Note. ^{a,b}Means with different superscripts differ significantly by profile.

^c*t*-ratio value for difference between Profiles 1 and 2; ^d*t*-ratio value for difference between Profiles 1 and 3

****p* < .001 **p* < .05

Table 4.

Associations between Youths' Teacher and Peer Relatedness and Concurrent Social and Academic Adjustment in the Fall of 6th Grade

Teacher-Peer Relatedness Fall 6 th Grade		Academic and Social Adjustment: Fall 6 th Grade									
		Academic Skills		Academic Self-Concept		School Bonding		Loneliness		Self-Worth	
		Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
1.	Constant	3.86*** (.11)	3.86*** (.11)	3.28*** (.07)	3.37*** (.07)	4.03*** (.07)	4.05*** (.07)	1.65*** (.10)	1.58*** (.10)	3.48*** (.07)	3.49*** (.07)
	Teacher-Student Closeness	.26*** (.07)	.26*** (.07)	.08 (.04)	.08 (.04)	.09 [†] (.05)	.09 [†] (.05)	-.07 (.06)	-.07 (.06)	.02 (.04)	.02 (.04)
	Peer Preference	.08 (.05)	.08 (.05)	-.04 (.03)	-.04 (.03)	-.01 (.04)	-.01 (.04)	-.05 (.05)	-.05 (.05)	.00 (.03)	.00 (.03)
	Peer Competence	.02 (.06)	.02 (.06)	.30*** (.04)	.30*** (.04)	.02 (.05)	.02 (.05)	-.38*** (.06)	-.38*** (.06)	.30*** (.04)	.30*** (.04)
2.	Profile Dummy Variables: Low Relatedness	-.33 [†] (.17)	-.35* (.16)	-.22 [†] (.11)	-.32** (.11)	-.19 [†] (.11)	-.21 [†] (.11)	-.06 (.15)	.01 (.14)	-.21* (.10)	-.22* (.10)
	Peer-Oriented	.02 (.15)		.10 (.10)		.02 (.10)		-.07 (.13)		.01 (.09)	
	Teacher-Oriented		-.02 (.15)		-.10 (.10)		-.02 (.10)		.07 (.13)		-.01 (.09)

Note. Teacher-peer relatedness profiles were dummy-coded and entered in each model after the inclusion of the individual indicators of relatedness: teacher-student closeness, peer preference, and perceived peer competence. For each outcome, the profile reference group in Model 1 is "Teacher-Oriented," and the profile reference group in Model 2 is "Peer-Oriented." Parameter estimates for each effect represent unstandardized beta-weights from hierarchical linear regression analyses of the imputed data sets.

*** $p < .001$ ** $p < .01$ * $p < .05$ [†] $p < .10$

Table 5.
Associations between Youths' Teacher and Peer Relatedness in the Fall of 6th Grade and Academic and Social Adjustment in the Spring of 7th Grade

		Academic and Social Adjustment: Spring 7 th Grade									
		Academic Skills		Academic Self-Concept		School Bonding		Loneliness		Self-Worth	
		Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Teacher-Peer Relatedness: Fall 6 th Grade											
1.	Constant	3.23*** (.09)	3.30*** (.09)	3.02*** (.09)	3.12*** (.08)	3.61*** (.08)	3.67*** (.08)	1.71*** (.11)	1.72*** (.11)	3.35*** (.08)	3.37*** (.07)
	Characteristic in Fall of 6 th	.47*** (.04)	.47*** (.04)	.42*** (.05)	.42*** (.05)	.25*** (.04)	.25*** (.04)	.23*** (.06)	.23*** (.06)	.25*** (.04)	.25*** (.04)
	Teacher-Student Closeness	.06 (.05)	.06 (.06)	.11* (.05)	.11* (.05)	.08 (.05)	.08 (.05)	.03 (.07)	.03 (.07)	.05 (.05)	.05 (.05)
	Peer Preference	.16*** (.04)	.16*** (.04)	-.05 (.04)	-.05 (.04)	-.03 (.04)	-.03 (.04)	-.13* (.05)	-.13* (.05)	.00 (.04)	.00 (.04)
	Peer Competence	-.06 (.05)	-.06 (.05)	.02 (.06)	.02 (.06)	.02 (.05)	.02 (.05)	-.19* (.07)	-.19* (.07)	.12* (.05)	.12* (.05)
2.	Profile Dummy Variables:										
	Low Relatedness	.09 (.14)	.02 (.13)	-.05 (.13)	-.14 (.25)	-.00 (.13)	-.06 (.12)	-.10 (.17)	-.12 (.16)	-.10 (.12)	-.13 (.11)
	Peer-Oriented	.07 (.12)		.09 (.11)		.06 (.11)		.02 (.15)		.03 (.10)	
	Teacher-Oriented		-.07 (.12)		-.09 (.11)		-.06 (.11)		-.02 (.15)		-.03 (.10)

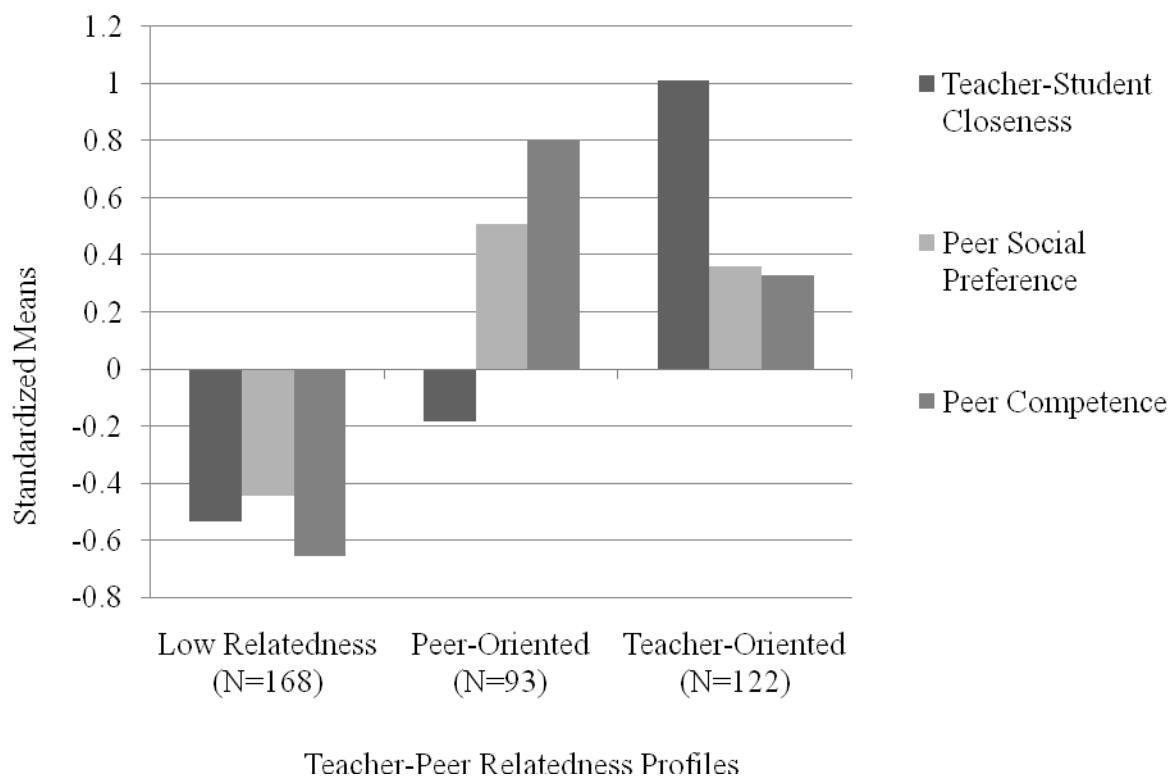
Note. Teacher-peer relatedness profiles were dummy-coded and entered in each model after the inclusion of the individual indicators of relatedness: teacher-student closeness, peer preference, and perceived peer competence. For each outcome, the profile reference group in Model 1 is “Teacher-Oriented,” and the profile reference group in Model 2 is “Peer-Oriented.” Parameter estimates for each effect represent unstandardized beta-weights from hierarchical linear regression analyses of the imputed data sets.

*** $p < .001$ ** $p < .01$ * $p < .05$ † $p < .10$

Figure Caption

Figure 1. LPA Three-Profile Solution for Patterns of Teacher-Peer Relatedness

Figure 1.



Chapter 4

A Person-Oriented Approach for Studying Mentoring Relationships: Profiles of Mentee-Mentor Matches

Abstract

Previous research is inconclusive regarding the key characteristics of effective mentoring matches despite the fact that mentoring programs have been eagerly embraced. The present study represents an extension of previous research in this area that has primarily used variable-oriented analytic approaches. We tested: (a) whether different patterns of association among mentoring match characteristics emerged in a sample of 565 youth and 554 mentors participating in the Big Brothers Big Sisters school-based mentoring program; (b) whether mentoring match profiles predicted mentoring relationship outcomes; and (c) whether there were associations between mentoring-match profiles and youth adjustment. Four distinct profiles of mentee-mentor matches were identified using Latent Profile Analysis. Findings support the use of a person-oriented approach to examine within-group variability among mentoring matches in school-based mentoring programs. A Disengaged profile tended to have less positive mentoring relationship outcomes (i.e., lower mentor- and youth-reported relationship quality, lower youth-reported emotional engagement) compared to other profiles. Mentee and mentor age moderated associations between mentoring match profiles and adjustment. Specifically, profiles characterized by mentors' perceptions of sufficient pre-match training in combination with average to high mentor efficacy and engagement in social activities and academic activities was associated with more positive outcomes for older youth.

A Person-Oriented Approach for Studying Mentoring Relationships:

Profiles of Mentee-Mentor Matches

Adult-youth mentoring relationships have been endorsed as a means of promoting positive youth development (Rhodes & DuBois, 2008). The current popularity and momentum of mentoring programs—from large-scale community- and site-based programs such as Big Brothers Big Sisters (BBBS) to small, locally-based programs—provides great opportunity to improve knowledge in this area and to serve many youth. Nonetheless, uncritical acceptance of mentoring as an effective intervention may preclude rigorous evaluation and understanding of the elements of effective mentee-mentor matches (Karcher, Kuperminc, Portwood, Sipe & Taylor, 2006). In the present study, a mentoring match is conceptualized as the relationship between a mentor and a mentee. Although certain individual factors, including mentors' high self-efficacy (Karcher, Nakkula & Harris, 2005), the adequacy of training (DuBois, Holloway, Valentine & Cooper, 2002a; Spencer, 2007), and mentors' engagement in social and academic activities (Herrera et al., 2000; Langhout, Rhodes, & Osborne, 2004) have shown promise, additional work is needed to understand how constellations of mentoring match characteristics combine to affect youth outcomes.

