

YOUTHS' CROSS-ETHNIC FRIENDSHIPS AND ASSOCIATIONS WITH  
SOCIOEMOTIONAL ADJUSTMENT

By  
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The undersigned, appointed by the dean of the Graduate School, have examined the  
dissertation entitled

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SOCIOEMOTIONAL ADJUSTMENT

presented by Rhiannon L. Smith,  
a candidate for the degree of Doctor of Philosophy,  
and hereby certify that, in their opinion, it is worthy of acceptance.

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*For my parents, who have always encouraged me to reach for the stars.*

*Warm thanks to all of my family and friends who have supported me on my journey.*

*And to my nephew Vincent, the light of my life for sure.*

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## ABSTRACT

Relationships with peers and friends are important and influential in the lives of youth, especially in adolescence (Buhrmester & Furman, 1987). Although attention recently has been drawn to the important roles of race, ethnicity, culture, and diversity in youths' peer group interactions (Graham, Taylor, & Ho, 2008), surprisingly little is known about the formation of dyadic friendships between youths of differing ethnic backgrounds. The current research examines the prevalence of cross-ethnic friendships and the socioemotional adjustment correlates of cross-ethnic friendships among 6th through 8th grade adolescent youth in an ethnically diverse urban middle school ( $N = 372$ ). Youths responded to questionnaires in their classrooms at school. Results indicated that cross-ethnic friendships were more prevalent than previously thought, and importantly, the findings for prevalence differed based on the method used to assess friendships. Gender, developmental, and ethnic differences in cross-ethnic friendship prevalence also were tested. In addition, relations between youths' socioemotional adjustment and participation in cross-ethnic friendships were examined. Youths with advanced social perspective-taking skills had more cross-ethnic friends, whereas youths who experienced perceived barriers to forming cross-ethnic friendships had fewer cross-ethnic friends. Prosocial behavior, likeability among peers, depression, and anxiety were unrelated to cross-ethnic friendship. Associations of perceived popularity with cross-ethnic friendship were positive for boys, but negative for girls. In addition, youths' ethnic identity was differently associated with cross-ethnic friendship for ethnic minority versus non-minority White youth. Applied implications are discussed. Race relations is a complex and compelling issue, and understanding youths' friendships with peers who are different from themselves in terms of race/ethnicity will help to illuminate ways to foster positive intergroup relations.

## Youths' Cross-Ethnic Friendships and Associations with Socioemotional Adjustment

Fostering positive intergroup relations across racial and ethnic groups is a vital contemporary concern that has received amplified attention given the increasing racial and ethnic diversity in the United States and recent globalization that has made integration of cultures around the world possible. Examining youths' cross-ethnic interactions with peers provides insight into the development of positive intergroup relations, and attention has been drawn to the important roles that race, ethnicity, culture, and diversity play in youths' peer relationships (Graham, Taylor, & Ho, 2008). In particular, research has focused on the ways in which race and ethnicity influence youths' functioning in the general peer group (e.g., Graham & Juvonen, 2002; Green, Way, & Pahl, 2006; Rodkin, Farmer, Pearl, & van Acker, 2000).

However, the role of race/ethnicity in youths' one-on-one friendships remains understudied. In particular, surprisingly little is known about cross-ethnic friendships between youths of differing ethnic backgrounds. This is unfortunate because close friendships are a unique and important aspect of youths' peer relations (Bukowski, Newcomb, & Hartup, 1996). Whereas general peer group involvement includes interactions with all peers, whether they are liked, disliked, or even relatively unknown, youths' friendships are special relationships characterized by reciprocity, affection, and warm mutual regard (e.g., Asher, Parker, & Walker, 1996; Parker & Asher, 1993). The affectionate bonds of cross-ethnic friendships, then, may set the stage for the development of positive intergroup relations beyond the friendship.

The current study focuses on youths' cross-ethnic friendships in an ethnically diverse school setting and examines relations with several aspects of socioemotional adjustment. First, it is considered whether indices of social competence and social adjustment (i.e., social perspective-taking skills, prosocial behavior, likeability, and perceived popularity among peers)

are associated with participation in cross-ethnic friendships. Next, relations between emotional adjustment (i.e., depression, anxiety) and participation in cross-ethnic friendships are tested. Then, youths' ethnicity-related perceptions are evaluated (i.e., perceived barriers to forming cross-ethnic friendships, ethnic identity) in terms of their associations with participation in cross-ethnic friendships. The current research also provides descriptive data regarding the prevalence of cross-ethnic friendships and tests whether prevalence depends on the method used to assess friendship. In addition, descriptive information is provided regarding gender, developmental, and ethnic differences in cross-ethnic friendship participation.

To address these aims, the current study included a sample of ethnically diverse adolescent girls and boys in middle school (grades 6-8). An ethnically diverse middle school was recruited for participation to ensure that youths had the opportunity to form cross-ethnic friendships. It was of interest in the current study to investigate the correlates of cross-ethnic friendships among adolescent youth in middle school given that friendships become increasingly central relationships in the lives of youth at adolescence (e.g., Buhrmester & Furman, 1987) and because middle school presents the first opportunity for youths to switch classrooms throughout the day and thus to potentially have contact with more cross-ethnic peers in their grade outside of a contained classroom. In the sections that follow, each of the major study aims is considered in turn.

#### *Descriptive Information Regarding Prevalence of Cross-Ethnic Friendships*

The current study considers the prevalence of cross-ethnic friendships. There is much past theory and empirical evidence indicating that youths are likely to choose friends who are similar to themselves (e.g., in terms of gender, age, race/ethnicity, activity preferences, etc.; see Aboud & Mendelson, 1996; McPherson, Smith-Lovin, & Cook, 2001; Rubin, Bukowski, &

Parker, 2006). Not surprisingly, then, many past studies have found that cross-ethnic friendships are rare compared to same-ethnic friendships (e.g., Graham & Cohen, 1997; Hallinan & Williams, 1987; Hamm, Brown, & Heck, 2005; Moody, 2001; Mouw, & Entwisle, 2006; Shrum, Cheek, & Hunter, 1988; Vaquera & Kao, 2008; see Aboud & Mendelson, 1996; Graham et al., 2008 for reviews).

However, past findings for the prevalence of cross-ethnic friendships may have been influenced by the method used to assess friendship. A common way to assess friendship is to use friendship nominations, in which youths are presented with a roster of students in their class or grade and are asked to indicate who their friends are. Within this method, it is possible to use a limited nominations approach or an unlimited nominations approach. With the limited nominations approach (e.g., Parker & Asher, 1993; Rose, 2002), youths are limited to a specific number of friendship choices, usually three, and are asked to choose their best friends. Youths potentially could have from zero to three reciprocal friendships using this method. In contrast, the unlimited approach (e.g., Graham & Cohen, 1997; Parker, Walker, Low, & Gamm, 2005) allows youths to indicate all of their friends, with no limit on how many they can choose. With this method, youths theoretically could have as many friendships as they have classmates or grademates.

In addition, with either the limited or unlimited approach, using only reciprocal nominations is considered the most methodologically rigorous approach (Newcomb & Bagwell, 1995). Many past studies of cross-ethnic friendships have used unilateral friendship nominations in which the target youth nominates peers as friends, but whether the nominated peer(s) reciprocate the nomination (i.e., nominate the youth back) is not taken into account. However, reciprocated nominations may better represent actual existing friendships. Whereas with

reciprocal friendships it is known that both youths consider the other a friend, unilateral friendship nominations may represent one youth liking or admiring a peer in the absence of any real relationship (also see Bukowski, Sippola, & Newcomb, 2000). Therefore, a strength of the current study is that for each type of nominations approach (limited and unlimited), only reciprocal friendships are considered.

In the current study, the number and percent of cross-ethnic reciprocal friendships youth have will be considered using both the limited and unlimited friendship nominations approaches. Many past studies assessing prevalence of cross-ethnic friendships use the limited nominations approach (e.g., Hamm et al., 2005; Kao & Joyner, 2004, 2006; Kao & Vaquera, 2006; Mouw, & Entwisle, 2006; Moody, 2001; Vaquera & Kao, 2008). A benefit to this approach is that it likely captures youths' closest relationships. However, a drawback of the limited nominations approach may be that it underestimates the prevalence of cross-ethnic friendships. It may be the case that youths typically form their best or closest friendships with same-ethnic peers. However, this does not necessarily mean that youths are avoiding cross-ethnic friends entirely. If this is the case, then youths may have a greater number and percentage of cross-ethnic friends when friendships are determined using the unlimited nominations approach than when using the limited nominations approach. As such, many cross-ethnic friendships may have been missed in past studies that used the limited nominations approach. Although some past studies that use the unlimited nominations approach also find greater prevalence of same-ethnic compared to cross-ethnic friendships (e.g., Aboud, Mendelson, & Purdy, 2003; Graham & Cohen, 1997; Graham, Cohen, Zbikowski, & Secrist, 1998; Hallinan & Williams, 1987), no previous studies have compared the two approaches. The proposed study includes both approaches to test the hypothesis that compared with the limited approach, when the unlimited approach is used, more

youths will be identified as having at least one cross-ethnic friendship and that youths will have a greater number and percent of cross-ethnic friendships.

*Gender, Developmental, and Ethnic Differences in Cross-Ethnic Friendship Participation*

Gender, developmental, and ethnic differences in cross-ethnic friendship prevalence also are tested within each nomination approach (i.e., limited and unlimited approaches). First, possible gender differences in cross-ethnic friendship prevalence will be examined using both the limited and the unlimited nominations approaches. Most previous studies testing gender differences in cross-ethnic friendships have used unilateral rather than reciprocal nominations. When unilateral limited nominations are used, the findings for gender differences are mixed, with some results indicating that boys are more likely than girls to nominate cross-ethnic friends (Hamm et al., 2005, White and Asian American youths only; Shrum et al., 1988), others indicating that girls are more likely than boys to nominate cross-ethnic friends (Vaquera & Kao, 2008) and still others indicating no gender difference (Clark & Ayers, 1992; Hamm et al., 2005, Black and Latino youths only). Similarly, for the unlimited approach, unilateral nominations yield mixed findings. One study found no gender difference in cross-ethnic nominations (Shrum et al., 1988). However, another found that the gender differences varied by ethnic group, with the difference favoring boys for White youths but favoring girls for Black youths (Hallinan & Texitera, 1987). On the other hand, when reciprocal nominations are used, results favor girls for the limited approach (Clark & Ayers, 1992; Schneider, Dixon, & Udvari, 2007). No past studies have tested gender differences using reciprocal unlimited nominations. Given that reciprocal nominations are used in the current study, it is hypothesized that girls will have more cross-ethnic friends and a greater percent of their friends will be cross-ethnic. Given the past findings indicating that gender differences may differ by ethnicity (Hallinan & Texitera, 1987; Hamm et

al., 2005), the current study tests whether gender differences in cross-ethnic friendship participation differ by ethnicity.

The current study also tests developmental differences in cross-ethnic friendship prevalence. All of the past studies testing age differences in cross-ethnic friendships have used unilateral nominations. One study using unlimited unilateral nominations found a decline in cross-ethnic friendships with age (e.g., Hallinan & Textera, 1987). Another study that used limited unilateral nominations for younger participants and unlimited unilateral nominations for older participants also found a decline in cross-ethnic friendships with age (Shrum et al., 1988). A separate study among adolescent youths using limited unilateral nominations indicated that the age differences varied by ethnicity, with cross-ethnic friendships decreasing with age for White youths but increasing with age for Black youths, and no age differences emerging for Latino and Asian American youths (Hamm et al., 2005). Although no past studies have tested age differences in cross-ethnic friendships using reciprocal friendship nominations, based on the available past findings it is reasonable to expect a decline in cross-ethnic friendships with age in the current study.

