

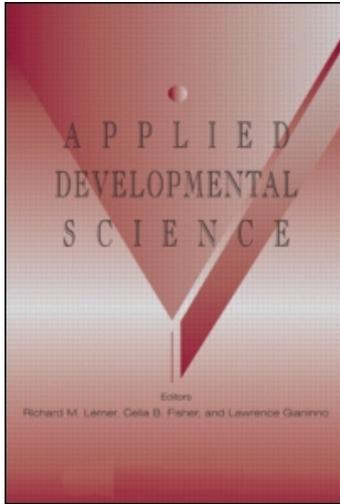
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### Pygmalion in the Program: The Role of Teenage Peer Mentors' Attitudes in Shaping Their Mentees' Outcomes

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# Pygmalion in the Program: The Role of Teenage Peer Mentors' Attitudes in Shaping Their Mentees' Outcomes

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Cross-age peer mentoring programs, in which teenagers mentor younger children, have proliferated in recent years, yet there is disagreement about the effectiveness of such programs. This study tested whether teen mentors' attitudes about children interact with their mentees' characteristics to moderate outcomes of cross-age peer mentoring. The sample included 221 high school volunteers, 205 mentees, and 182 control group youth. Latent profile analyses yielded two profiles of students who were labeled "academically connected" or "disconnected." Analyses revealed that the academically disconnected mentees who were paired with mentors holding relatively positive attitudes toward youth were more emotionally engaged in the mentoring relationship (than disconnected mentees with more negative mentors) and, subsequently, reported stronger relationships with their teachers at year's end (than did the similarly disconnected children in the control group). Conversely, there was evidence of iatrogenic effects of matching negative mentors with academically connected mentees. Implications for mentor selection and training are discussed.

The number of cross-age peer mentoring programs, in which teenagers serve as mentors to younger children, has increased dramatically in the past ten years (Hansen, 2005; Karcher, 2007). Although high-school-aged mentors were a rarity a decade ago (an estimated one in 25 mentors was a teenager), the rapid expansion of mentoring programs in the United States has increased the demand for mentors and, consequently, the reliance on younger cohorts of volunteers (Moore & Boyle, 2007). Indeed, in Big Brothers Big Sisters of America,

the nation's largest mentoring organization, teenagers now represent a quarter of their volunteer mentors.

Unfortunately, this growth has outpaced available research on key programmatic factors, such as which young mentors to recruit and how to optimally match them with even younger mentees. Indeed, there remains controversy concerning whether cross-age, peer mentoring programs have *any* impact on participating mentees. Although some studies have found positive effects (see Karcher, 2007), a recent, large-scale study (Herrera, Kauh, Cooney, Grossman, & McMaken, 2008) found only one significant impact of the Big Brothers Big Sisters (BBBS) *High School Bigs* peer mentoring program. There also have been reports of negative effects

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for children participating in peer programs, including peer mentoring, that appear to result from the contagion of peers' deviant behavior (Akos, 2000; Dodge, Dishion, & Lansford, 2006).

### Cross-age Peer Mentoring and Positive Youth Development

Despite the potential for iatrogenic effects that can result from peer interventions, under certain conditions, peer mentoring has the potential to serve as an exemplary positive youth development (PYD) program. PYD programs target the five Cs of PYD (i.e., Competence, Confidence, Connection, Character, and Caring) (Lerner, Alberts, Jelicic, & Smith, 2006). Cross-age peer mentoring has been reported to impact three of the five Cs: social skills (competence), school and peer connectedness, and self-esteem (i.e., confidence; see Karcher, 2005, 2007); and teen mentors have reported fostering strong caring relationships with mentees which may mediate these impacts (Herrera et al., 2008; Karcher & Lindwall, 2003; Karcher, Nakkula, & Harris, 2005).

Cross-age peer mentoring also provides a venue for promoting developmental competencies of the mentor. Positive associations have been reported between serving as a peer mentor and improvements in academic connectedness and self-esteem (Karcher, 2009); knowledge of, concern for, and interest in those whom they serve (Carter, Hughes, Copeland, & Breen, 2001); and academic engagement (Crooks, Chiodo, Thomas, & Hughes, 2010). In addition to the five competencies reflected in PYD theories (the 5 Cs), Lerner et al. (2005) have proposed a 6th C, contribution; participation as a peer mentor affords youth opportunities for contribution in a tangible way through an adult-youth partnership (Lerner et al., 2006).

However, reports of positive as well as negative effects of peer mentoring should not be surprising given the considerable variability among programs. Peer mentoring programs can vary substantially in the level of screening, training, and support that is provided to young volunteers; the characteristics of the mentees and mentors; and both the quality and longevity of the mentoring relationships (Karcher, 2007). This variability in program practices, the heightened possibility of iatrogenic effects, and its promise as a PYD intervention all suggest the need to better understand the conditions under which it works.

Lerner, Napolitano, Boyd, Kiely, and Schmid (in press) suggest that, for mentoring to reach its potential as a PYD intervention, the field needs to understand what characteristics of mentors in what sorts of programs will be most effective to promote what facets of positive youth development in what sorts of youth. This question may be particularly important to ask about peer mentoring. Therefore, the present study sought to

examine the types of mentees who benefit most from peer mentoring and the characteristics of those teen mentors who yield the strongest benefits.

### The Importance of Mentors' Expectations

Previous research suggests that not all mentees benefit equally from peer mentoring and that not all high school mentors are equally adept at connecting with children. For example, mentees who enter programs with severe academic, behavioral, or psychosocial difficulties may need more intensive, empathic mentoring than many volunteers can provide (Karcher & Lindwall, 2003; Spencer, 2007). Indeed, findings from a meta-analysis of youth mentoring program evaluations suggest that mentoring is not as effective among youth who demonstrate individual risk factors, such as behavioral difficulties (DuBois, Holloway, Valentine, & Cooper, 2002; Smith, 2002). This makes it imperative for researchers to better understand the conditions under which such children can benefit from mentoring relationships.

Similarly, some teenagers appear better suited than others for volunteering in relationship-based interventions. Teens have the basic developmental prerequisites necessary to mentor youth: social, emotional, and cognitive capacities that develop in adolescence provide teen mentors with the ability to work from a place of empathy, consider children's intentions, understand basic socialization processes that may explain children's misbehavior, and maintain a focus on another's psychological state (or needs) for an extended period of time (Harris, 1977). In fact, the skills of reflection, empathy, and concern for others that are necessary for effective mentoring are skills that teen mentors recently have acquired. Yet, there is wide variability in teenagers' expression of these skills, and such differences are associated with success in mentoring relationships. For example, Karcher and Lindwall (2003) found that teen mentors who reported higher levels of concern and empathy for others (i.e., high scores on Crandall's Social Interest Scale) met with their mentees more regularly and were more likely to continue participation into a second year. In addition, teen mentors who were high in social interest were more interested in working with mentees who were viewed by their teachers as more socially, academically, and behaviorally at-risk. These findings suggest that, particularly with at-risk mentees, teen mentors' attitudes may interact with characteristics of their mentees to determine match success. High school students with more positive attitudes toward youth appear better suited for this form of volunteerism whereas teens who are not particularly inclined to work with young children may be problematic.

The importance of mentor expectations is consistent with findings regarding key elements of the most effective PYD programs. Roth and Brooks-Gunn

(2003) suggest a key element of PYD programs is the manner in which such programs help program staff (i.e., mentors) convey their belief “in youth as resources to be developed rather than as problems to be managed” (p. 204). By extension, this suggests that peer mentors who can identify strengths and positive qualities in their mentees may be most effective in their work.