The overarching goal of the present study is to extend previous mentoring research by examining patterns of association among important characteristics of mentoring relationships in a sample of youth mentees and adult and teen mentors participating in BBBS school-based mentoring programs. Our first aim was to adopt a person-centered approach to examine how mentoring match characteristics collectively form mentoring match profiles (Bergman & Magnusson, 1997; Cairns & Rodkin, 1998; Magnusson, 1998). Our second aim was to examine whether mentoring match profiles predicted mentoring relationship outcomes, including mentee- and mentor-perceived relationship quality, length of the relationship, and mentee emotional engagement in the relationship. Finally, our third aim was to examine whether there were associations between mentoring-match profiles and youth academic and social adjustment, and whether these associations were moderated by the age and gender of the mentee and mentor.

Background

Studies have revealed significant associations between youth involvement in close supportive mentoring relationships and positive developmental outcomes (Rhodes, Spencer, Keller, Liang, & Noam, 2006). These associations are modest, however, and depend on several intervening processes. Of central importance is the formation of close, enduring relationships between mentors and youth (Rhodes, Reddy & Grossman, 2005). Multiple studies provide evidence for several important characteristics of mentee-mentor matches that are linked to relational longevity and quality and to positive youth adjustment, including structure and activity in the relationship (Herrera et al., 2000; Langhout, et al., 2004); mentor efficacy (Karcher et al., 2005); and mentor training (DuBois et al., 2002a; Karcher et al., 2005; Spencer, 2007).

Structure and activity in the mentoring relationship. Mentoring relationships provide opportunities for youth to engage in various social, recreational, and academic activities with adults. Such activities may be an especially meaningful and fun outlet for youth who live in disadvantaged and stressful circumstances. Herrera et al. (2000) found that engaging in social activities (e.g., hanging out, going to lunch) was a stronger predictor of closeness in the mentoring relationship than was engaging in academic activities. However, engaging in academic activities was associated with more relational closeness than not engaging in such activities. Similarly, DuBois, Neville, Parra and Pugh-Lilly (2002b) found that social discussions and engaging in recreational activities promoted youths' perceptions of the mentee-mentor bond. DuBois and colleagues also found that structured activities for mentors and youth predicted bigger mentoring program effects. In the present study, we included the amount of time mentees and mentors spent in social activities (e.g., talking about the mentee's family; listening and learning) and academic activities (e.g., tutoring/homework help) as two characteristics of mentee-mentor matches.

Mentor efficacy for ability to effectively mentor. Evidence suggests that mentors' personal feelings of efficacy for their ability to effectively mentor also contribute to the effectiveness of the relationship (Karcher et al., 2005). These findings resonate with Spencer's (2007) qualitative study on why and how youth mentoring relationships fail. She found that many mentors entered the relationship with unrealistic confidence in their ability to form close, long-lasting relationships with their mentees, and

romanticized expectations of “making a difference;” this, however, proved more challenging than they anticipated. While some mentors desired to feel more needed by their mentees, many felt overwhelmed. Some mentors appeared to have unrealistic or developmentally inappropriate expectations of their mentees, as well as a low awareness of their own personal and cultural biases. These findings underscore the need for mentors to be educated about the developmental realities of their mentees. They also suggest that mentoring programs may be best off when they provide mentors with realistic expectations for the relationship, but empower them to believe that they can make a positive difference in the lives of their mentees (Karcher et al., 2005). In the present study, we included mentors’ efficacy for their ability to effectively mentor as another characteristic of mentee-mentor matches.

Mentor training. Sufficient pre-match and ongoing training for mentors also appears to facilitate positive youth outcomes, including a sense of relatedness to adults, and enhanced mentoring experience (DuBois et al., 2002a; Karcher et al., 2005; Spencer, 2007). Wheeler (2003) noted that most adults who work with youth tend to be young and do not have much training, if any, in human development. Spencer’s observation of mentors’ developmentally-inappropriate behavior highlights this issue. Collectively, these findings provide strong support for mentor training that provides realistic expectations about the mentoring experience and educates mentors about the developmental tendencies of the youth with whom they will be working. In the present study, we included mentors’ perceptions of sufficient pre-match training as another characteristic of mentee-mentor matches.

Unfortunately, not all programs provide adequate training to their volunteers. This is particularly troubling, given the number of high school-aged volunteers who have been recruited by school-based mentoring programs to serve as mentors. Indeed, school-based mentoring (SBM) programs have risen sharply in the past decade. SBM enables programs to involve more high school students, who are not typically involved in community-based programs. Some studies suggest that adult (as opposed to teen) mentors may be more beneficial for youth, such that they have more experience scaffolding and modeling prosocial behavior, and helping younger youth gain access to resources and information (Grossman & Bulle, 2006). Yet, consistent, supervised high school mentors can positively affect mentees’ self-worth, social

competence, perceptions of connectedness to parents, school and the future (Karcher et al., 2005; Karcher, 2005; Karcher, Davis, & Powell, 2002). School-based mentoring relationships with both adult and teen mentors are the focus of the present study.

An important task for this research is to elucidate the role of mentors' efficacy and training, and the shared activities with mentees on the mentoring relationship and youth adjustment. Indeed, researchers still do not know the constellation of factors that constitute a good or successful match between mentees and mentors that is ultimately linked to the quality and longevity of the mentoring relationship and to positive youth outcomes. The present study aims to examine several possible factors in mentoring relationships occurring in a school-based mentoring context.

Mentoring Relationship Outcomes

Longevity of the mentoring relationship. One important mentoring relationship outcome appears to be longevity of the relationship. Studies have found that mentoring relationships sustained over a year are associated with better adjustment, including increases in self-worth, peer acceptance, academic competence, parent relationship quality and school value, and decreases in substance use (Grossman & Rhodes, 2002; Rhodes et al., 2005). In contrast, relationships lasting less than three months were associated with declines in self-worth and academic competence in one study, even when controlling for the correlation between the length of the relationship and youth adjustment. Along similar lines, Slicker and Palmer (1993) found that children and adolescents who were "effectively mentored" (as measured by the quality and length of the relationship) had better academic outcomes than controls, but those whose mentoring relationships terminated prematurely experienced a significant decline in self-esteem.

The specific elements of the mentee-mentor match that contribute to the endurance of the relationship remain ambiguous.

Relational quality. Research also suggests that youth who view their mentoring relationships as very close and emotionally supportive derive positive benefits from the relationship (Rhodes, 2002; DuBois et al., 2002a). Studies that measure relational quality often use a few items that address how much trust and closeness characterize the relationship according to the mentee and (sometimes) the mentor.

Most researchers agree that relational quality is one indicator of an effective mentoring match, yet the specific mentoring match characteristics that promote such closeness are unclear. In the present study, we aimed to examine links between mentoring profiles based on characteristics of the mentee-mentor match and mentoring relationship outcomes, including match longevity, relational quality and emotional engagement.

A Person-Oriented Approach to Examine Characteristics of Mentee-Mentor Matches

The potential for mentoring relationships to positively impact youth is great, but, the specific conditions under which this is possible are not well understood. Multiple studies have indicated the importance of various aspects of mentee-mentor matches in contributing to the quality and longevity of the mentoring relationship (DuBois et al., 2002b; Rhodes et al., 2005; Rhodes, 2002), as well as youth adjustment (DuBois et al., 2002a; Herrera et al., 2000; Karcher et al., 2005; Spencer, 2007). These studies, however, have tended to focus on only a single aspect of the match at a time, and they have tended to use a variable-oriented approach, in which associations between variables are identified and must hold for most youth in order to be statistically significant. In the present study, we used a person-oriented approach in order to examine different patterns of association across a range of mentoring match characteristics (Bergman & Magnusson, 1997; Bergman & Trost, 2006; Magnusson, 1998).

A person-oriented approach considers multiple relevant characteristics simultaneously, as they come together to form a unified whole (Bergman & Trost, 2006; Magnusson, 1998). This approach allows us to look at relatively homogenous sub-groups of youth based on a constellation of mentoring match characteristics rather than to solely view these characteristics as independent factors. Further, this approach allows for the possibility that characteristics of mentoring relationships are connected in different linear and non-linear ways for different youth. One non-linear pattern might reveal, for example, a match profile of enthusiastic mentors who demonstrate high self-efficacy and participate in many social and academic activities with their mentees, despite receiving insufficient training. Alternatively, some matches may be characterized by overwhelmed or disengaged mentors who received insufficient training, have low mentoring efficacy, and participate in few activities with their mentees. Still, some matches may

be characterized by high participation in social and academic activities, and well-trained and efficacious mentors.

We also embraced a person-oriented perspective to identify patterns of relevant mentoring match characteristics in association with mentoring relationship outcomes and youth adjustment, as opposed to studying the effects of independent mentoring match characteristics removed from the particular mentoring contexts in which they occur (Berman & Magnusson, 1997; Cairns & Rodkin, 1998). Various patterns of mentoring-match characteristics may be differentially associated with important relational outcomes, including the quality and longevity of the mentoring relationship, as well as youth adjustment.

Study Aims and Hypotheses

To summarize, toward the end of clarifying important characteristics of mentoring matches, the specific aims of our study were to: (a) use a person-oriented approach to typologize mentee-mentor matches based on the amount of time spent engaging in social and academic activities in the relationship; mentors' efficacy regarding their ability to effectively mentor; and mentors' perceptions of pre-mentoring training; (b) examine links between mentoring match profiles and mentoring relationship outcomes; and (c) examine links between match profiles and youth adjustment. Although we had no a priori predictions for the emergent match profiles, we expected that some mentoring matches would be characterized by linear patterns of match characteristics, such as an overall positive pattern (i.e., high mentor efficacy and training, and high engagement in social and academic activities), and an overall negative pattern of match characteristics; but we also expected that some would be characterized by a non-linear pattern of characteristics (e.g., high mentor efficacy, high social and academic activities, and low mentor training). We expected that youth with an overall positive pattern of match characteristics would have higher relationship quality and longer matches, and better social and academic adjustment outcomes compared to youth with patterns of negative match characteristics (DuBois et al., 2002a; DuBois et al., 2002b; Herrera et al., 2000; Karcher et al., 2005; Karcher, 2005; Karcher et al., 2002; Langhout et al., 2004; Spencer, 2007). We expected, however, that mentoring profiles characterized by some positive features, such as high

engagement in social activities may compensate for negative features of the match, such as low mentor training.

