Context and closure in children's friendships: Prevalence and demographic variation

By: Anne C. Fletcher, David R. Troutman, Kenneth J. Gruber, Emily Long, & Andrea G. Hunter

Made available courtesy of Sage Publications: http://www.sagepub.com/home.nav

Abstract:

Third-grade children ($N = 404$) and their mothers completed questionnaires and participated in interviews designed to identify children's friendships across the multiple contexts of their lives and to determine the strength of parent-to-parent relationships for these friendships (*social network closure*). Hierarchical linear modeling procedures were used to evaluate links between friendship context and strength of closure relationships. Closure relationships were stronger when friendships were maintained within the contexts of neighborhood, church, extracurricular activities, relatives-as-friends, and family friends, and when friendships were maintained across multiple social contexts. Lower socioeconomic status mothers were particularly likely to report higher levels of closure within the contexts of neighborhood and relatives-as-friends.
KEY WORDS: children, closure, context, friendships, HLM, social networks

Article:

Developmental research has long recognized the importance of both parents (Parke & Buriel,1998) and peers (Bukowski, Newcomb, & Hartup, 1996; Rubin, Bukowski, & Parker, 1998) as influences on children's development and well-being. Yet researchers have traditionally failed to recognize the complexity with which such influences may be intertwined, as well as nested within the multiple contexts of children's lives. Parents play an active role in monitoring and guiding their children's relationships with peers both directly and indirectly, by way of the social connections they maintain with other parents and adults who have contact with their children (Ladd, 1992). The extent of this involvement is dependent in part on the social contexts (e.g., school, neighborhood, child care setting) in which children maintain friendships, as well as the extent and types of interactions parents have with the parents of their children's friends.

The current project was designed to document the extent to which parents maintained social relationships with their children's friends' parents, as well as whether the strength of such relationships varied based on the contexts in which friendships were maintained. Research that explicitly considers relationships among network parents is consistent with theoretical work emphasizing the importance of *social network closure* (or *intergenerational closure*) as a social structure that facilitates the development of social capital (Coleman, 1988).

Background

Social network closure

Social network, or intergenerational, closure is a concept elaborated in the work of Coleman (1988,1990) to describe the nature of parents' relationships with other adults who are encountered in one specific context – children's peer groups. Although Coleman (Coleman & Hoffer, 1987) initially defined closure as involving both parent-to-parent relationships and relationships between parents and their children's friends, his later work emphasized closure relationships as encompassing relationships between parents only (Coleman, 1988). In other words, closure relationships refer to the social relationships that exist among parents whose children are

themselves friends. The strength of closure relationships is likely to vary based on characteristics of individual parents and characteristics of children's friendships.

Relationships among parents constitute a key source of social capital as they both intentionally and unintentionally influence their children's relationships with peers. The concept of social capital has been elaborated by a number of theorists, including Coleman (1990), Lin (2001), and Portes (1998). It can be broadly defined as 'resources embedded in social relations and social structure, which can be mobilized when an actor wishes to increase the likelihood of success in a purposive action' (Lin, 2001, p. 24). For children, social capital is embodied in the relationships they develop with both parents and peers. For parents, social capital is enhanced by the presence of social relationships with other adults who are encountered across a variety of contexts.

A perspective that emphasizes the importance of social network closure to both parents and children is both intuitively appealing and theoretically based. Coleman (1988) argued that the presence of closure relationships facilitates communication about children and childrearing issues among parents. Ultimately, such increased communication should result in networks of parents developing consistent standards for children's behavior, as well as effective sanctions when child behavior is observed to deviate from these standards. 'Thus, the existence of intergenerational closure provides a quantity of social capital available to each parent in raising his children' (Coleman, 1988, p. 107). Closure relationships may be important influences on the development and maintenance of children's friendships, or may emerge as parents get to know the parents of children's established friends. Accordingly, closure relationships may constitute a deliberate strategy on the part of parents who seek to influence children's friendships, or may emerge without deliberate intent. Either way, their presence and strength should positively impact children through the mechanisms outlined earlier.

Existing research on social network closure

The study of closure relationships remains a relatively new area of inquiry. As such, it suffers from several limitations. Empirical work in this area has focused exclusively on closure relationships as they apply to children's school-based friendships. This emphasis can in part be attributed to the fact that Coleman's original conceptualizations of social network closure were developed in conjunction with his own research on across-school variations in adolescents' academic achievement (Coleman & Hoffer, 1987). This focus on school-based closure relationships also is consistent with a larger literature on children's friendships that has focused almost exclusively on children's school-based social relationships.