In addition, ethnic differences in cross-ethnic friendship participation will be examined using both limited and unlimited nominations approaches. Past studies using unlimited nominations have found that Black youths were more likely than White youths to nominate cross-ethnic friends, whether unilateral (Hallinan & Textera, 1987) or reciprocal (Howes & Wu, 1990) nominations were used. However, findings for past studies using limited nominations are more mixed. Although two studies using unilateral limited nominations found that Black youths were more likely than White youths to nominate cross-ethnic friends, (Hamm et al., 2005; Shrum et al., 1988), another using reciprocal limited nominations found the opposite effect that White

youths were more likely than Black youths to nominate cross-ethnic peers (Kawabata & Crick, 2008). Still another study using limited unilateral nominations found no difference between White and Black youths, but found that both of these groups were more likely than either Latino or Asian American youths to nominate cross-ethnic friends (Muow & Enstwine, 2006). Importantly, considering the ethnic composition of the samples reveals that in many of these past studies, youths who were in the numerical minority in their schools had the most cross-ethnic friendships (Howes & Wu, 1990; Hamm et al., 2005; Muow & Enstwine, 2006; Shrum et al., 1988), probably due to the fact that most peers in their school (and therefore most potential friend choices) were cross-ethnic. In the current study, the participating school is comprised mostly of European American and African American youths, with Hispanic, Asian American, Native American, and multi-ethnic youths in the numerical minority. Therefore, it is hypothesized that European American and African American youths will be less likely than youths in all other ethnic groups to form cross-ethnic friendships.

#### *Correlates of Cross-Ethnic Friendship Participation*

A primary goal of the current research is to examine associations of youths' adjustment with participation in cross-ethnic friendships. In the first section to follow, associations of youths' social competence and social adjustment with participation in cross-ethnic friendships are considered. Then, links between emotional adjustment and cross-ethnic friendships are examined. Finally, relations between youths' ethnicity-related perceptions and participation in cross-ethnic friendships are considered.

*Social competence/adjustment.* In this section, associations of social competence and adjustment with participation in cross-ethnic friendships are discussed. In particular, social perspective-taking skills, prosocial behavior, likeability among peers, and perceived popularity

are considered as indicators of social competence and adjustment. First, the current study considers youths' social perspective-taking skills. Social perspective-taking refers to the social-cognitive ability to infer and understand the perspective of others (Selman, 1980). This social-cognitive skill is considered a positive indicator of social competence (Selman, 1980), and past work has highlighted the many benefits of social perspective-taking including associations with peer acceptance (Bosacki & Astington, 1999) and the development of conflict negotiation strategies (Selman et al., 1986; Selman & Demorest, 1984; Yeates & Selman, 1989). In the current study, social perspective-taking is expected to be associated with greater cross-ethnic friendship participation both in terms of the number and percent of cross-ethnic friendships that youths have. Youths with advanced social perspective-taking skills are likely understanding of diverse viewpoints and so may be especially accepting of peers who are different from themselves in terms of ethnicity, facilitating participation in cross-ethnic friendships.

Next, youths' prosocial behavior is considered. Prosocial behavior (e.g., cooperation, helping) also is an accepted marker of social competence (Ladd, 1999; Rubin, Bukowski, & Parker, 1998) and is associated with positive peer adjustment, particularly peer acceptance (e.g., Coie & Dodge, 1988; Coie & Kupersmidt, 1983; Newcomb, Bukowski, & Pattee, 1993). In the present research it is hypothesized that youths' prosocial behavior will be associated with greater participation in cross-ethnic friendships. It may be the case that prosocial youth are more likely to have the necessary skills (e.g., kindness, friendliness) needed to enable them to cross ethnic boundaries in order to form friendships with cross-ethnic peers. Two recent studies have examined associations of prosociality with cross-ethnic friendship participation (Kawabata & Crick, 2008; Lease & Blake, 2005). In the study by Kawabata and Crick, fourth grade children who were seen by their teachers as being leaders and welcoming of peers into their group had

more cross-ethnic friends. The study by Lease and Blake used peer reports of leadership among elementary school children and found a positive relation with having at least one cross-ethnic friend. However, this study only included White children and Black children, and it will be important to test whether these findings extend to other ethnic groups. Further, both studies focused on elementary school children, and extending this work to adolescence is important given that some correlates of prosociality may change across development (e.g., see Wargo Aikins & Litwack, 2011).

The associations of youths' social status in the peer group with cross-ethnic friendship participation also are examined. In the current study, two indicators of high peer status are assessed: likeability and perceived popularity. Likeability and perceived popularity are correlated but not redundant constructs (Parkhurst & Hopmeyer, 1998). Likeability refers to the degree to which youths are well-liked (and not disliked) by peers (e.g., Asher & Coie, 1990). Likeability is often assessed by asking youths to nominate peers who they like the most and peers who they like the least, and likeability scores are calculated by subtracting like least nominations from like most nominations (e.g., Coie, Dodge, & Copotelli, 1982). In contrast, perceived popular youths are well-known, highly visible members of the peer group; they are seen as members of the in-crowd and are often emulated by others (Adler & Adler, 1998). Perceived popularity is typically assessed by asking youths to nominate peers who are the most popular (e.g., LaFontana & Cillessen, 2002; Parkhurst & Hopmeyer, 1998; Rose, Swenson, & Waller, 2004).

Youths' high peer status, operationalized as likeability or perceived popularity, is hypothesized to be related to greater participation in cross-ethnic friendships. Youths who are well-liked or seen as popular by peers are likely especially sociable or socially savvy, which may foster the formation of cross-ethnic friendships. In addition, it is possible that there may be some

stigma associated with cross-ethnic friendships, given their relative rarity (see Graham et al., 2008). However, high status may afford youths protection from peer sanctions even for behaviors that are viewed negatively (Hawley, Little, & Rodkin, 2007; Rose & Swenson, 2009), which also could increase the chances of high-status youth having more cross-ethnic friends.

*Emotional adjustment.* The current study also considers associations between emotional adjustment and participation in cross-ethnic friendships. In the current study, the indices of emotional adjustment that were considered were depressive symptoms and anxiety symptoms. Strong hypotheses are not put forth regarding the associations of emotional adjustment with cross-ethnic friendship participation. One possibility is that positive emotional adjustment (i.e., lower depression or anxiety) will be associated with having more cross-ethnic friends. Emotionally well-adjusted youth may be better equipped to navigate potential stressors of having less typical friendships. However, in contrast to this possibility, a recent study indicated that college students who were *less* emotionally well adjusted had greater involvement in ethnically heterogeneous peer groups online via a social networking site (i.e., Facebook; Seder & Oishi, 2009). The authors suggest that this finding may have emerged because individuals with more cross-ethnic interactions may have increased feelings of being misunderstood by peers. However, whether such findings would extend to real-life close friendships and to adolescent youths is unknown. Although firm hypotheses are not put forth, the current study offers a strong test of the hypothesis by examining whether depression and anxiety are associated with youths' number and percent of cross-ethnic friends among an ethnically diverse group of adolescents.

*Ethnicity-related perceptions.* The present study also considers two different types of youths' perceptions that are specifically related to ethnicity: perceived barriers to forming cross-ethnic friendships and ethnic identity. First, consider youths' perceptions of barriers that may

keep youths from forming cross-ethnic friendships. Even when youths have the opportunity to interact with and form friendships with cross-ethnic peers, they do not always do so (Moody, 2001). However, little is known about the processes involved that may deter youths from forming cross-ethnic friendships. In the present study, six types of perceived barriers are considered: fear of peer rejection, attitudes that cross-ethnic peers are not fun to hang out with, attitudes that cross-ethnic peers are snobs, lack of opportunity to meet cross-ethnic peers, beliefs that cross-ethnic peers have different likes/interests from self, and perceived parental disapproval. The current study is the first to examine youths' perceptions of barriers to cross-ethnic friendship formation. It is hypothesized that perceived barriers will be associated with lower cross-ethnic friendship participation in terms of both the number and percent of cross-ethnic friends that youths have.

Finally, associations of youths' ethnic identity with cross-ethnic friendship participation also are considered. Ethnic identity refers to youths' feelings and attitudes about their own ethnic group and often is assessed in terms of the degree to which youths feel a sense of belonging and commitment to their ethnic group, feel positive about being a member of their ethnic group, and are invested in learning about their ethnic group (Phinney, 1992). Past research has examined associations of ethnic identity with cross-ethnic interactions in the broader peer group and found that ethnic minority youth with stronger ethnic identity reported greater in-group peer interactions (Phinney, Romero, Nava & Huang, 2001). However, given that these past findings focus on interactions within the general peer group, whether the findings extend to dyadic friendships is unknown. It may be that youth with a strong sense of ethnic identity tend to form only or primarily same-ethnic friendships because bonding with same-ethnic peers is important to them given the centrality of their ethnicity to their sense of self. If this is the case, then lower

ethnic identity would be associated with greater participation in cross-ethnic friendships. This may be especially likely to be true among ethnic minority youth. Past research has indicated that ethnicity is especially central to sense of self for ethnic minority youth but not for non-minority White youth (Martinez & Dukes, 1997; Phinney & Tarver, 1988). As such, it is less clear what ethnic identity means for non-minority White youth or whether the correlates of ethnic identity would differ compared to ethnic minority youth. In the current study, it is proposed that ethnic identity will be negatively related to participation in cross-ethnic friendships among ethnic minority youth. The current study also considers whether ethnic identity is related to cross-ethnic friendship participation for non-minority White youth.

*Examining Moderators of the Associations Among the Socioemotional Adjustment Variables and Cross-Ethnic Friendship Participation*

In addition to examining the associations of the socioemotional adjustment variables with cross-ethnic friendship participation, it also is of interest to test whether the associations are moderated by grade, gender, or ethnicity. Given that past research has indicated that the correlates of socioemotional adjustment indicators considered in the current study change across development (e.g., likeability, Smith, Rose, & Schwartz-Mette, 2010; prosociality, see Wargo et al., 2011; perceived popularity, Rose et al., 2004; depression, Nolen-Hoeksema, Girgus, & Seligman, 1992), it will be important in the current study to test whether the relations of socioemotional adjustment with cross-ethnic friendship participation change with age. In addition, past research has demonstrated that some socioemotional adjustment indicators considered in the current study have different correlates for girls compared to boys (e.g., likeability, Smith et al., 2010; prosociality, see Wargo et al., 2011; perceived popularity, see Rose, Glick, & Smith, 2011; depression, Hankin & Abramson, 2001; ethnic identity, Mandara,

Gaylord-Harden, Richards, & Ragsdale, 2009), so whether the associations of the socioemotional adjustment variables with cross-ethnic friendship participation are moderated by gender also will be tested. Finally, previous studies have shown that the correlates of some socioemotional adjustment indicators considered in the current study differ by ethnicity (e.g., likeability, LaFontana & Cillessen, 2002; prosociality, Coie et al., 1982; perceived popularity, Rodkin et al., 2000; depression, Hankin & Abramson, 2001), so ethnic differences in the associations of the socioemotional adjustment variables with cross-ethnic friendship participation also will be tested.

## Method

### *Participants*

Participants were 372 youth, including 114 sixth grade youths (51 boys, 63 girls), 94 seventh grade youths (45 boys, 49 girls), and 164 eighth grade youths (76 boys, 88 girls), in an ethnically diverse urban middle school (grades 6-8) located in St. Louis, Missouri. The racial/ethnic composition of the sample was 48% White/European American, 33% Black/African American, 8% Latino(a)/ Hispanic American, 3% Asian American, 2% American Indian/ Native American, and 7% multi-ethnic (“mixed” ethnicity). The socioeconomic status of residents in the school district was low; only 20% of residents age 25 and over were college educated, the median reported household income in the school district was \$35,946, and 66% of students were enrolled in free or reduced lunch programs.

Given that past research has documented the challenges of obtaining active parental consent for youths to participate in school-based research among low-income ethnic minority samples (Cauce, Ryan, & Grove, 1998; Dent et al., 1993), steps were taken to increase the likelihood of consent. First, consent forms were mailed directly to students’ homes rather than handled by students. Second, several visits to the school were made to conduct announcements in the classrooms reminding students to return the forms. Third, multiple waves of reminder letters were mailed to the homes of students who had not yet returned their forms at each wave. Finally, telephone calls were made to the homes of students to remind them to return the forms. These steps resulted in a consent rate of 64% ( $N = 442$ ), and this consent rate is similar to that of some past classroom-based studies (e.g., Mostow, Izard, Fine, & Trentacosta, 2002; Pomerantz, Ruble, Frey, & Greulich, 1995).