We also tested for the moderating effects of age and gender of the mentee and mentor on youth adjustment. Mentoring programs have not targeted the specific needs of children at different periods of development, and the extent to which characteristics of mentor relationships are more or less important at particular periods of development for girls and boys remains unclear. Some studies indicate no developmental or gender differences in the effect of mentoring on youth adjustment (Dubois et al., 2002; Rhodes et al., 2005), while others suggest that mentoring may have differential effects on girls and boys at different ages (Grossman & Rhodes, 2002; Rhodes, Bogat, Roffman, Edelman, & Galasso, 2002). In addition, few studies have considered the age or gender of the mentor as an important factor in mentoring relationships. Given these inconclusive findings, we did not have specific predictions regarding the moderating effects of age and gender of the mentee and mentor. We tested for moderation, however, given the wide age range of both mentees and mentors and mix of girl and boy mentees and female and male mentors in our sample.

Method

Description of Participating Mentoring Programs

Participants were involved in 71 school-based mentoring programs (SBM) affiliated with 10 Big Brothers Big Sisters (BBBS) agencies across the United States. These 10 BBBS agencies were selected based on six criteria. Each agency: (a) had strong management-level leadership in place for at least 3 years; (b) had an SBM program operating for at least 4 years; (c) served at least 150 youth annually in its SBM program; (d) served girls and boys; (e) used at least two different types of volunteer pools, such as high school students and employees from a local business; and (f) had a well-established relationship with the participating SBM schools, and a signed memorandum of understanding regarding study involvement from the school districts proposed to participate in the study (Herrera et al., under review).

Agencies worked with the schools to recruit youth to participate in the SBM program. Fifty-eight percent of the participating schools were elementary schools; 38 percent were middle schools; and 4

percent were high schools. Participating schools served many youth who demonstrated socio-economic needs. Fifty-nine percent of schools reported that 50 percent or more of their students received free or reduced-price lunch and 73 percent of schools received Title 1 funding. In addition, academic achievement at many of the school was low: 65 percent of youth met standards on state reading exams and only 59 percent achieved standards on state math exams. SBM programs served an average of 22 youth, but there was great variability in the number of participating youth, from a low enrollment of 2 to a high enrollment of 97. The youth enrolled in these programs were referred by teachers, parents and other school staff.

Participants

Youth. BBBS agencies recruited 1,139 youth (mentees) to participate in the study. To ensure comparability across all demographic, behavioral, social-emotional and academic characteristics at baseline, youth were randomly assigned to a treatment or control condition. Of participating youth, 565 were randomly assigned to the treatment group, in which they were able to be matched with mentors, and 574 were randomly assigned to the control condition, in which they would not be matched until completion of the study. Table 1 presents demographic information for youth assigned to the treatment group, including gender, grade in school, and race and ethnicity. A little over half of the youth were female and almost two-thirds were ethnic and racial minorities. Sixty-one percent of youth were in elementary school (4th or 5th grade); about one-third of youth were in middle school (6th-8th grade); and 6 percent of youth were in 9th grade and connected to an agency that targeted high school freshman at risk of dropping out of school. The average participating youth was 11 years old, and 52 percent of youth were between the ages of 11 and 13. In the present study, our sample includes only the 565 youth assigned to a mentoring match.

Mentors. A total of 554 volunteer mentors completed baseline surveys at the beginning of their BBBS program involvement. Demographic characteristics for mentors are presented in Table 2. Almost three-fourths of the mentors were female (72 percent) and white (77%), reflecting a common trend in community-based and school-based mentoring programs (Spencer, 2007; Karcher, Nakkula, & Harris,

2005; Kirsch et al., 1999). Half of the mentors were 18 years old or younger, and 17 percent were 19 to 24 years old. This large percentage of young volunteers reflects the fact that many of the participating mentors were in high school (48 percent) or college (18 percent), an occurrence more common with SBM models than traditional CBM models (Herrera et al., under review). Most student mentors (69 percent) were matched with mentees in elementary school as opposed to middle or high school, in line with the thought that matching mentees and mentors who were close in age would yield less successful matches.

Procedures

Youth were recruited into the SBM programs mostly through teacher and school staff referrals during the spring prior to data collection and the fall of the first year of the study (2004). Participating youth were in 4th through 9th grade (9 to 16 years old) at the start of the study; provided parental consent to participate; and were not referred to the program due to a crisis. Ultimately, 1,139 youth met these criteria and were accepted into the program: 565 were randomly assigned to the matched treatment group and 574 were assigned to the control group. Youth in the control group were placed on the match waiting list for the study duration, but data were collected for all youth when possible at each of the three waves of the study: the beginning of the 2004-2005 school year (baseline); the spring of that year (first follow-up); and in late fall 2005, 15 months after the baseline data collection (second follow-up).

Agencies recruited volunteer mentors through local schools and business partnerships. About half (53 percent) of the programs recruited volunteers through more than one source: about three-fourths (71 percent) recruited high school students, almost one-third (31 percent) recruited college students; and 45 percent recruited some volunteers through businesses. Participating mentors included 554 volunteers at baseline (151 males; 393 females¹).

Because there were proportionally more boys and ethnic and racial minorities among the youth than among the volunteers, mentees and mentors were not necessarily matched on gender and ethnicity. Approximately four-fifths (81 percent) of participating matches shared the same gender. All but two of the cross-gender matches consisted of a female mentor with a male youth. There were more cross-race

¹ 2% of mentors did not provide information regarding gender, age, race or ethnicity.

matches (60 percent) and 74 percent of these were between a white mentor and a minority youth. Seventeen percent of matches were between mentors and youth from different ethnic groups, and 9 percent were between minority mentors and white youth.

Mentoring matches varied in their experiences, but all began their relationship at school and most meetings took place in the school context (on school premises and during the school year). Program expectations varied depending on the BBBS agency and the school, and matches had some flexibility in where, when, how often and how long they met, and the activities in which they engaged. Most matches were expected to meet once a week for about an hour. About half of the programs (49 percent) operated during the school day, 47 percent took place after school, and a small percentage (4 percent) held meetings during and after school. Frequent supervision of youth (about once a month for the first year of the relationship) and mentors (about every other month) by BBBS staff was strongly encouraged in this SBM model as an important component of ensuring sustained, high-quality matches.

Participating youth and their teachers completed surveys regarding a wide range of social and academic outcomes at each wave of assessment. After being matched, youth and mentors reported on relationship quality and characteristics of the match interactions, and mentors provided information about the SBM program characteristics.

Measures

Mentoring match characteristics. Mentors provided information about various aspects of the mentoring program and characteristics of the match. They responded to one item regarding whether they had received *sufficient training* prior to their match (Harris & Nakkula, 2005). This item was on a 5-point Likert scale, ranging from *strongly disagree* to *strongly agree*. Mentors described their *efficacy* for their ability to effectively mentor at baseline on 19 items on a 4-point scale ranging from *not at all confident* to *extremely confident* (e.g., “How confident are you in your ability to deal with a mentee’s behavioral problems?”; $\alpha = .92$; DuBois et al., 2002b). Mentors also described about how much of their time with their mentees was spent engaging in various *academic activities* at the first follow-up (i.e., tutoring/homework help; talking about academic issues; talking about mentees’ teachers; and talking

about attendance/importance of school) on a 5-point scale, ranging from *none* to *most* (α 's = .70; Karcher, 2007). Responses on these 4 items were averaged to create an overall score for academic activities. Using the same scale, 9 items were averaged to describe how much time mentors and mentees spent engaging in various *social activities* (i.e., sports; creative activities; indoor games; talking about mentees' behavior; talking about the future; talking about mentees' friends; talking about mentees' family; casual conversations; and listening and learning; α 's = .62).

Relational outcomes. Youth reported on mentoring relationship outcomes at the first and second follow-up. They provided information regarding *match length*, which was defined as the number of days between the start date of the mentee's most recent mentoring match and the date when the mentee completed the first and second follow-up surveys. Mean match length was 66.61 (82.22) at the first follow-up and 115.75 (153.94) at the second follow-up. *Youths' emotional engagement* was measured by 8 items on a 4-point scale, ranging from *not at all true* to *very true* (e.g., When I'm with my mentor, I feel special; α 's = .84, .87) (Grossman & Johnson, 1999). Youth also responded to one item regarding *relationship closeness* with their mentor on a 4-point scale, ranging from *not close at all* to *very close*. Mentors indicated whether they *strongly disagreed* to *strongly agreed* with 5 items on a 5-point scale describing the mentoring *relationship quality* (e.g., "My Little and I trust each other"; α 's = .88 to .89) (Harris & Nakkula, 2005).

Youth adjustment outcomes. Youth provided information regarding various academic and social adjustment outcomes at each wave of assessment (Table 3). *Grades* were measured by one item: which of the following best describes the grades you got on your last report card? (Mostly: D's-F's = 1 to A's = 8). *Youths' relationship with their parents* was assessed by 16 items on a 4-point scale, ranging from *hardly ever* to *pretty often* drawn from the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987) (e.g., My parents accept me as I am; α 's = .89 to .92). *Peer social acceptance* was assessed by 4 items on a 4-point scale, ranging from *sort of true* to *really true* (e.g., I find it hard to make friends; α 's = .69 to .78) (Harter, 1985).

Teachers also provided information regarding academic and social outcomes for youth at each assessment wave. *Teacher-student relationship quality* was assessed by 15 items on a 5-point scale, ranging from *definitely does not apply* to *definitely applies* drawn from the Student Teacher Relationship Scale (STRS; Pianta, 1991) (e.g., “I share a warm relationship with this child”; α 's = .89 to .91). Teachers' reports of youths' *prosocial behavior* were assessed with 8 items on a 4-point scale ranging from *never* to *very often* (e.g., “How often is this child cooperative with classmates?”; all α 's = .92; Ladd & Profilit, 1996).