Closure research also has focused entirely on the manner in which the presence of closure relationships may be linked with indicators of child and adolescent well-being (Carbonaro,1998; Fletcher, Newsome, Nickerson, & Bazley, 2001; Darling, Steinberg, & Gringlas, 1993). This work has documented links between the presence of closure relationships (or constructs that encompass qualities of such relationships) and indicators of academic competence. For example, Carbonaro (1998), using the National Education Longitudinal Study (NELS), found that the presence of such parental connections was linked to better adolescent performance on math achievement tests and a decreased likelihood of school drop-out, although it has been suggested that such associations are better understood in terms of the greater likelihood that parents will know the parents of children's friends if they attend the same school (Morgan & Sorensen, 1999). Fletcher et al. (2001) reported that children whose school-based social networks were higher in closure (indexed in terms of both relationships among network parents and between parents and their children's friends) were more academically competent and scored higher on a measure of work orientation than were their peers from less closed networks. Among White children, (but not Black children), higher levels of closure were also associated with greater social competence and less involvement in problem behavior (Fletcher et al., 2001). This difference suggests that closure relationships may operate differently for Black children and White children.

Children's friendships across the multiple contexts of children's lives

During middle childhood, dramatic increases are observed in the percentage of social interactions with same age peers (Higgins & Parsons, 1983). Parents' roles with respect to children's peer relationships are reduced when

compared to the early childhood years (when children's social interactions are typically supervised by parents and other adults), but are not so removed as they will become during adolescence (Brown, 1990). Developmental researchers have devoted considerable attention to the study of peer relationships during the middle childhood years. However, what is currently known about these relationships is almost entirely constrained to the study of school-based friendships.

Studies of children's friendships and peer relations typically recruit participants from schools and focus on children's interactions with and evaluations of classmates. Within such efforts, 'friends' are typically identified through reciprocated nominations or social consensus methodologies (e.g., Qualter & Munn, 2005). In relying on such strategies, friendship researchers tend to ignore the diversity of contexts within which children spend their time and likely maintain important social relationships. Exceptions to this pattern are rare, but include observations and ratings of dyadic relationships maintained across numerous contexts (e.g., Simpkins & Parke, 2001) and studies comparing peer relations with in-school versus out-of-school friends (e.g., Kiesner, Poulin, & Nicotra, 2003).

Children divide their nonschool time among a variety of activities and locations that include other children. Meeks and Mauldin (1990), for example, reported that children and adolescents spend close to 3 hours per week engaged in structured leisure activities (e.g., lessons, competitive activities, organizations). Snyder (1996) reported that 55% of elementary-aged children are enrolled in formal after-school childcare programs. Therefore, children have numerous opportunities to build relationships with same-age peers outside of school. Indeed, the few studies of children's friendships that have extended beyond the context of the school have yielded findings indicating that in-school and out-of-school friendships make unique contributions to children's well-being, but have failed to consider the full range of contexts in which such friendships may be maintained (e.g., Kiesner et al., 2003). As a result, we know very little about the range of contexts which may serve as potential sources of friendships.

Impact of social context on closure relationships

A central purpose of the current project was to consider the nature of social connections among parents of children who maintained friendships across diverse social contexts, as well as whether the strength of such connections varied by context. Closure relationships have been linked, both theoretically and empirically, to various indicators of child and adolescent well-being. Therefore, it is important to identify factors that predict the strength of closure relationships. One of these factors is likely to be the context(s) in which children's friendships are maintained. Extensive theoretical work has focused on elaborating how groups occupying specific ecological niches develop closure relationships or come to possess social capital. For example, Coleman and Hoffer (1987) proposed that parents' closure relationships were more likely when children attended parochial schools, due to overlaps between church and school communities.

Empirical work has identified religious participation as an influence on the strength of relationships among parents whose adolescent children are friends (Smith, 2003), suggesting that closure relationships will be stronger when children's friendships are maintained within the context of religious affiliation. In general, it is likely that parents will maintain stronger closure relationships when children's friendships are maintained within contexts that include both parents and children, such as neighborhoods and churches.

