

THE ROLE OF TEACHERS IN SAME-/CROSS-ETHNIC FRIENDSHIP PREFERENCES IN
ELEMENTARY SCHOOL CLASSROOMS

BY

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DISSERTATION

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ABSTRACT

The aims of the present study were to: (1) examine changes in friendship preferences for same- over cross-ethnic peers across the school year among 1st, 3rd, and 5th grade European American and African American children, (2) test the extent to which shifts in these preferences and mean levels of preferences are explained by teacher observed emotional support and self-reported desegregation grouping strategies, (3) examine grade and ethnic differences in the relations between teacher emotional support and desegregation grouping strategies and children's preferences for same- over cross-ethnic friendships, and (4) test whether friendship preferences for same- over cross-ethnic peers vary as a function of student grade, ethnicity, and numerical ethnic minority status in the classroom.

The results revealed that, on average, European American and African American children's preferences for same- over cross-ethnic friendships remained stable over the school year. Teacher emotional support was negatively associated with mean levels of same-ethnic friendship preferences among fifth graders only. Teacher desegregation grouping strategies were positively associated with mean levels of same-ethnic friendship preferences among 5th grade European American—but not African American—students. No significant grade differences were evident in children's preferences for same- over cross-ethnic friendships. However, there was a descriptive indication that first grade African American children displayed lower same-ethnic friendship preferences than third or fifth grade African American students. Further, African American first graders reported lower same-ethnic friendship preferences than European American first graders. Student numerical ethnic minority status in the classroom was unrelated to same-ethnic friendship preferences among both European and African American students.

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CHAPTER 1: INTRODUCTION

It is estimated that by 2035 about one-half of the children in the United States will represent ethnic minority groups (Hernandez, 2004). Living and working harmoniously together in this increasingly heterogeneous society requires capacities to navigate group differences and communicate effectively with each other. Unfortunately, despite increasing diversity, negative stereotypes and prejudice toward outgroups are pervasive, and interethnic friendships among children remain an anomaly rather than the norm (Cooper & Slavin, 2004). Even in ethnically diverse schools ethnic friendship segregation is ubiquitous (Moody, 2001). Thus, it appears that simply placing children of diverse backgrounds in one school or class does not guarantee positive intergroup attitudes and contact. This raises the following question: What can schools, and specifically teachers, do to capitalize on the increasing diversity, reduce negative out-group attitudes, and promote positive interactions among children that cross ethnic and racial boundaries? In this paper I aim to answer this question by examining the role of elementary school teachers in children's preferences for same- over cross-ethnic friendships.

Much of the research focusing on the teacher's role in cross-ethnic relations is experimental and/or outdated. As such, few studies to date explored the extent to which natural variation in teaching practices and classroom social environments account for variation in children's cross-ethnic relations. Further, there is paucity of applied developmental research examining age differences in children's preferences for same-/cross-ethnic friendships as well as intra-individual changes in these preferences. The present study aims to fill these gaps in research by exploring children's preferences for same- over cross-ethnic friendships across the school year in a sample of 1st, 3rd, and 5th graders and testing the extent to which teachers' grouping strategies and emotional support predict shifts in and mean levels of these preferences.

Grade and ethnic differences in the associations between teacher variables and children's friendship preferences will be also examined.

In-Group/Out-Group Biases in Friendship Preferences

To understand why children, even in multiethnic contexts, are drawn to peers who share their ethnicity, it is helpful to adopt the social identity perspective (Tajfel & Turner, 1986; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). According to this perspective, humans have a natural tendency to perceive themselves as members of social groups. Group membership is an essential part of one's self-concept or identity, and hence individuals strive to maintain a positive image of their group. This is achieved through engaging in social comparison and developing in-group/out-group biases, whereby members of one's own group are viewed and treated more favorably than members of other groups (Hewstone, Rubin, & Willis, 2002; Rubin & Hewstone, 1998; Tajfel & Turner, 1986). These in-group/out-group biases can manifest through beliefs, attitudes, or behaviors—either on a conscious or subconscious level (Baron & Banaji, 2006; Davis, Leman, & Barrett, 2007) and are evident even when social groupings are “minimal”, or irrelevant and trivial (Tajfel, 1970; Tajfel, Flament, Billig, & Bundy, 1971).

Because ethnicity is a salient social category, it often serves as a basis of social categorization and bias (Aboud, 1988). Experimental research has shown that by age four children use ethnicity to form categories of people and make intragroup and intergroup judgments (Aboud & Amato, 2001; Castelli, De Amicis, & Sherman, 2007; Ramsey & Myers, 1990). For example, one study found that 4-year-old children preferred to have as a playmate and gave more positive evaluations to hypothetical same-ethnic children who interacted exclusively with other same-ethnic members (Castelli et al., 2007). Another study conducted in Australia showed that in describing drawings of non-familiar White people, 5-year-old White children

used more positive adjectives, but in describing drawings of Black people they used more negative adjectives (Augoustinos & Rosewarne, 2001). Thus, positive ethnic in-group and negative ethnic out-group biases are evident from a very early age.

In the school setting, ethnic in-group/out-group biases can manifest in children's peer affiliation preferences. Sociometric studies have found that children of different ethnic groups tend to send more "friendship" (Graham, Munniksma, & Juvonen; 2014; Hamm, Brown, & Heck, 2007; Moody, 2001; Quillian & Campbell, 2003; Shrum, Cheek, & Hunter, 1988), more "like to hang around with", and fewer "do not like to hang around with" nominations (Bellmore, Nishina, Witkow, Graham, & Juvonen, 2007) to same-ethnic peers. Studies typically do not report the percentage of friendship nominations that are cross-ethnic, but those few that do suggest that approximately 20-40% of friendship ties are cross-ethnic (Echols & Graham, 2013; Graham et al., 2014; McDonald, Dashiell-Aje, Menzer, Rubin, Oh, & Bowker, 2013). Much of this research, however, has relied on compositionally variant friendship measures, which do not control for opportunities for same- and cross-ethnic contact in the classroom. Thus, the results of these studies should be interpreted with caution.

Classroom Ethnic Composition and Same-/Cross-Ethnic Friendship Preferences

Children's preferences for same- over cross-ethnic friends may depend on the numerical representation of same- and cross-ethnic classmates in the classroom. With the increasing number of cross-ethnic peers (or decreasing number of same-ethnic peers) children may be more receptive to cross-ethnic peers due to the greater number of opportunities to interact with them and because cross-ethnic peers provide a larger pool from which students can find peers who have personal characteristics they find attractive (Blau, 1977; Hallinan & Smith, 1985; Hallinan & Teixeira, 1987a; Hallinan & Teixeira, 1987b). Alternatively, with the increasing number of

cross-ethnic peers, children in the numerical minority may feel threatened by high proportions of cross-ethnic peers, thus isolating themselves in same-ethnic peer groups (Blalock, 1967; Hallinan & Teixeira, 1987a; Quillian & Campbell, 2003). This may be particularly true for ethnic minority children, who have been historically discriminated against and marginalized and, hence, may have learned to self-segregate as a way to cope with racism (Tatum, 2003; Wilson & Rodkin, 2011).

Developmental Trends and Ethnic Differences in Same-/Cross-Ethnic Friendship

Preferences

Studies that examined developmental changes in same-/cross-ethnic friendship preferences are scarce and outdated. Existing evidence suggests that with age children show greater in-group ethnic biases by disproportionately preferring same- over cross-ethnic friends, although these patterns may differ by ethnicity. For example, using a sample of over 2000 students from grades 3-12, Shrum et al. (1988) found that children's ethnic friendship segregation was relatively low during elementary school and much greater during middle and high school years. However, African American children had greater same-ethnic friendship preferences than did European American children in elementary school and early middle school grades, but this pattern reversed in grade 8. In another study of 455 4th-7th graders, Hallinan and Teixeira (1987a) found age differences in friendship preferences only for African American children (but not European American)—older African American students were more likely to choose same-ethnic children as best friends than younger students. African American students, nevertheless, were overall friendlier toward cross-ethnic peers than European American children. In sum, these somewhat mixed and outdated findings highlight the need for further research to clarify developmental and ethnic differences in children's friendship preferences.

From a theoretical and practical standpoint, it would be also informative to examine whether children's same-/cross-ethnic friendship preferences change over shorter time periods, such as one school year. Preliminary evidence suggests that compared with same-ethnic friendships, cross-ethnic friendships are more likely to dissolve and new ones are less likely to form over the year (Aboud et al., 2003). There is also evidence that indicates that children's same-ethnic friendships may decline over the year (Jugert, Noack, & Rutland, 2011). Based on these data and other research showing general volatility of friendships during preadolescence (Poulin & Chan, 2010), it is possible that shifts in children's same-/cross-ethnic friendship preferences may be evident even within the seemingly short period of a school year.

The potential increase in children's preferences for same-ethnic peers over time may be attributed to the growing importance of identity (Erikson, 1968; Marcia, 1980; Phinney, 1990) and the peer group (O'Brien & Bierman, 1988; Parker, Rubin, Erath, Wojslawowicz, & Buskirk, 2006) as well as development of more complex understanding of ethnicity and race with age (Quintana, 1998). As children move through grade school they begin to increasingly reflect on their identity by experimenting with various roles and examining their values, beliefs, and life goals. They also begin to increasingly spend more time with peers (Parker et al., 2006), use peer groups as social reference groups (O'Brien & Bierman, 1988), and rely on peers for support (Furman & Buhrmester, 1992). Due to their growing importance, peers serve as important socializing agents in the identity formation process. Same-ethnic peers may play a particularly crucial role because relationships with same-ethnic peers tend to be of higher quality (Aboud, Mendelson, & Purdy, 2003; Kao & Joyner, 2004; Schneider, Dixon, & Udvari, 2007) and because children belonging to the same ethnic group often undergo similar experiences. Hence, same-ethnic friendships may offer more provisions than cross-ethnic affiliations. In addition,

with age children become increasingly more aware of subtle features of and social consequences of ethnicity and race (Quintana, 1998). For example, they begin to understand that it is easier to make and sustain same-ethnic friendships, and this may account for why same-ethnic friendships may become more common with age.