### Developmental Variations in Self-Management and Motivations

Unfortunately, teenage volunteers are likely to vary widely in their attitudes toward and behaviors with younger children and may be less able to mollify their reactions to youth misbehavior than are adult mentors. Some teens, for example, may hold negative attitudes toward younger children, perhaps stemming from inexperience, unreasonable expectations, or conflictual relationships with younger siblings (Yeh & Lempers, 2004). But, unlike older volunteers, teenagers may lack awareness of their biases or not yet have the cognitive capacity to regulate negative reactions triggered by their younger mentees. Limitations in cognitive capacities render adolescents less able to step back and take another’s perspective when interpersonal conflict arises in their relationships (Selman, 1980). Indeed, cognitive processes related to emotion regulation continue to develop throughout the adolescent years (Giedd et al., 1999). Kegan (1982) characterizes this limitation by suggesting that, while adults “have” their relationships which they can manage deliberately, teens are more “subject to” and defined by their relationships—that is, they are more likely to be “managed by” their relationships.

Teens volunteer to mentor for reasons that range from altruistic to more egoistic (Karcher & Lindwall, 2003). Teens may mentor to obtain academic credit or fulfill service learning requirements. As such, some teens may enlist in mentoring programs—not out of particular compassion for younger children—but for social reasons (e.g., to spend time with friends who are also mentoring) or to achieve egoistic or self-interested goals (e.g., resume building; see Herrera et al., 2008).

Mentors’ attitudes also may affect the length of the match and their perceptions of the quality of the relationships. For example, Rubin and Thorelli (1984) found that as the number of egoistic motives for volunteering increases the length of volunteers’ participation decreases. In addition, Karcher, Nakkula, and Harris (2005) found that teen mentors who were motivated by self-interest perceived their relationships less positively.

Other studies suggest that it is the fulfillment of expectations, not the nature of motivations that matters most (Madia & Lutz, 2004; Spencer, 2007; Stukas,

Daly, & Clary, 2006). In particular, mentors who hold more positive views of youth and expect to have more positive experiences with their young mentees may forge longer, stronger, and more effective mentoring relationships than mentors with less positive attitudes and expectations. This might operate by positive mentors eliciting more positive behaviors from their mentees, whereas mentors with negative expectations might elicit negative behaviors. These attitudinal biases are likely to be most salient when teens are paired with behaviorally challenging or disengaged youth where a positively or negatively predisposed mentor’s expectations may either counter or exacerbate children’s pre-existing difficulties.

Most peer mentoring programs are implemented in schools, and, therefore, the likelihood that the child will be referred by a teacher for academic disconnection or misbehavior is higher than in community-based mentoring, where mentors are more often sought for children lacking a parent or other forms of social support (Herrera et al., 2008). With increasing attention being paid to the problems associated with school disconnection, such as depression, violence, and bullying (Karcher & Finn, 2005; Ross, Shochet, & Bellair, 2010; You et al., 2008), teachers are increasingly likely to refer academically disconnected youth to mentoring programs. Therefore, peer mentors may encounter a very different profile of youth than those commonly portrayed in recruitment ads who simply lack a supportive adult in their lives (Spencer, 2007). This makes it imperative that we understand how peer mentors’ attitudes and mentee characteristics interact.

### Social Expectations and the Mentoring Relationship

Such interactive processes may work, in part, through self-fulfilling prophecies and the relational exchanges that result from them. Indeed, social psychologists have long argued that perceptions can elicit expectancy-consistent behavior in others (Jones, 1986; Jussim, Eccles, & Madon, 1996; Synder & Stukas, 1999). In some cases, these perceptions are positive, eliciting positive behavior, while in other cases they are negative and can have the opposite effect (Madon, Guyll, Spoth, & Willard, 2004). In the classic study of teacher expectations, *Pygmalion in the Classroom*, Rosenthal and Jacobson (1968) found that, when teachers were influenced to hold more positive views of particular students’ abilities, those children subsequently thrived to a greater-than-expected degree. The changes in students’ performance were directly related to their teacher’s increased encouragement, higher expectations, and concomitant support. In addition, some studies have found that teachers’ expectations interact with student risk factors to effect behavioral outcomes (Gill & Reynolds, 1999). For instance, teachers who relate

equally well to all students tend to forge stronger ties, particularly with lower-achieving students, than those teachers who enter such relationships with negative biases (Kuklinski & Weinstein, 2000).

Mentoring also must be of sufficient quality and duration before it leverages change in distal outcomes like academic achievement, attendance, attitudes toward teachers, school, or peers, and behaviors in school. Rhodes (2005) suggests that the extent to which the mentoring relationship is emotionally engaging (i.e., characterized by trust, empathy, mutuality) will largely determine the ultimate impact of the relationship on such distal outcomes. Thus, the proximal outcome of having an emotionally engaging relationship and a match of sufficient duration is a prerequisite for these more distal cognitive, social, and emotional outcomes. Therefore, it is important to understand the ways in which mentor's expectations and perceptions of youth may affect both proximal outcomes (e.g., emotional engagement and duration) and more distal outcomes (Karcher, Kuperminc, Portwood, Sipe, & Taylor, 2006).

In this study, we tested whether teen mentors' attitudes about children interacted with their mentees' characteristics indicative of academic connectedness to moderate outcomes of cross-age peer mentoring. Given previous research revealing associations between both the length and emotional engagement of matches and program outcomes (Rhodes & DuBois, 2008), with more salient effects emerging in the context of close, empathic bonds (Spencer & Rhodes, 2005), we hypothesized that mentors' attitudes toward youth would affect the proximal outcomes of length and emotional engagement of the relationship as well as the more distal outcomes typically affected by school-based mentoring (SBM) such as attendance, behaviors, academic success, and attitudes toward teachers and peers (Wheeler, Keller, & DuBois, 2010). We also expected that these outcomes would vary as a function of those baseline mentee characteristics (i.e., academic achievement, classroom behavior, and social acceptance) most commonly used by teachers to make referrals to SBM programs.

## METHOD

### Description of Participating Mentoring Programs

Participants were involved in SBM programs in 71 schools affiliated with ten Big Brothers Big Sisters (BBBS) agencies across the United States. These ten agencies were selected based on five criteria. Each agency had strong management-level leadership in place for at least three years and a SBM program operating for at least four years; served at least 150 boys and girls annually in its SBM program; used at least two different

types of volunteer pools, such as high school students and employees from a local business; and had well-established relationships with participating schools (Herrera et al., 2007). 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 school year of the study (2004). The programs served from two to 97 youth, with an average of 22 participating youth in each program.

Mentoring match meetings varied in terms of time, location, and interaction focus; but otherwise, matches received similar programmatic supports. 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 both during and after school. Program expectations varied depending on the BBBS agency and the school, and matches had some flexibility in choosing activities. But, all began their relationship at school and almost all meetings occurred on school premises during the school year. Most matches were expected to meet once a week for about an hour. Supervision of youth (about once a month for the first year of the relationship) was provided by BBBS staff.

### Participants

#### *Children: Full Study Sample*

Participating children were in 4th through 9th grades (9 to 16 years old) at baseline; 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 treatment group, in which they were able to be matched with mentors; and 574 were assigned to the control condition in which they would not be matched until the completion of the study. Herrera et al. (2008) stated, "although high school mentors tended to be placed in schools with less needy students, programs generally did not try to match their least needy children with the high school Bigs [mentors]" (p. 7).