The importance of interparental relationships is also supported by theoretical work that emphasizes both direct and indirect involvement of parents in the social lives of their children (Ladd, Le Sieur, & Profilet,1993; Parke & Ladd, 1992). Relationships with other parents may facilitate parents' infuence over their children's peer relationships in a number of different ways. These include introducing children to specific peers, encouraging children to spend time with particular peers, arranging play dates, and/or working with friends' parents to prevent or resolve children's conflicts. In all these cases, parent-to-parent relationships are critical to the development and maintenance of children's social relationships. Although the impact of parent-to-parent relationships on children's social relationships has been well-documented for the early childhood years (Ladd & Coleman, 1993; Ladd et al., 1993), it remains virtually unexplored within middle childhood.

Demographic differences in children's friendships and closure relationships

Socioeconomic characteristics that affect a family's ability to access social contexts are likely related to the development and maintenance of closure relationships. For example, economically disadvantaged families may find it difficult to develop relationships with their children's friends' parents in general and within some contexts (e.g., school, extracurricular activities), due in part to limited financial and logistical resources. In contexts in which such resources are less important (e.g., neighborhoods or church), however, differences in closure relationships due to socioeconomic status (SES) are likely less evident.

Parents of different racial backgrounds also may differ in the extent to which they value and pursue closure relationships across different contexts. For example, the importance of both church (Chatters, Taylor, Lincoln, & Schroepfer, 2002) and kin relationships (Burton & Jarrett, 2000; Marshall, Noonan McCartney, Marx, & Keefe, 2001) to Black families is well documented. This suggests that closure relationships within church and family contexts may be especially prevalent among Black families. For the purposes of the current investigation, we considered whether racial and/or socioeconomic differences might affect the likelihood that children would establish friendships with peers from different contexts, as well as whether parents would maintain closure relationships with respect to such friendships.

Purpose and research hypotheses

The purpose of the current investigation was to address four research questions focusing on the role of context with respect to closure relationships. First, what are the contexts across which children's friendships are maintained? We expected that children's friendships would be maintained across a diverse group of contexts including school, childcare, religious institutions, extracurricular activities, and the extended family. Second, are there racial and/or socioeconomic variations in the likelihood that children's friendships will be maintained within any given context? Assuming the importance of church and kin relationships in the lives of Black families, we hypothesized that Black children's friendships would be particularly likely to be maintained within these contexts. Given the financial and logistical restrictions present in the lives of lower-income families, we hypothesized that among more economically disadvantaged children, a greater concentration of friendships would be maintained within the neighborhood context. Third, does the strength of closure relationships vary as a function of the context(s) in which children's friendships are maintained? Assuming that closure relationships are stronger in settings that contain both children and parents, we hypothesized that closure relationships would be strongest when children's friendships were maintained within the extended family, family friends, religious settings, neighborhoods, and extracurricular activities, as opposed to school and childcare settings. Finally, are associations between context and closure moderated by race or SES? Again, based on the importance of church and family in the lives of Black families, we hypothesized that closure relationships within these settings would be particularly strong among Black parents.

Method

Participants

Participants were 404 third-grade children and their mothers. Children were enrolled in 37 classrooms in nine public elementary schools in a single county in the southeastern United States during the 2001–2002 school year. Sixty-three percent of mother–child pairs were White and 37% were Black. Of the participating children, 52% were girls and 48% were boys. Marital status of participating mothers was 71% married to participating children's fathers, 6% married to children's stepfathers, and 23 % single parents. Socioeconomic status of participating families was determined using the Hollingshead Four Factor Index of Social Status (Hollingshead, 1975). Hollingshead scores for the sample ranged from 9 (unskilled laborers) to 66 (major business persons and professionals), with a mean of 42.87 (medium business personnel and minor professionals; $SD = 11.64$). On average, White families who participated in the project were more socioeconomically advantaged than their Black counterparts, $t(402) = -8.58$, $p < .01$. However, both Black and White families represented a broad range of socioeconomic backgrounds. Specifically, Black families' Hollingshead scores ranged from 9 to 66 and White families' scores ranged from 12 to 66.

Procedures

Parents of all third-grade children at the nine participating schools were contacted by letter to gain permission for children to participate in school data-collection sessions. Parental consent for participation was obtained for 85% of enrolled children. Data collected during the school-based portion of the project focused on school-based social networks and were not analyzed for the current project. Participation in home interviews was limited to Black and White families (the two most prevalent racial groups within the region and the school district) whose children had been born in the United States and had completed the school-based data collection. Eligible mothers were contacted by telephone and asked to participate in home interviews that included their children. Seventy-nine percent of eligible families agreed to participate in the home interview portion of the project.