### *Procedure*

All questionnaire measures were group administered in two classroom sessions lasting approximately 45 minutes each. Questionnaires were read aloud to students. Among the questionnaires completed in the first session was a friendship nomination measure (described in detail below) that was used to identify reciprocal friendships. In the second session, the questionnaires that students completed included questionnaires about a specific friendship identified from the friendship nomination measure. Follow-up visits were made to collect data with students who were absent during the initial sessions.

### *Measures*

*Demographic information.* In order to test for gender, grade, and ethnic differences in cross-ethnic friendship participation, demographic information was collected. Information regarding youths' grade in school was obtained from school rosters. Youths completed a demographic questionnaire that included information about youths' gender and ethnicity. For ethnicity, youths indicated which racial/ethnic background best described them: Asian/Asian American; Black/African American; Hispanic/Latino; White/European American, not Hispanic; American Indian/Native American; Mixed, parents from two different groups; or Other.

*Friendship nominations.* Friendship nominations were used in order to determine which youths were friends with one another, and this information was used to create two types of cross-ethnic friendship participation variables: number of cross-ethnic friends and percent of cross-ethnic friends. The friendship nomination measure administered in the current study is similar to those used in past research (e.g., Graham & Cohen, 1997; Hoza, Molina, Bukowski, & Sippola, 1995; Parker & Asher, 1993; Rose, 2002; Rose & Asher, 1999). In the current study, both the unlimited nominations approach and the limited nominations approach were used. Youths were

given a roster of participating students in their grade. For the unlimited approach, youths were asked to circle all of their friends. Then, for the limited approach, youths were asked to indicate their three best friends by marking a star next to the names, and to further indicate which of these three was their “very best friend” by marking a second star next to the name.

Using the friendship nominations, reciprocal friendships (i.e., both youths nominated each other as a friend) were identified using both unlimited and limited nominations approaches. Reciprocal friendships were considered to be cross-ethnic if the friendship was between two youth of different ethnicities. When youth identified themselves as being only of a single ethnicity, determining whether friendships were same-ethnic (e.g., a friendship between two African American youth) or cross-ethnic (e.g., a friendship between an African American youth and a European American youth) was straightforward. For multi-ethnic youth (i.e., youths who identified themselves as “mixed” ethnicity), friendships were considered cross-ethnic if the friendship involved a multi-ethnic youth and a youth of any other ethnicity (e.g., a multi-ethnic youth and a Asian American youth). Friendships were not considered cross-ethnic if they were between two multi-ethnic youth (i.e., friendships between two multi-ethnic youth were considered same-ethnic friendships). There is not a single, straightforward approach for best classifying friendships involving multi-ethnic youth. For the current study, the decision to combine all multi-ethnic youth into a single group (and then to use that group as a single category when making decisions about whether friendships were same-ethnic or cross-ethnic) fits with past research on ethnic identity that conceptualizes mixed ethnicity as a single ethnic classification given the commonalities in ethnic identity among multi-ethnic individuals (see Shih & Sanchez, 2005 for a review). Also, in the current study, the number of multi-ethnic youth was small ( $n = 25$ ) and so examining subcategories of multi-ethnic youth (e.g., Black/White,

Black/Asian, etc.) was not possible. Further, an additional 62 youths could not be classified as belonging to one of the racial/ethnic groups assessed in the current study because they did not indicate their ethnicity or identified themselves as “other.” These youth were not used in the calculation of cross-ethnic friendships and were dropped from all other analyses (these 62 youths were not included in the sample description in the *Participants* section).

The number of cross-ethnic friends and percent of cross-ethnic friends variables were computed separately for unlimited and limited nominations. Number of cross-ethnic friends (unlimited) was the number of reciprocal friendships youths had with a grademate of a different ethnicity in which both youths nominated the other as a friend, as determined by the data in which youths nominated as many grademates as they wanted to as friends. With this approach, youths potentially could have as many cross-ethnic friends as they had grademates. Number of cross-ethnic friends (limited) was the number of reciprocal friendships youths had with grademates of a different ethnicity in which both youths nominated the other as one of their best friends. Given that youths could nominate up to three grademates as best friends, they could have between zero and three cross-ethnic friends with this approach. Percent of cross-ethnic friends (unlimited) was computed by dividing the number of cross-ethnic friends as determined using the unlimited nomination approach by the total number of friends as determined using the unlimited nomination approach (e.g., a youth with 2 cross-ethnic friends out of a total of 4 reciprocal friends would have a score of .50). Percent of cross-ethnic friends (limited) was computed by dividing the number of cross-ethnic best friends as determined by the limited nomination approach by the total number of best friends as determined by the limited nomination approach (e.g., a youth with 1 cross-ethnic best friend out of 2 best friends total would have a score of .50).

*Social perspective-taking.* Social perspective-taking was assessed with two measures. The first measure assessed youths' tendency to take the perspective of other people in general. The second assessed youths' tendency to take the perspective of a friend.

To assess perspective-taking with other people in general, youths completed the 7-item Perspective-Taking (PT) subscale of the Interpersonal Reactivity Index (IRI; Davis, 1980). This subscale assesses the tendency to adopt the perspective of others (e.g., an example item is "I try to look at everybody's side of a disagreement before I make a decision"). Participants indicated how well each item described them using a 5-point Likert scale ranging from "Does not describe me at all" (0) to "Describes me very well" (4). Past research has found good reliability for this scale (Cronbach's  $\alpha = .71$  males,  $.75$  females; Davis, 1980), and reliability in the current study also was good (Cronbach's  $\alpha = .71$ ). This scale is included in Appendix A.

For the measure assessing social perspective-taking in the context of friendships, youths reported on their tendency to take the perspective of a specific friend. The friendship nominations were used to determine which friend youth would report on. Youths reported on their social perspective-taking with a reciprocal friend (i.e., both youths nominated each other as friends). Specifically, participants reported on their highest priority friend who was not reported on by any other student. The decision rules used for assigning friendship priority were similar to those used in past research (Rose, 2002; Rose & Asher, 1999; 2004; Smith & Rose, in press). Specifically, youths who had a friendship in which both adolescents nominated each other as a very best friend reported on that friendship. Second priority was given to friendships in which one student nominated the other as a very best friend and was nominated back as one of three best friends. Third priority was given to friendships in which both adolescents nominated each other as a best friend but neither nominated the other as a very best friend. Fourth priority was

given to friendships in which one adolescent nominated a student as a very best friend and that student nominated the adolescent as a friend but not a best or very best friend. Next priority was given to friendships in which one adolescent nominated a student as one of three best friends and that student nominated the adolescent as a friend but not a best or very best friend. Last priority was given to friendships in which both adolescents nominated each other as a friend but neither nominated the other as a best or very best friend. Youths reported on the highest priority friend they had who was not also reported on by another student. Similar to past research (e.g., Parker & Asher, 1993), adolescents without a reciprocal friendship (i.e., no student that they nominate as a friend choice nominates them back,  $n = 18$ ) reported on one of their friend choices, but their data were not used in analyses. Also, as in previous research, only same-sex friendships were considered given that cross-sex friendships are relatively rare at this age (see Mehta & Strough, 2009 for a review).

Youths completed a 19-item questionnaire assessing their tendency to take this friend's perspective. This social perspective-taking measure included 6 items adapted from the 7-item PT subscale of the IRI (Davis, 1980) and 13 items adapted from the 60-item Empathy Quotient (EQ; Baron-Cohen & Wheelwright, 2004). These items all assess social perspective-taking in that they assess the tendency to adopt the perspective of others. All 19 items were revised to assess social perspective-taking in the context of a specific dyadic friendship, and customized questionnaires were created for each participant. The name of each participant's friend was inserted into each item on the participant's questionnaire. For example, the original item from the PT subscale of the IRI "I sometimes try to understand my friends better by imagining how things look from their perspective" (Davis, 1980) was reworded as "I sometimes try to understand [friend's name] better by imagining how things look from his/her perspective." The original item from the EQ

scale “I find it easy to put myself in somebody else’s shoes” (Baron-Cohen & Wheelwright, 2004) was reworded to read “I find it easy to put myself in [friend’s name]’s shoes.” Customized questionnaires were used to ensure that youth reported specifically on the friendship with the identified friend.

As noted, some items from the PT and EQ scales were not used in the current research. One item from the PT subscale (“I believe that there are two sides to every question and try to look at them both”) could not be reworded to assess social perspective-taking specifically in a dyadic friendship, and this item was not used. The EQ was not used in its entirety because many of the scale items did not assess social perspective-taking. As examples, excluded items included “It upsets me to see an animal in pain” and “Friendships and relationships are just too difficult, so I tend not to bother with them.” Participants indicated how well each item described them using a 5-point Likert scale ranging from “Does not describe me at all” (0) to “Describes me very well” (4). Total scores were the mean scores across items. The 19 items formed a reliable single scale (Cronbach’s  $\alpha = .88$ ). The items from this scale are included in Appendix B.

*Prosocial behavior and peer status.* Three constructs were assessed using peer nominations: prosocial behavior, likeability among peers, and popularity among peers. Youths responded to a peer nomination measure similar to those used in past research (e.g., Coie & Dodge, 1983; Coie et al., 1982; Crick, 1997; Parkhurst & Asher, 1992). For each item, youths were presented with a roster of participating students in their grade and were asked to circle the names of three students who best fit each item description. Youths received scores for each item based on the proportion of nominations received out of nominations possible. Items were standardized within grade. Three items assessed prosocial behavior. Students nominated three peers who: say or do nice things for others, help other kids join a group or make friends, and try

to cheer up other people who are upset or sad about something. Prosocial behavior scores were the mean of the standardized prosocial behavior items. Likeability was assessed with two items. For one item, students nominated the three peers who they liked the most. For the second item, students nominated the three peers who they liked the least (e.g., Coie et al., 1982). To calculate likeability scores, standardized like least scores were subtracted from standardized like most scores. Finally, the difference scores were standardized. Perceived popularity was assessed with one item. Students nominated three peers who were popular (e.g., Lease, Kennedy, & Axelrod, 2002; Parkurst & Hopmeyer, 1998). Perceived popularity scores were the standardized scores of the perceived popularity item.

*Depression symptoms.* Youths completed the 20-item Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). The CES-D assesses affective, somatic, interpersonal, cognitive, and behavioral symptoms of depression. Participants indicated how often during the past week they had experienced the feelings or situations described in each item. Items were rated on a 4-point Likert scale ranging from “Rarely or none of the time, less than 1 day” (1) to “Most or all of the time, 5 to 7 days” (4). Item scores were averaged to create total scores for the measure (Cronbach’s  $\alpha = .74$ ). The depression measure is included in Appendix C.

*Anxiety symptoms.* Participants responded to the 28 items of the Revised Children’s Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978). Participants rated each item on a 5-point Likert scale indicating how true each item is of them, with 1 being “Not at all true” and 5 being “Really true.” Total scores were the mean of all item scores. The reliability for the scale was high (Cronbach’s  $\alpha = .95$ ). The anxiety measure is included in Appendix D.

*Barriers to cross-ethnic friendship.* Youths responded to a new measure assessing perceived barriers to forming friendships with youth of a different racial/ethnic background than

themselves. This 18-item measure is an adaptation of Kupersmidt (2006) and includes 3 items to assess each of six types of barriers: fear of peer rejection, attitudes that cross-ethnic peers are not fun to hang out with, attitudes that cross-ethnic peers are snobs, lack of opportunity to meet cross-ethnic peers, beliefs that cross-ethnic peers have different likes/interests from self, and perceived parental disapproval. Participants indicated how true each item was using a 5-point Likert scale ranging from “Not at all true” (1) to “Really true” (5). Reliability for the subscales ranged from  $\alpha = .66-.84$ . In addition, reliability for the entire scale was good ( $\alpha = .90$ ). The barriers measure is included in Appendix E.