Results

Profiles of Mentoring Match Characteristics among Mentored Youth

First, we identified four mentoring match profiles using latent profile analysis (LPA) in M-Plus (Muthén & Muthén, 1998-2008), a person-oriented analytic procedure that derives information about categorical latent variables from the observed values of continuous manifest variables. This procedure allowed for the emergence of profiles of mentored youth with similar response patterns for mentors' self-efficacy regarding the match at baseline; mentors' perception of sufficient training before being matched at the first follow-up; and engagement in academic and social activities in the relationship at the first follow-up (see Table 4 for inter-correlations among these variables). Before analyzing the data, all match characteristics variables were standardized in order to interpret the resulting profiles on the same metric. Multiple models starting with one latent profile and increasing hierarchically were examined to determine the best LPA solution for the data. The four-profile solution provided the best model fit based on observed AIC (3889.12), sample-adjusted BIC (3913.80), and extraction limitations due to the number of mixture components. Average probabilities for the most likely latent profile membership were acceptable (.83, .81, .67, and .82, respectively).

After identifying the four mentoring match profiles, we dummy coded the 4-profile membership variable before imputing the data (Graham, 2009). The rationale for this was to treat the mentoring match membership variable as a categorical variable that would be included in and contribute to multiple imputations. Previous studies have shown that imputation of missing data for categorical variables under

a normal model works well (Allison, 2002). We conducted multiple imputation with NORM software for handling missing data among our sample at baseline, and at the first and second-follow-ups (Schafer, 1997; Graham, Cumsille & Elek-Fisk, 2003). This process involves imputing m data sets, such that each data set contains a different imputed value for every missing value; analyzing the m data sets and saving the parameter estimates and standard errors from each; and combining the parameter estimates and standard errors to arrive at a single set of parameter estimates and corresponding standard errors (see Graham et al., 2003 for a detailed description of NORM). We included all dependent and predictor variables of interest in the missing data model to improve estimates of the missing cases. We first calculated the EM covariance matrix and EM converged normally in 230 iterations in ridge posterior mode with a hyperparameter of 1. We then used 230 steps of data augmentation between imputed datasets as recommended by Graham et al. (2003). We imputed 40 data sets, so 9200 steps of data augmentation were used in total. Diagnostic plots suggested that the 9200 steps of data augmentation were sufficient for multiple imputation, thus, we retained the 40 imputed data sets for our primary analyses.

Imputed values for missing data on the mentoring match profile dummy variables were then coded using Allison's (2002) strategy for handling imputation of missing data for categorical variables under a normal model (i.e., where the value 1 is assigned to the dummy variable with the highest imputed value, and 0 is assigned to all others in the dummy variable set). The proportion of participants in each mentoring match profile was provided by the EM parameter estimates (Graham, 2009). Means and standard deviations for the 4 profiles are reported in Table 5. Relatively low scores were $\geq 1/3$ standard deviation below the mean; average scores were $<$ plus or minus $1/3$ standard deviation from the mean; and relatively high scores $\geq 1/3$ standard deviation above the mean. Profile 1 (N =126) was characterized by high mentor efficacy and social and academic activities in the match, and low mentor perceptions of sufficient training (labeled "Intuitive"). Profile 2 (N =150) was characterized by low efficacy, social and academic activities, and perceptions of training (labeled "Disengaged"). Profile 3 (N = 208) was characterized by high perceptions of sufficient training and average efficacy and activities (labeled "Sufficiently Trained"). Profile 4 (N = 81) was characterized by high mentor efficacy, and average social

and academic activities and perceptions of training (labeled “Efficacious”) (Figure 1). Descriptive information for the four profiles is provided in Table 6.

Associations between Mentoring Match Profiles and Mentoring Relationship Outcomes

Next, we examined associations between the mentoring match profiles and indicators of effective mentoring relationships including, *match length*, *mentor-reported relationship quality*, *youth-reported relationship closeness*, and *youth-reported emotional engagement* in the mentoring relationship. For each of the following analyses, the dummy variables for mentoring match profiles were entered at Step 1 at the first follow-up. We tested each mentoring match profile as the comparison group to determine profile differences (e.g., Intuitive vs. Sufficiently Trained, Disengaged, and Efficacious; Sufficiently Trained vs. Disengaged and Efficacious; etc.). At the second follow-up, the indicator of effective mentoring relationships at follow-up 1 (e.g., mentor-reported relationship quality) was entered at Step 1 and the dummy variables for mentoring match profiles were entered at Step 2. These longitudinal analyses allowed us to test whether differences between mentoring match profiles predicted changes in mentoring relationship outcomes from the first to second follow-up, controlling for youth outcomes at the first follow-up.

At the first follow-up, youth and mentors in the Intuitive profile had a significantly longer *mentoring match* compared to youth and mentors in the Sufficiently Trained profile, $t(565) = 2.34$, $b = 28.24$ (12.06), $p < .05$, and they had longer matches compared to youth and mentors in the Efficacious profile, although this finding was only marginally significant, $t(565) = 1.83$, $b = 21.33$ (11.65), $p < .10$. There were no significant profile differences in match length at the second follow-up. Compared to mentors in the Disengaged profile, mentors reported higher *relationship quality* in the Intuitive profile, $t(565) = 3.01$, $b = .34$ (.11), $p < .01$; the Sufficiently Trained profile, $t(565) = 4.26$, $b = .43$ (.10), $p < .001$; and the Efficacious profile, $t(565) = 4.42$, $b = .52$ (.12), $p < .001$ at the first follow-up. There were no significant profile differences in *youth-reported relationship closeness* at the first follow-up. At the second follow-up, however, a marginally significant effect indicated that youth in the Efficacious profile reported having closer relationships with their mentors compared to youth in the Disengaged profile,

$t(565) = -1.91, b = .27 (.14), p < .10$. Finally, *youth-reported emotional engagement* did not differ by profile at the first follow-up. At the second follow-up, however, compared to youth in the Disengaged profile, youth reported significantly higher emotional engagement in the Intuitive profile, $t(565) = 2.83, b = .23 (.08), p < .01$, and marginally higher emotional engagement in the Sufficiently Trained profile, $t(565) = 1.78, b = .13 (.08), p < .10$.

Associations between Mentoring Match Profiles and Youths' Social and Academic Adjustment

Next, we tested whether mentoring match profiles predicted youths' social and academic adjustment at the first and second follow-up. Adjustment outcomes included grades, teacher-student relationship quality, prosocial behavior, social acceptance among peers, and youths' relationship with their parents. Baseline adjustment was entered at Step 1 and dummy variables for the mentoring match profiles were entered at Step 2. Again, we tested each mentoring match profile as the comparison group to determine profile differences. No significant profile differences were found for the adjustment outcomes at the first or second follow-up after controlling for baseline adjustment.

To test whether the age of the mentee and mentor, and the gender of the mentee and mentor moderated associations between mentoring match profiles and youth outcomes, mentee and mentor characteristics were centered and product terms were created for each dummy-coded mentoring match profile (e.g., Intuitive*yage, Disengaged*yage, Sufficiently Trained*yage, and Efficacious*yage). Hierarchical linear regression analyses were used to test for interaction effects between each of these potential moderators with each of the mentoring match profiles. For each adjustment outcome, variables were entered into the regression model in the following order: Step 1: Baseline adjustment; Step 2: Mentoring Profiles (Dummy codes); Step 3: Moderator (youth age; mentor age; youth gender; or mentor gender); Step 4: Interaction terms (profile*yage; profile*mage; profile*ygender; profile*mgender). Once again, we tested each mentoring match profile as the comparison group in these analyses to determine profile differences. If there was a significant interaction term, it was plotted in order to illustrate and describe the moderating effect. Plots described the particular adjustment outcome as a function of mentoring profile and moderator. For example, to interpret the interaction for mentoring profile X youth

age on teacher-relationship quality, teacher relationship quality was plotted as a function of relatively younger youth (-1 SD) and older youth (+1 SD) for each mentoring profile (For youth age, $M = 11.23$; $SD = 1.67$).

We first tested for moderation of associations between mentoring match profiles and *grades*. There was no evidence that age or gender of mentees and mentors moderated these associations at the first or second follow-ups. Next, we tested for moderation of associations between profiles and *teacher-relationship quality*. A significant interaction for mentoring match profile X mentee age indicated that the pattern of mentee age effects was significantly different for those in the Sufficiently Trained profile compared to those in the Efficacious profile, $t(365) = 2.18$, $b = .14$ (.06), $p < .05$ (Figure 2). Relatively older mentees in the Sufficiently Trained profile had higher teacher relationship quality at the first follow-up compared to similarly older mentees in the Efficacious profile. Also, within the Efficacious profile, older mentees had significantly lower teacher relationship quality than younger mentees at the first follow-up, $t(565) = -2.25$, $b = -.11$ (.05), $p < .05$. The pattern of effects across mentee age for the Disengaged and Intuitive profiles was similar to that of the Efficacious profile, although not significantly different from the Sufficiently Trained profile, and older and younger mentees did not differ in teacher-relationship quality within these profiles.

Next, we tested for moderation of associations between mentoring match profiles and youths' *prosocial behavior*. A marginally significant profile effect indicated that youth in the Sufficiently Trained profile had higher prosocial behavior compared to youth in the "Efficacious Mentors" profile, $t(565) = 1.69$, $b = .11$ (.07), $p < .10$. This effect was qualified by a significant interaction for mentoring match profile X mentor age at the first follow-up, which indicated that the pattern of mentor age effects was significantly different for those in the Efficacious profile compared to those in the Sufficiently Trained profile, $t(565) = 2.73$, $b = .02$ (.01), $p < .01$ (Figure 3). Youth with older mentors in the Sufficiently Trained profile had significantly higher prosocial behavior than youth with similarly older mentors in the Efficacious profile. Also, within the Efficacious profile, mentees with older mentors had lower prosocial behavior scores than mentees with younger mentors, $t(565) = -1.73$, $b = -.01$ (.01), $p < .10$. In contrast, in

the Sufficiently Trained profile, mentees with older mentors had higher prosocial behavior than youth with younger mentors, $t(565) = 2.89$, $b = .01$ (.00), $p < .01$. The pattern of effects across mentor age for the Disengaged and Intuitive profiles was similar to that of the Sufficiently Trained profile. Compared to mentees with an older mentor in the Efficacious profile, mentees with a similarly older mentor in the Disengaged profile had higher prosocial behavior at the first follow-up, $t(565) = 2.26$, $b = .02$ (.01), $p < .05$, as did mentees with an older mentor in the Intuitive profile, $t(565) = 1.71$, $b = .02$ (.01), $p < .10$.