Teachers as Classroom Social Architects

Although teachers have long been recognized as social architects of the classroom (Gronlund, 1959; Redl & Wattenberg, 1959), their role in shaping classroom social dynamics has been widely understudied (Bierman, 2011; Farmer, Lines, & Hamm, 2011; Gest & Rodkin, 2011). In describing this phenomenon, Robert Cairns used the term “invisible hand” to highlight the fact that teachers can and do, intentionally or not, impact students’ social experiences (as cited in Farmer et al., 2011, p. 247). In this study, I will explore how teachers may use “an invisible hand” to shape cross-ethnic social dynamics or, more specifically, children’s same- and cross-ethnic friendship preferences. The expectation that teachers would affect children’s same- and cross-ethnic friendships is informed by Allport’s contact theory (1954), which posits that there are four key conditions essential for reducing prejudice and promoting positive intergroup relations: equal status of group members, pursuit of common goals, intergroup cooperation, and support from authorities. By virtue of being the main authority figure in the classroom, the teacher is in a unique position to create classroom context that supports the aforementioned conditions and promotes positive cross-ethnic sentiments and friendships (Schofield & Eurich-Fulcer, 2002).

Teacher Desegregation Grouping Practices

One way teachers promote positive intergroup context is by providing opportunities for children of different ethnic groups to sit next to each other and work together in a group.

Proximity is a necessary condition for any interaction, and without it interethnic contact would not be possible (Blau, 1977). Yet, oftentimes, students in multi-ethnic schools have few opportunities for cross-ethnic contact because they live in different neighborhoods and ride different buses home, attend different tracks at schools, or sit across from each other during lunch breaks and in classrooms (Slavin, 1995). Such ethnicity-based segregation may be problematic for at least two reasons. First, it seems like a lost opportunity to bridge inter-ethnic divide and develop cross-cultural competence. Further, such segregation likely exacerbates perceptions of “us” versus “them”, which have been linked to greater in-group bias and out-group prejudice (Bigler, Jones, & Lobliner, 1997; Bigler & Liben, 2006; Tajfel et al., 1971).

An experiment by Bigler et al. (1997) exemplifies how increased perceptual distinctiveness of groups can lead to in-group bias. In this study, 61 children enrolled in a six-week summer school program were instructed to wear either a yellow or a blue t-shirt. In some classrooms teachers were to make use of the t-shirt colored groups (e.g., lining up or seating children by their color), and in others they were to ignore the colors. The results revealed that in classrooms where teachers made use of the colors children displayed greater in-group biases. They were more likely to say that none of the members of their group have negative traits and that all have positive traits. They also perceived greater differences between their group and a group of a different color. Although such biases are not problematic in and of themselves, under certain conditions they can extend to prejudicial attitudes toward out-group members (Bigler & Liben, 2006; Brewer, 1999), which in turn can elicit discrimination and antagonize intergroup relations (Nesdale, 2004; Stangor, 2000). Bigler et al.’s (1997) findings are significant for two reasons. First, they underscore the danger of having perceptually distinct groupings and making

differences between these groups salient. Second, these results suggest that teachers' words and actions matter and can have a powerful impact on children's intergroup sentiments.

One way to decrease perceptions of "us" versus "them" in the classroom is to allow students to work in heterogeneous groups on a common task because group work allows students to share their ideas and learn from each other, engage in shared decision-making and negotiation with their group, and support each other (Putnam, 1997; Schmuck & Schmuck, 2001). These conditions may help reduce inter-ethnic boundaries and cultivate favorable cross-ethnic attitudes and, perhaps, even friendships. Heterogeneous grouping may also prevent or mitigate achievement-based status hierarchy, which results from a wide-spread practice of performance grouping. Performance grouping acts as a barrier to inter-ethnic contact because it often separates students by ethnicity and makes academic differences among ethnic groups obvious (Khmelkov & Hallinan, 1999; Zirkel, 2008). Because achievement, social status, and interpersonal attraction are intertwined, high achieving students may find low-achieving peers less attractive as friends and low achieving students may feel jealous toward their high achieving peers, who tend to receive positive evaluation and special attention from teachers (Hallinan & Teixeira, 1987b). Heterogeneous grouping may unify the classroom and reduce perceived dissimilarity among students, thus improving interpersonal attraction across ethnic groups.

A large body of research on cooperative learning conducted in the 1970-1990s substantiates the positive benefits of heterogeneous grouping on intergroup relations (Hansell & Slavin, 1981; Slavin, 1979; Slavin & Oikle, 1981; Ziegler, 1981). Results from school field experiments demonstrate that cooperative group work can promote cross-ethnic friendships because it appears to satisfy all four conditions of optimal contact (Allport, 1954; Slavin & Cooper, 1999). It provides opportunities for groups of diverse students to work on a common

task, allows for an equal contribution of each student in a group, and communicates teacher support for intergroup interactions (Slavin, 1995). Although teachers intervene little when students engage in cooperative work, they are the ones who make a decision to use cooperative learning in their classroom and assign students to cooperative groups. When assigning students of different ethnic groups to work together in a group, they not only provide direct opportunities for children to form friendships but may also send implicit egalitarian messages that cross-ethnic interaction is welcomed (Slavin & Cooper, 1999).

Despite evidence pointing toward the significance of classroom organizational practices in intergroup dynamics, many teachers fail to use their “invisible hand” to orchestrate opportunities for cross-ethnic contact. They may do so for numerous reasons. For some educators, promoting social integration may not be at the top of their daily agenda as they are too busy trying to meet state education standards. Others may endorse the belief that they are not accountable for supporting cross-ethnic relations in the classroom. There are also teachers who fail to consider this issue whatsoever (Jervis, 1996; Schofield, 2007). These teachers may be “blind” to the issue of race believing that it no longer matters in our modern society and that everyone gets along with each other (Pollock, 2004). Regardless of the reason, the evidence to date suggests that teachers who fail to encourage ethnically mixed groupings may be more likely to have classrooms where students tend to favor same- over cross-ethnic friendships.

Teacher Emotional Support

In addition to forming ethnically diverse groups, teachers can promote positive intergroup attitudes and behaviors among students by showing their warmth, support, and regard for all students. A growing body of research suggests that teachers who are warm and sensitive to student needs have classrooms with higher rates of reciprocated friendships (Gest & Rodkin,

2011), greater levels of perceived classroom community (Madill, Gest, & Rodkin, 2014), higher levels of prosocial behavior (Luckner & Pianta, 2011), lower levels of bullying (Wei, Williams, Chen, & Chang, 2010), and less rejection of aggressive and withdrawn students (Chang et al., 2007). Whether or not such teachers also have classrooms with higher rates of cross-ethnic friendships or less in-group/out-group bias is less clear as, to our knowledge, only one study has tested this issue. Through observations of 99 elementary school classrooms in desegregated and mixed schools, Serow and Solomon (1979) found that positive intergroup interactions, as indicated by positive affect, respect, cooperative behaviors, and talking, occurred in classrooms with teachers who were warm and accepting. Although the causal mechanisms remain to be seen, these findings provide some indication that teacher emotional support may play a part in classroom intergroup relations.

Teacher emotional support may be significant for positive intergroup experiences for a number of reasons. First, teachers who are warm and responsive to all students set expectations for positive social interactions and model relational skills (Gest & Rodkin, 2011), which are also important for establishing positive intergroup relationships. Second, these teachers create an atmosphere of mutual respect, trust, and inclusion, which may have the (perhaps) unforeseen benefit of cultivating positive inter-group attitudes and relationships. In affectively positive classroom environments children may be more willing to cross ethnic boundaries in forming relationships because experimental work has shown that positive affect can lead to less negative evaluations of the out-group and a greater sense of “we-ness” (Dovidio, Gaertner, Isen, & Lawrence, 1995; Forgas & Moylan, 1991) as well as greater willingness to disclose personal information about oneself (Forgas, 2011). Because self-disclosure helps build trust (Miller, 2002; Turner, Hewstone, & Voci, 2007), which is an important aspect of any friendship (Berndt &

McCandless, 2009), and positive out-group evaluations are linked to cross-ethnic friendships (Aboud et al., 2003; Feddes, Noack, & Rutland, 2009; Graham, Taylor, & Ho, 2009), it is plausible that in classrooms pervaded by an atmosphere of respect, trust, and support children may be more receptive to cross-ethnic interactions.

Teacher Grouping Practices, Emotional Support, and Student Age and Ethnicity

The links between teacher desegregation grouping practices and emotional support and children's friendship preferences may vary across elementary school years due to a number of developmental changes occurring in children during this period. Based on the developmental subjective group dynamics (DSGD) theory (Abrams & Rutland, 2008), during middle childhood, children acquire greater social perspective-taking ability, which, along with increased social experiences, makes children more sensitive to group processes and norms (Abrams, Rutland, & Cameron, 2003; Abrams, Rutland, Cameron, & Marques, 2003). Further, by late elementary school, children begin to understand the implications of ethnic group membership for social interactions and become more aware of ethnic bias and prejudice toward minorities (Quintana, 1998). In addition, as children approach adolescence, they face increasingly more social challenges—finding their social niche, gaining peer acceptance, and resolving identity issues (Erikson, 1968; Nangle, Hansen, Erdley, & Norton, 2010; Phinney, 1990). These multiple changes—growing perspective-taking skills, ethnic awareness, attention to group processes, and social demands—may make it easier for older children to discern, process, and respond to social information. Hence, children in upper elementary grades may be more responsive to the levels of emotional support they receive from their teachers and teacher desegregation grouping practices.