*Ethnic identity.* Youths completed the Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992). This 12-item measure assesses cognitive aspects of ethnic identity (i.e., investment in learning about one’s own group) as well as affective aspects (i.e., feelings of belonging to one’s own group). Each item was rated in terms of agreement on a 4-point Likert scale ranging from “Strongly disagree” (1) to “Strongly agree” (4). Ethnic identity scores were the mean across items (Cronbach’s  $\alpha = .85$ ). The ethnic identity measure is included in Appendix F.

## Results

Summary statistics including the mean, standard deviation, and range of scores were computed for each variable and are presented in Table 1. In the sections that follow, descriptive analyses for cross-ethnic friendship participation are presented first. Then, analyses are presented that test associations of the social competence/adjustment variables, emotional adjustment variables, and ethnicity-related perceptions variables with cross-ethnic friendship participation.

### *Descriptive Analyses*

*Cross-ethnic friendship prevalence.* It was hypothesized that cross-ethnic friendship prevalence would be greater using the unlimited nominations approach compared to the limited nominations approach. In fact, 89% of youth were identified as having at least one cross-ethnic friend using the unlimited nominations approach compared to only 28% of youth using the limited nominations approach. Paired *t*-tests were used to conduct a formal test of whether the number and percent of cross-ethnic friendships were greater using unlimited nominations compared to limited nominations. Means for number and percent of cross-ethnic friendships using limited and unlimited nominations are presented in Table 1. Results indicated that the number of cross-ethnic friendships youths had was greater when the unlimited nominations approach was used compared to when the limited nominations approach was used,  $t(371) = 21.71, p < .0001$ . Similarly, percent of cross-ethnic friends was greater using unlimited nominations compared to limited nominations  $t(250) = 5.29, p < .0001$ .

*Gender, grade, and ethnic differences.* Next, analysis of variance tests (ANOVAs) were conducted to test for gender, grade, and ethnic differences in number and percent of cross-ethnic friendships. These tests were conducted separately for limited and unlimited nominations. Few gender or grade main effects emerged, and these results are presented in the text. Main effects for

ethnicity consistently emerged, and means by ethnicity are presented in Table 2. In addition, 3-way interactions with gender, grade, and ethnicity consistently emerged. Follow-up ANOVAs within gender and grade group (i.e., 6th grade girls, 6th grade boys, 7th grade girls, 7th grade boys, 8th grade girls, 8th grade boys), as well as Tukey's post-hoc tests, were conducted when 3-way interactions were significant to probe group differences in ethnicity effects. Results from these Tukey's tests are presented by ethnicity within grade in Table 3 for girls and in Table 4 for boys.

For number of cross-ethnic friends using limited nominations, no gender difference was found,  $F(1, 341) = 2.87$ . The grade difference also was nonsignificant,  $F(2, 341) = 2.69$ . A significant ethnic difference was found,  $F(5, 341) = 9.10, p < .0001$ . Tukey's tests indicated that Asian youth had significantly more cross-ethnic friends than did White and Black youth. Hispanic and multi-ethnic youth also had significantly more cross-ethnic friends than did Black youth. These results are presented in Table 2. The Gender X Ethnicity interaction was nonsignificant,  $F(5, 341) = .82$ . The Gender X Grade interaction was significant,  $F(2, 341) = 5.59, p < .01$ , as was the Grade X Ethnicity interaction,  $F(9, 341) = 2.43, p < .05$ . Because these interactions were further qualified by a significant three-way Gender X Grade X Ethnicity interaction,  $F(8, 341) = 4.96, p < .0001$ , the three-way interaction was interpreted. An ANOVA was run to test ethnic differences within each gender and grade group. For girls, there were no significant ethnic differences in 6th grade,  $F(5, 57) = 1.99$ , or in 7th grade,  $F(5, 43) = 2.14$ . However, a significant ethnic difference did emerge in 8th grade,  $F(4, 83) = 9.21, p < .0001$ , with Asian and Hispanic girls having significantly more cross-ethnic friends than both White and Black girls. Means for girls by ethnicity within grade are presented in Table 3. For boys, a significant ethnic difference was found in 6th grade,  $F(5, 45) = 3.72, p < .01$ , with Asian boys

having significantly more cross-ethnic friends than all other ethnic groups. No significant ethnic difference was found for boys in 7th grade,  $F(4, 40) = .20$ . For boys in 8th grade, a significant ethnic difference was found,  $F(4, 71) = 11.27, p < .0001$ . Hispanic and multi-ethnic boys had more cross-ethnic friends than White and Black boys, and Tukey's tests indicated this difference was significant for multi-ethnic youth. Means for boys by ethnicity within grade are presented in Table 4. Overall, this pattern of results fits with the findings for ethnic differences that emerged collapsing across the whole sample which indicate that youths who belong to ethnic groups in the numerical minority (i.e., Asian, Hispanic, Native American, and multi-ethnic youths) have more cross-ethnic friends than youths in the numerical majority (i.e., White and Black youths).

In regards to number of cross-ethnic friends using unlimited nominations, a significant gender difference did emerge,  $F(1, 341) = 4.82, p < .05$ . Using the unlimited approach, girls had more cross-ethnic friends than did boys (girls,  $M = 6.20, SD = 4.87$ ; boys,  $M = 4.61, SD = 4.49$ ). No significant grade difference was found,  $F(2, 341) = 1.40$ . However, the ethnic difference was again significant,  $F(5, 341) = 18.50, p < .0001$ . Asian, multi-ethnic, Hispanic, and Native American youth had more cross-ethnic friends than did White and Black students. Tukey's tests indicated that this difference was significant for Asian and multi-ethnic youth. These results are presented in Table 2. All two-way interactions were nonsignificant (all  $F$  values were less than .72). However, the three-way Gender X Grade X Ethnicity interaction was again significant,  $F(8, 341) = 2.31, p < .05$ . Follow-up ANOVA analyses tested ethnic differences within each gender and grade group. For girls in 6th grade, a significant ethnic difference emerged,  $F(5, 57) = 3.81, p < .01$ . Hispanic, Native American, and multi-ethnic girls all had more cross-ethnic friends than White and Black girls. Tukey's tests indicated that the difference between multi-ethnic girls and White girls was significant. Findings for girls in the 7th grade also revealed a significant ethnic

difference,  $F(5, 43) = 3.36, p < .05$ . Asian, Hispanic, and multi-ethnic girls had more cross-ethnic friends than did White and Black girls. However, Tukey's tests indicated that none of these comparisons were significant. A significant ethnic difference also was found for girls in 8th grade  $F(4, 83) = 7.91, p < .0001$ . Asian, Hispanic, and multi-ethnic girls all had more cross-ethnic friends compared to White and Black girls, however Tukey's tests indicated that only the differences involving White girls were significant. Means for girls by ethnicity within grade are presented in Table 3. For boys, a significant ethnic difference emerged in 6th grade,  $F(5, 45) = 3.07, p < .05$ . Asian, Hispanic, Native American, and multi-ethnic boys all had more cross-ethnic friends than White and Black boys. Tukey's tests indicated that this difference was significant for Asian boys. A significant ethnic difference emerged for boys in 7th grade,  $F(4, 40) = 3.83, p < .05$ , with Hispanic and multi-ethnic boys having more cross-ethnic friends than White and Black boys. However, Tukey's tests indicated no significant group differences. For boys in 8th grade, a significant ethnic difference was found,  $F(4, 71) = 8.10, p < .0001$ . Asian, Hispanic, and multi-ethnic boys all had more cross-ethnic friends than White and Black boys. Tukey's tests indicated that this difference was significant for multi-ethnic boys. Means for boys by ethnicity within grade are presented in Table 4. Taken together, these findings fit with the results for the whole sample indicating that youths in the numerical minority (i.e., Asian, Hispanic, Native American, and multi-ethnic youth) have more cross-ethnic friends than do youths in the numerical majority (i.e., White and Black youth).

Findings for percent of cross-ethnic friends using limited nominations indicated no significant gender difference,  $F(2, 221) = .42$ , or grade difference,  $F(2, 221) = 2.30$ . However, a significant ethnic difference was found,  $F(5, 221) = 11.72, p < .0001$ . Asian, Hispanic, Native American, and multi-ethnic youth had more cross-ethnic friends than did White and Black youth.

Tukey's tests indicated that this difference was significant for Asian and multi-ethnic youth. These results are presented in Table 2. The Gender X Ethnicity interaction was nonsignificant,  $F(4, 221) = .54$ . However, a significant two-way interaction was found for Grade X Ethnicity,  $F(9, 221) = 1.93, p < .05$ . ANOVAs conducted by grade revealed a significant ethnic difference in 6th grade,  $F(5, 68) = 3.89, p < .01$ . Asian ( $M = 1.0, n = 1$ ), Native American ( $M = 1.0, n = 1$ ), and multi-ethnic ( $M = 1.0, SD = .00, n = 3$ ) youth had the most cross-ethnic friends, followed by Hispanic ( $M = .90, SD = .22$ ), Black ( $M = .44, SD = .47$ ), and White ( $M = .35, SD = .44$ ) youth, respectively. Tukey's tests indicated no significant group comparisons. For 7th grade youth, a significant ethnic difference emerged,  $F(5, 53) = 2.69, p < .05$ . Asian ( $M = 1.0, n = 1$ ) and multi-ethnic ( $M = .94, SD = .13$ ) youth had the most cross-ethnic friends, followed by Hispanic ( $M = .58, SD = .49$ ), Black ( $M = .50, SD = .35$ ), White ( $M = .39, SD = .40$ ), and Native American ( $M = .00, n = 1$ ) youth, respectively. Tukey's tests indicated no significant group comparisons. In 8th grade, the ethnic difference was significant,  $F(4, 113) = 19.48, p < .0001$ . Hispanic ( $M = .86, SD = .22$ ), Asian ( $M = .83, n = 1$ ) and multi-ethnic ( $M = .63, SD = .00, n = 3$ ) youth had more cross-ethnic friends than White ( $M = .14, SD = .44$ ) and Black ( $M = .06, SD = .47$ ) youth (Native American  $n = 0$ ). Tukey's tests indicated that these differences were significant. The Gender X Grade interaction also was significant,  $F(2, 221) = 3.20, p < .05$ . The means were higher for girls than boys in 6th (girls,  $M = .48, SD = .47$ ; boys,  $M = .38, SD = .45$ ) and 7th grades (girls,  $M = .52, SD = .43$ ; boys,  $M = .34, SD = .47$ ); whereas the mean for boys was higher than girls in 8th grade (girls,  $M = .16, SD = .32$ ; boys,  $M = .27, SD = .42$ ). However,  $t$ -tests conducted by grade indicated that these differences were not significant in any grade (all  $t$  values  $< 1.41$ ). The three-way Gender X Grade X Ethnicity interaction was not significant,  $F(6, 221) = .75$ .

Results for percent of cross-ethnic friends using unlimited nominations indicated no significant gender difference,  $F(1, 321) = .15$ . However, the grade difference was significant,  $F(2, 321) = 3.86, p < .05$ . Tukey's tests showed that the percent of cross-ethnic friendships using unlimited nominations was greater in 6th and 7<sup>th</sup> grades than in the 8th grade (6th,  $M = .50, SD = .29$ ; 7th,  $M = .52, SD = .27$ ; 8th,  $M = .37, SD = .27$ ). In addition, the ethnic difference was once again significant,  $F(5, 321) = 59.23, p < .0001$ . Tukey's tests indicated that Asian, Hispanic, Native American, and multi-ethnic youth had significantly more cross-ethnic friends than did White and Black students. These results are presented in Table 2. The Gender X Grade interaction was nonsignificant,  $F(2, 321) = 1.98$ , as was the Gender X Ethnicity interaction,  $F(5, 321) = .91$ . However, the Grade X Ethnicity interaction was significant,  $F(9, 321) = 5.21, p < .0001$ , and further qualified by a significant three-way interaction among gender, grade, and ethnicity,  $F(8, 321) = 4.24, p < .0001$ . ANOVA analyses tested ethnic differences within each gender and grade group. For girls in 6th grade, a significant ethnic difference emerged,  $F(5, 54) = 59.33, p < .0001$ . Asian, Hispanic, Native American, and multi-ethnic girls all had more cross-ethnic friends than White girls. Tukey's tests indicated these differences were significant. In addition, Asian, Hispanic, Native American, and multi-ethnic girls also had more cross-ethnic friends than did Black girls. Tukey's tests indicated that this difference was significant for Asian, Native American, and multi-ethnic girls. Findings for girls in the 7th grade also revealed a significant ethnic difference,  $F(5, 39) = 9.05, p < .0001$ . Asian, Hispanic, Native American, and multi-ethnic girls had more cross-ethnic friends than did White and Black girls. However, Tukey's tests indicated that none of these comparisons were significant. A significant ethnic difference also emerged for girls in 8th grade,  $F(4, 80) = 25.18, p < .0001$ . Asian, Hispanic, and multi-ethnic girls all had significantly more cross-ethnic friends than White and Black girls.