We then examined moderators of mentees' *social acceptance* among peers. A significant mentoring match profile X mentee age interaction indicated that the pattern of age effects differed for those in the Disengaged profile compared to those in the Efficacious profile, $t(565) = 2.18$, $b = .14$ (.06), $p < .05$, and compared to those in the Intuitive profile, $t(565) = 1.99$, $b = .12$ (.06), $p < .05$ (Figure 4). Relatively older youth in the Disengaged profile reported higher social acceptance at the first follow-up compared to similarly older youth in the Efficacious profile and in the Intuitive profile. Also, within the Disengaged profile, older mentees had higher social acceptance than younger mentees, $t(565) = 1.99$, $b = .08$ (.04), $p < .05$.

Finally, we examined moderators of mentees' *parent relationship quality*. A significant interaction for mentoring match profile X mentee age indicated that the pattern of age effects for parent relationship quality was significantly different for those in the Efficacious profile compared to those in the Intuitive profile, $t(565) = -2.16$, $b = -.12$ (.06), $p < .05$. As indicated in Figure 5, older youth in the Intuitive profile had lower parent relationship quality compared to similarly older youth in the Efficacious profile, and younger youth in the Intuitive profile had higher parent relationship quality compared to younger youth in the Efficacious profile. Also, within the Intuitive profile, older youth reported significantly lower relationship quality than younger youth, $t(565) = -2.01$, $b = -.07$ (.04), $p < .05$. For all adjustment outcomes, there was no mentee or mentor gender moderation at either follow-up, and no moderator effects for mentee or mentor age were found at the second follow-up.

Discussion

The present study represents an extension of previous research on characteristics of mentoring relationships that has primarily used variable-oriented analytic approaches. We identified four distinct profiles of mentee-mentor matches using LPA and found that matches exhibited linear (e.g., average to high mentor efficacy, perceptions of sufficient training, and time spent engaging in social and academic activities; low efficacy, training and activities), as well as non-linear patterns (e.g., high efficacy and activities, and low perceptions of sufficient training). These findings support the use of a person-oriented approach to examine within-group variability among mentoring matches in school-based mentoring programs. In general, the Disengaged profile tended to have less positive mentoring relationship outcomes (i.e., lower mentor- and mentee-reported relationship quality, lower youth-reported emotional engagement) compared to other profiles. This was in line with our expectation that mentoring matches characterized by relatively more negative features would have the worst mentoring relationship outcomes. There was also evidence that mentee and mentor age moderated associations between mentoring match profiles and adjustment. Specifically, profiles characterized by mentors' perceptions of sufficient pre-match training in combination with average to high mentor efficacy and engagement in social activities and academic activities were associated with more positive outcomes for older youth.

A Person-Oriented Approach to Uncover Within-Group Variability among Mentoring Matches

Results from our study illustrate the importance of using a person-oriented approach to examine within-group variability among youth and adults paired together in mentoring relationships. Findings did not reveal a universal pattern of association among the mentoring match characteristics. Instead, our analyses revealed that the connection among mentor efficacy, mentor perceptions of sufficient pre-match training, and the amount of time spent engaging in social activities and academic activities operated in different ways for different mentoring pairs. For some pairs, the match was characterized by high mentor efficacy and social and academic activities in the relationship and low mentor perceptions of sufficient training. For others, the relationship was characterized by low efficacy, social and academic activities and perceptions of sufficient training. For others still, the relationship was characterized by high perceptions

of sufficient training and average efficacy and activities. Finally, some matches were characterized by high efficacy and average activities and perceptions of training. Had we solely used a variable-oriented approach, we would not have uncovered the Intuitive profile, for example. Correlations indicated small to moderate positive associations among the match characteristics, but in the Intuitive match, mentor perception of sufficient training was negatively associated with mentor efficacy and engagement in academic and social activities.

The use of a person-oriented approach in this study requires considering multiple mentoring match characteristics collectively, rather than considering each of these characteristics in isolation (Bergman & Trost, 2006; Cairns & Rodkin, 1998). In other words, this perspective allows for a more holistic discussion of mentoring profiles, with the assumption that they consist of multiple interacting components, rather than a discussion about the independent components removed from the particular mentoring contexts in which they occur. Findings shows that it is more meaningful to say that a mentoring match profile is “Disengaged,” such that it is characterized by lower mentor perceptions of mentoring efficacy and sufficient training, and mentee and mentor participation in fewer social and academic activities, than to simply focus on one of the independent characteristics of the match, such as insufficient training. A disengaged profile implies that there is a particular mentoring context created by several interacting mentoring match characteristics. Simply focusing on the negative effects of insufficient training for mentors fails to consider that this characteristic is a component of two distinct mentoring match contexts: Disengaged and Intuitive matches.

In the present study, person-oriented analyses also revealed that different patterns of mentoring match characteristics were differentially associated with mentoring relationship outcomes and (when moderated by mentee and mentor age) a range of youth adjustment outcomes. Few studies in the mentoring literature have used a person-oriented approach (see Langhout and colleagues, 2004, for an exception), but our findings of within-group variability suggest that future studies should turn to person-oriented analyses as a useful approach to uncover the complexity of mentoring matches.

One interesting finding was that time spent engaging in social and academic activities co-varied positively in each of the four profiles, such that matches characterized by high engagement in social activities, also tended to be characterized by high engagement in academic activities (and low engagement in social activities was accompanied by low engagement in academic activities). Given that time spent engaging in social and in academic activities were moderately correlated ($r = .48$), this finding is not too surprising. However, based on previous research which indicates distinctions between social activities and academic activities and differential effects of these match characteristics (Herrera et al., 2000), we expected some profiles to emerge with differing levels of social and academic activities. Future studies may choose to examine other characteristics of mentoring matches, such as decision-making in the match, and to examine the role of social and academic activities as potential mediators of links between match profiles and youth adjustment.

Implications of Mentoring Match Profiles for Mentoring Relationship Outcomes

Profiles differed on several mentoring relationship outcomes. Mentees and mentors in the Intuitive profile had a longer lasting match at the first follow-up compared to mentoring pairs in the Sufficiently Trained and Efficacious profiles. Mentors in the Intuitive profile perceived insufficient pre-match training, yet they were also efficacious about the mentoring relationship and were participating in relationships characterized by a good deal of time spent engaging in social activities and academic activities. They may have tried especially hard to meet their mentees' needs and sustain the match in order to compensate for their inadequate training. It is surprising that mentoring pairs in the Disengaged profile did not have shorter matches compared to the other profiles. It may be the case that such matches were marginal—limited in influence yet not sufficiently negative to culminate in an active termination (Ragins, Cotton, & Miller, 2000). Indeed, previous research has suggested that some unsatisfactory youth mentoring relationships continue to occasionally meet, albeit on an inconsistent basis (Rhodes, Roffman, Reddy, & Grossman, 2005). However, mentoring pairs in the Disengaged profile tended to look the worst on other mentoring relationship outcomes: Disengaged mentors reported lower relationship quality compared to other profiles at the first follow-up. Similarly, Disengaged youth reported less relational

closeness and emotional engagement compared to other match profiles at the second follow-up, and these analyses controlled for closeness and engagement at the first follow-up. This suggests that more positive changes in relational closeness and emotional engagement from the first to second follow-up were associated with the other mentoring profiles compared to the Disengaged profile. Given that these findings did not emerge until 15 months after the baseline assessment, it is possible that additional profile distinctions may have emerged over an even longer time frame. In sum, our results indicate that mentoring pairs exhibiting different patterns of mentoring match characteristics differed on various mentoring relationship outcomes, and they suggest that mentoring matches containing at least some positive features were associated with greater mentor- and mentee-perceived relational quality and emotional engagement.

Implications of Mentoring Match Profiles for Mentee Adjustment

After controlling for the effect of youth adjustment in the fall of one academic year (at baseline), the mentoring match profiles did not predict additional change in adjustment in the spring of that year or in the fall of the following year, but, the age of the mentee and mentor moderated associations between profiles and adjustment. Relatively older youth in the Sufficiently Trained profile had higher teacher relationship quality compared to similarly older youth in the Efficacious profile. These two profiles had comparable levels of engagement in social and academic activities, yet differing mentor perceptions of efficacy regarding mentoring and differing perceptions of how sufficiently trained they were before the match. Engagement in social and academic activities and mentors' feelings of confidence about the mentoring relationship may suffice when mentees are younger, but may not cut it for older youth. As youth age, adequate mentor training, accompanied by engagement in social and academic activities and moderate levels of mentor efficacy, may become increasingly important in their mentoring relationships. Sufficient training about how to respond to the increasingly complex issues in adolescents' lives, such as greater pressure to engage in risky behavior, more involvement in romantic relationships, and greater stressors at school, may be necessary to create an effective mentee-mentor match when mentees are older (Eccles, 1999). This finding supports previous research that has uncovered the importance of training for

promoting effective mentoring relationships (DuBois et al., 2002; Karcher et al., 2005; Spencer, 2007), but it expands on this work by revealing the importance of sufficient training in combination with other mentoring match characteristics for older youth.

Having an older mentor was associated with greater prosocial behavior for youth in the Sufficiently Trained profile, and the pattern of mentor age effects was similar, although not statistically significant, for youth in the Intuitive and Disengaged profiles. In contrast, having an older mentor was associated less prosocial behavior for youth in the Efficacious profile. For youth in the Sufficiently Trained profile, this finding is logical: older mentors may be more adept than younger mentors at interacting with youth in a prosocial way, such that youth learn to model this prosocial behavior in other relationships. They may also be more likely than teens to scaffold youths' own efforts to be prosocial (Grossman & Bulle, 2006). It is not entirely clear why youth in the Efficacious profile did not exhibit greater prosocial behavior when they had an older mentor. One possibility is that extremely confident, older mentors may be perceived as bossy, prescriptive or too parent-like, even when the match is also characterized by average to high engagement in academic and social activities and mentor perceptions of sufficient training. This finding may also be in line with Spencer's (2007) finding that some mentors who were overly confident at the outset became overwhelmed in the mentoring relationship. Perhaps, this may be truer for relatively older mentors: such individuals may have been confident of making a difference in their mentees' lives, but their expectations for the relationship may have been out of touch and unrealistic, and contributed to their inability to effectively model and encourage developmentally appropriate prosocial behavior.