Two research assistants conducted home interviews which took place in participants' homes or at a location of their choosing (e.g., a university research laboratory, a public library). Interviews took approximately 1 hour and 15 minutes to complete. Mothers signed consent forms authorizing their own and their children's participation and children provided verbal assent for participation. Mothers and children completed questionnaires and answered interview questions separately. All questionnaire items were read aloud to children. Items were read aloud to mothers if they appeared to be having difficulty completing questionnaires. Mothers and children jointly completed the Social Contexts of Friendships Measure. Mothers were compensated $35.00 for their participation and children received a pencil box filled with school supplies.

Measures

Demographic information. Demographic information (gathered in the interview) included race, age, sex, and relationship to the target child for all household members. To calculate SES, mothers were also asked to provide their own and participating children's fathers' (if they were involved in children's lives) levels of education and occupations (Hollingshead,1975).

Social contexts of friendships. To identify friendships across multiple contexts, mothers and children worked together to generate a list of no more than 10 of the target child's closest nonsibling child friends. Participants indicated each friend's race, the context(s) in which the friendship was maintained, whether the child and the friend attended the same school and were in the same class, and whether the friend was related to the child. Children and mothers then identified and described all contexts in which each friendship was maintained. Descriptions were recorded on data-collection forms along with notes clarifying any ambiguities (e.g., whether 'YMCA' referred to extracurricular activities sponsored by this institution or childcare). After all data were collected, responses were reviewed by three of the authors to determine whether they fell into distinct categories. Seven categories emerged representing school, neighborhood, church, childcare, family, relatives-as-friends, and extracurricular activities. Friendship contexts were then coded by two trained undergraduate research assistants (Cohen's kappas .95 to .98; childcare kappa = .85). All disagreements between raters were resolved through consultation with the first author. Resolving disagreements on childcare required obtaining additional information concerning the types and names of childcare arrangements available in the target communities.

Social network closure. Using the list of friends identified on the Social Contexts of Friendships measure, mothers were asked to rate their relationships with each identified friend's parents on a 4-point scale of (1) 'Never met,' (2) 'Met in passing,' (3) 'Know somewhat well,' and (4) 'Know well.'

Analysis

A hierarchical linear modeling (HLM) approach (Raudenbush & Bryk, 2002) was selected as the primary analytical tool. Hierarchical linear models provide statistical procedures for investigating relationships involving cross-levels of analysis (Hoffman, Griffin, & Gavin, 2000). In the present study, our questions of interest involved considering varying numbers of friendships within children while maintaining the independence of each individual friendship (as opposed to aggregating across friendships). The varying number of friendships per child and our interest in examining social contexts as predictors of closure relationships reported for these friendships are best conceptualized in a model that nests children's friendships within

children. Accordingly, friendships can be considered a within factor (Level 1 factor) and children as a between factor (Level 2 factor). HLM provides the means to analyze data through a two-stage process where in the first stage relationships among Level 1 variables are estimated for each higher level unit. In the second stage, Level 1 parameters are used as the dependent variables for analyses at the group level.

In the present study, we applied HLM to the case of friendships nested within children and the identification of potential moderators (race and SES) of associations between friendship context and the strength of closure relationships. Our Level 1 models estimate regression intercepts and slopes for the prediction of closure and thus represent the friendship level context. To illustrate this approach, for the Level 1 equation, friendships were dichotomously coded as 0 if a given friendship was not maintained within a given context and as 1 if a friendship was maintained within that context. The Level 1 equation for the prediction of closure in this case is:

closure $= \beta_0 + \beta_1$ (school) $+ \beta_2$ (neighborhood) $+ \beta_3$ (church) $+ \beta_4$ (childcare) $+ \beta_5$ (family friend) $+ \beta_6$ (relatives-as-friends) $+ \beta_7$ (extracurricular) $+ r_{ij}$

where β_0 represents the intercept of the equation. The β_1 through β_7 coefficients represent the change in closure related to a single-unit increase in each context (e.g., moving from a friendship not being maintained within the context of the school to being maintained within the context of the school). R_{ij} represents random error in the prediction of closure. All contexts were computed as centered grand means prior to entry into the equation. By including all contexts simultaneously within the Level 1 equation, we were able to statistically control for the effect of some friendships being maintained within multiple contexts.