#### *Children: Sample From Schools Where Peer Mentoring was Conducted*

Of the 71 schools involved in the study, 41 included peer mentoring. The present sample was drawn from these 41 sites. Specifically, we drew on data from 205 children (92 boys; 113 girls) in the treatment group who were paired with high school mentors (and had self- and teacher-reported data at the baseline assessment), and from 182 children (80 boys; 102 girls) in the control group who attended schools that included peer mentoring and also had self- and teacher-reported data at the

TABLE 1  
Demographic Characteristics of Mentored and Control Children (n = 387)

Demographic Characteristics	Mentees		Control Group		$X^2 (1, 387)^a =$
	Number	Percentage	Number	Percentage	
Gender					.03, $p = .86$
Male	92	42.9%	80	44%	
Female	113	55.1%	102	56%	
Grade in School					4.40, $p = .22$
4th	98	47.8%	75	41.2%	
5th	60	29.3%	48	26.4%	
6th	35	17.1%	44	24.2%	
7th	12	5.9%	15	8.2%	
Race/Ethnicity					
White	115	56.1%	107	58.8%	.19, $p = .67$
Hispanic/Latino	17	8.3%	9	4.9%	2.69, $p = .10$
Black/African American	16	7.8%	11	6.0%	.52, $p = .47$
Native American	16	7.8%	24	13.2%	2.19, $p = .14$
Asian/Pacific Islander	4	2.0%	1	.5%	.03, $p = .88$
Multiracial	34	16.6%	26	14.3%	.39, $p = .53$
Other	8	3.9%	5	2.7%	.07, $p = .79$

<sup>a</sup>Degrees of freedom ( $df$ ) for all  $X^2$  analyses are 1, except for grade in school, in which  $df = 3$ .

baseline assessment. Most (76%) of the mentees in this subsample were in elementary school. Our sample of mentored youth did not differ from control youth on demographic variables, including gender, grade in school, and race/ethnicity (Table 1).

### Mentors

This study focused on the 221 high school volunteers who completed baseline surveys when they were recruited into the program (37 males; 168 females). Data from 16 high school mentors were excluded from the analyses that combined all participants because those 16 mentees with whom the high school mentors were paired did not have teacher-reported data. About a quarter (26 percent) of participating matches was cross-gender, all of which consisted of a female mentor with a male youth. Forty-three percent of matches were cross-race. Of these, 66% were White mentors with minority youth, 19% were minority mentors with youth from different ethnic backgrounds, and 15% were minority mentors and White youth. Teen mentors were less likely than adults to be matched with a mentee of the same sex (74 vs. 87%) but were more likely to have the same ethnic/racial background as their mentees (56 vs. 28%). Teen mentors were more likely to be female than were adult mentors (79 vs. 66%),  $X^2 (1, 474) = 14.72, p < .001$ , to be White (81 vs. 74%),  $X^2 (1, 475) = 3.56, p < .10$ , and to have mentored children informally in the past (47 vs. 26%),  $X^2 (1, 466) = 3.30, p < .10$ , but were less likely than adults to have had prior formal experience as a mentor (18 vs. 34%),  $X^2 (1, 466) = 12.40, p < .001$ .

### Procedures

Data were collected at each of three assessment waves: for the entire sample, at baseline (i.e., the beginning of the 2004–2005 school year), 100% of youth and 89% of their teachers were surveyed; at the 9-month assessment in the spring of that school year, 94% of youth and 84% of their teachers were surveyed; and at the 15-month assessment in late fall 2005, 85% of youth and 81% of their teachers were surveyed. Mentors were also surveyed at these three time points with response rates of 93%, 87%, and 82%. Because close to half of the youth in the treatment group were no longer receiving mentoring by the last assessment wave, only outcomes from the 9-month assessment are analyzed in this report.

### Measures

#### *Attitudes Toward Youth in Mentor's Community* (Herrera et al., 2007)

The primary mentor characteristic included as a moderator in this study was mentor's attitudes toward youth. This scale asks mentors to rate how many "kids in your community" could be characterized by five positive and two negative (reverse-scored) indicators of youth development: work hard at school, respect adults, are trouble-makers (reversed scored), are fun to be around, expect things to be handed to them (reversed scored), try to do their best, and are interested in learning. The scale responses include 1 = none, 2 = very few, 3 = some, 4 = many, and 5 = all or almost all. Therefore, when all 7 items are averaged, scores above 3 suggest a positive or optimistic view of the youth mentors expect

to encounter, while scores 3 or below suggest a more negative or pessimistic view of the youth the mentors expect to encounter through their involvement in the program. This scale was provided only once, before mentors met their mentees; internal consistency was  $\alpha = .78$ .

### *School Connectedness*

*The Hemingway: Measure of Adolescent Connectedness* (Karcher, 2008) six-item *Connectedness to School* subscale was used to compare the profiles generated from the latent class analyses to determine if the groups differed on this variable. It focuses on the importance youth place on school and how actively they try to be successful in school. The scale was sufficiently reliable,  $\alpha = .70$ , and has demonstrated good validity evidence.

### *Latent Profile Analysis Grouping Variables*

In the plan of analysis described in the following, we indicate that our first step was to identify profiles of mentees based on key youth characteristics. To do this, we included three variables commonly used to identify children for mentoring program participation measured at the baseline and 9-month assessments: Overall academic achievement, social acceptance at school, and the degree of youths' negative contributions to the classroom.

### *Overall Academic Achievement (Pierce, Hamm & Vandell, 1999)*

This was reported by teachers as a composite measure of academic competence, rated on a 5-point scale, ranging from 1 = *below grade level* to 5 = *excellent*.

### *Social Acceptance*

This was assessed by taking the average of teachers' responses to three items drawn from Harter's (1985) scale (e.g., "This child is popular with others his/her age"). The scale was adapted to use a 4-point Likert response set ranging from *strongly disagree* to *strongly agree* ( $\alpha$ 's = .89, .91).

### *Negative Contribution to the Classroom (Herrera et al., 2007)*

This scale consisted of the average of 5 items rated by teachers on a 4-point scale, ranging from *strongly disagree* to *strongly agree*, that reflect the child's negative contribution to the quality of the classroom (e.g., "This child makes it hard for other students to learn";  $\alpha$ 's = .93, .94).

### *Proximal Outcomes*

To assess whether mentor and youth characteristics interacted to affect proximal measures of program impact, we assessed two aspects of the mentoring relationship found in prior research to predict positive program impacts: match length and quality (operationalized as youth emotional engagement; DuBois & Rhodes, 2006).

### *Youth Emotional Engagement*

Emotional engagement in the mentoring relationship was measured using an 8 item youth-reported scale including items such as, "When I'm with my mentor, I feel excited" (Jucovy, 2002). The items were scored on a four-point scale, ranging from 1 = *not at all true* to 4 = *very true* and a mean score was calculated, with higher scores indicating higher levels of emotional engagement ( $\alpha = .85$ ).

### *Match Length*

This was defined as the number of days between the start date of the mentee's most recent mentoring match and the match closure date or, if the match had not yet ended, the date when the mentee completed the survey at the 9-month assessment at the end of the school year.

### *Distal Outcomes*

To estimate how the mentors' views of youth related to the outcomes of SBM, we selected a subset of all outcome measures reported in Herrera et al. (2008). We used six outcome measures of the 31 possible variables available for analysis. To select these six, we used three primary selection criteria. We chose outcomes (a) on which positive effects of SBM had emerged consistently in prior research (Wheeler Keller, & DuBois, 2010), (b) that had been reported in both the adult and peer mentoring literatures as influenced by program participation (Herrera et al., 2008; Karcher, 2007), and (c) that reflected either unequivocally positive outcomes (e.g., increased school performance, attendance) or outcomes that may reflect iatrogenic effects resulting from deviancy training (e.g., peer acceptance, classroom misconduct).