Means for girls by ethnicity within grade are presented in Table 3. For boys, a significant ethnic difference emerged in 6th grade,  $F(5, 43) = 7.10, p < .0001$ . Asian, Hispanic, Native American, and multi-ethnic boys all had more cross-ethnic friends than White and Black boys. Tukey's tests indicated that the comparison involving Asian and White boys was significant. A significant ethnic difference also was found for boys in 7th grade,  $F(4, 37) = 11.17, p < .0001$ . Asian and multi-ethnic boys had more cross-ethnic friends than White and Black boys. According to Tukey's tests, the comparisons involving White boys were significant. For boys in 8th grade, the ethnic difference was significant,  $F(4, 68) = 17.58, p < .0001$ . Asian and multi-ethnic boys had significantly more cross-ethnic friends than White and Black boys. In addition, Hispanic boys had more cross-ethnic friends than White and Black boys, and Tukey's tests indicated that the comparison involving Black boys was significant. Means for boys by ethnicity within grade are presented in Table 4. Overall, the pattern of results again indicates that youths in the numerical minority (Asian, Hispanic, Native American, multi-ethnic) have more cross-ethnic friends than youths in the numerical majority (White, Black).

*Relations of Social Competence/Adjustment, Emotional Adjustment, and Ethnicity-Related Perceptions with Cross-Ethnic Friendship Participation*

Correlations between each of the social competence/adjustment variables, emotional adjustment variables, and ethnicity-related perceptions variables with each of the cross-ethnic friendship participation variables were computed and are presented in Table 5. These results are summarized in the following sections. Also summarized below are regression analyses conducted to test whether the associations were moderated by gender, grade, or ethnicity. Specifically, for each relationship, a regression analysis was performed in which the cross-ethnic friendship participation variable was predicted from the predictor variable of interest (i.e., the

social competence/adjustment, emotional adjustment, or ethnicity-related perceptions variable), gender, grade, ethnicity, and all interactions.

*Social competence/adjustment.* Analyses first tested the hypothesis that youths' greater social perspective-taking skills would be associated with higher cross-ethnic friendship participation. Correlations were computed separately for social perspective-taking with people in general and social perspective-taking in friendships. As expected, social perspective-taking with people in general was significantly related to having a larger number of cross-ethnic friends using unlimited nominations and to having a greater percent of cross-ethnic friends using limited nominations. In addition, marginally significant correlations emerged indicating that social perspective-taking with people in general also was related to having a larger number of cross-ethnic friends using limited nominations and a greater percent of cross-ethnic friends using unlimited nominations. In the regression analyses, no interactions of social perspective-taking with gender, grade, and/or ethnicity were significant.

Social perspective-taking in friendships also was significantly associated with having more cross-ethnic friends using limited nominations, a greater percent of cross-ethnic friends using limited nominations, and a greater percent of cross-ethnic friend using unlimited nominations. Social perspective-taking in friendships also was associated with having more cross-ethnic friends using the limited nominations, but this relation was marginally significant. In the regression analyses, a significant interaction between social perspective-taking in friendships and gender also was significant for the number of cross-ethnic friendships,  $\beta = -.49$ ,  $\Delta R^2 = .05$ ,  $p < .05$ . Social perspective-taking in friendships was significantly related to having more cross-ethnic friends using unlimited nominations for girls,  $r = .21$ ,  $p < .01$ , but the relation was not significant for boys,  $r = .02$ .

Support for the hypothesis that youths' social competence in the form of prosocial behavior would be related to greater participation in cross-ethnic friendships was not found. Prosocial behavior was not significantly related to number of cross-ethnic friends using limited nominations, number of cross-ethnic friends using unlimited nominations, percent of cross-ethnic friends using limited nominations, or percent of cross-ethnic friends using unlimited nominations. In the regression analyses, no significant interactions of prosocial behavior with gender, grade and/or ethnicity emerged.

Analyses also tested whether youths' peer status in terms of likeability and perceived popularity was related to greater participation in cross-ethnic friendships. Likeability was not significantly related to any indicator of cross-ethnic friendship participation. Specifically, the relations between likeability and number of cross-ethnic friends using limited nominations, number of cross-ethnic friends using unlimited nominations, percent of cross-ethnic friends using limited nominations, and percent of cross-ethnic friends using unlimited nominations all were nonsignificant. One significant interaction emerged in the regression analyses. Specifically, for the analysis predicting the percent of cross-ethnic friends using unlimited nominations, a significant interaction between gender and likeability was found,  $\beta = .15$ ,  $\Delta R^2 = .04$ ,  $p < .05$ . Correlations computed by gender indicated that the relation between likeability and percent of cross-ethnic friends using unlimited nominations was negative for girls,  $r = -.09$ , but positive for boys,  $r = .13$ . However, neither of these correlations reached significance.

In terms of perceived popularity, the associations were not significant for number of cross-ethnic friends using limited nominations, number of cross-ethnic friends using unlimited nominations, the percent of cross-ethnic friends using limited nominations, or the percent of cross-ethnic friends using unlimited nomination. However, in the regression analyses, significant

interactions between perceived popularity and gender were found for the number of cross-ethnic friends using limited nominations,  $\beta = .18$ ,  $\Delta R^2 = .03$ ,  $p < .01$ , the percent of cross-ethnic friends using limited nominations,  $\beta = .14$ ,  $\Delta R^2 = .04$ ,  $p < .05$ , and the percent of cross-ethnic friends using unlimited nominations,  $\beta = .17$ ,  $\Delta R^2 = .05$ ,  $p < .001$ . For the number of cross-ethnic friends using limited nominations, perceived popularity was significantly associated with *fewer* cross-ethnic friendships for girls,  $r = -.14$ ,  $p < .05$ , but with *more* cross-ethnic friendships for boys,  $r = .18$ ,  $p < .05$ . For percent of cross-ethnic friends using limited nominations, perceived popularity was again associated with *fewer* cross-ethnic friendships for girls,  $r = -.13$ ,  $p = .10$ , and *more* cross-ethnic friendships for boys,  $r = .07$ , *ns*, however neither correlation reached significance. Likewise, for the percent of cross-ethnic friends using unlimited nominations, perceived popularity was significantly associated with *fewer* cross-ethnic friendships for girls,  $r = -.24$ ,  $p < .001$ , and marginally significantly *more* cross-ethnic friendships for boys,  $r = .14$ ,  $p = .07$ .

*Emotional adjustment.* Next, analyses tested whether depression and anxiety were related to participation in cross-ethnic friendships. Findings for depression indicated no significant correlations with number of cross-ethnic friends using limited nominations, number of cross-ethnic friends using unlimited nominations, percent of cross-ethnic friends using limited nominations, or percent of cross-ethnic friends using unlimited nominations. No significant interactions were found with gender, grade, or ethnicity across all of the regression analyses.

In terms of the findings for anxiety, the correlations were again nonsignificant for anxiety with the number of cross-ethnic friends using the unlimited nominations, the number of cross-ethnic friends using the limited nominations, the percent of cross-ethnic friends using the unlimited nominations, and the percent of cross-ethnic friends using the limited nominations.

However, for the number of cross-ethnic friends using unlimited nominations, significant interactions emerged with gender,  $\beta = -.32$ ,  $\Delta R^2 = .06$ ,  $p < .05$ , grade,  $\beta = -.93$ ,  $\Delta R^2 = .06$ ,  $p < .05$ , and ethnicity,  $\beta = .71$ ,  $\Delta R^2 = .06$ ,  $p < .05$ . Correlations computed by gender indicated a nonsignificant relation for girls,  $r = .02$ , but that anxiety was associated with having fewer cross-ethnic friends for boys,  $r = -.21$ ,  $p < .01$ . Correlations computed by grade indicated a nonsignificant positive relation in 6th grade,  $r = .15$ , and nonsignificant negative relations in 7<sup>th</sup> and 8<sup>th</sup> grades,  $r_s = -.10$  and  $-.14$ , respectively. Correlations computed by ethnic group were all nonsignificant (European American youth,  $r = .09$ , African American youth,  $r = -.17$ , Asian American youth,  $r = -.62$ , Hispanic youth,  $r = -.08$ , Native American youth,  $r = .31$ , and multi-ethnic youth,  $r = -.34$ ).

*Barriers to forming cross-ethnic friendships.* Next, analyses tested whether perceived barriers to forming cross-ethnic friendships were associated with lower participation in cross-ethnic friendships. Correlations were computed separately for the total barriers scale and for each barrier subscale (fear of peer rejection, attitudes that cross-ethnic peers are not fun to hang out with, attitudes that cross-ethnic peers are snobs, lack of opportunity to meet cross-ethnic peers, beliefs that cross-ethnic peers have different likes/interests from self, perceived parental disapproval).

The total barriers composite was associated with having fewer cross-ethnic friends using limited nominations, fewer cross-ethnic friends using unlimited nominations, a lower percent of cross-ethnic friends using limited nominations, and a lower percent of cross-ethnic friends using unlimited nominations. Across all regression analyses, one significant interaction emerged. For the percent of cross-ethnic friends using unlimited nominations, the interaction with gender was

significant,  $\beta = .39$ ,  $\Delta R^2 = .04$ ,  $p < .05$ . The total barriers composite was associated with a lower percent of cross-ethnic friends for girls,  $r = -.20$ ,  $p < .01$ , but not for boys,  $r = -.01$ .

In terms of the barriers subscales, fear of peer rejection was significantly correlated with having a fewer number of cross-ethnic friends using limited nominations, a fewer number of cross-ethnic friends using unlimited nominations, a lower percent of cross-ethnic friends using limited nominations, and a lower percent of cross-ethnic friends using unlimited nominations. None of the associations differed by gender, grade, or ethnicity.

The subscale for attitudes that cross-ethnic peers are not fun to hang out with was significantly related to having fewer cross-ethnic friends using limited nominations, fewer cross-ethnic friends using unlimited nominations, a lower percent of cross-ethnic friends using limited nominations, and a lower percent of cross-ethnic friends using unlimited nominations. No significant interactions with gender, grade, or ethnicity emerged.

The subscale for attitudes that cross-ethnic peers are snobs also was significantly related to having a fewer number of cross-ethnic friends using the unlimited nominations, a lower percent of cross-ethnic friends using limited nominations, and a lower percent of cross-ethnic friends using unlimited nominations. The relation was negative and marginally significant for the number of cross-ethnic friends using limited nominations. No significant interactions with gender, grade, or ethnicity were found.

The subscale for lack of opportunity to meet cross-ethnic peers was significantly associated with having a fewer number of cross-ethnic friends using limited nominations, fewer cross-ethnic friends using unlimited nominations, and a lower percent of cross-ethnic friends using unlimited nominations. The association between this subscale and the percent of cross-

ethnic friends using limited nominations was negative and approached significance. None of the relations differed by gender, grade, or ethnicity.

The subscale for beliefs that cross-ethnic peers have different likes/interests was marginally significantly related to having a fewer number of cross-ethnic friends using limited nominations and a lower percent of cross-ethnic friends using limited nominations. The relations were again negative and approached significance for the number of cross-ethnic friends using unlimited nominations and the percent of cross-ethnic friends using unlimited nominations. No significant interactions with gender, grade, or ethnicity were found.

Surprisingly, the subscale for perceived parental disapproval was not significantly related to any of the four indicators of cross-ethnic friendship participation. In addition, no significant interactions with gender, grade, or ethnicity emerged.