The associations between teacher grouping practices and emotional support and children's friendship preferences may also depend on the ethnicity of the student. Although all

children experience greater social demands with age, ethnic minority youth often experience additional challenges, such as learning to respond to and cope with prejudice and discrimination (Tatum, 2003) and sorting out positive and negative attitudes toward their own and other groups (Kiang & Fuligni, 2009; Phinney, 1990). Further, many ethnic minority youth frequently have to grapple with negative teacher biases, including lower teacher expectations and negative referrals (Tenenbaum & Ruck, 2007). To the extent that such teacher biases translate into lower teacher support, ethnic minority youth may be more sensitive to positive contextual influences and may benefit more when the teacher is supportive. Hence, the relations between friendship preferences and teacher desegregation grouping practices and emotional support may be stronger for ethnic minority youth.

The Present Study

The main goal of this study is to examine changes in children's friendship preferences for same- over cross-ethnic peers across the school year among 1st, 3rd, and 5th graders and test the extent to which shifts in these preferences as well as mean levels of preferences are explained by desegregation grouping strategies and teacher emotional support. Due to the paucity of research on changes in same-/cross-ethnic friendship preferences across the school year, I do not make any predictions regarding the direction of within-year changes. In classrooms where teachers provide more opportunities for cross-ethnic contact and show greater levels of emotional support, students are expected to show lower growth rates in preferences for same-ethnic friendships across the year and lower levels of same-ethnic preferences in general. The negative relations between same-ethnic friendship preferences and teacher grouping practices and emotional support are expected to be stronger for ethnic minority youth and older children, given that older and ethnic minority children may be more sensitive to positive changes in the classroom

environment and the levels of support they receive from their teachers.

The secondary aim of this study is to examine developmental trends in same-/cross-ethnic friendship preferences. Children in upper elementary grades are expected to show greater preferences for same- over cross-ethnic friendships. Based on prior research (Hallinan & Teixeira, 1987a), I expect these trends to be more pronounced for African American students. I will also examine if students' numerical ethnic minority status in the classroom is associated with their preferences for same- over cross-ethnic friendships, given that classroom ethnic composition may affect children's friendship preferences (Hallinan & Teixeira, 1987a; Quillian & Campbell, 2003). With the increasing number of cross-ethnic peers, children may show either greater or lower preferences for same-ethnic friendships.

CHAPTER 2: METHOD

Participants

The data used in this study were from year 2, 3, and 4 of the Classroom Peer Ecologies Project, a multi-cohort one-year longitudinal study of elementary classrooms, with each classroom studied at three points within a single school year (Gest & Rodkin, 2011; Rodkin & Gest, 2010). The first assessment was conducted early in the fall, the second assessment was later in the fall, and the third assessment was conducted towards the end of spring.

I analyze data collected at eleven elementary public schools in Illinois and one school in Indianapolis. Data were collected at two Indianapolis schools, but one school was excluded from the analyses because all participating classrooms in that school were predominantly African American or Hispanic with either zero or one European American student. Schools in Illinois were located in small-sized urban areas. The percentage of students qualified to receive free/reduced lunch ranged from 41% to 88% across twelve schools ($M = 72\%$).

Participants at Time 1 (early fall) were 1425 first, third, and fifth graders from 80 classrooms and their teachers. These students represented 78% of the students enrolled in these classrooms; participation rates across classrooms ranged from 65% to 100%. Participants at Time 2 (late fall) included 1392 students and their teachers from the same 80 classrooms (76% participation rate). Participants at Time 3 (spring) included 1397 students (76% participation rate). An approximately equal number of participants were sampled in each grade, and there was a nearly equal number of classrooms within each grade ($N_{\text{Grade1}} = 27$, $N_{\text{Grade3}} = 27$, $N_{\text{Grade5}} = 26$). Fifty two percent of the sample were male. Approximately 40% of the participants were European American, 41% African American, 7% Hispanic, 5% Asian and 6% were classified as “other”. Across classrooms the percentage of European Americans ranged from 7% to 70% ($M =$

38%), and the percentage of African Americans ranged from 10% to 79% ($M = 43\%$). Ninety percent of the teachers were female. The ethnicity of individual teachers was unknown. Teachers' mean age was 35.65 years old ($SD = 10.36$). On average, teachers had 11 years of teaching experience ($SD = 9.22$).

Procedure

Upon receiving the approval from relevant University Institutional Review Boards, all teachers in 1st, 3rd, and 5th grades in participating schools were invited to participate in the study. In classrooms where teachers agreed to participate, a parent consent form was sent home with each student. Students who received parental permission to participate in the study were invited to complete a survey. Surveys were administered during regular class hours. First graders were interviewed individually by a research assistant. Third and fifth graders filled out a paper-and-pencil survey on their own, but the instructions and questions were read out loud to them by a research assistant. Before completing the survey, students were asked to give their oral (1st Grade) or written assent (3rd and 5th Grades) to participate in the study.

Measures

Same- and cross-ethnic friendship preferences. Friendships were assessed using a sociometric procedure employed in many previous studies. During each wave, participating students were presented with a list of all students in their classroom and were asked to circle the names of students whom they considered to be their friends. They were allowed to make an unlimited number of nominations. In this study I focused on sent friendship nominations because I was interested in students' subjective views of friendships—whom they considered to be their friend, regardless of whether the other person also viewed them as a friend. Friendships were classified as same-ethnic if children nominated peers who belonged to the same ethnic group as

themselves. Ethnicity information was obtained from school records provided by the school. Because the majority of this sample comprises European American and African American students and there is not sufficient statistical power to examine other ethnic groups, the main analyses will focus only on these two groups. However, in calculating cross-ethnic friendships I considered the multiethnic context of classrooms by including nominations sent to children from other ethnic groups. This decision was made because in many classrooms there were students belonging to other ethnic groups (e.g., Hispanic), who comprised a potential pool of friends to choose from. Moreover, this study focuses on the role of teachers in children's preferences for cross-ethnic friendships in general rather than preferences for friendships with children from a particular ethnic group. Hence, it seemed appropriate to account for the multiethnicity of the classroom.

To assess children's preference for same- over cross-ethnic friends, I used the compositionally invariant odds ratio, α , which controls for opportunities for same- and cross-ethnic contact in the classroom (Charles & Grusky, 1995; Moody, 2001; Mosteller, 1968; Wilson & Rodkin, 2011). Specifically, for each child who nominated at least one same- or one cross-ethnic friend I calculated the odds of nominating a friend of the same ethnicity relative to the odds of nominating a friend of a different ethnicity using this formula:

$$\alpha = AD/BC$$

where A = the number of same-ethnic friend nominations, B = the number of cross-ethnic friend nominations, C = the number of same-ethnic peers whom the child did not nominate as friends, D = the number of cross-ethnic peers whom the child did not nominate as friends.

The advantage of this formula is that it focuses on the core association between ethnicity and friendship and does not depend on the total number of nominated friends (or non-friends)

and the total number of same-ethnic (or cross-ethnic) peers in the classroom (Moody, 2001). Because the distribution of odds ratios is highly skewed, I took the log of α . The log-transformed α values can range from $-\infty$ to $+\infty$. Positive values indicate a preference for same-ethnic friends and negative values indicate a preference for cross-ethnic peers. Zero indicates children are neutral in their preferences.

Teacher-reported desegregation grouping strategies. To assess the extent to which teachers tend to form ethnically diverse groups in the classroom, at each time point teachers were asked to rate how important it was for them to create groups with racial/ethnic diversity when they formed: 1) instructional reading groups, 2) seating groups, and 3) small groups for other instructional or social purposes. The response options ranged from “not at all important” (=1) to “very important” (=5). As part of the survey, teachers also rated the importance of other considerations in creating classroom groups (e.g., arranging by academic similarity, discouraging disruptive pairings), but for the purpose of this study, I only focus on the desegregation consideration. Cronbach’s alphas for the scale at Times 1, 2, and 3 were .89, .87, and .78.

I performed a longitudinal confirmatory factor analysis (CFA) on nine grouping strategies items (three items per time point) using MPlus 7.4 (Muthén & Muthén, 1998-2015). Specifically, I specified a common-factor model that captured the common variance across the three strategies simultaneously across the three respective time points. Each was scaled on the instructional reading groups item. The covariances between the latent factors and the measurement residuals pertaining to the same indicator over time were freely estimated. The measurement intercepts of common items were constrained to be equal over time. I identified the latent means, by constraining the T1 mean to zero, and freely estimated the subsequent latent means—thus, the latent means for T2 and T3 represent relative differences to T1. Although there

was some descriptive indication of a non-linear increase in the latent means across the three time-points, neither the T2 nor T3 latent means differed statistically from the T1 latent mean.

To test measurement invariance, I fitted a series of equality constraints across nested models. Chi-square difference tests were used to compare the models. Imposing equality constraints on factor loadings did not result in a significant decrease in model fit, $\chi^2_{\Delta} = 4.95$, $df_{\Delta} = 4$, $p = .29$. Similarly, imposing intercept equality constraints did not lead to a change in model fit, $\chi^2_{\Delta} = 4.32$, $df_{\Delta} = 4$, $p = .37$. Based on these results, I adopted a model in which the factor loadings were constrained to be equal over time.

In absolute terms, this model fit the data well, $\chi^2(19) = 21.34$, $p = .32$, CFI = .994, RMSEA = .039, SRMR = .056. All items loaded significantly onto their respective factors (standardized loadings ranged from .646 to .938). The factors were highly correlated across the three time points (r s ranged from .84 to .92). Given the complexity of the substantive model, I used the factor scores extracted from this model in the subsequent substantive analyses.