Therefore, we narrowed our analyses of distal outcomes to the following six outcomes (all were collected at both assessment waves).

### *Teacher-Student Relationship Quality (Pianta, 1991)*

This was assessed by asking teachers to respond to 15 items on a 5-point scale, ranging from *definitely does not*

*apply* to *definitely applies*, on the Student Teacher Relationship Scale (STRS) (e.g., “I share a warm relationship with this child”); both  $\alpha$ 's = .89).

#### *Prosocial Behavior (Ladd & Profilit, 1996)*

Teachers' reports of youth's prosocial behavior were assessed using the 8 items from the “Prosocial with peers” subscale of the Child Behavior Scale, except that the word peer was substituted with “classmates” to focus teacher reports on peer interactions within the classroom environment. It used a 4-point response scale ranging from *never* to *very often* (e.g., “How often is this child cooperative with classmates?”;  $\alpha$ 's = .90, .93).

#### *Truancy*

This was measured using a single teacher-reported item that indicated how many times the child had been absent from school in the previous four weeks.

Other distal outcomes include the teacher-rated *overall academic achievement*, *social acceptance among peers*, and *negative contribution to the classroom* scales described previously. These three variables were used as both grouping variables and distal outcomes in analyses.

#### Plan of Analysis

Our first set of analyses was designed to identify the youth characteristics profiles that would be used in the analysis of treatment-person interactions on the proximal and distal outcomes described previously. For these analyses, we utilized characteristics that frequently are used by mentoring program staff when identifying youth as candidates for mentoring interventions in schools, such as classroom behavior. For comparison purposes, we conducted these latent profile analyses separately, first for those children who received a mentor (i.e., treatment youth, or mentees) and, again, secondly for the children who were on the waiting list to receive a mentor (i.e., control children).

For these analyses, we used a person-oriented approach to examine different patterns of association among these children's characteristics at the baseline assessment. This approach, latent profile analysis, considers multiple relevant characteristics simultaneously, as they come together to form a unified whole (Bergman & Trost, 2006; Magnusson, 1998). The approach allowed us to identify relatively homogenous subgroups of mentees based on a constellation of characteristics. Rather than treat these characteristics as independent factors, this procedure enabled us to group youth according to their natural patterns of characteristics. These profiles then served as moderators in the second

set of analyses in which we tested treatment X person interactions in cross-age peer mentoring.

Profiles were grouped based on three variables: overall academic achievement, negative contribution to the classroom, and social acceptance. Latent profile analysis, a type of mixture modeling, assumes that the data are generated by a heterogeneous mixture of underlying probability distributions for  $K$  subsamples (or clusters), such that each cluster distribution is characterized by its own unique set of parameters. We chose a normal mixture modeling approach for several reasons. First, mixture modeling posits a specific model for the data, and then estimates data parameters using maximum likelihood or Bayesian procedures (Whiteman & Loken, 2006). Second, mixture modeling provides indices of statistical fit (e.g., AIC [Akaike Information Criterion]), which help determine the optimal number of profiles in the data.

We relied on full-information maximum likelihood estimation (FIML), as implemented in Mplus (Muthén & Muthén, 2008), to handle missing data, so that data from all cases were included in the identification of the membership probabilities. Before analyzing the data, all three indicator variables (i.e., youth characteristics) were standardized so results could be more readily interpreted. To determine the best solution, we examined multiple mixture models in Mplus. Because indicators roughly approximate a normal distribution, it was not appropriate to estimate more profiles than the number of indicators (i.e., in this case, a four-profile solution) (Loken & Molenaar, 2008).

Subsequently, in our second set of analyses we tested our hypothesis regarding the association between youth characteristics and program outcomes. We conducted three sets of hierarchical regressions and ANCOVAs that examined the role of child and mentor characteristics on proximal and distal outcomes. The proximal outcomes were two indicators of relationship quality: length of match and mentees' reports of their emotional engagement in the match. The distal outcomes were six 9-month outcomes including teacher-student relationship quality, prosocial behavior, truancy, and the 9-month assessments of the three grouping variables described previously. First, we tested whether the latent class profiles for children were associated with variability on the proximal and distal outcomes described previously. Second, we examined the associations between mentor attitudes and proximal and distal outcomes described previously. Finally, we tested whether the effects of peer mentoring on the proximal and distal outcomes for different profiles of children were moderated by mentors' baseline views of youth. Specifically, we compared proximal (mentoring-relationship specific) outcomes for the mentees in both profiles who were paired with either mentors holding relatively positive

or negative baseline views of youth, and we examined whether distal outcomes differed across these four subgroups of mentees and whether they differed from control group children of the same profile.

## RESULTS

### Identifying Profiles of Youth and Comparing Them at Baseline

We estimated two profiles, one for the mentored youth sample and another for the control group sample, based on the following criteria: (a) the two-profile solution had the lowest AIC and sample-adjusted BIC fit criteria; (b) each profile had an adequate sample size; (c) the solution was determined to be sufficiently stable; and (d) the solution made intuitive sense. Average probabilities of membership within each of the profiles were high for both mentored youth (.97 and .91, respectively) and control youth (.99 and .90 respectively). To create these profiles, we used membership probabilities to assign each individual to one profile, thus allowing covariate analyses to be computed within an ANOVA framework. We chose this strategy because the average latent profile probabilities for profile membership were .90 or higher.

Among mentored children, we identified two patterns of baseline characteristics. Consistent with previous person-oriented research (e.g., Kan & McHale, 2007), for each of the indicators, 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 ( $n = 118$ ) was characterized by average overall academic achievement but low social acceptance at school and more frequent negative contributions to the classroom (Figure 1). Profile 2 ( $n = 87$ ) was characterized by high overall academic achievement and social acceptance at school and less frequent negative contributions to the classroom. These two profiles seemed to reflect different degrees of engagement and success in the school setting, so we labelled them "Academically Disconnected" and "Academically Connected" children. To test this rationale, we compared these two groups on the connectedness to school scale described previously. The academically disconnected children ( $M = 3.12$ ,  $SD = .59$ ) scored significantly lower on this scale than the academically connected children ( $M = 3.42$ ,  $SD = .49$ ),  $F(1, 203) = 14.68$ ,  $p < .001$ ,  $\eta^2 = .067$ . There were proportionately more girls ( $n = 57$ ) than boys ( $n = 30$ ) in the connected group (Profile 2) compared to the proportion of girls ( $n = 56$ ) and boys ( $n = 62$ ) in the academically disconnected group (Profile 1),  $X^2 = 6.60$ ,  $p < .05$ . Academically connected mentees also were significantly younger ( $M = 10.41$ ,

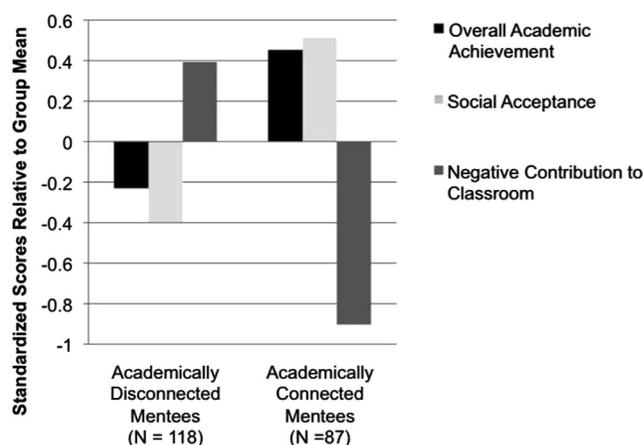


FIGURE 1 Two-profile mixture modeling solution for patterns of baseline adjustment for mentees paired with high school mentors.