*Ethnic identity.* In the current study, it was proposed that a strong sense of ethnic identity may be related to lower participation in cross-ethnic friendships, particularly among ethnic minority youth. Accordingly, analyses testing the associations of ethnic identity with cross-ethnic friendship participation were conducted separately for ethnic minority versus non-minority White youth.

For ethnic minority youth, ethnic identity was not significantly related to number of cross-ethnic friends using limited nominations. However, in the regression analysis, a significant interaction with grade did emerge,  $\beta = 1.71$ ,  $\Delta R^2 = .03$ ,  $p < .05$ . Among ethnic minority youth, ethnic identity was significant related to having fewer cross-ethnic friends in 6th grade,  $r = -.32$ ,  $p < .05$ . The relations were nonsignificant in 7<sup>th</sup> and 8<sup>th</sup> grades,  $r_s = .15$  and  $.07$ , respectively. Ethnic identity also was not significantly related to number of cross-ethnic friends using unlimited nominations. However, a significant interaction with grade again emerged,  $\beta = 1.87$ ,

$\Delta R^2 = .03, p < .05$ . Although the relation between ethnic identity and having fewer cross-ethnic friends approached significance in 6th grade,  $r = -.25, p = .05$ , the relations were nonsignificant in 7th and 8th grades,  $r_s = .19$  and  $.18$ , respectively. For the percent of cross-ethnic friends using limited nominations, ethnic minority youths' ethnic identities were marginally related to having a lower percent of cross-ethnic friends, and the interaction with grade was significant,  $\beta = 2.48, \Delta R^2 = .05, p < .05$ . Again, ethnic identity was related to having a lower percent of cross-ethnic friends in 6th grade,  $r = -.53, p < .001$  but the relations were nonsignificant in 7th and 8th grades,  $r_s = .02$  and  $-.03$ . Finally, ethnic minority youths' ethnic identity was not significantly related to their percent of cross-ethnic friends using unlimited nominations, and there were no significant interactions with gender, grade, or ethnicity.

For non-minority White youth, ethnic identity was not significantly related to number of cross-ethnic friends using limited nominations, number of cross-ethnic friends using unlimited nominations, percent of cross-ethnic friends using limited nominations, or percent of cross-ethnic friends using unlimited nominations. For each indicator of cross-ethnic friendship participation, a regression analysis was performed to test interactions with gender or grade (the interaction with ethnicity was not tested because only a single ethnic group, i.e., non-minority White youth, was included in these analyses). One interaction was significant. For number of cross-ethnic friends using unlimited nominations, a significant interaction with grade was found,  $\beta = -1.98, \Delta R^2 = .03, p < .01$ . In contrast to the pattern found for ethnic minority youth, for non-minority White youth, having a stronger ethnic identity was related to having *more* cross-ethnic friends in the 6th grade,  $r = .28, p < .05$ . The relations were nonsignificant in the 7th and 8th grades,  $r_s = .11$  and  $-.19$ , respectively.

## Discussion

Race relations is a complex and compelling issue, and understanding youths' friendships with peers who are different from themselves in terms of race/ethnicity is important for helping to illuminate ways to foster positive intergroup relations. Surprisingly, however, youths' cross-ethnic friendships have received little empirical attention. The present research provides important information about the prevalence and correlates of cross-ethnic friendships among youth.

In regards to prevalence, the current study reveals important differences in findings based on the method used to assess friendship. Far more cross-ethnic friendships were identified using an unlimited friendship nominations approach compared to a limited nominations approach. This suggests that many cross-ethnic friendships may have been missed, and the prevalence of these friendships underestimated, in past studies that use the limited nominations approach (e.g., Hamm et al., 2005; Kao & Joyner, 2004, 2006; Kao & Vaquera, 2006; Mouw, & Entwisle, 2006; Moody, 2001; Vaquera & Kao, 2008). As such, the current findings have implications for the design of future studies; research on cross-ethnic friendships will benefit by utilizing an unlimited nominations approach. More generally, the current findings suggest that youth actually do have more experience with cross-ethnic friendships than previously thought.

In addition, although strong gender and grade differences did not emerge for cross-ethnic friendship prevalence, results did indicate ethnic differences. These results provided some support for the idea that youths whose ethnic group represents the numerical majority in their school (European American and African American in the current study) form fewer cross-ethnic friendships compared to youths who are in the numerical minority. In contrast to suggestions that those in the minority tend to show greater ingroup loyalty and solidarity compared to those in the

majority (Brewer & Pickett, 1999; Brewer & Weber, 1994), it may be that youths who are in the numerical minority form more cross-ethnic friendships because they simply have access to a greater number of cross-ethnic peers as potential friends than same-ethnic peers. Future studies including multiple schools that vary in terms of which ethnic groups are in the numerical minority versus majority will provide further support for this idea.

In terms of the correlates of cross-ethnic friendships, it was proposed that youths' social competence/adjustment would be related to cross-ethnic friendship participation. The first index of social competence considered in the current study was social perspective-taking, both in terms of social perspective-taking with people in general and social perspective-taking in friendships. Results provided support for the hypothesis that more advanced social perspective-taking skills would be associated with greater cross-ethnic friendship participation. These findings are important because although past theoretical work has suggested that there should be relations between social perspective-taking and cross-ethnic peer relationships (Selman, 1980), no studies have previously tested this relation. Interestingly, the associations for social perspective-taking in the context of friendships were particularly strong, suggesting that youths' tendency to take the perspective of friends in particular may be especially important for forming cross-ethnic friendships.

An important goal for future studies will be to employ longitudinal designs to test the direction of this effect. As suggested, it may be that this relation emerged because youths with well-developed social perspective-taking skills are more understanding of peers who are different from themselves in terms of race/ethnicity. However, the past theoretical work by Selman (1980) suggests the other direction of effect may hold as well; namely that cross-ethnic friendships may serve as an important context for social-cognitive growth and, in particular, as a

training ground for the development of social perspective-taking skills. If social perspective-taking skills do predict increases in cross-ethnic friendship participation over time, it also will be important for future work to examine whether social perspective-taking skills translate more broadly into greater acceptance of others who are different from themselves. For example, youths with increased social perspective-taking skills may be especially likely to befriend peers who differ from themselves in terms of sexual minority status or SES.

In the current research, participation in cross-ethnic friendships also was expected to be related to three other indices of social competence/adjustment: prosocial behavior, likeability, and perceived popularity. However, these associations were either nonsignificant or difficult to interpret. Unlike past research among elementary school children (Kawabata & Crick, 2008; Lease & Blake, 2005), the current research did not find a significant relation between prosocial behavior and any index of cross-ethnic friendships among adolescent youth. It is possible that the relation between prosociality and cross-ethnic friendships diminishes with age. Similarly, youths' peer status in terms of likeability was not associated with any index of cross-ethnic friendships in the current study. Notably, both the prosocial behavior and likeability scores are based on peer nominations that sum across the perceptions of same-ethnic peers and cross-ethnic peers. Although this is the typical approach to creating these scores, considering separately the nominations from same-ethnic and cross-ethnic peers may be important. That is, youth who are most well-liked by cross-ethnic youth and perceived as most prosocial by cross-ethnic youth also may be the most likely to have cross-ethnic friends (see Wilson & Rodkin, *in press*, for a similar approach).

In terms of perceived popularity, the results indicated different relations for girls and boys. For boys, perceived popularity was related to greater cross-ethnic friendship participation,

whereas, for girls, perceived popularity was related to having fewer cross-ethnic friends. It will be of interest in future research to investigate the meaning of this gender difference. In line with past findings indicating that boys' popularity is especially closely tied to athleticism (see Rose et al., 2011 for a review), it may be that popular boys are more likely to participate in contexts such as team sports, where intergroup interaction and cooperation gives rise to cross-ethnic friendships. However, it is less clear why perceived popularity would be related to having fewer cross-ethnic friends for girls. As such, replicating this finding in future research is particularly important.

Also of interest in the current study were associations of emotional adjustment (i.e., depression, anxiety) with participation in cross-ethnic friendships. However, the current findings indicated that depression and anxiety were unrelated to participation in cross-ethnic friendships. These findings were in contrast to past work suggesting that cross-ethnic peer interaction may be stressful and thus pose risks for emotional adjustment difficulties (Seder & Oishi, 2009). It may be that any stressors or challenges youth face in navigating cross-ethnic friendships are mitigated by provisions afforded in those friendships. Although it was proposed in the current research that depression and anxiety may influence cross-ethnic friendship participation, Seder and Oishi suggest that the other direction of effect may hold; namely that cross-ethnic friendship participation may impact depression and anxiety. Longitudinal studies assessing effects over time are needed to test the direction of effects. Such studies may reveal significant relations that were not apparent in the current study by testing more complex temporal models. For example, descriptive results in the current study indicated that experiencing barriers to forming cross-ethnic friendships was significantly correlated with depression and anxiety. Future longitudinal studies would be useful for testing a complex model to determine whether the combination of

participating in cross-ethnic friendships while also experiencing barriers and challenges to those friendships predicts increases in depression and anxiety over time.

Associations of youths' ethnicity-related perceptions with participation in cross-ethnic friendships also were examined in the present study. Toward this aim, a new measure of perceived barriers to the formation of cross-ethnic friendships was created for the current study. The results provide support for the hypothesis that perceiving greater barriers to forming cross-ethnic friendships would be a significant predictor of having fewer cross-ethnic friendships. Interestingly, the findings also suggested that not all barriers have the same deleterious effect. In particular, the perceived parental disapproval barrier subscale was not related to any index of cross-ethnic friendship participation, suggesting that perceptions that parents may disapprove of youths' cross-ethnic friendships have little effect on whether youths form friendships with cross-ethnic peers. This finding may have emerged because the current study focuses on youth in adolescence, a time when youths gain increasing autonomy from parents and view their friendship choices as being outside the domain of parental control (see Smetana, Crean, & Campione-Barr, 2005 for a review). Perceived parental disapproval may serve as a deterrent to forming cross-ethnic friendships when youth are in childhood and have less autonomy from parents. Future studies examining the effects over a wider age range will be useful for testing this possibility.

In terms of ethnic identity, findings from the current study point to interesting differences for ethnic minority youth compared to non-minority White youth. In particular, for the youngest ethnic minority youth in the sample (6th grade), having a strong ethnic identity was significantly associated with having fewer cross-ethnic friendships. In contrast, for the youngest non-minority White youth in the sample, having a strong ethnic identity was related to having *greater* number

of cross-ethnic friends using unlimited nominations. An important goal for future work will be to uncover why ethnic identity has opposing implications for the cross-ethnic friendships of ethnic minority youth versus non-minority White youth at the transition to adolescence. It may be that at this transition, ethnic minority youth with a strong sense of ethnic identity experience Cross' (1995) immersion stage of racial identity development, characterized by elevated importance of bonding with other members of their ethnic group and negative feelings about Whites. However, it is less clear why non-minority White youths' strong ethnic identity is associated with having more cross-ethnic friendships. Perhaps non-minority White youths with a strong sense of ethnic identity belong to groups that celebrate their cultural heritage (e.g., Italian, Greek) and feel somewhat marginalized from the average White American, making them especially accepting of ethnic diversity. However, speculating about the relations for non-minority White youth is especially challenging given that the meaning of ethnic identity to non-minority Whites is unclear (e.g., see Martinez & Dukes, 1997; Phinney & Tarver, 1988). Given this lack of clarity, a high priority for future research should be to rigorously investigate the issue of ethnic identity among non-minority White youth.

In addition, future work should replicate and expand the finding in the current study that the associations between ethnic identity and cross-ethnic friendship were not significant among older (7th and 8th grade) youth. Past research indicates that ethnic identity development is a central task of adolescence (Phinney, 1989) and it may be that the beginning of adolescence (6th grade) marks an important transition in which ethnic identity is especially salient for the friendships that youths form. It also is possible that the transition to an ethnically diverse middle school in 6th grade in which youth begin to interact regularly with all students in their grade presents a context where youths' ethnic identity takes on new importance.