Another interesting finding was that relatively older youth in the Intuitive profile had worse relationships with their parents compared to similarly older youth in the Efficacious profile. The major distinction between these two profiles is that the Intuitive profile was characterized by mentors' extremely low perceptions of sufficient pre-match training. Again, this finding suggests that adequate mentor training in combination with relatively efficacious mentors and moderate to high engagement in social and academic activities may be especially important for mentors working with older youth. When mentors are not sufficiently trained in regard to the developmental realities of the youth (adolescents, in particular) they will

mentor, it may have a less than ideal impact on various aspects of youths' adjustment, including their relationships with others (Spencer, 2007).

Perhaps, the most perplexing profile is the Disengaged profile. As expected, these youth had lower scores on various mentoring relationship outcomes, but their adjustment outcomes were as good or better compared to youth in the other profiles. For example, older youth in this profile perceived more peer social acceptance than did similarly older youth in the Efficacious or "Intuitive profiles. A plausible explanation is that youth in the Disengaged profile did not feel they *needed* a mentoring relationship because they already felt socially competent among their peers and in other relationships. While they were involved in relationships in which their mentors had low feelings of efficacy and low perceptions of training, they may have contributed to the overall disengagement that characterized this match by not actively or enthusiastically participating in social and academic activities. An alternative possibility is that, given that this was a self-reported measure, these youth may have had faulty perceptions about how they were perceived by their peers.

It is important to note that an uncharted area in mentoring research is study of the extent to which various characteristics of the mentoring match impact youth more or less at different developmental periods (Rhodes et al., 2002). Grossman and Rhodes (2002) found that mentoring relationships with young adolescents were more likely to break up than were relationships with younger children. This finding likely reflects the fact that older youth are seeking more autonomy and devoting more time to peer and romantic relationships (Eccles, 1999). It is possible, however, that mentoring relationships with caring, supportive individuals are particularly important for youth as they enter adolescence and begin to distance themselves from their parents (Petersen, 1988). For example, older youth in our study tended to experience better relationships with their parents when they engaged in moderate academic and social activities with their mentors who were efficacious and moderately well-trained, in contrast to youth who engaged in a great deal of activities with an efficacious mentor who did not receive sufficient training. Consistent with previous research, our findings showed that teacher-student relationship quality was lower for the majority of older youth (Eccles et al., 1993). However, when older youth participated in a mentoring relationship characterized by moderate engagement in academic and social activities and a sufficiently trained and moderately efficacious mentor, they experienced relatively

better relationships with their teachers. These findings suggest that mentoring relationships may serve different purposes for youth at different developmental periods. Additional research is needed to elucidate the specific features of the relationships that contribute to optimal functioning in middle childhood and adolescence.

We found no evidence for mentee or mentor gender moderation of associations between mentoring match profiles and youth adjustment. This is in line with previous work that has found no gender differences in the success of mentoring programs (DuBois et al., 2002; Rhodes et al., 2005). Mentors likely strive to meet the individual needs of their mentee, and, as our results support, the within-gender variation is likely greater than the differences between girls and boys.

Limitations and Future Directions

The present study has several limitations. First, all match characteristics included in the latent profile analysis were reported by mentors. Future studies that aim to identify profiles of mentoring matches may benefit from including match characteristics reported by both mentors and mentees, as well as other mentoring program staff who have insight into the relationship. Additional variables that capture how decision-making was shared in the relationship or the extent to which mentors were youth-centered in the relationship would benefit this work. Another limitation of the present study was the relatively short time frame between assessments. The second follow-up occurred only 15 months after the baseline assessment. It is possible that some distinctions between profiles may emerge over a longer time frame. As reflected by the distinction between profiles on youth-reported relational closeness and emotional engagement at the second, but not the first, follow-up, it is possible that additional profile differences may be evident at a later time. In addition to examining patterns of mentoring match characteristics, future studies should also consider identifying profiles of *mentors* at the start of the mentoring match. Variables included in such analyses could include mentors' feelings of efficacy and the amount of training they received, as well as other personal characteristics, such as their education level, age, previous experience working with children, and the number of children they have. Testing associations between mentor profiles and youth adjustment could inform policy decisions for recruiting and selecting mentors.

Conclusion

Findings from the present exploratory study support the use of a person-oriented approach to examine how characteristics of mentoring matches are connected in different ways for different mentoring pairs. Additional research is needed to clarify these important characteristics, but this study is an initial step to draw attention to the within-group variability of mentoring pairs and their association with mentoring relationship outcomes and adjustment. As researchers move forward with this work, we will gain a better understanding of the specific features of mentoring relationships that contribute to youths' optimal functioning at different developmental periods.

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Table 1.
Demographic Characteristics of Mentored Youth (n = 565)

Demographic characteristics	Number	Percentage
Gender		
Male	260	46%
Female	305	54%
Grade in School		
4 th	205	36%
5 th	143	25%
6 th	132	23%
7 th	49	9%
8 th	2	.4%
9 th	34	6%
Race/Ethnicity		
White	201	36%
Hispanic/Latino	128	23%
Black/African American	107	19%
Native American	27	5%
Asian/Pacific Islander	6	1%
Multiracial	81	14%
Other	15	3%

Table 2.
Demographic Characteristics of Mentors (n =554)

Demographic characteristics	Number	Percentage
Gender		
Male	151	28%
Female	394	72%
Age Group		
18 and under	273	50%
19-24	90	17%
25-44	136	25%
45-64	43	7%
65 and older	3	1%
Race/Ethnicity		
White	420	77%
Hispanic/Latino	41	8%
Black/African American	34	6%
Native American	19	4%
Asian/Pacific Islander	7	1%
Multiracial	19	4%
Other	3	1%

Table 3.
Descriptive Information for Mentoring Match Characteristics, Mentoring Relationship Outcomes, and Youth Adjustment

Outcomes (Reporter)	No. of Items	Wave	Min	Max	Mean (SD)	Skew	Alpha	Number of Missing Data (%)
Mentoring Match Characteristics								
Sufficient training (M)	1	1 2 3	1	5	3.66 (1.00)	-.57	n/a	143 (25.3%)
Self-efficacy (M)	9	1 2 3	2.05	4	3.26 (.43)	-.17	.92	113 (20%)
Academic Activities (M)	4	1 2 3	0	3.75	1.89 (.71)	-.16	n/a .70	140 (24.8%)
Social Activities (M)	9	1 2 3	0	3.78	2.18 (.57)	-.28	n/a .62	152 (26.9%)
Mentoring Relationship Outcomes								
Youth emotional engagement (Y)	8	1 2 3	1 1.13	4 4	3.58 (.54) 3.51 (.59)	-1.67 -1.65	n/a .84 .87	52 (9.2%) 87 (15.4%)
Relationship closeness (Y)	1	1 2 3	1 1	4 4	3.21 (.93) 3.12 (.95)	-1.15 -.96	n/a n/a	50 (8.8%) 91 (16.1%)
Relationship quality (M)	5	1 2 3	1 1.80	5 5	3.64 (.80) 3.74 (.77)	-.51 -.23	.88 .89	138 (24.4%) 308 (54.5%)
Youth Adjustment								
Grades (Y)	1	1 2 3	1 1	8 8	5.74 (1.92) 5.53 (1.97) 5.42 (1.94)	-1.04 -.85 -.75	n/a n/a n/a	28 (5%) 38 (6.7%) 92 (16.3%)
Teacher-student relationship (T)	5	1 2 3	1.27 1.20 1.47	5 5 5	3.82 (.71) 3.80 (.73) 3.84 (.66)	-.60 -.61 -.63	.90 .91 .89	66 (11.7%) 91 (16.1%) 105 (18.6%)
Relationship with parents (Y)	6	1 2 3	1.19 1 1.13	4 4 4	3.21 (.56) 3.18 (.60) 3.18 (.61)	-1.05 -1.06 -.97	.89 .91 .92	0 (0%) 33 (5.8%) 75 (13.3%)
Peer social acceptance (Y)	6	1 2 3	1 1 1	4 4 4	2.61 (.72) 2.71 (.73) 2.86 (.73)	-.06 -.24 -.36	.69 .75 .78	0 (0%) 33 (5.8%) 75 (13.3%)
Prosocial Behavior (T)	8	1 2 3	1 1 1.38	4 4 4	3.11 (.57) 3.09 (.61) 3.10 (.57)	.57 .62 .56	.92 .92 .92	63 (11.2%) 90 (15.9%) 107 (18.9%)

Note. Reporter: Y = youth/mentee; M = Mentor; T = Teacher

Table 4.
Inter-correlations for Mentors' Efficacy, Mentor Training, and Academic and Social Activities in the

	Mentor efficacy (B)	Mentor pre- match training (FU1)	Academic activities (FU1)	Social activities (FU1)
Mentor efficacy (B)	1			
Mentor pre-match training (FU1)	.17**	1		
Academic activities (FU1)	.30***	.12*	1	
Social activities (FU1)	.25***	.07	.48***	1

Mentoring Relationship

Note. B = Baseline assessment (Fall of 2004); FU1 = First follow-up assessment (Spring of 2005)

Table 5.
Means (Standard Deviations) for 4-Profile Latent Profile Analysis (LPA) Solution

	Intuitive Profile (<i>n</i> = 126)	Disengaged Profile (<i>n</i> = 150)	Sufficiently Trained Profile (<i>n</i> = 208)	Efficacious Profile (<i>n</i> = 81)	Profile Differences <i>F</i> (3, 561) =
Mentor Efficacy	.28 (.82) ^a	-.60 (1.02) ^b	-.12 (.78) ^c	.66 (1.08) ^d	44.54***
Sufficient Training	-1.03 (.83) ^a	-.33 (.91) ^b	.59 (.62) ^c	.17 (1.05) ^d	92.89***
Academic Activities	.43 (.73) ^a	-.93 (.89) ^b	.22 (.86) ^a	.34 (1.03) ^a	70.33***
Social Activities	.36 (.76) ^a	-.86 (.88) ^b	.17 (.91) ^a	.15 (1.04) ^a	50.33***

Note. ^{a,b,c,d}Means with different superscripts differ significantly by profile.
 ****p* < .001

Table 6.
Descriptive Information for Mentoring Match Profiles

	Intuitive Profile (<i>n</i> = 126)	Disengaged Profile (<i>n</i> = 150)	Sufficiently Trained Profile (<i>n</i> = 208)	Efficacious Profile (<i>n</i> = 81)
Gender of Mentee	Girls = 70 (55%)	Girls = 71 (47.6%)	Girls = 116 (56%)	Girls = 46 (57%)
Age of Mentee	11.01	11.17	11.37	11.33
Gender of Mentor	Female = 101 (80%)	Female = 89 (59%)	Female = 156 (75%)	Female = 60 (74%)
Age of Mentor	21.52	26.68	25.40	24.43

Figure Captions

Figure 1. LPA Four-Profile Solution for Patterns of Mentoring Match Characteristics

Figure 2. Student-Teacher Relationship Quality as a Function of Mentoring Match Profile and Mentees' Age at the First Follow-up

Figure 3. Prosocial Behavior as a Function of Mentoring Match Profile and Mentors' Age at the First Follow-up

Figure 4. Peer Social Acceptance as a Function of Mentoring Match Profile and Mentees' Age at the First Follow-up

Figure 5. Youths' Parent Relationship Quality as a Function of Mentoring Match Profile and Mentees' Age at the First Follow-up

Figure 1.