$SD = .86$ ) than academically disconnected mentees ( $M = 10.98$ ,  $SD = 1.19$ ),  $t = -3.792$ ,  $p < .001$  (Table 2).

We used the same procedures and criteria for determining relatively high and low scores for each of the indicator variables among the children in the control group, and the pattern was very similar. For these children, we also identified two patterns of baseline characteristics. Profile 1 ( $n = 108$ ) was characterized by average overall academic achievement and social acceptance in school, but high negative contribution to the classroom ("Academically Disconnected") (Figure 2). Profile 2 ( $n = 74$ ) was characterized by high overall academic achievement, average social acceptance in school, and low negative contribution to the classroom ("Academically Connected"). The academically disconnected control group children ( $M = 3.05$ ,  $SD = .60$ ) scored significantly lower than the academically connected control group children ( $M = 3.30$ ,  $SD = .53$ ),  $F(1, 180) = 8.27$ ,  $p < .005$ ,  $\eta^2 = .044$  on the connectedness to school scale. As in the mentee group, there were proportionately more girls ( $n = 56$ ) than boys ( $n = 18$ ) in the academically connected group compared to the proportion of girls ( $n = 46$ ) and boys ( $n = 62$ ) in the disconnected group,  $X^2 = 19.51$ ,  $p < .001$ , and academically connected controls were less likely to have an absent parent ( $M = 5.34$ ,  $SD = 3.12$ ) than were disconnected controls ( $M = 6.69$ ,  $SD = 3.52$ ),  $t = -2.66$ ,  $p < .01$ . Means and standard deviations for demographic and grouping variables are presented in Table 2.

### Identifying Mentors with Different Attitudes Toward Youth and Comparing Them at Baseline

To understand the role of mentors' attitudes toward youth, we sought to identify mentors who were low

TABLE 2

Means (Standard Deviations) for Demographic and Grouping Variables, and Proximal Outcomes for Academically Disconnected and Connected Mentored and Control Children

Outcome	Disconnected Mentees	Connected Mentees	Disconnected Controls	Connected Controls	Profile Differences <i>F</i> (3, 387) = or <i>X</i> <sup>2</sup> =
	<i>n</i> = 118	<i>n</i> = 87	<i>n</i> = 108	<i>n</i> = 74	
Sex	Girls = 56 (47%) Boys = 62 (53%)	Girls = 57 (66%) Boys = 30 (34%)	Girls = 46 (43%) Boys = 62 (57%)	Girls = 56 (76%) Boys = 18 (24%)	26.11***
Age	10.98 (1.19) <sup>a</sup>	10.41 (.86) <sup>b</sup>	10.85 (1.44) <sup>ab</sup>	10.76 (1.08) <sup>ab</sup>	4.01**
Grade	4.98 (1.00) <sup>a</sup>	4.57 (.76) <sup>b</sup>	5.02 (.99) <sup>ab</sup>	4.96 (1.01) <sup>a</sup>	4.38**
Child Characteristics (Pre-Intervention)					
Overall Academic Performance	2.26 (.86) <sup>a</sup>	2.98 (1.18) <sup>b</sup>	2.22 (1.00) <sup>a</sup>	2.85 (1.13) <sup>b</sup>	13.643***
Social Acceptance	2.50 (.66) <sup>a</sup>	3.11 (.51) <sup>b</sup>	2.60 (.65) <sup>a</sup>	2.67 (.64) <sup>a</sup>	17.78***
Negative Contribution to the Classroom	2.09 (.58) <sup>a</sup>	1.10 (.11) <sup>b</sup>	2.16 (.54) <sup>a</sup>	1.10 (.10) <sup>b</sup>	176.38***
Proximal Outcomes					
Match Length (P)	150.90 (4.69)	160.85 (5.53)	n/a	n/a	1.74
Emotional Engagement (P)	3.55 (.06)	3.60 (.07)	n/a	n/a	.41

Note: Demographic and grouping variables were measured at the baseline assessment. For proximal outcomes, means (standard errors) are adjusted for the following baseline covariates: child’s age, minority status, gender, number of child-reported stressful life events in the six months prior to the baseline interview, whether the child qualifies for free or reduced-price lunch, the child’s extracurricular activity involvement, and child’s substance use.

<sup>a,b</sup>Means with different superscripts differ significantly by profile.

P = Proximal outcome of mentoring relationship quality at the 9-month assessment.

\*\**p* < .01; \*\*\**p* < .001.

and high on the Attitudes Toward Youth scale. To create these groups, we conducted a median split on the variable and identified those mentors with scores greater than or equal to the median (3.43) as having more positive attitudes toward youth (*n* = 117, “positive mentors”), and those with scores lower than the median as having more negative attitudes toward youth (*n* = 104, “negative mentors”).

We compared positive and negative mentors on a range of demographic and background characteristics

including, age, gender, ethnicity, work and extracurricular involvement, previous mentoring experience, goals for the mentoring relationship, and mentoring strategies (Table 3). Compared to mentors with negative attitudes, those with more positive attitudes were more likely to be female, have had more contact with youth aged 9 to 14 in the last year, and be involved in high school clubs, but they were less likely to be receiving course credit for their mentoring activities. More positive mentors (30%) than negative mentors (17%) felt that helping their mentee feel good about him/herself was their most important goal in mentoring. Slightly fewer positive mentors (29%) than negative mentors (40%) felt that providing their child with structure was their preferred mentoring strategy. This suggests these two groups of mentors may have used different interaction strategies with their mentees.

The Role of Mentor and Mentee Characteristics in Relationship Quality

Main Effects of Mentee Characteristics on Proximal Outcomes

In order to test our hypotheses regarding the role of mentee and mentor characteristics on proximal and distal outcomes of peer mentoring, we first conducted a series of hierarchical linear regression models. The first set examined the extent to which academically disconnected and connected mentees differed on our two proximal measures of relationship quality after 9 months (means for these proximal measures are presented in

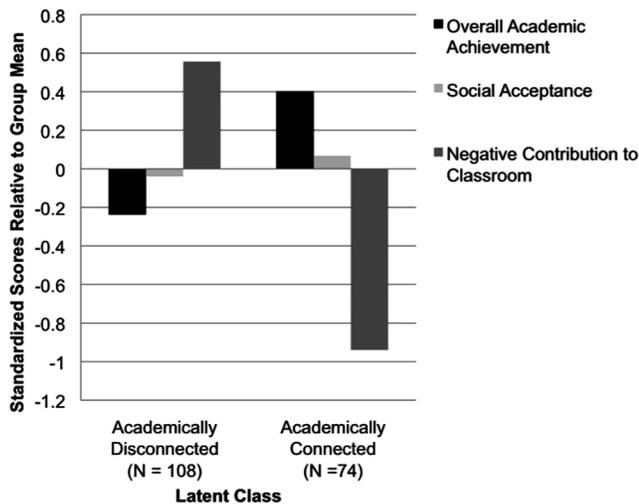


FIGURE 2 Two-profile mixture modeling solution for patterns of baseline adjustment for control children.