Teacher emotional support. Teacher emotional support was assessed three times a year using the Classroom Assessment Scoring System (CLASS; Pianta, La Paro, & Hamre, 2008). The CLASS (Pianta et al., 2008) is a validated observational measure of classroom interaction quality. Each observation consisted of four separate 20-minute cycles, during which two trained observers separately rated ten dimensions of classroom interactions on a Likert scale ranging from 1-7. The two observers completed all four cycles of observations independently, and each observer's scores on each dimension were then averaged across the four cycles. Inter-rater agreement was acceptable (ICCs ranged from .75 to .91). For each dimension, ratings were averaged across both observers. To obtain the emotional support score, scores across four dimensions were averaged: Positive Climate (e.g., positive affect, respect), Negative Climate

(e.g., negative affect, aggression), Sensitivity (e.g., teacher awareness and responsiveness), and Regard for Student Perspectives (e.g., student expression, support for autonomy). To assess the internal consistency of this emotional support scale, we computed Cronbach's alphas based on the two observers' averaged scores on each of the four dimensions ($\alpha_{t1} = .80$, $\alpha_{t2} = .87$, and $\alpha_{t3} = .86$). The scores across the three time points were averaged for each classroom to obtain a single emotional support score. These scores were subsequently grand mean centered.

Student numerical ethnic minority status in the classroom. To represent students' *numerical* ethnic minority status in the classroom, I created a continuous variable that indicates the extent to which a student belongs to a numerical ethnic minority relative to other peers in the classroom. First, for each student I calculated the total proportion of same-ethnicity peers in the classroom (including the student herself) and then subtracted this number from 1. The resulting scores ranged from .21 to .93, where larger values indicate greater numerical ethnic minority status or, put differently, a smaller representation of one's ethnic group in the classroom. I chose this approach because the resulting index provides information about the ethnic minority status of any student, regardless of ethnicity, and hence this single index can be used for the entire sample. Other commonly used indicators of student ethnic minority status such as the proportion of same-ethnicity peers are dependent on the ethnicity of the student. Thus, if one wants to test the minority status effects for two or more ethnic groups, more than one index is often required. I centered minority status scores at 0.5 so that a 0 represents a case where a student is neither in the numeral ethnic majority nor in the numeral ethnic minority in a classroom (i.e., equal representation of same- and cross-ethnic peers).

Student ethnicity. Ethnicity of the child was dummy coded such that African American = 1 and European American = 0.

Student sex. Student sex was included as a covariate given its association with cross-ethnic interactions (Graham & Cohen, 1997; Singleton & Asher, 1977). It was coded as female =1.

Grade level. Two dummy-coded variables were created—*Grade3* and *Grade5* to represent each grade level, respectively. *Grade1* is the reference group.

Missing Data

As it is common in longitudinal research, not all students had complete data at all three time points. Students had missing data because they were either not enrolled in school, were absent on a day when data were collected, or did not nominate any friends. Approximately 68% of European and African American students ($N = 952$) had complete data for all three waves, and 83% ($N = 1227$) had data for at least one wave. I used full information maximum likelihood (FIML) estimation to adjust for biases emerging due to missing data. This method allows us to use all available data for a given person, with only those with missing data on time-invariant predictors being excluded from the model (Hoffman, 2015; Singer & Willett, 2003). A final analytic sample consists of 1227 students (49% European American).

Analytical Strategy

To represent each of the three time periods in which a child could have an observation, I created a *Time* variable. The metric of *Time* is the wave of data collection. This variable was centered at the first time point so that the intercept represents student friendship preferences at Time 1 (early fall).

To test the research questions, I fitted a taxonomy of multilevel models for change using SAS Proc Mixed (Singer & Willett, 2003). The models that I proposed and tested involve three levels of analysis—repeated measurements of friendship preferences nested within students

nested within classrooms. At the first level of analysis, I modeled true intercepts and growth rates in same-ethnic friendship preference for each child. At Level 2, I included ethnicity of the child and ethnic minority status variables to test whether there were differences in friendship preference intercept and slopes specified in Level 1. Student sex was included at Level 2 as a covariate. At Level 3, I included classroom-level predictors—teacher emotional support and grouping strategies to examine the effect of these variables on intercept and slopes specified in Level 2. Grade was also included at Level 3 to test cross-sectional differences in the effects of classroom-level predictors and mean levels of friendship preferences. I also added classroom predictors of ethnicity, minority, and gender in the level-3 model to avoid the convergence of student and classroom effects of these variables. Because ethnicity and gender are dummy coded, classroom-level effects of these variables represent the proportion of students in a classroom belonging to non-reference categories (i.e., African American and female). These three classroom-level variables were centered at the grand mean so that the intercept represents friendship preferences for students in classrooms with average proportions of African American students and girls and average levels of numerical ethnic minority representation in the classroom.

In fitting the models, I followed the next steps. First, I fitted an unconditional means model and calculated intraclass correlations (ICCs) to determine the amount of within-student, between-student, and between-classroom variance in friendship preferences. Then, I fitted a series of unconditional growth models to establish a plausible growth function and a reasonable model for the (co)variances. In the next step, I added all student-level predictors and grade variables and tested the random effects of student-level variables. After establishing a plausible structure for the random effects, I tested whether friendship trajectories varied as a function of

one's ethnicity, minority status, and grade level. I also tested whether the ethnicity effect interacted with minority status and grade level variables. Finally, I examined teacher emotional support and grouping strategies effects—first independently, then jointly. For each variable, I tested whether its effects varied as a function of time, child ethnicity, and grade level. In the models tested above, non-significant interactions were trimmed using a χ^2 likelihood-ratio test.

The results of four select models are displayed in Table 2. Model 4 in this table is the final and most parsimonious model. It is represented using equations at each level below.

Level 1:

$$\text{SameEthnicPreference}_{tij} = \beta_{0ij} + \beta_{1ij}(\text{Time}_{tij} - 1) + e_{tij}$$

Level 2:

$$\beta_{0ij} = \delta_{00j} + \delta_{01j}(\text{AfricanAm}_{ij}) + \delta_{02j}(\text{NumEthnicMinority}_{ij} - 0.5) + \delta_{03j}(\text{Female}_{ij}) + U_{0ij}$$

$$\beta_{1ij} = \delta_{10j} + U_{1ij}$$

Level 3:

$$\begin{aligned} \delta_{00j} = & \gamma_{000} + \gamma_{001}(\text{Grade3}) + \gamma_{002}(\text{Grade5}) + \gamma_{003}(\text{GroupStrategy}) + \gamma_{004}(\overline{\text{EmSupport}_j} - \overline{\text{GrandMean}}) \\ & + \gamma_{005}(\overline{\text{GroupStrategy}_j})(\text{Grade3}) + \gamma_{006}(\overline{\text{GroupStrategy}_j})(\text{Grade5}) + \\ & \gamma_{007}(\overline{\text{EmSupport}_j} - \overline{\text{GrandMean}})(\text{Grade3}) + \gamma_{008}(\overline{\text{EmSupport}_j} - \overline{\text{GrandMean}})(\text{Grade5}) + \\ & \gamma_{009}(\overline{\text{PropAfricanAm}_j} - \overline{\text{GrandMean}}) + \gamma_{0010}(\overline{\text{PropNumEthnicMinority}_j} - \overline{\text{GrandMean}}) + \\ & \gamma_{0011}(\overline{\text{PropFemale}_j} - \overline{\text{GrandMean}}) + V_{00j} \end{aligned}$$

$$\delta_{01j} = \gamma_{010} + \gamma_{011}(\text{Grade3}) + \gamma_{012}(\text{Grade5}) + \gamma_{013}(\overline{\text{GroupStrategy}_j}) +$$

$$\gamma_{014}(\overline{\text{GroupStrategy}_j})(\text{Grade3}) + \gamma_{015}(\overline{\text{GroupStrategy}_j})(\text{Grade5}) + V_{01j}$$

$$\delta_{02j} = \gamma_{020}$$

$$\delta_{03j} = \gamma_{030}$$

$$\delta_{10j} = \gamma_{100}$$

$$\text{,where } \begin{bmatrix} V_{00j} \\ V_{01j} \end{bmatrix} \sim N \left(\begin{bmatrix} 0 \\ 0 \end{bmatrix}, \begin{bmatrix} \tau_{20}^2 & \tau_{201} \\ \tau_{210} & \tau_{21}^2 \end{bmatrix} \right), \begin{bmatrix} U_{0ij} \\ U_{1ij} \end{bmatrix} \sim N \left(\begin{bmatrix} 0 \\ 0 \end{bmatrix}, \begin{bmatrix} \tau_{10}^2 & \tau_{101} \\ \tau_{110} & \tau_{11}^2 \end{bmatrix} \right), \varepsilon_{ijk} \sim N(0, \sigma^2)$$

In the model above, subscript t denotes a time point, i refers to a student, and j refers to a classroom. At Level 1, the symbol β_{0ij} represents the intercept of the true change trajectory for student i in classroom j , centered such that it represents friendship preferences in early fall for student i , conditional on student ethnicity, numerical ethnic minority status, student sex, grade, teacher emotional support, grouping strategies, proportion of African American students, proportion of numerical ethnic minority, and proportion of girls in the classroom. The symbol β_{1ij} represents the true initial rate of change for student i in classroom j . Symbol e_{tij} represents Level 1 residual.

At Level 2, the symbol δ_{01j} refers to ethnicity effect, conditional on grade and teacher grouping strategies; symbols δ_{02j} – δ_{03j} represent numerical ethnic minority status and sex effects, respectively. Random effects U_{0ij} and U_{1ij} allow the residual intercept and growth rate to vary randomly between children in the same classroom.

At Level 3, the most relevant parameters to my research questions include γ_{003} and γ_{004} , which represent respective relations between grouping strategies and grand mean centered teacher emotional support with children's friendship preferences, conditional on grade; γ_{005} – γ_{008} , which allow these same relations to vary as a function of grade; γ_{013} , which represents the estimated population average difference between European American and African American students in the grouping strategies effect conditional on grade, and γ_{014} – γ_{015} , which allow this relation to vary as a function of grade. Residual terms V_{00j} and V_{01j} allow the intercept and the ethnicity effect, respectively, to vary randomly across classrooms.