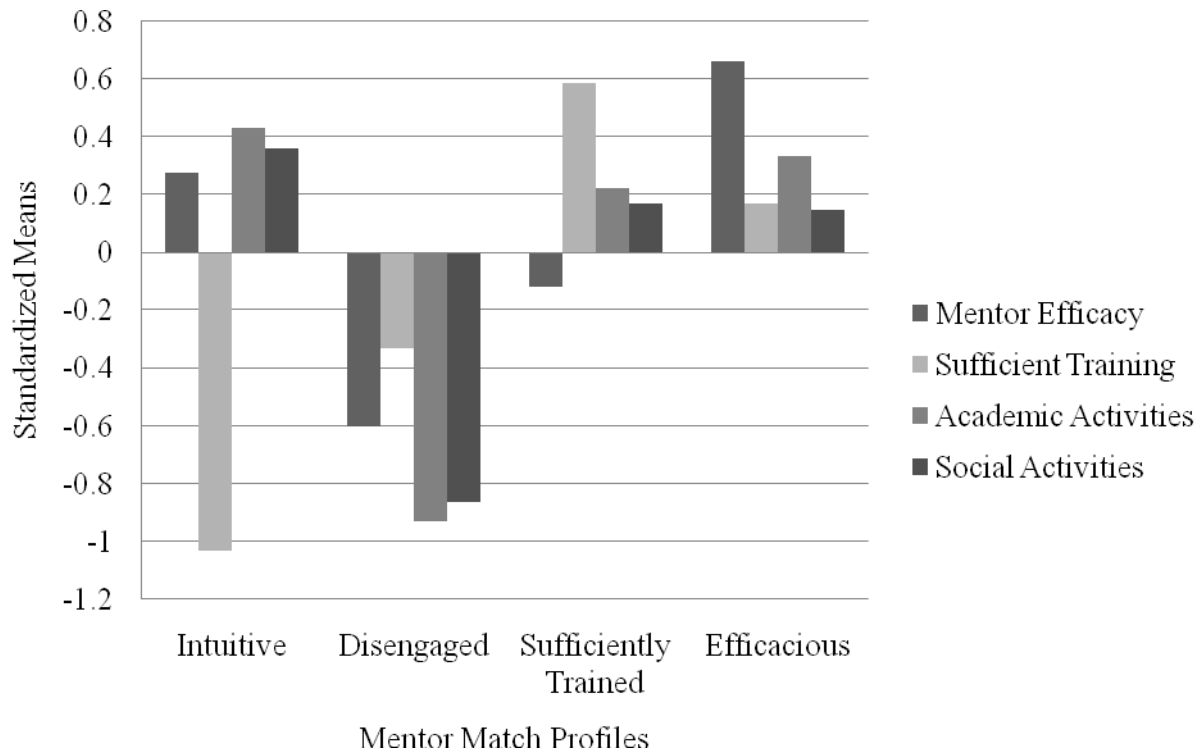


Figure 2.

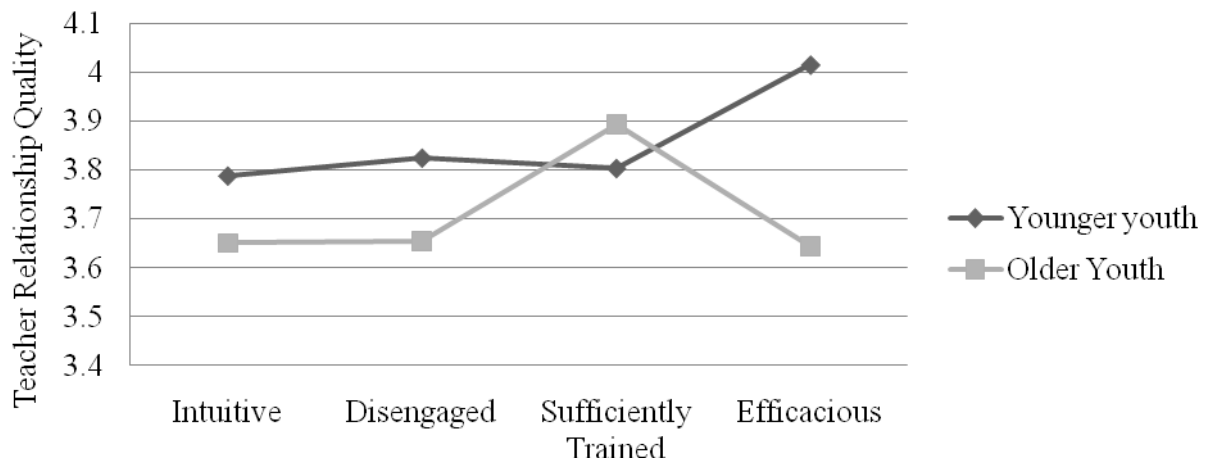


Figure 3.

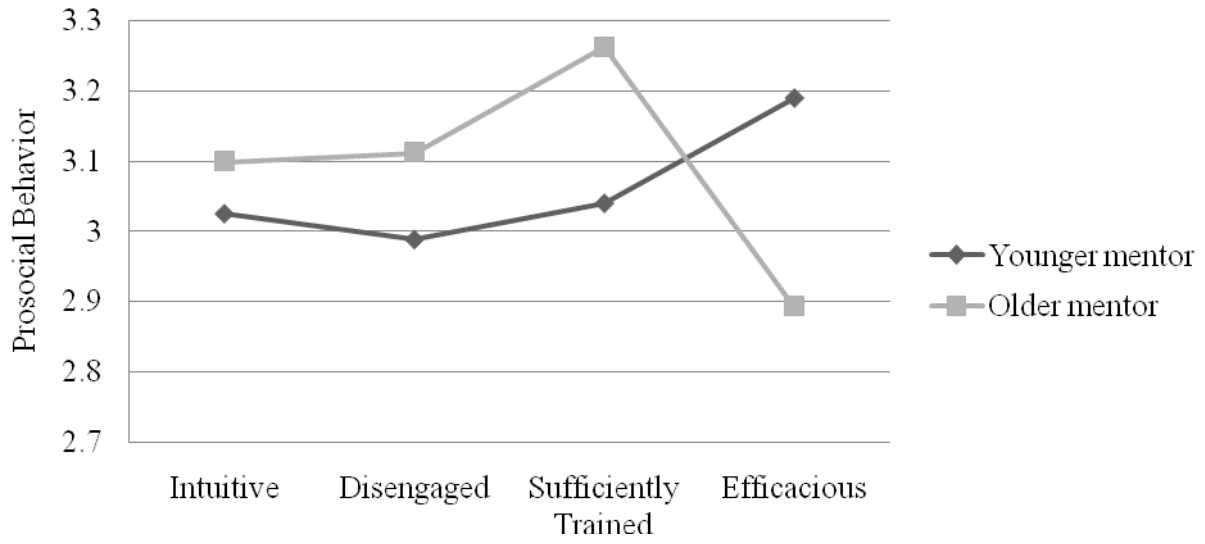


Figure 4.

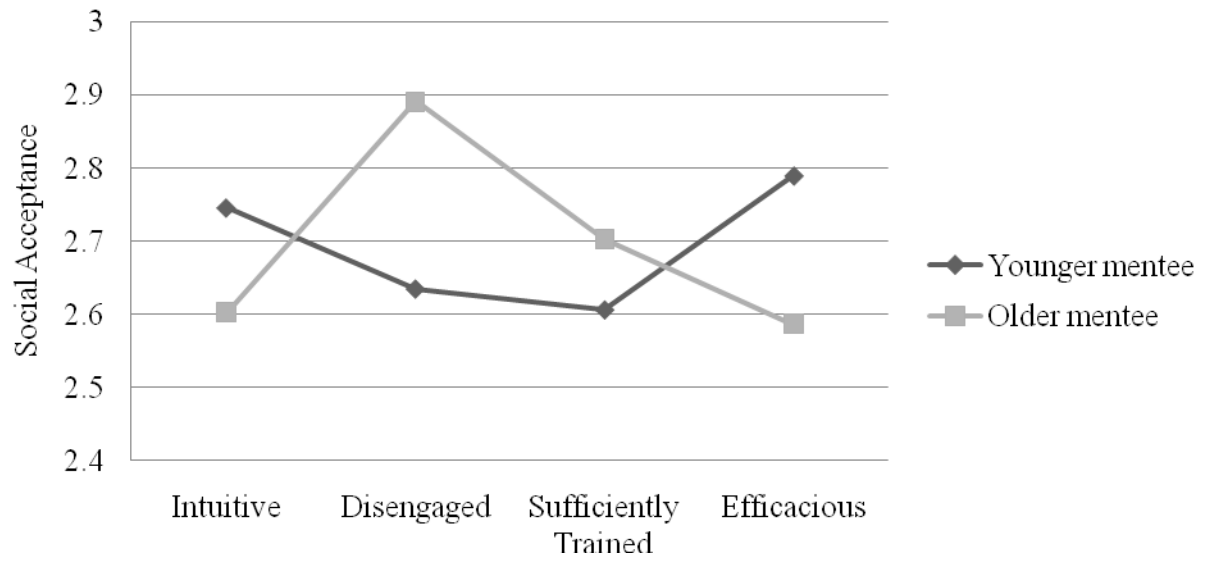
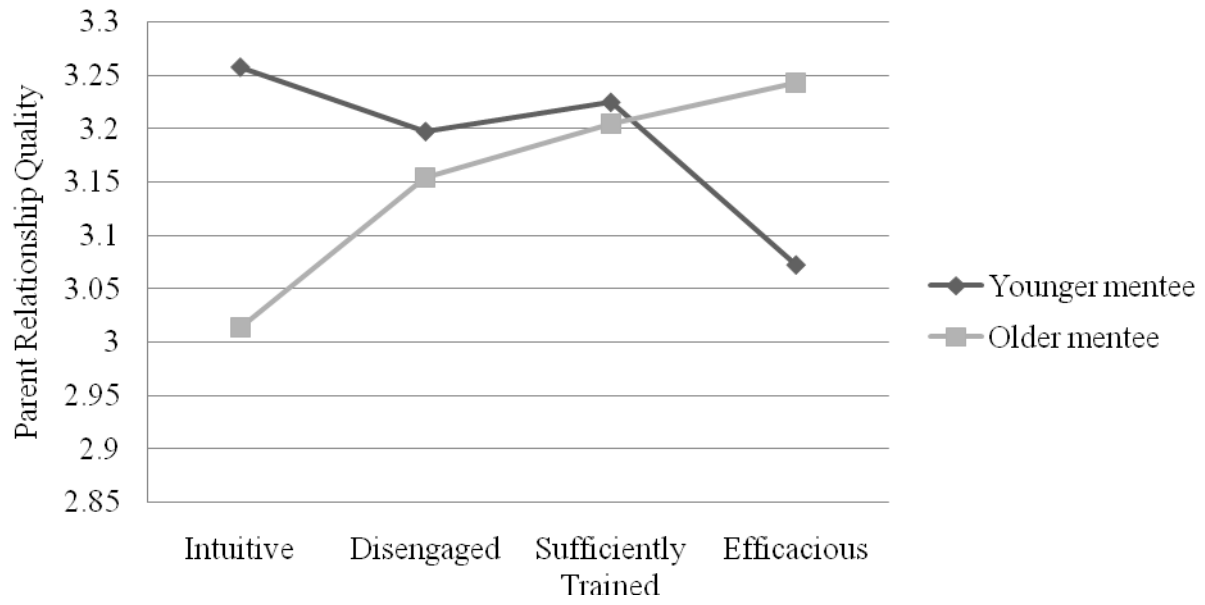