Although the current study contributes important findings to the understudied area of cross-ethnic friendships, the research is not without limitations. First, only concurrent associations were tested. Some of the variables considered, such as perceived barriers to forming cross-ethnic friendships, likely are best conceptualized as predictors of participation in cross-ethnic friendships. However, it also is possible that the experience of having cross-ethnic friends influences youths' development and adjustment. This possibility was considered earlier in regards to social perspective-taking. Longitudinal studies are needed that test effects over time in order to better understand the temporal ordering of the associations examined in the current study.

Moreover, studies investigating *outcomes* of participating in cross-ethnic friendships also could include variables not considered in the present research. For example, participation in cross-ethnic friendships may serve to decrease negative ethnic stereotyping and prejudice among youth. This possibility is in line with classic theoretical work on the contact hypothesis (Allport, 1954), which states that contact with cross-ethnic others should result in decreased prejudice and more positive intergroup attitudes. Although this idea has received considerable attention, a recent meta-analysis by Pettigrew and Troop (2006) indicated that very few studies have considered contact in terms of cross-ethnic *friendships* and even fewer were carried out with children and adolescents. Moreover, the few studies that did include children and adolescents assessed concurrent relations. As such, whether cross-ethnic friendships lead to improved intergroup attitudes is not yet known and is an important direction for future work.

An additional limitation of current research is that only one type of school context was assessed. It was important to include an ethnically diverse school context to ensure that youths would have an opportunity to form cross-ethnic friendships. However, the prevalence and

correlates of cross-ethnic friendships may differ in school contexts that are less ethnically diverse. Unfortunately, schools in the U.S. are more segregated now than they have been in the past 40 years (Frankenberg, Lee, & Orfield, 2002; Orfield & Lee, 2005). As such, the school participating in the current study represents the exception rather than the norm. A crucial direction for future research will be to examine whether the findings from the current study emerge across different school contexts that vary in their degree of ethnic diversity.

It also will be important for future work to examine cross-ethnic friendships in contexts outside of school. Although most friendships that youths form are with peers in school (Bukowski et al., 1996), it is critical to include all possible friendships that youths have so that no cross-ethnic friendships are overlooked. This will be especially true if the prevalence of cross-ethnic friendships is lower in less diverse schools than was the case in the current research. Neighborhood friendships could be expected to be largely the same as friendships in school given that neighborhoods are situated in school districts. However, there may be additional contexts, such as religious groups or recreation (e.g., organized sports leagues, recreation centers), in which youths form friendships with peers outside of their school and neighborhood.

A further aim for future research will be to consider the role of SES. Given that race/ethnicity is often confounded with SES in the United States, teasing apart unique effects of race/ethnicity is important (e.g., see Archibald, Graber, & Brooks-Gunn, 2005). Although SES was not directly assessed in the current study, the socioeconomic homogeneity of the school district helped to attenuate concerns about SES differences among students. Still, future studies that directly assess and take into account SES will further increase confidence that the current findings were driven by race/ethnicity per se. In school districts where SES is confounded with race/ethnicity, it will be of interest to determine whether crossing social class boundaries proves

more challenging for youth than crossing racial/ethnic boundaries in order to form cross-ethnic friendships.

Finally, the current results suggest relevant applied implications for fostering cross-ethnic friendships among youth. Findings that cross-ethnic friendships were actually quite prevalent using unlimited nominations but less prevalent using limited (i.e., “best friend”) nominations point to the importance of not only encouraging cross-ethnic friendships in general but also fostering *closeness* in cross-ethnic friendships (i.e., friendships that would be considered a “best friend”). Although the current findings cannot speak to direction of effect, the study does suggest promising avenues for promoting cross-ethnic friendships. For example, social-cognitive skills training aimed at increasing social perspective-taking skills among youth may foster more, and perhaps closer, cross-ethnic friendships. Another may be to address the perceived barriers to forming cross-ethnic friendships that youths experience. Such approaches could build upon the already fairly positive picture of cross-ethnic friendships obtained in the current study and may further cultivate acceptance of diverse peers among youth.

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Table 1

*Means, Standard Deviations, and Ranges of Scores*

Variable	<i>M</i> ( <i>SD</i> )	Range
Social perspective-taking (with people in general)	2.26 (.74)	.14 – 4.00
Social perspective-taking (in friendships)	2.52 (.68)	.21 – 4.00
Prosocial behavior	.00 (.90)	-1.10 – 8.69
Likeability	.00 (1.02)	-5.24 – 3.13
Perceived popularity	.00 (.89)	-.72 – 4.25
Depression	1.79 (.50)	1.10 – 3.45
Anxiety	2.27 (.79)	1.00 – 4.89
Barriers (composite)	1.62 (.61)	1.00 – 5.00
Barriers subscales		
Peer barrier subscale	1.64 (.78)	1.00 – 5.00
Fun barrier subscale	1.60 (.67)	1.00 – 4.33
Snob barrier subscale	1.61 (.77)	1.00 – 5.00
Meet barrier subscale	1.53 (.72)	1.00 – 4.67
Interests barrier subscale	2.19 (1.01)	1.00 – 5.00
Parent barrier subscale	1.28 (.64)	1.00 – 4.67
Ethnic identity	2.93 (.54)	1.00 – 4.00
Number cross-ethnic friends (limited)	.35 (.63)	0 - 3
Number cross-ethnic friends (unlimited)	5.46 (4.76)	0 - 25
Percent cross-ethnic friends (limited)	.34 (.44)	.00 – 1.00
Percent cross-ethnic friends (unlimited)	.45 (.27)	.00 – 1.00

Table 2

*Means for Cross-Ethnic Friendship Participation by Ethnicity*

	Asian ( <i>n</i> = 10)	Hispanic ( <i>n</i> = 31)	Native Am ( <i>n</i> = 6)	Multi-ethnic ( <i>n</i> = 25)	White ( <i>n</i> = 177)	Black ( <i>n</i> = 123)
Variable	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )
Number cross-ethnic friends (limited)	1.00 (1.05) <sup>a</sup>	.77 (.76) <sup>a,b</sup>	.17 (.41) <sup>c</sup>	.80 (.87) <sup>a,b</sup>	.28 (.51) <sup>b,c</sup>	.22 (.55) <sup>c</sup>
Number cross-ethnic friends (unlimited)	9.50 (5.84) <sup>a,b</sup>	8.00 (5.11) <sup>b,c</sup>	6.67 (3.27) <sup>b,c</sup>	12.16 (6.72) <sup>a</sup>	4.19 (3.36) <sup>c</sup>	4.90 (4.40) <sup>c</sup>
Percent cross-ethnic friends (limited)	.92 (.20) <sup>a</sup>	.72 (.39) <sup>a,b</sup>	.50 (.71) <sup>a,b</sup>	.81 (.39) <sup>a</sup>	.25 (.38) <sup>b</sup>	.23 (.39) <sup>b</sup>
Percent cross-ethnic friends (unlimited)	.88 (.11) <sup>a</sup>	.78 (.19) <sup>a</sup>	.90 (.13) <sup>a</sup>	.83 (.19) <sup>a</sup>	.33 (.18) <sup>b</sup>	.41 (.24) <sup>b</sup>

*Note.* Means with different superscripts by row differed significantly according to Tukey's tests.

Table 3

*Girls' Means for Cross-Ethnic Friendship Participation by Ethnicity within Grade*

6th girls						
	Asian ( <i>n</i> = 2)	Hispanic ( <i>n</i> = 7)	Native Am ( <i>n</i> = 2)	Multi-ethnic ( <i>n</i> = 4)	White ( <i>n</i> = 31)	Black ( <i>n</i> = 17)
Variable	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )
Number cross-ethnic friends (limited)	.50 (.71)	.71 (.49)	.50 (.71)	1.25 (.96)	.32 (.48)	.47 (.72)
Number cross-ethnic friends (unlimited)	6.00 (8.49) <sup>b</sup>	8.71 (4.46) <sup>a, b</sup>	10.50 (.71) <sup>a, b</sup>	15.25 (6.85) <sup>a</sup>	5.97 (3.23) <sup>b</sup>	7.94 (4.99) <sup>a, b</sup>
Percent cross-ethnic friends (unlimited)	1.00 (--) <sup>a</sup>	.88 (.08) <sup>a, b</sup>	1.00 (.00) <sup>a</sup>	.93 (.05) <sup>a</sup>	.31 (.11) <sup>c</sup>	.63 (.14) <sup>b</sup>
7th girls						
	Asian ( <i>n</i> = 1)	Hispanic ( <i>n</i> = 8)	Native Am ( <i>n</i> = 1)	Multi-ethnic ( <i>n</i> = 6)	White ( <i>n</i> = 19)	Black ( <i>n</i> = 14)
Variable	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )
Number cross-ethnic friends (limited)	2.00 (--)	.75 (1.04)	.00 (--)	1.00 (1.10)	.42 (.51)	.29 (.47)
Number cross-ethnic friends (unlimited)	13.00 (--) <sup>a</sup>	6.13 (4.05) <sup>a</sup>	4.00 (--) <sup>a</sup>	10.67 (5.57) <sup>a</sup>	4.68 (2.79) <sup>a</sup>	4.14 (4.42) <sup>a</sup>
Percent cross-ethnic friends (unlimited)	.81 (--) <sup>a</sup>	.73 (.12) <sup>a</sup>	.67 (--) <sup>a</sup>	.78 (.08) <sup>a</sup>	.43 (.17) <sup>a</sup>	.41 (.17) <sup>a</sup>
8th girls						
	Asian ( <i>n</i> = 4)	Hispanic ( <i>n</i> = 4)	Native Am ( <i>n</i> = 0)	Multi-ethnic ( <i>n</i> = 5)	White ( <i>n</i> = 45)	Black ( <i>n</i> = 30)
Variable	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )
Number cross-ethnic friends (limited)	1.00 (.82) <sup>a</sup>	1.25 (.50) <sup>a</sup>	-- (--)	.20 (.45) <sup>b</sup>	.20 (.46) <sup>b</sup>	.07 (.37) <sup>b</sup>
Number cross-ethnic friends (unlimited)	11.50 (7.05) <sup>a</sup>	11.75 (5.06) <sup>a</sup>	-- (--)	11.60 (7.13) <sup>a</sup>	3.80 (3.90) <sup>b</sup>	5.50 (4.22) <sup>a, b</sup>
Percent cross-ethnic friends (unlimited)	.82 (.11) <sup>a</sup>	.81 (.14) <sup>a</sup>	-- (--)	.65 (.38) <sup>a</sup>	.26 (.14) <sup>b</sup>	.33 (.14) <sup>b</sup>

*Note.* Means with different superscripts by row differed significantly according to Tukey's tests.