CHAPTER 3: RESULTS

Preliminary Results

Table 1 shows correlations and descriptive statistics for individual-level variables. There was moderate to strong rank-order stability in levels of preferences for same-ethnic friendships over the year. Student sex and numerical ethnic minority status were not associated with friendship preferences across the year. Ethnicity was negatively associated with friendship preferences at Time 2 only, although this association was modest ($r = -.06$). Thus, relative to European American students, African American students tended to show lower same-ethnic friendship preferences at Time 2. Inspection of the means for the outcome in Table 1 indicates that students, on average, tended to prefer same- over cross-ethnic friendships at each time point. For example, at Time 1 the average value of log alpha was 0.27, which indicates that the average odds of nominating a same-ethnicity friend were about 1.31 times the odds of nominating a cross-ethnicity friend. However, there was variability among students in their preferences, with some showing greater preferences for same-ethnic friendships and others showing greater preferences for cross-ethnic friendships.

The correlations and descriptive statistics for classroom-level variables are shown in Table 2. There was strong rank-order stability in mean classroom levels of preferences for same-ethnic friendships over the year. No significant correlations were evident for other classroom-level variables, with the exception of a small negative correlation between the proportion of girls and the proportion of African American students in the classroom ($r = -.22$). Table 3 presents means and standard deviations for classroom-level predictors by grade level. For each predictor, no significant grade differences were found in the means.

Based on the unconditional means model, an ICC for the outcome for Level 2 (and Level 3) relative to Level 1 was equal to 0.49. Thus, about half of the variation in friendship preferences was within students, and half was between children or higher (i.e., between classrooms). An ICC for Level 3 relative to Level 2 was equal to 0.15, indicating that of the between-student and between-classroom variance in friendship preferences, 15% was across classrooms.

The results of unconditional growth modeling (Table 4, Model 1) indicated that the linear effect of *Time* was non-significant ($B = -0.003$, $p = .87$), which suggests that on average same-ethnic friendship preferences did not change across the school year. Adding a variance for the random slope of *Time* at Level 2 significantly improved model fit ($\chi^2_{\Delta} = 7.6$, $df_{\Delta} = 2$, $p < .05$). Thus, I allowed the slope for *Time* to vary randomly across students in the same classroom ($\chi^2_{\Delta} = 2.4$, $df_{\Delta} = 2$, $p = .30$). Adding a variance for the random slope of *Time* at Level 3 did not improve the model fit ($\chi^2_{\Delta} = 2.4$, $df_{\Delta} = 2$, $p = .30$); hence, the *Time* slope was constrained to be equal across classrooms. The ethnicity slope was allowed to vary randomly across classrooms because addition of a variance for this slope significantly improved model fit ($\chi^2_{\Delta} = 26.2$, $df_{\Delta} = 2$, $p < .05$). Growth trajectories in friendship preferences did not vary by ethnicity, numerical ethnic minority status, or grade level (results not shown in the table).

Same-Ethnic Friendship Preferences and Student Ethnicity, Minority Status, and Grade

As shown in Table 4 (Model 2), among European American students, no significant differences in same-ethnic friendship preferences were evident between first and third ($B = -0.065$, $p = .66$) and first and fifth graders ($B = -0.023$, $p = .88$). Similarly, among African American students, no significant differences were found between first and third ($B = 0.327$, $p = .12$) and first and fifth graders ($B = 0.237$, $p = .26$). I also compared friendship preferences of

third and fifth graders and found no significant differences between these two groups for either African American or European American students. Although no significant grade differences were evident in same-ethnic friendship preferences, there was a descriptive indication that first grade African American students showed lower same-ethnic preferences than third or fifth grade African American students (see Figure 1). In examining within-grade ethnic differences, a marginally significant difference emerged for first graders—African American students had lower same-ethnic friendship preferences than European American students (Model 2: $B = -0.285, p = .06$). In the models that took into account teacher emotional support and desegregation grouping practices (i.e., Model 3 and Model 4), this effect was statistically significant. Therefore, first grade African American students had lower same-ethnic friendship preferences than European American students in classrooms with average levels of teacher emotional support and desegregation grouping practices. For third and fifth graders, no ethnic differences were found in same-ethnic preferences. Numerical ethnic minority status was not associated with same-ethnic friendship preferences for both African American and European American students across all grade levels (results not shown in the table).

Teacher Desegregation Grouping Strategies Effects

Teacher desegregation grouping strategies did not predict changes in children's same-over cross-ethnic friendship preferences across the year (results not shown in the table). However, grouping strategies were associated with mean levels of friendship preferences, although this association was conditional on student ethnicity and grade level. Specifically, as shown in Table 4, Model 4, grouping strategies were not associated with friendship preferences among 1st grade European American students ($B = -0.122, p = .37$), but the absolute magnitude of the association was more pronounced for fifth grade European American students ($B = 0.414, p = .03$). Further,

as indicated by a marginally significant AfricanAm \times GroupStrategy \times Grade5 interaction ($B = -0.499, p = .07$), GroupStrategy \times Grade5 effect seemed to vary as a function of student ethnicity. To unpack these interaction effects, I plotted the relations between grouping strategies and friendship preferences for first, third, and fifth grade African American and European American students in Figure 2 and tested the significance of simple slopes for each group. The results indicated that grouping strategies were positively associated with friendship preferences only among fifth grade European American students ($B = 0.292, p = .02$). This relation is displayed by the solid positive slope in Figure 2. The other simple slopes were non-significant.

Teacher Emotional Support Effects

Teacher emotional support was not associated with within-year shifts in children's same-ethnic friendship preferences. However, it was negatively associated with mean levels of same-ethnic friendship preferences, although this effect was conditional on grade. As shown in Table 4, Model 4, among first grade students teacher emotional support was not associated with same-ethnic friendship preferences ($B = 0.123, p = .42$), and this effect was statistically identical for third graders ($B = -0.142, p = .56$). However, for fifth grade students the absolute magnitude of the association was more pronounced compared with first graders ($B = -0.407, p = .04$). The relations between emotional support and friendship preferences for each grade level are depicted in Figure 3. As shown by the solid line, emotional support was negatively associated with same-ethnic friendship preferences among fifth grade students ($B = -0.284, p = .02$). The slope for third grade students was not significantly different from 0 ($B = -0.019, p = .92$). No ethnic differences were found in the emotional support effects across all grade levels, as evidenced by non-significant three-way interactions between emotional support, grade, and ethnicity (see Table 4, Model 3). Hence, these three-way interactions as well as a two-way interaction between

emotional support and ethnicity were excluded from the final model for parsimony (i.e., Model 4).

CHAPTER 4: DISCUSSION

The main goal of this study was to examine children's preferences for same- over cross-ethnic friendships across the school year in the elementary school setting and uncover the role of the teacher's "invisible hand" in shaping these preferences. Both empirical (Graham et al., 2014; Hamm et al., 2007; McGill et al., 2012; Shrum et al., 1988) and anecdotal evidence suggests that children across different ethnic groups tend to display strong ethnic homophily. Even in multiethnic contexts, children seem to be drawn to peers who share their ethnic background (Moody, 2000). Although such ethnic homophily and self-segregation can serve an important developmental and protective function (Tatum, 2003), they could also have negative consequences. For example, they could create an intergroup divide which could promote negative intergroup attitudes and preclude children from learning to communicate effectively with others from different backgrounds, which is an essential skill in our increasingly heterogeneous society. Because schools can serve as important venues for children to learn to be accepting of each other's differences and to acquire cross-cultural competence and teachers are an integral part of the school context, understanding their role in this process seems crucial. Yet, surprisingly little attention has been dedicated to this issue, with most of the research conducted more than twenty years ago, when there was a greater commitment to school integration and when racial discrimination was more overt (Boger, 2011; Schofield & Eurich-Fulcer, 2002).

Teacher Emotional Support and Self-Reported Desegregation Grouping Strategies

The results of this study provide some evidence for the "invisible hand" of teacher influence in intergroup classroom dynamics. I focused on two teacher-level variables—teacher observed emotional support and self-reported efforts to form ethnically diverse groups in the classroom. The results suggest that both variables provide independent contribution to children's

friendship preferences. Further, these two aspects appear to be differentially associated with friendship preferences, indicating that teacher emotional support and grouping strategies may carry different meanings for children of different ages and ethnic backgrounds.

In fifth grade classrooms where teachers showed regard for all students and were warm and responsive to students' needs, both African American and European American children showed lower tendency to nominate same-ethnic peers as friends across the year (or greater tendency to nominate cross-ethnic peers). To the extent that teachers are the driving force of classroom social processes, this finding suggests that emotionally supportive teachers may help foster positive intergroup attitudes and reduce cross-ethnic barriers by modeling relational skills that may be essential for forming cross-ethnic friendships and by cultivating an affectively positive context, which can lead to greater willingness to form friendships with cross-ethnic peers. Indeed, experimental work indicates that positive affect can help reduce negative evaluations of the out-group and promote self-disclosure (Dovidio et al., 1995; Forgas, 2011; Forgas & Moylan, 1991), which in turn can promote positive intergroup relations (Aboud et al., 2003; Feddes et al., 2009; Graham et al., 2009). Thus, emotionally supportive teachers may build a positive ethos within a classroom where students and teachers trust and respect each other and where students feel a strong sense of community and belonging—an environment conducive to positive intergroup sentiments.