TABLE 3  
Descriptive Statistics for Positive Mentors and Negative Mentors

Mentor Characteristics	Positive Mentors n = 117	Negative Mentors n = 104	Mentor Differences F (1, 220) = or $X^2 =$
Mentor attitudes toward youth	3.79 (.28)	2.97 (.32)	420.53***
Mentor age	16.27 (.91)	16.19 (1.02)	.40
Grade in H.S.	10.96 (.76)	10.86 (.86)	.87
Gender	M = 16; F = 101	M = 25; F = 79	3.91*
Mentor is White	No = 18; Yes = 99	No = 22; Yes = 82	1.24
Mentor currently has a paid job	No = 74; Yes = 43	No = 67; Yes = 37	.03
# of hours/week mentor typically works	5.63 (8.56)	5.09 (8.24)	.22
Mentor knows other volunteers	No = 11; Yes = 105	No = 5; Yes = 99	1.78
Currently volunteers at other organizations	No = 79; Yes = 38	No = 59; Yes = 44	2.46
Contact with youth aged 9–14 in last year	3.51 (.61)	3.32 (.71)	4.30*
Previous mentor experience in formal program	No = 95; Yes = 18	No = 85; Yes = 19	.21
Previous mentor experience in informal program	No = 42; Yes = 71	No = 30; Yes = 74	1.69
Involved in H.S. sports	No = 62; Yes = 55	No = 58; Yes = 46	.17
Involved in H.S. music	No = 88; Yes = 29	No = 68; Yes = 36	2.56
Involved in H.S. clubs	No = 21; Yes = 96	No = 33; Yes = 71	5.66*
Receiving school credit for volunteering	No = 79; Yes = 35	No = 58; Yes = 44	3.59+
Helping make academic improvements is most important goal	No = 99; Yes = 8	No = 88; Yes = 8	.05
Helping improve school behavior is most important goal	No = 107; Yes = 0	No = 94; Yes = 2	2.25
Being a friend is most important goal	No = 49; Yes = 58	No = 41; Yes = 55	.20
Helping improve relationships is most important goal	No = 106; Yes = 1	No = 93; Yes = 3	1.26
Helping feel good about him/herself is most important goal	No = 75; Yes = 32	No = 80; Yes = 16	4.91*
Mentor strategy is to give child feedback	No = 75; Yes = 42	No = 60; Yes = 44	.95
Mentor strategy is listening and being friend to child	No = 6; Yes = 111	No = 9; Yes = 95	1.08
Mentor strategy is providing child with structure	No = 83; Yes = 34	No = 62; Yes = 42	3.13+
Mentor strategy is sharing experiences	No = 50; Yes = 67	No = 46; Yes = 58	.05
Mentor strategy is to help child with schoolwork	No = 47; Yes = 70	No = 41; Yes = 63	.01

\*\*\* $p < .001$ , \* $p < .05$ , + $p < .10$ .

Table 2). The difference in length of match for each type of mentee was not statistically significant; nor were there statistically significant profile differences in the extent to which connected and disconnected mentees reported being emotionally engaged in the match with their mentors.

#### Main Effects of Mentor Characteristics on Proximal Outcomes

When we included mentor attitudes toward youth in the regression models described previously, we found that mentor attitudes toward youth at baseline predicted youths' emotional engagement at the 9-month assessment,  $t(192) = 2.42$ ,  $b = .12$  (.05),  $p < .05$ , such that having a mentor who had more positive attitudes toward youth was associated with more emotional engagement reported by their mentees (see Table 2). There was no effect on match length.

#### Interaction Between Mentor and Mentee Characteristics on Proximal Outcomes

This main effect of mentor's attitudes on mentees' reports of emotional engagement varied by mentee

profile,  $t(192) = -2.50$ ,  $b = -.20$  (.08),  $p < .05$ . The plot of this interaction in Figure 3 depicts youths' emotional engagement as a function of mentee profile and mentor attitudes toward youth (negative mentors as  $-1$  standard deviation below the mean; positive mentors as  $+1$  standard deviation above the mean,  $M = 3.43$ ,  $SD = .51$ ). Figure 3 shows that disconnected mentees paired with

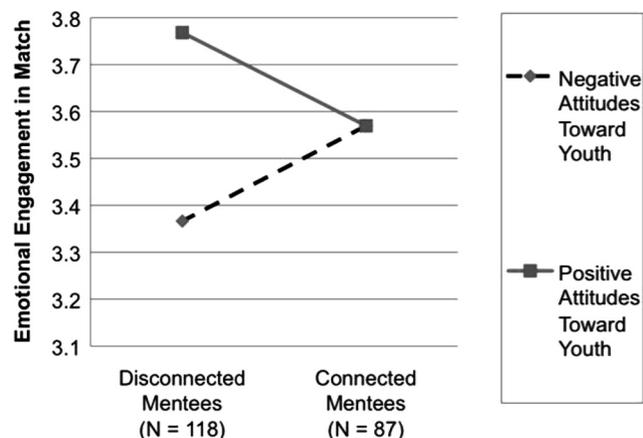


FIGURE 3 Mentees' Emotional Engagement as a Function of Mentee Profile and Mentors' Attitudes toward Youth.

positive mentors were more emotionally engaged than disconnected mentees paired with negative mentors.

*Comparing Disconnected and Connected Mentees with Controls on Distal Outcomes Main Effects of Mentee and Mentor Characteristics on Distal Outcomes*

A series of ANCOVAs was conducted to test the main effect of profile type on the six distal outcomes by comparing outcomes for mentees with those for youth in the control group. These analyses included all of the covariates used in the original study (Herrera et al., 2007; i.e., the baseline value of the outcome measure, youth's age, minority status, gender, number of youth-reported stressful life events in the six months prior to the baseline interview, whether the child qualifies for free or reduced-price lunch, the child's extracurricular activity involvement, and youth's substance use). These revealed one significant difference. Disconnected mentees reported better relationships with their teachers ( $M = 3.87$ ,  $SE = .05$ ,  $CI = 3.78, 3.97$ ) at the end of the year than did the disconnected children in the control group ( $M = 3.68$ ,  $SE = .05$ ,  $CI = 3.57, 3.78$ ),  $F(3, 340) = 2.74$ ,  $p < .05$ . There were no main effects of mentor type.

*Interaction Between Mentor and Mentee Characteristics on Distal Outcomes*

Having found an interaction between mentor and mentee characteristics on one of the two proximal measures of relationship quality and a main effect of mentee type on teacher relationship quality, we next conducted a series of analyses of covariance to test whether the effect of peer mentoring on the six distal

outcomes for the two mentee profiles (academically disconnected or connected) was moderated by the attitudes held by their mentors and whether either group of mentees differed from their disconnected and connected counterparts in the control group. Again, each analysis included the entire baseline covariates used in the national evaluation from which these data were drawn. Means and standard errors for distal outcomes are presented in Table 4.

We separated the six distal outcome variables into two groups, subjecting each set to a Benjamini-Hochberg adjusted alpha level to correct for false discovery (Benjamini & Hochberg, 1995). We focused first on the three outcome variables (i.e., truancy, teacher-student relationship quality, and prosocial behavior) that had not been used to create the mentee profiles. We then focused on differences on those outcomes that were used as grouping variables (i.e., overall academic performance, social acceptance, and negative contribution to the classroom). We considered these groups of outcomes separately because the latter variables would all be subjected to a restriction in range due to only half of the distribution for each variable being present in either group. For example, youth identified as being in the connected profile only had social acceptance scores in the upper range of all mentored youth.