Table 4

*Boys' Means for Cross-Ethnic Friendship Participation by Ethnicity within Grade*

6th boys						
	Asian ( <i>n</i> = 1)	Hispanic ( <i>n</i> = 4)	Native Am ( <i>n</i> = 3)	Multi-ethnic ( <i>n</i> = 2)	White ( <i>n</i> = 24)	Black ( <i>n</i> = 17)
Variable	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )
Number cross-ethnic friends (limited)	3.00 (--) <sup>a</sup>	.50 (.56) <sup>b</sup>	.00 (.00) <sup>b</sup>	.50 (.71) <sup>b</sup>	.29 (.55) <sup>b</sup>	.35 (.79) <sup>b</sup>
Number cross-ethnic friends (unlimited)	11.00 (--) <sup>a</sup>	6.00 (2.83) <sup>a, b</sup>	5.00 (2.00) <sup>a, b</sup>	8.00 (8.49) <sup>a, b</sup>	3.00 (2.43) <sup>b</sup>	2.82 (3.30) <sup>b</sup>
Percent cross-ethnic friends (unlimited)	1.00 (--) <sup>a</sup>	.80 (.14) <sup>a, b</sup>	.90 (.09) <sup>a, b</sup>	.97 (.05) <sup>a, b</sup>	.33 (.19) <sup>b</sup>	.43 (.35) <sup>a, b</sup>
7th boys						
	Asian ( <i>n</i> = 1)	Hispanic ( <i>n</i> = 3)	Native Am ( <i>n</i> = 0)	Multi-ethnic ( <i>n</i> = 4)	White ( <i>n</i> = 26)	Black ( <i>n</i> = 11)
Variable	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )
Number cross-ethnic friends (limited)	.00 (--)	.33 (.58)	-- (--)	.25 (.50)	.31 (.55)	.45 (.82)
Number cross-ethnic friends (unlimited)	4.00 (--) <sup>a</sup>	10.00 (9.17) <sup>a</sup>	-- (--)	10.25 (8.06) <sup>a</sup>	3.31 (2.57) <sup>a</sup>	5.82 (4.14) <sup>a</sup>
Percent cross-ethnic friends (unlimited)	.80 (--) <sup>a</sup>	.54 (.47) <sup>a, b</sup>	-- (--)	.84 (.05) <sup>a</sup>	.30 (.18) <sup>b</sup>	.66 (.15) <sup>a, b</sup>
8th boys						
	Asian ( <i>n</i> = 1)	Hispanic ( <i>n</i> = 5)	Native Am ( <i>n</i> = 0)	Multi-ethnic ( <i>n</i> = 4)	White ( <i>n</i> = 32)	Black ( <i>n</i> = 34)
Variable	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )
Number cross-ethnic friends (limited)	.00 (--) <sup>b</sup>	1.00 (1.00) <sup>a, b</sup>	-- (--)	1.50 (.58) <sup>a</sup>	.22 (.55) <sup>b</sup>	.06 (.24) <sup>b</sup>
Number cross-ethnic friends (unlimited)	9.00 (--) <sup>a, b</sup>	7.40 (6.39) <sup>a, b</sup>	-- (--)	16.00 (7.26) <sup>b</sup>	4.34 (3.59) <sup>b</sup>	3.91 (4.11) <sup>b</sup>
Percent cross-ethnic friends (unlimited)	1.00 (--) <sup>a</sup>	.82 (.12) <sup>a, b</sup>	-- (--)	.93 (.06) <sup>a</sup>	.44 (.23) <sup>c</sup>	.27 (.18) <sup>b, c</sup>

*Note.* Means with different superscripts within grade differed significantly according to Tukey's tests.

Table 5  
*Associations Among Study Variables*

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.
1. Number Cross-Ethnic Friends (Limited)	1.0																			
2. Number Cross-Ethnic Friends (Unlimited)	.41****	1.0																		
3. Percent Cross-Ethnic Friends (Limited)	.86****	.39****	1.0																	
4. Percent Cross-Ethnic Friends (Unlimited)	.46****	.63****	.66****	1.0																
5. Social Perspective-Taking (General)	.09†	.15**	.14*	.08††	1.0															
6. Social Perspective-Taking (Friendship)	.13**	.17***	.10†	.10*	.53****	1.0														
7. Prosocial Behavior	.05	.00	.00	-.07	.12*	.15**	1.0													
8. Likeability	.00	.00	.04	.02	.15**	.13**	.37****	1.0												
9. Perceived Popularity	.03	.01	-.05	-.08	-.03	.00	.34****	.31****	1.0											
10. Depression	-.07	-.06	-.02	-.06	-.05	-.13**	-.02	-.08††	.00	1.0										
11. Anxiety	-.05	-.03	.03	-.03	.04	-.03	.05	-.12*	-.02	.75****	1.0									
12. Barriers (Composite)	-.13**	-.15**	-.15**	-.10*	-.15**	-.22****	-.09†	-.12*	-.04	.29****	.27****	1.0								
Barriers Subscales																				
13. Peer Barrier	-.10*	-.13**	-.14*	-.12*	-.13**	-.19****	-.07	-.10*	-.02	.23****	.29****	.84****	1.0							
14. Fun Barrier	-.12**	-.13**	-.14*	-.13**	-.17***	-.17***	-.11*	-.11*	-.10*	.23****	.22****	.83****	.61****	1.0						
15. Snob Barrier	-.09†	-.14**	-.14*	-.12*	-.19***	-.20****	-.07	-.13**	-.03	.27****	.30****	.86****	.78****	.67****	1.0					
16. Meet Barrier	-.11*	-.16****	-.09††	-.11*	-.06	-.20****	-.08††	-.09†	-.06	.16***	.16**	.68****	.44****	.49****	.50****	1.0				
17. Interests Barrier	-.09†	-.08††	-.10†	-.08††	-.10*	-.16****	-.10*	-.09†	-.03	.19****	.21****	.75****	.56****	.62****	.55****	.43****	1.0			
18. Parent Barrier	-.06	-.04	-.07	-.04	-.03	-.11*	-.01	-.04	-.05	.26****	.23****	.64****	.48****	.46****	.46****	.26****	.33****	1.0		
19. Ethnic Identity (Minority Youth)	-.02	.07	-.16†	-.04	.02	.16*	.07	.13†	.12†	-.17*	-.10	-.10	-.04	-.04	-.12††	-.16*	.03	-.11††	1.0	
20. Ethnic Identity (White Youth)	-.02	.02	.04	.02	.18*	.18*	.08	-.02	-.05	-.05	.13†	.18*	.23**	.09	.13†	.00	.16*	.22**	--	1.0

Notes. Values are Pearson correlation coefficients. †† $p < .15$ , † $p < .10$ , \* $p \leq .05$ , \*\* $p \leq .01$ , \*\*\* $p \leq .001$ , \*\*\*\* $p \leq .0001$ .

## Appendix A

### *Items from the Perspective-Taking Subscale of the IRI*

1. I sometimes find it difficult to see things from the "other guy's" point of view.
2. I try to look at everybody's side of a disagreement before I make a decision.
3. I sometimes try to understand my friends better by imagining how things look from their perspective.
4. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.
5. I believe that there are two sides to every question and try to look at them both.
6. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.
7. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

## Appendix B

### *Items from the Social Perspective-Taking in Friendships Measure*

1. I sometimes find it difficult to see things from [friend's name]'s point of view.
2. I try to look at [friend's name]'s side of a disagreement before I make a decision.
3. I sometimes try to understand [friend's name] better by imagining how things look from her/his perspective.
4. If I'm sure I'm right about something, I don't waste much time listening to what [friend's name] has to say about it.
5. When I'm upset with [friend's name], I usually try to put myself in his/her shoes for a while.
6. Before I criticize [friend's name], I try to imagine how I would feel if I were in her/his place.
7. I can easily tell if there's something [friend's name] wants to talk about.
8. When I talk to [friend's name], I tend to focus on my own thoughts rather than on what [friend's name] might be thinking.
9. I can pick up quickly if [friend's name] says one thing but means another.
10. It is hard for me to see why some things upset [friend's name] so much.
11. I am good at predicting how [friend's name] friend will feel about something.
12. [Friend's name] tells me I am good at understanding how he/she is feeling and what he/she is thinking.
13. I can easily tell if [friend's name] is interested or bored with what I am saying.
14. [Friend's name] usually talks to me about her/his problems because she/he says that I am very understanding.
15. I can sense if I am intruding even if [friend's name] doesn't tell me that I am.
16. I can tell if [friend's name] is pretending not to be bothered by something that upset him/her.

17. I am good at predicting what [friend's name] will do.

18. I can usually appreciate [friend's name]'s viewpoint, even if I don't agree with it.

19. I find it easy to put myself in [friend's name]'s shoes.

## Appendix C

### *Depression Measure Items*

1. I was bothered by things that didn't usually bother me.
2. I did not feel like eating; my appetite was poor.
3. I felt that I could not shake off the blues even with help from my family and friends.
4. I felt I was just as good as other people.
5. I had trouble keeping my mind on what I was doing.
6. I felt depressed.
7. I felt that everything I did was an effort.
8. I felt hopeful about the future.
9. I thought my life had been a failure.
10. I felt fearful.
11. My sleep was restless.
12. I was happy.
13. I talked less than usual.
14. I felt lonely.
15. People were unfriendly.
16. I enjoyed life.
17. I had crying spells.
18. I felt sad.
19. I felt that people dislike me.
20. I could not get "going."

## Appendix D

### *Anxiety Measure Items*

1. I have trouble making up my mind.
2. I get nervous when things do not go the right way for me.
3. Others seem to do things easier than I can.
4. Often I have trouble getting my breath.
5. I worry a lot of the time.
6. I'm afraid of a lot of things.
7. I get mad easily.
8. I worry about what my parents will say to me.
9. I feel that others do not like the way I do things.
10. It's hard for me to get to sleep at night.
11. I worry about what other people think of me.
12. I feel alone even when there are people with me.
13. Often I feel sick in my stomach.
14. My feelings get hurt easily.
15. My hands feel sweaty.
16. I am tired a lot.
17. I worry about what is going to happen.
18. Other children are happier than I.
19. I have bad dreams.
20. My feelings get hurt when I am fussed at.
21. I feel someone will tell me I do things the wrong way.

22. I wake up scared some of the time.
23. I worry when I go to bed at night.
24. It's hard for me to keep my mind on my schoolwork.
25. I wiggle in my seat a lot.
26. I am nervous.
27. A lot of people are against me.
28. I often worry about something bad happening to me.

## Appendix E

### *Items from the Barriers to Cross-Ethnic Friendship Measure*

1. If I hung around with kids who are a different race or ethnicity than me, my friends would not want to hang around me.
2. If I hung around with kids who are a different race or ethnicity than me, my parents would be upset with me.
3. I usually don't meet kids who are a different race or ethnicity than me.
4. Most kids who are a different race or ethnicity than me do not like the same things I like.
5. My parents do not want me to hang around with kids who are a different race or ethnicity than me.
6. Most kids who are a different race or ethnicity than me act like they are too good to hang around with me.
7. It's hard for me to meet kids who are a different race or ethnicity than me.
8. Most kids who are a different race or ethnicity than me do not participate in the same activities or clubs that I do.
9. If I asked to hang out with kids who are a different race or ethnicity than me, my parents would say no.
10. I haven't met many kids who are a different race or ethnicity than me.
11. Most kids who are a different race or ethnicity than me are not very fun to hang around with.
12. Most kids who are a different race or ethnicity than me do not like to do the kinds of stuff that I like to do.
13. It would be boring to hang around with who are a different race or ethnicity than me.
14. Most kids who are a different race or ethnicity than me think that they are better than everyone else.
15. If I hung around with kids who are a different race or ethnicity than me, my friends would make fun of me.
16. I wouldn't have any fun hanging around with kids who are a different race or ethnicity than me.

17. If I hung around with kids who are a different race or ethnicity than me, they would act like they were better than me.

18. If I hung around with kids who are a different race or ethnicity than me, my friends would want to stop being friends with me.

## Appendix F

### *Items from the Ethnic Identity Measure*

1. I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs.
2. I am active in organizations or social groups that include mostly members of my own ethnic group.
3. I have a clear sense of my ethnic background and what it means for me.
4. I think a lot about how my life will be affected by my ethnic group membership.
5. I am happy that I am a member of the group I belong to.
6. I have a strong sense of belonging to my own ethnic group.
7. I understand pretty well what my ethnic group membership means to me.
8. In order to learn more about my ethnic background, I have often talked to other people about my ethnic group.
9. I have a lot of pride in my ethnic group.
10. I participate in cultural practices of my own group, such as special food, music, or customs.
11. I feel a strong attachment towards my own ethnic group.
12. I feel good about my cultural or ethnic background.

## VITA

Rhiannon L. Smith was born Rhiannon Lee Rodriguez in McAlester, Oklahoma, on November 27, 1978. She was raised in Newalla, Oklahoma, where she attended Little Axe Schools from kindergarten through twelfth grade. In 1997, she moved to St. Louis, Missouri, where she graduated from Hazelwood West High School. Rhiannon began her study of psychology at St. Charles County Community College in St. Peters, Missouri. She continued her studies at the University of Missouri – St. Louis, earning her Bachelor of Arts degree in psychology and graduating Magna Cum Laude in May, 2004. Subsequently, Rhiannon began her graduate training in developmental psychology at the University of Missouri – Columbia, where she earned her Master of Arts degree in May, 2009 and her Doctor of Philosophy degree in May 2011. Rhiannon is currently an Assistant Professor of Psychology at the University of Connecticut.