The finding that emotional support was associated with friendship preferences only among fifth grade students suggests that older elementary school children may be more responsive to teacher support and positive classroom context than younger children. This may be explained by a number of developmental shifts that occur during middle childhood. First, by early adolescence children acquire greater capacity to take on others' perspectives (Selman,

1980; Quintana, 1998), which may translate into their improved ability to process social information and respond to it. Second, older children experience greater social and academic demands (Roorda et al., 2011), which can make them more sensitive to the level of emotional support they receive from a teacher. Contrary to expectations, emotional support effects were not moderated by the ethnicity of the child, which indicates that being in a classroom with an emotionally supportive teacher is associated with lower same-ethnic friendship preferences for both African American and European American children. Thus, emotional support appears to confer similar benefits for these groups of children.

Unexpectedly, teachers who reported creating ethnically diverse groups in their classrooms had classrooms where students showed greater preferences for same- over cross-ethnic friendships, although this relationship was only evident for fifth grade European American students. Perhaps, this finding reflects teachers' response to segregation among European American students, which may be viewed by teachers as more problematic and inappropriate than segregation among African American students. Unlike their European American counterparts, African American students, as a group, occupy lower status in the American society and continue to face discrimination and numerous challenges. Therefore, their segregation may be seen as more normative and somewhat expected, whereas European American students' segregation may be considered as a sign of bigotry and antipathy. Subsequently, in classrooms where European American students alienate themselves from other-ethnicity children, teachers can make greater efforts to promote cross-ethnic contact by assigning students of diverse backgrounds to work together in groups or sit next to each other in the classroom. Based on the results of this study, this seems to be true only in fifth grade classrooms, perhaps because by late childhood children have developed greater cognitive abilities (Aboud,

1988; Piaget, 1932; Quintana, 1998) and, hence, may be expected to control their expression of prejudiced responses (Killen & Rutland, 2011; Rutland et al., 2005).

An alternative explanation for the positive association between desegregation grouping strategies and same-ethnic friendship preferences is that perhaps teacher efforts to desegregate classrooms backfire. According to contact theory (Allport, 1954), in addition to receiving support from authorities and working towards common goals, another essential condition for optimal intergroup contact is equal status of group members. One issue that can arise in multiracial instructional groups is establishment of a within-group hierarchy and an unequal contribution of group members (Slavin, 1995). For example, previous studies have shown that European American children often take on a more active and dominant role when working with African American children (Cohen, 1972; Cook, 1974; Katz & Benjamin, 1960). Such uneven within-group dynamics may exacerbate pre-existing social status differences among children, thereby creating a barrier to positive cross-ethnic interactions. Thus, unless equal contribution of group members is actively encouraged and status differences among children are mitigated, heterogeneous instructional groupings may lead to undesired outcomes (Khmelkov & Hallinan, 1999). The finding that the significant links between grouping strategies and friendship preferences were evident only among European American students is consistent with the results of a meta-analysis by Tropp and Pettigrew (2005), which showed stronger links between intergroup contact and prejudice for majority status groups. Because members of ethnic minority groups are well aware of their devalued status in the society, they may be less sensitive to the intergroup contact compared with members of majority status groups.

Taken together, the results of this study imply that, to the extent that teachers are social architects of the classroom, their practices may play a greater role among older elementary

school children and the benefits of these practices may vary depending on whether they are directly aimed at reducing ethnic segregation among children. Teachers' direct approaches that focus on desegregation may not be as effective in reducing children's preferences for same- over cross-ethnic friendships as indirect approaches that focus on building affectively positive classroom climate and fostering high-quality interpersonal relationships. Perhaps, when teachers try to desegregate classrooms by placing children in ethnically diverse groups, their efforts backfire if interactions within these groups are not structured and social status differences between group members are not addressed.

Developmental Trends, Student Ethnicity, and Numerical Ethnic Minority Status

The secondary aim of this study was to examine developmental trends in same-/cross-ethnic friendship preferences and the role of student ethnicity and numerical ethnic minority status in the classroom in same-/cross-ethnic friendship preferences. The results indicate that, on average, European American and African American children's preferences for same- over cross-ethnic friendships remain stable over the school year. However, substantial variability among students was found in friendship preference trajectories, suggesting that for some children same-ethnic biases are not static and can change even within a shorter time period of one academic year. Future studies will help clarify why these inter-individual differences in trajectories may be evident. Some research suggests that positive perceived peer norms about cross-ethnic friendships or greater identification with one's classroom may predict declines in same-ethnic friendship preferences across the school year (Jugert et al., 2011). However, this evidence is based on a small sample of German and Turkish children, so it is unclear whether the results are generalizable to the United States.

Although no significant grade differences were found in same-ethnic friendship preferences, there was a descriptive indication that first grade African American children displayed lower same-ethnic friendship preferences than third or fifth grade African American students. No such trend was evident for European American students. Within-grade, African American first graders reported lower same-ethnic friendship preferences than European American first graders; no ethnic differences in friendship preferences emerged for third and fifth graders. These findings are in line with the results of the study by Hallinan and Teixeira (1987a), which demonstrated greater same-ethnic friendship preferences in upper elementary grades only for African American children and not European American. Further, the results are in accord with a large body of research on ethnic prejudice, which points to divergent pathways of prejudice development for European American and African American children. This research has shown that out-group prejudice reaches its peak around the ages 5-7 for children who belong to higher status groups (i.e., European American) and then shows a decline, whereas for lower status groups out-group prejudice is relatively low before elementary school years and then shows a dramatic increase until about the age of 10 (Raabe & Beelman, 2011). Although the present study did not focus on out-group prejudice per se, children's friendship preferences likely reflect their orientation toward other ethnic groups as one is unlikely to choose friends amongst those who are disliked.

Greater preferences for same-ethnic friends among older African American children may in part be due to the growing salience of ethnic identity as well as greater potential of same-ethnic peers to support children in their search for identity (Tatum, 2003). As African American children move through grade school, they begin to increasingly reflect on their ethnic identity by exploring their ethnic values and traditions and sorting out positive and negative attitudes toward

their own and other groups (Kiang & Fuligni, 2009; Phinney, 1990). Achieving strong ethnic identity is an important aspect of development for ethnic minority youth (Phinney & Rotheram, 1987), and it has been linked to various positive outcomes (Chavous et al., 2003; Mandara, Gaylord-Harden, Richards, & Ragsdale, 2009; Phinney, Jacoby, & Silva, 2007). Although European American children may also go through stages of ethnic identity development, for many of them ethnic group membership is not salient and, hence, their ethnic identity often remains unexamined (Smith, 1991; Tatum, 2003). Same-ethnic friendships provide an important context for exploring the meaning and implications of children's ethnic identity because same-ethnic peers may go through similar experiences (e.g., discrimination), and these shared experiences may intensify the development of their sense of belonging to an ethnic group (Graham et al., 2014; Kiang & Fuligni, 2009; Tatum, 2004).

Increased preferences for same-ethnic friends among older African American children may also be a response to anticipated discrimination and prejudice. As children grow older, their social experiences expand and, consequently, their encounters with discrimination. In addition, children acquire greater cognitive skills as they move through elementary school, which makes them more perceptive of ethnic bias and prejudice toward minorities (Aboud, 1988; Quintana, 1998). They learn to anticipate future discrimination (Greene, Way, & Pahl, 2006; McKown & Weinstein, 2003) and as a coping mechanism may begin to increasingly segregate themselves into their own ethnic enclaves (Quillian & Campbell, 2003; Tatum, 2003).

Student numerical ethnic minority status in the classroom did not predict preferences for same- over cross-ethnic friendships among both European and African American students. This result implies that having greater opportunities to form cross-ethnic friendships does not necessarily translate into one's greater willingness to form friendships with cross-ethnic peers. It

also suggests that with the increasing number of cross-ethnic peers, children in the numerical minority may not feel threatened by high proportions of cross-ethnic peers. Perhaps, whether or not one's numerical ethnic minority status affects one's friendship preferences depends on other factors, such as classroom norms about the legitimacy of cross-ethnic interactions (Jugert et al., 2011) or one's ethnic stereotyped beliefs and prejudices (Hallinan & Teixeira, 1987a).

Implications, Limitations, and Directions for Future Research

The findings of this work have important practical implications as they highlight the potential of teachers to shape children's intergroup biases, at least in upper elementary grades. Given that emotionally supportive classroom contexts may be conducive to cross-ethnic friendships, programs that aim to reduce prejudice and foster positive intergroup relations among children should take into consideration emotional climate of the classroom and the extent to which teachers are warm and supportive of their students. This aspect seems to be neglected by most of the extant intervention approaches (Beelmann & Heinemann, 2014). Further, because teacher self-reported desegregation efforts were positively associated with preferences for same-ethnic friendships among European American students only, it may be beneficial to direct attention to teachers' responses to same-/cross-ethnic affiliation patterns among students. If teachers indeed overlook African American students' affiliation patterns and are only responsive to European American students' affiliations, their efforts to promote socially integrated classrooms may be only half successful. Hence, it may be beneficial to assist teachers in attending to and recognizing relevant cues in the classroom (Gest, Madill, Zadzora, Miller, & Rodkin, 2014). Further, if teachers' desegregation efforts have undesired outcomes, it is important to make teachers aware of the potentially negative effects of their practices and work

with them to evaluate their current practices and identify alternative or complementary strategies that will support positive intergroup contact in the classroom.

The current study has several notable strengths—the longitudinal and multi-method design, the use of a compositionally invariant friendship measure, relatively large sample size, and diversity of the sample. By assessing friendship preferences, emotional support, and grouping strategies three times per year I was able to examine intra-individual changes in friendship preferences and get a more reliable and complete assessment of teacher emotional support and grouping strategies for each classroom. Second, multiple informants were used to collect data for this study—students, teachers, and independent observers—which helps eliminate the shared method variance problem. Further, by using the compositionally invariant friendship measure I was able to control for differing opportunities for same- and cross-ethnicity contact in classrooms with various levels of ethnic composition. Lastly, the sample was diverse in terms of student age, which allowed me to examine developmental trends in friendship preferences and teacher effects, and in terms of ethnic make-up of the classrooms, which improves generalizability of the results.