Analyses were conducted separately for the disconnected and connected profiles to ensure that each test compared only disconnected or only connected children. Thus, both sets of ANCOVAs (one set for disconnected and one for connected youth) included the three groups of children reflecting the same risk profile. For example, the first test compared disconnected mentees paired with

TABLE 4  
Means (Standard Errors) for Distal Outcomes for Academically Disconnected and Connected Children Paired with a Positive Mentor, a Negative Mentor, or No Mentor (Control) at the 9-Month Assessment

Outcome	<i>Disconnected</i>	<i>Disconnected</i>	<i>Disconnected</i>	<i>Connected</i>	<i>Connected</i>	<i>Connected</i>
	<i>Mentees with</i>	<i>Mentees with</i>		<i>Mentees with</i>	<i>Mentees</i>	
	<i>Positive</i>	<i>Negative</i>	<i>Controls</i>	<i>Positive</i>	<i>with Negative</i>	<i>Controls</i>
	<i>Mentor</i>	<i>Mentor</i>		<i>Mentor</i>	<i>Mentor</i>	
	<i>n = 60</i>	<i>n = 52</i>	<i>n = 108</i>	<i>n = 40</i>	<i>n = 45</i>	<i>n = 74</i>
Proximal Outcomes						
Match Length	159.73 (6.47)	147.66 (6.96)	n/a	157.93 (7.20)	159.92 (6.77)	n/a
Emotional Engagement	3.69 (.08)	3.41 (.08)	n/a	3.52 (.09)	3.68 (.08)	n/a
Distal Outcomes						
# Times Absent without Excuse (Truancy)	.22 (.18)	.31 (.19)	.60 (.14)	.23 (.13)	.19 (.13)	.25 (.10)
Teacher-Relationship Quality	3.68 (.07)	3.59 (.08)	3.43 (.05)	4.11 (.07)	4.08 (.07)	4.12 (.06)
Prosocial Behavior	2.97 (.06)	2.83 (.06)	2.87 (.04)	3.27 (.07)	3.28 (.07)	3.34 (.05)
Overall Academic Performance	2.37 (.09)	2.34 (.10)	2.26 (.07)	3.10 (.12)	3.18 (.11)	2.92 (.09)
Social Acceptance	2.63 (.08)	2.57 (.09)	2.49 (.06)	2.96 (.08)	3.03 (.08)	2.80 (.06)
Negative Contribution to the Classroom	2.14 (.07)	2.13 (.08)	2.13 (.06)	1.23 (.07)	1.45 (.07)	1.25 (.05)

Note: Means are adjusted for the following baseline covariates: outcome of interest, child's age, minority status, gender, number of child-reported stressful life events in the six months prior to the baseline interview, whether the child qualifies for free or reduced-price lunch, the child's extracurricular activity involvement, and child's substance use.

positive mentors, disconnected mentees paired with negative mentors, and disconnected control children.

#### *Distal Outcomes for Academically Disconnected Mentees*

For the disconnected mentees, only one statistically significant main effect was observed among the first set of outcome variables. This effect was on teacher relationship quality  $F(2, 185) = 4.20, p < .02$  (the Benjamini-Hochberg adjusted alpha level was .02). Pair-wise comparisons revealed that disconnected mentees paired with positive mentors reported significantly better teacher-relationship quality than did disconnected controls (mean difference .26,  $CI = -.42, -.07, p < .01, d = .36; 1 - \beta = .68/.56$ , one/two-tailed). Although the omnibus tests for truancy differences across the groups was not statistically significant, a non-significant trend in the same direction was found in which disconnected mentees paired with positive mentors were truant less often than disconnected controls (mean difference of .38,  $CI = .82, -.07, p < .10, d = .32; 1 - \beta = .65.53$ , one/two-tailed). There were no differences in the three grouping variable outcomes.

#### *Distal Outcomes for Academically Connected Mentees*

For the connected mentees, none of the omnibus tests for differences in means across the three groups were significant at the Benjamini-Hochberg adjusted alpha levels. Noteworthy, especially given the limited statistical power of the subgroup comparisons, were the pair-wise comparisons between the connected mentees with negative mentors and connected youth in the control group. Academically connected mentees with negative mentors made more negative contributions to the classroom (mean difference .19,  $CI = .02, .37, p < .05, d = .42; 1 - \beta = .47$  for two-tailed test) and had higher teacher-rated social acceptance (mean difference .22,  $CI = .01, .44, p < .05, d = .33; 1 - \beta = .72$  for two-tailed test) than connected youth in the control group.

#### *Summary*

For both mentored and control group children, we identified two profiles using mixture modeling that we labeled, "academically disconnected" and "connected." We also identified mentors as being relatively positive or negative based on whether they fell above or below the median score for attitudes toward youth in the community; these positive and negative mentors differed across a range of characteristics. Tests of the interaction between mentee and mentor characteristics on outcomes

revealed that disconnected mentees who were paired with mentors who held relatively positive attitudes toward youth were more emotionally engaged in the mentoring relationship than disconnected mentees who were paired with high school mentors with relatively negative attitudes toward youth. Further, disconnected mentees paired with positive mentors reported significantly better teacher-relationship quality than did disconnected controls. Though failing to achieve a statistically significant omnibus test, a marginally significant pairwise subgroup comparison suggested that disconnected mentees paired with positive mentors were truant less often than disconnected controls. Similarly underpowered, but informative, statistically significant pairwise tests revealed that the connected mentees with negative mentors made more negative contributions to the classroom and had higher teacher-reported peer acceptance after mentoring than did connected children in the control group.

## DISCUSSION

The primary aim of this study was to examine whether mentors' attitudes toward youth moderated program outcomes, and whether these effects varied on the basis of their mentees' baseline risk status (i.e., characteristics reflecting academic connectedness). The study builds on prior research suggesting that mentors' perceptions of their mentees may influence their mentees' experience in the program.

### Types of Children Referred for Mentoring

This study utilized data from a national, longitudinal study of the Big Brothers Big Sisters (BBBS) SBM program (Herrera et al., 2008). Exploratory analyses revealed that two types of children had been referred to the mentoring program. In analyses conducted separately involving mentees and control youth, two very similar profiles of children's characteristics emerged. One group of mentees was characterized by average academic achievement, low social acceptance at school, and frequent negative contributions to the classroom; and the second group of mentees was characterized by high overall academic achievement and social acceptance at school and significantly fewer negative contributions to the classroom. Because these teacher-rated characteristics reflected degrees of engagement and success at school and there were significant differences between these groups in their level of school connectedness, we labeled these two groups "academically disconnected" and "academically connected" children.

The only difference in mentoring program impacts between these two groups of mentees was on 9-month

teacher relationship quality, with disconnected mentees showing improvements relative to the control group. Further analyses revealed that it was only the academically disconnected mentees with positive mentors who had higher teacher relationship quality ratings than the similarly disconnected youth in the control group. A similar non-significant trend appeared with lower truancy among disconnected mentees with positive mentors relative to disconnected youth in the control group.

### The Importance of Mentors Working From a Positive Youth Development Perspective

Taken together, these findings are consistent with the positive youth development perspective that suggests that adults who hold a view of youth that emphasizes their strengths make a bigger difference in the lives of children (e.g., Benson, 2003; Lerner et al., 2006). The findings suggested that teen mentors who hold more positive attitudes toward the children in their community may have a more positive influence on younger mentees and may be especially helpful to mentees whose academic performance, relationships, and behaviors render them disconnected.

One reason why the disconnected mentees matched with positive mentors may have reported more emotionally engaged mentoring relationships than did those youth matched with negative mentors might be that, relative to negative mentors, the positive mentors were more likely to view their role as helping their mentees feel good about themselves and slightly less likely to report that their preferred strategy to achieve their goal was to provide structure. These more positively oriented mentors might approach their relationships in ways that foster higher levels of trust, empathy, and mutuality, which Rhodes (2005) describes as key proximal or enabling outcomes in successful mentoring relationships. The positive experience such mentors elicit in their mentees, in turn, also may explain how peer mentoring might make mentees more receptive to other caring providers, most notably the mentees' teachers, suggesting beneficial and potentially far-reaching shifts in mentees' approaches to pivotal relationships.