Figure 5.



Chapter 5
Conclusion

The three studies in this dissertation addressed limitations in previous research by utilizing person-oriented and variable-oriented approaches to examine youths' experiences with parents, peers, teachers and mentors (Bergman & Trost, 2006). In the first study, findings strongly support the use of a person-oriented approach to uncover within-group variability among Mexican-origin youth, as they extend previous research that has primarily used variable-oriented analytic approaches and neglected the role of culture in explaining parent and peer experiences. Mother and father acceptance and friendship intimacy were connected in different ways for different Mexican-origin youth. These patterns of teacher-peer linkage were associated with a range of cultural variables and youths' social and academic adjustment. In the second study, findings reflect the benefit of using an integrated variable-oriented and person-oriented approach to examine how unique *indicators* of teacher and peer relatedness are independently associated with adjustment, and how distinct *patterns* of teacher-peer relatedness are associated with adjustment above and beyond these independent effects. Teacher-student closeness, peer social preference and perceived peer competence were connected in different ways for different youth. Prosocial and aggressive behavior before the transition to middle school predicted membership in these teacher-peer relatedness profiles immediately after the middle school transition. Patterns of teacher-peer relatedness predicted all concurrent academic and social outcomes except for one, even when controlling for the additive effects of the relatedness indicators. In the third study, findings revealed that characteristics of the mentoring match, including mentors' perceptions of mentoring efficacy and sufficient training, and social and academic activities, were connected in different ways for different mentoring pairs. This illustrated the importance of using a person-oriented approach to examine within-group variability among youth and adults or teens paired together in mentoring relationships. Mentoring match profiles were associated with important mentoring relationship outcomes and youth adjustment.

Collectively, the studies in this dissertation revealed several interesting themes about the importance of youths' relationships. In line with the belongingness hypothesis, the papers suggest the

important need for youth to form and maintain strong, stable interpersonal relationships with a few close people (Baumeister & Leary, 1995). Specifically, my papers suggest that positive relational experiences with at least one social partner serve as a protective factor for youth. This was true for youth in the Positive and Low Friend profiles in the parent-peer study and for Teacher Oriented and Peer-Oriented youth in teacher-peer study. Youth in these profiles had positive relationships with one or more important individuals (i.e., parents, peers and/or teachers) and, consequently, they had positive social and academic adjustment. Interestingly, in the parent-peer study, youth in the Low Friend profile had low friendship intimacy but high mother and father acceptance, and their adjustment outcomes were comparable to those of youth with positive experience with friends, mothers and fathers. In contrast, youth in the Low Parent group had negative relational experiences with parents and only average friendship intimacy, and their adjustment was worse than youth in the other profiles. Similarly, in the teacher-peer study, youth in the Peer-Oriented profile had only average teacher experiences, but positive peer experiences, and their adjustment outcomes were comparable to those of youth with positive experiences with teachers and peers. In contrast, youth in the Low Relatedness profile had negative experiences with teachers and peers, and they had worse social and academic adjustment than did youth in the other profiles. Both of these studies imply the importance of having a close, positive relationship with at least one social partner and they suggest that failure to satisfy this human need can result in detrimental outcomes.

Through the use of a person-oriented analytic approach (Bergman & Magnusson, 1997), findings from the three studies also revealed that it was not simply the case that only positive relational experiences were associated with other positive relational experiences. Instead, findings suggest that relationships with multiple social partners in various contexts are connected in different ways for different youth. In the parent-peer paper, for example, parental warmth and acceptance were positively associated with friendship intimacy for one profile of youth, while positive parent experiences were associated with low friendship intimacy for another profile of youth. In the teacher-peer paper, positive experiences with

peers were associated with close teacher relationships for one profile of youth, while positive peer experiences were associated with only moderately close teacher relationships for another profile of youth. In the mentoring paper, associations among characteristics of mentoring relationships operated in different ways for different youth. Had I solely used a variable-oriented approach, I would not have uncovered the Intuitive profile, for example. Correlations indicated small to moderate positive associations among the match characteristics and this was evident for the Efficacious profile, but in the Intuitive match, mentor perception of sufficient training was negatively associated with mentor efficacy and engagement in academic and social activities. Implications of future studies that identify different configurations of relational experiences for youth include targeting particular “Low Relatedness” youth for interventions.

Findings from the studies in this dissertation also indicated that positive relationships in a particular context promote an overall positive climate of relatedness that is more than just the straight additive effects of unique experience with different social partners. For example, this was reflected in the teacher-peer finding that Peer-Oriented youth had higher academic skills than Low Relatedness youth, but neither peer preference nor peer competence were individually associated with academic skills. Youth who do not have very close relationships with their teachers may still become excited about going to school and engaging in academic experiences when they do have positive peer relationships. Thus, this pattern of relational experiences along with another positive relational configuration (i.e., Teacher-Oriented youth) appeared to create a climate of relatedness that fostered a positive academic experience in school for these youth.

Interestingly, I did not find evidence for an extreme peer orientation or a profile of extremely peer-focused youth who turned towards their peers at the expense of their relationships with other social partners (i.e., parents and teachers) (Fuligni et al., 1993; 2001). More common were various configurations of positive patterns (moderate to high relatedness) with parents and peers and with teachers

and peers and low relatedness patterns. Thus, the notion that that there exists a subset of youth who are extremely peer focused was not supported in my dissertation, and, perhaps, only in rare instances is such a pattern evident.

In sum, findings from the three studies highlight the importance of positive relational experiences with multiple social partners during middle childhood and early adolescence, and they point to the vast variability in associations among these experiences for youth. Findings also strongly support the complementary use of person-oriented and variable-oriented approaches in research on youths' interpersonal relatedness. Additionally, in support of person-oriented approaches, findings revealed important antecedents and consequences associated with unique patterns of relatedness. This implies that future studies should adopt longitudinal designs to examine such predictors and outcomes, as well as the evolution of youths' relatedness patterns over time.

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VITA

Alice J. Davidson

Rollins College * Department of Psychology * 1000 Holt Avenue – Box 2760, Winter Park, FL 32789
407.646.2129 * adavidson@rollins.edu

EDUCATION

The Pennsylvania State University, 2009 - Doctor of Philosophy in Human Development & Family Studies

The Pennsylvania State University, 2006 - Master of Science in Human Development and Family Studies

Rhodes College, 2002 - Bachelor of Arts in Psychology, cum laude, Phi Beta Kappa, Honors Research

TEACHING EXPERIENCE

Rollins College

Instructor of Psychology

Spring 2008 – Present

The Pennsylvania State University

Instructor of Human Development and Family Studies

Summer 2007, Spring 2008

RESEARCH EXPERIENCE

THE PENNSYLVANIA STATE UNIVERISTY – HUMAN DEVELOPMENT AND FAMILY STUDIES

*University Park, PA

*Graduate Student

*August 2004 – present

AFTER-SCHOOL TUTORS PROJECT – Principal Investigator

September 2006 – present

- Collected quantitative and qualitative data to evaluate youth tutors in an urban, after-school program.
- Research partnership with Dr. Howard Rosen of Hempfield Behavioral Health, Inc. in Harrisburg, PA.

MIDDLE SCHOOL TRANSITIONS PROJECT – Research Assistant

August 2004 – present

- Support 5-year longitudinal child development and peer relations study.
- Use statistical analyses including social networks analyses and multilevel-modeling to explore data regarding close relationships, social knowledge, and academic outcomes.
- Contribute to journal article submissions and poster presentations.
- Supervise undergraduate work-study and independent study students and coordinated data collection.

SELECTED PUBLICATIONS/PRESENTATIONS

Gest, S. D., Rulison, K. L., **Davidson, A. J.**, Welsh, J. A., & Domitrovich, C. E. (2008). A reputation for success (or failure): The association of peer academic reputations with academic self-concept, effort and performance across the upper elementary grades. *Developmental Psychology*, 44(3): 625-636.

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Davidson, A. J., Abar, B. W., Updegraff, K. A., & McHale, S. M. (March, 2008). *Cultural correlates and adjustment outcomes associated with profiles of parent-peer linkage among Mexican American youth.* Poster presented at the Society for Research in Adolescence conference in Chicago, IL.