Although this study has a number of strengths and makes a significant contribution to the intergroup relations and educational psychology literature, several limitations should be noted. First, the correlational design of the study precludes us from inferring causality or directionality of the effects. I made an assumption that it was the teachers who shaped children's attitudes and behaviors; however, it is also possible that teachers may adopt specific strategies in response to social dynamics and norms of their classrooms (Gest & Rodkin, 2011). The positive association between teacher grouping practices and same-ethnic friendship preferences points to such possibility. Second, teacher grouping practices were assessed via self-reports, which, as any self-

report measure, may be prone to biases. Further, because the measure was based on the importance ratings, it serves as a proxy for teachers' grouping strategies. Teachers who said it was important for them to create ethnically diverse groups may or may not actually engage in desegregation practices. Thus, future studies would benefit from using other methods, such as interviews and classroom observations, which may provide a more accurate picture of teacher grouping practices.

Although the study includes over 1000 participants and 80 classrooms, these analyses may be still underpowered to detect weak but meaningful classroom-level effects. Thus, the null findings for first and third graders may be due to limited statistical power. Further, although classrooms vary in ethnic composition, it is still a fairly homogenous sample in the sense that eighty percent of the sample comprises European American and African American students, and, hence, my analyses are restricted to these two groups. Future research could include more ethnically diverse samples to examine whether the results would generalize to other ethnic groups. Another limitation of the study is that I was unable to examine the role of teacher ethnicity because we did not collect these data on each individual teacher. Teacher ethnicity may have direct relevance to the discussion of cross-ethnic relations in the classroom as it may shape teacher's own attitudes, racial views, and classroom social dynamic (Sleeter, 2005; Zirkel, 2008). I do know, however, that the majority of the teachers in this sample are of European American descent, which mimics the general trends observed in the US school system (Ingersoll, Merrill, & Stuckey, 2014). Future studies could account for teacher ethnicity and use more diverse samples that include teachers of various ethnic backgrounds.

An interesting direction for future research would be to examine reciprocated cross-ethnic friendships among children, rather than preferences, and the role of teachers in formation

and stability of these relationships. Previous research has shown that cross-ethnic friendships tend to be less common and stable (Aboud et al., 2003; Jugert et al., 2011; Lee, Howes, & Chamberlain, 2007; Schneider et al., 2007). Thus, if evidence can be found to show that teachers can facilitate formation or longevity of cross-ethnic affiliations, this would constitute a theoretically and empirically interesting finding. Further, in this study I only focused on two aspects of teacher influence. Yet, there may be other factors contributing to children's preferences to choose same-ethnicity peers as friends, such as teacher responses to racial taunting, teacher out-group attitudes, or the amount of time teachers dedicate to classroom discussions on the issues of race or the importance of inclusion (Gerard, Jackson, & Conolley, 1975; Houlette, Gaertner, Johnson, Banker, & Riek, 2004; Pica-Smith, 2009). Further, these different practices may interact with each other and jointly affect students' cross-ethnic sentiments and friendships. Studies using a larger number of classrooms are needed to empirically test these possibilities.

In sum, this study can be viewed as one of the smaller steps in the quest to build a more integrated society, which embraces diversity and equality and where members of all groups can work and live alongside each other. I sought to address the role of elementary school teachers in children's same- and cross-ethnic friendship preferences because as classroom leaders, role models, and context providers, they are in a unique position to shape classroom intergroup dynamics and support development of positive intergroup attitudes among children. Although the present study sheds some insight into how teachers can leverage their position, clearly many questions remain unanswered and will need to be addressed in future research. Thus, it behooves social scientists to continue to advance this line of research and expand our understanding of the "invisible hand" of teacher influence.

CHAPTER 5: TABLES AND FIGURES

Table 1

Zero-Order Correlations and Descriptives for Student-Level Variables

Variables	1	2	3	4	5	6
1. T1 Same-Ethnic Friendship Preferences	–					
2. T2 Same-Ethnic Friendship Preferences	.52**	–				
3. T3 Same-Ethnic Friendship Preferences	.46**	.53**	–			
4. AfricanAm	–.03	–.06*	–.01	–		
5. NumEthnicMinority	.03	.04	–.03	–.15**	–	
6. Female	–.01	.02	.03	.01	.03	–
Mean	0.27	0.30	0.25	.53	.54	.48
<i>SD</i>	1.35	1.33	1.29	.50	.13	.50
Min	–3.92	–4.02	–3.75	0	.21	0
Max	4.28	4.14	4.43	1	.93	1

Note. * $p < .05$. ** $p < .01$. T1 = Time1 (early fall), T2 = Time2 (late fall), T3 = Time3 (spring). For AfricanAm, 0 = non-African American. NumEthnicMinority = numerical ethnic minority. For Female, 0 = male.

Table 2

Zero-Order Correlations and Descriptives for Classroom-Level Variables

Variables	1	2	3	4	5	6	7	8
1. T1 Same-Ethnic Friendship Preferences	–							
2. T2 Same-Ethnic Friendship Preferences	.70**	–						
3. T3 Same-Ethnic Friendship Preferences	.71**	.69**	–					
4. GroupStrategy	–.05	–.08	.03	–				
5. EmSupport	–.15	–.04	–.10	–.12	–			
6. PropAfricanAm	–.01	–.06	.10	–.13	.00	–		
7. PropNumEthnicMinority	.06	.07	–.03	–.10	.09	–.19	–	
8. PropFemale	–.06	.09	.02	.18	–.09	–.22*	.00	–
Mean	0.24	0.29	0.24	0.00	4.90	.53	.55	.48
SD	0.54	0.54	0.24	0.79	0.54	.17	.06	.11
Min	–0.93	–1.44	–0.80	–1.17	3.17	.15	.26	.26
Max	1.48	2.15	1.37	1.70	5.77	.93	.66	.73

Note. * $p < .05$. ** $p < .01$. T1 = Time1 (early fall), T2 = Time2 (late fall), T3 = Time3 (spring). GroupStrategy = grouping strategies. EmSupport = emotional support. PropAfricanAm = proportion of African Americans. PropNumEthnicMinority = proportion of numerical ethnic minority. PropFemale = proportion of females.

Table 3

Means and Standard Deviations for Classroom-Level Predictors by Grade

	1 st Grade (<i>n</i> = 27)		3 rd Grade (<i>n</i> = 27)		5 th Grade (<i>n</i> = 26)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
GroupStrategy	0.14	0.73	−0.20	0.79	0.05	0.83
EmSupport	4.80	0.54	5.06	0.42	4.83	0.63
PropAfricanAm	.52	.19	.51	.14	.55	.19
PropNumEthnicMinority	.55	.06	.56	.05	.54	.08
PropFemale	.49	.11	.51	.11	.45	.09

Note. GroupStrategy = desegregation grouping strategies. EmSupport = emotional support. PropAfricanAm = proportion of African Americans. PropNumEthnicMinority = proportion of numerical ethnic minority. PropFemale = proportion of females.

Table 4

A Taxonomy of Multilevel Models Testing Effects of Teacher Emotional Support and Grouping Strategies on Children's Friendship Preferences (N = 1227)

	Model 1	Model 2	Model 3	Model 4
Intercept	0.268***	0.339**	0.360***	0.368***
Level 1				
Time	−0.003	−0.005	−0.005	−0.005
Level 2				
AfricanAm		−0.285 [†]	−0.333*	−0.298*
NumEthnicMinority		−0.050	0.149	0.020
Female		0.034	0.035	0.037
Level 3				
Grade3		−0.065	−0.114	−0.107
Grade5		−0.023	−0.116	−0.115
GroupStrategy			−0.117	−0.122
GroupStrategy*Grade3			0.055	0.058
GroupStrategy*Grade5			0.409*	0.414*
EmSupport			0.296	0.123
EmSupport*Grade3			−0.246	−0.142
EmSupport*Grade5			−0.587*	−0.407*
PropAfricanAm		0.283	0.309	0.330
PropNumEthnicMinority		0.453	0.297	0.339
PropFemale		0.088	0.138	0.118
Cross-Level Interactions				
AfricanAm*Grade3		0.327	0.412 [†]	0.351 [†]
AfricanAm*Grade5		0.237	0.337	0.293
AfricanAm*GroupStrategy			0.080	0.081
AfricanAm*GroupStrategy*Grade3			−0.033	−0.024
AfricanAm*GroupStrategy*Grade5			−0.498 [†]	−0.499 [†]
AfricanAm*EmSupport			−0.451	
AfricanAm*EmSupport*Grade3			0.259	
AfricanAm*EmSupport*Grade5			0.468	
Variance Components				
Level 1	0.808***	0.808***	0.809***	0.809***
Level 2 Intercept	0.890***	0.831***	0.833***	0.832***
Level 2 Slope	0.070**	0.070**	0.070**	0.070**
Level 2 Slope Covariance with Intercept	−0.094**	−0.102**	−0.100**	−0.100**
Level 3 Intercept	0.125***	0.138**	0.075*	0.080*
Level 3 Slope Covariance with Intercept		−0.088 [†]	−0.034	−0.044
Level 3 Slope		0.280**	0.218**	0.239**
Model Fit				
−2LL	10501.4	10468.5	10451.5	10454.5
AIC	10515.4	10506.5	10513.5	10510.5

Note. [†] $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$. For AfricanAm, 0 = non-African American. For Female, 0 = male. For Grade3 & Grade5, 0 = Grade1. GroupStrategy = grouping strategies. EmSupport = emotional support. PropAfricanAm = proportion of African Americans. PropNumEthnicMinority = proportion of numerical ethnic minority. PropFemale = proportion of females.