This also suggests that, on the whole, peer mentoring guided by a strengths-promotion rather than risk-reduction perspective yields larger positive effects (Lerner, et al., 2006). As in other professional relationships, such as psychotherapy (Wampold, 2001) and teaching (Rosenthal & Jacobson, 1968), in which the caregiver's expectations and resulting nonverbal behaviors are a primary tool for growth and development, in mentoring programs, where the interactions and conversations are largely private and determined by the mentors and mentees themselves, the perspectives and attitudes that the mentors bring to their mentoring

relationships may be particularly salient predictors of program outcomes.

### The Power of Social Expectations and the Problem of Iatrogenic Effects

These findings also are consistent with a long history of experimental findings on self-fulfilling prophecies and previous research on the role of teacher expectations on student outcomes. Both suggest that perceivers' differential expectations can result in different behaviors toward their target and, ultimately, different outcomes from these relationships. The findings are especially relevant for their implications for working with disconnected youth who may already experience the detrimental effects of parents' and teachers' negative expectancies.

Sadly, the converse may also be true. Matching more academically connected children with teenage mentors who hold negative attitudes toward children may yield iatrogenic results, perhaps even cultivating risk trajectories that might otherwise not have emerged. It must be noted, however, that this study's sample size compromised the statistical power we had to detect the many subgroup differences. Yet, there was some evidence in pairwise subgroup comparisons of a negative effect of mentoring (resulting in poorer classroom behavior and more attention from peers) for academically connected mentees paired with negative mentors. While increases in social acceptance could be either a positive or negative program outcome—we cannot be sure with the data at hand—the fact that increases in attention from peers co-occurred with classroom misbehavior suggests iatrogenic peer processes may have been at play.

Although it is not clear why this happened, as noted, mentors with negative attitudes were less concerned with supporting their mentees positive self-perceptions ("making them feel good about themselves") and slightly more likely to view their role as to provide structure (e.g., be a disciplinarian). Therefore, it is quite possible that the negative mentors anticipated more misbehavior by their mentees and, in response, inadvertently created a Pygmalion in the program: exacting a self-fulfilling prophecy in which they helped to create the child whom they expected to encounter. To better test these hypothesized links between mentors' attitudes, mentors' behaviors, and mentees' experiences, and subsequent behavior will require future studies examining how mentors' pre-existing beliefs may be related to the ways that mentors structure their conversations and time with mentees and documenting the mentees' reactions to their mentors' behaviors. However, both for better and for worse, it seems mentors' pre-match beliefs appear to shape their mentees' future relationships and behaviors in expectancy-consistent ways

thereby either curbing or cultivating future problems in school.

The potential for peer mentors to negatively affect their mentees also adds to a long line of studies of peer deviancy effects and deviancy training (Dodge et al., 2006; McCord, 2003; Powers & Witmer, 1951). This line of research reveals that iatrogenic effects resulting from deviancy training are most likely to occur in interventions in which treatment youth are aggregated with other peers, when the participating youth are given little direction, and when a significant number of participating youth hold more unconventional, socially antagonistic perspectives (Dodge et al., 2006). This line of research would lead one to expect a greater risk of deviancy training effects from experiences with negative mentors, in unstructured mentoring and in a peer group context similar to the format used in most programs in this study.

### Limitations

Although this study has several strengths, including longitudinal data from multiple informants and a large, national sample, there also are limitations that should be noted. In this study, mentors with different views of youth were not randomly assigned to different types of mentees. Thus, there could be unmeasured characteristics of children or mentors (or their combination) that were considered by agencies when creating these matches that could be responsible for the associations we found in this study. Although all of the characteristics we used to classify mentees and categorize mentors were assessed prior to forming the mentoring matches, all quasi-experimental comparisons such as ours are subject to unknown rival explanations, such as selection effects due to the staffs' matching strategy.

Statistical power also was hampered by the somewhat small subgroup sample sizes. While not uncommon in the research literature on youth mentoring (see DuBois et al., 2002), the subgroups we compared were fairly small (some  $n_s < 50$ ) when we examined effects for different profiles of mentees who had different types of mentors. Not all of those effects which were reported to be statistically significant were adequately powered, which suggests that these differences may be due to chance. However, it also means that other true differences may not have been detected. We erred on the side of reporting these tests because the consequence of not heeding the possibility of negative effects could be significant for children in such programs. But, future research will be necessary to confirm many of the subgroup comparisons attempted here.

Likewise, all data were drawn from youth in Big Brothers Big Sisters SBM programs, limiting our ability to generalize our findings to other mentoring programs

that may differ in structure. Indeed, because youth in SBM programs tend to spend less time with their mentors than do youth in community-based programs, it is possible that disconnected youth in more intensive community-based mentoring programs may derive even more benefits from positively-disposed mentors. Future studies using more sensitive measures and including qualitative research components also will be needed to further explore the role that expectations may play in mediating the association between risk status and youth outcomes. Additionally, other program or school characteristics may explain these outcomes.

### Recommendations for Practice

Despite these limitations, the findings provide several useful guides for future research as well as for the recruiting, training and matching of teen mentors in cross-age peer mentoring programs. Given some of the limitations described previously, as well as the quasi-experimental and exploratory nature of the analyses, these implications should be viewed as starting points for improving program practices but should not be considered definitive (Rhodes & Lowe, 2008).

#### *Recruit Teen Mentors with a Highly Positive View of Youth*

When recruiting teen mentors, it would be wise to survey applicants' attitudes toward youth along with other useful predictors (such as the Social Interest Scale, see Karcher & Lindwall, 2003), and select those applicants who report the most positive attitudes toward the children in their community. In this study, the cutoff between those who were higher and lower on the scale was 3.4. Future research should refine this benchmark. Until then, program staff might aim to recruit only mentors whose scores fall above this cutoff.

Other variables associated with having more positive attitudes toward youth also might be helpful to target in recruitment. For example, those mentors with more positive attitudes had more contact with children in the prior year, were more engaged in school clubs, less likely to be mentoring for credit, and more often female. Taken together, these findings suggest that youth with prior experience working with children (e.g., through babysitting, younger siblings) might hold more realistic expectations about their young mentees. Interviews with applicants also might reveal characteristics associated with more positive attitudes such as being more likely to view their role as a mentor as helping the child feel good about him/herself, listening, and forming a friendship, and less likely to expect to need to provide the child with structure.

### Opportunities for Training Mentors

Finally, Lerner, Brittan, and Fay (2007) suggest that although mentoring programs provide unique opportunities to facilitate mentees' strengths and development, the mentor's approach matters. These findings should serve as a reminder, especially to staff in peer mentoring programs, of what Rosenthal and Jacobson (1968) concluded—namely, that changing caregivers' beliefs about the children in their charge can engender behaviors that create a self-fulfilling prophecy for better or worse. In their study, *Pygmalion in the classroom*, they found that, in comparison with teachers who held unfavorable beliefs about students' achievement, teachers who held favorable beliefs delivered more instruction, provided feedback that was clearer and more contingent on students' performance, and offered more opportunities for students to practice their skills and convey their knowledge (Harris & Rosenthal, 1985). It may, therefore, be reasonable to expect that by teaching mentors, both through pre-match and in-service training, to hold more positive views of youth and to keep their expectations in check, programs, similarly, may affect the kinds of behaviors among mentors that are most likely to result in stronger relationships and better outcomes.

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