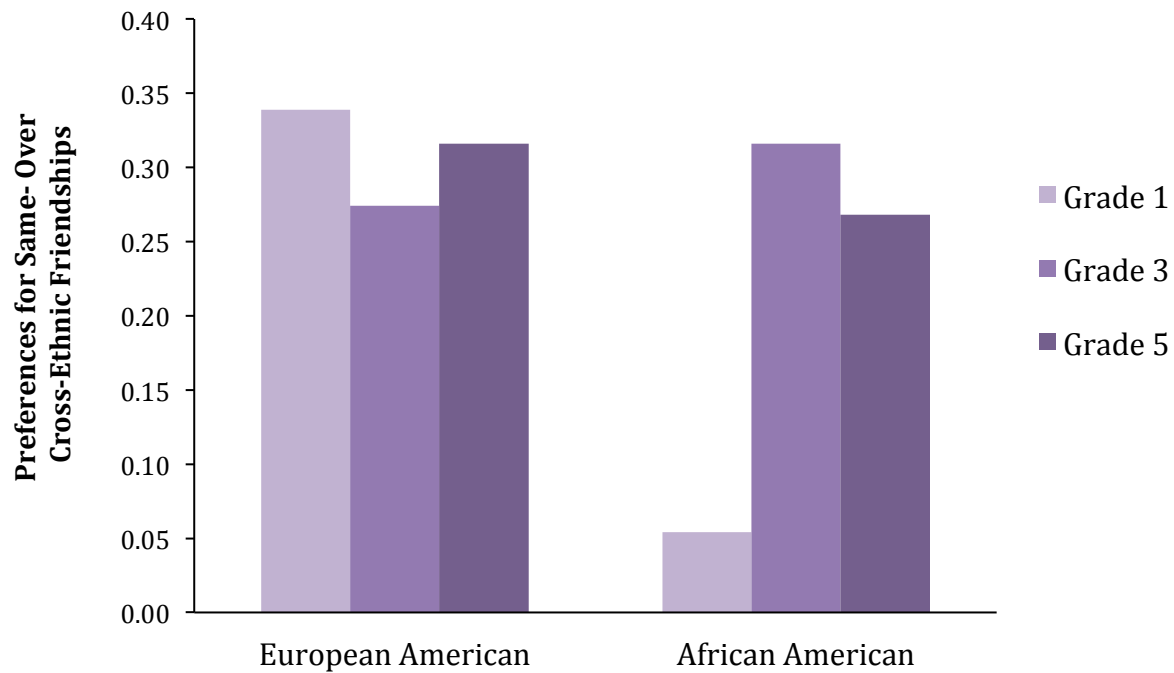


Figure 1. Mean preferences for same- over cross-ethnic friendships for European American and African American students by grade level. On the Y axis, larger values represent children's greater tendency to nominate same-ethnic peers as friends; a value of 0 denotes children are neutral in their preferences. The values presented reflect friendship preferences for prototypical students who were in classrooms with average levels of teacher emotional support and desegregation grouping strategies.

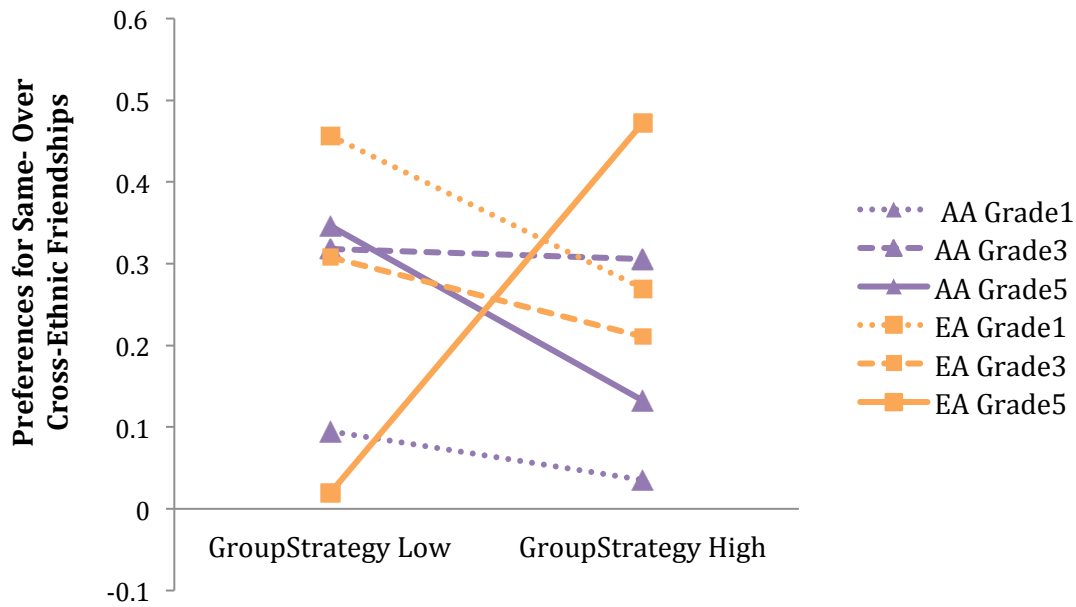


Figure 2. The relations between teacher grouping strategies and preferences for same- over cross-ethnic friendships for 1st, 3rd, and 5th grade African American (AA) and European American (EA) students. The values presented reflect friendship preferences for prototypical students who were in classrooms low ($-1 SD$ below the mean) and high ($+1 SD$ above the mean) on teacher grouping strategies. On the Y axis, positive values represent children's greater tendency to nominate same-ethnic peers as friends, negative values indicate greater tendency to nominate cross-ethnic peers, and a value of 0 denotes children are neutral in their preferences.

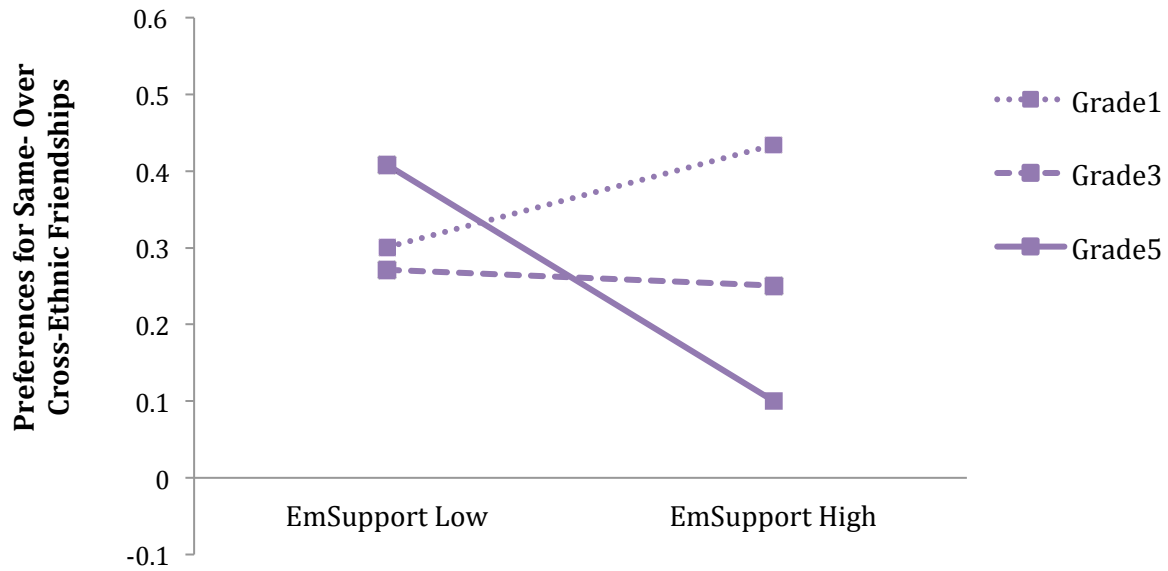


Figure 3. The relations between teacher emotional support and preferences for same- over cross-ethnic friendships for 1st, 3rd, and 5th grade students. The values presented reflect friendship preferences for prototypical students who were in classrooms low (-1 *SD* below the mean) and high ($+1$ *SD* above the mean) on teacher emotional support. On the Y axis, positive values represent children's greater tendency to nominate same-ethnic peers as friends, negative values indicate greater tendency to nominate cross-ethnic peers, and a value of 0 denotes children are neutral in their preferences.

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APPENDIX A: MEASURES

Teacher Grouping Strategies

In many classrooms, students spend parts of the day in small groups for instructional purposes.

We would like to learn more about how you make decisions regarding these groups.

3. Do you have **instructional reading groups** in your classroom? Yes / No

On average, how much time do students spend in these groups **each day**? ____ minutes

Please rate how important each of the following considerations is when you formed these groups:

Please rate how important each of the following considerations is when you formed these groups:	Not at all Important		Somewhat Important		Very Important
To create groups with racial/ethnic diversity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. Do you use a **seating chart** in your classroom? Yes / No

Please rate how important each of the following considerations is when you formed these groups:	Not at all Important		Somewhat Important		Very Important
To create groups with racial/ethnic diversity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. Do you **ever divide your students into small groups for other instructional or social purposes**? Yes / No

If yes, **on average**, how much time do students spend in small groups (other than instructional reading groups) **each day**? ____ minutes

Think about the various ways you go about forming these different small groups.

Please rate the importance, **on average**, of each of the following considerations:

Please rate how important each of the following considerations is when you formed these groups:	Not at all Important		Somewhat Important		Very Important
To create groups with racial/ethnic diversity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student Friendships

1) Some kids have a number of close friends, but others have just one “best friend” and still others don’t have a best friend. What about you? Do you have any friends?

Circle your answer.
Yes / No

2) If you said yes, please circle the names of your **FRIENDS**:

Boy 1

Girl 1

Boy 2

Girl 2

Boy 3

Girl 3

Boy 4

Girl 4

Boy 5

Girl 5

Boy 6

Girl 6

Boy 7

Girl 7

Boy 8

Girl 8