The Level 2 model (i.e., child level) aggregates across friendships and uses the slopes and intercepts from the Level 1 model as dependent variables. The Level 2 model included two child-level predictors (race and SES) to consider main effects of these predictors and determine their strength as moderators of associations between school context and closure. Specifically, the Level 2 equations were:

$\beta_0 = \gamma_{00} + \gamma_{01}$ (race) $+ \gamma_{02}$ (SES) $+ u_0$

through

$\beta_7 = \gamma_{70} + \gamma_{71}$ (race) $+ \gamma_{72}$ (SES) $+ u_7$

in which γ_{00} represents the overall intercept (the grand mean of closure), γ_{01} represents the main effect of race, γ_{02} represents the main effect of SES, and γ_{10} represents the main effect of school context. Interpretation of subsequent equations is consistent with this labeling for additional contexts. Interaction effects are modeled within the equations predicting β_1 through β_7, with γ_{11} through γ_{71} representing the interaction of race with specific contexts and addressing the question of whether associations between contexts and closure vary for Black and White children. In turn, γ_{12} through γ_{72} represent the interaction of SES with specific contexts and address the question of whether associations between contexts and closure vary as a function of SES. U_0 through u_7 represent prediction error. A final set of equations was built testing a model in which effects of context were conceptualized as continuous, reflecting the total number of contexts in which a given friendship was maintained.

Results
The contexts of children's friendships
Distribution of friendships across contexts. Mothers and children reported 2928 friendships. Within this total, 37% were friends from school, 31% were friends from neighborhoods, 16% were friends from extracurricular activities, 12% were same-age relatives, 9% were friends from church, 9% were children of parents' friends, and 7% were friends from childcare settings. Seventeen percent of friendships were maintained across multiple contexts. The number of nominated friends ranged from 0 to 10 with a mean of 7.25 ($SD = 2.67$).

Racial and socioeconomic differences in reported friendships across contexts. Table 1 reports means and standard deviations for number of reported friends for the full sample and separately for Black and White

children. *T*-tests were performed to determine whether there were race differences in the mean number of friends within each context. White children identified more friends than Black children in the contexts of school, $t(402) = -4.02$, $p < .01$, neighborhood, $t(402) = -2.50$, $p = .01$, childcare, $t(402) = -2.02$, $p = .04$, and extracurricular activities, $t(389.69) = -9.09$, $p < .01$. Black children identified more relatives-as-friends, $t(261.25) = 2.80$, $p = .01$.

We also examined correlations between socioeconomic status and number of reported friends per context. Children from higher socioeconomic backgrounds identified more friends within the contexts of school, $r(404) = .11$, $p = .02$, neighborhood, $r(404) = .10$, $p = .04$, and extracurricular activities, $r(404) = .29$, $p = .00$, and fewer relatives-as-friends, $r(404) = -.13$, $p = .01$.

TABLE 1
Distribution of children's friendships across contexts

Context	School	Neighborhood	Child care	E. C.	Church	Relative	Family friend
Full sample							
Mean no. friends	2.64	2.21	.51	1.13	.63	.83	.63
SD	2.26	2.18	1.14	1.71	1.20	1.24	1.14
N = 404							
White children							
Mean no. friends	2.98	2.42	.59	1.60	.69	.69	.62
SD	2.24	2.18	1.17	1.88	1.22	1.12	1.08
n = 255							
Black children							
Mean no. friends	2.06**	1.86*	.36*	.33**	.54	1.07**	.65
SD	2.18	2.14	1.07	.92	1.15	1.38	1.22
n = 149							

*p < .05; **p < .01.

Closure relationships across contexts
Full sample. Means and standard deviations for levels of closure within each context are provided in Table 2. For the full sample, levels of closure were highest within the contexts of relative-as-friend and family friend, followed by church, neighborhood, and extracurricular activities. Parents were least likely to know other parents when children's friendships were maintained within the contexts of school and childcare. Means and standard deviations indicate little variation in closure relationships within the relative-as-friend and family friend contexts.

TABLE 2
Mean levels of social network closure by context

Context	School	Neighborhood	Child care	E. C.	Church	Relative	Family friend
Full sample							
Mean	2.84	3.43	2.99	3.30	3.52	3.98	3.78
SD	.95	.74	1.08	.83	.87	.14	.62
N = 404							
Black children							
Mean	2.36	2.12	2.53	3.37	3.61	3.99	3.70
SD	1.04	.89	1.21	.79	.86	.07	.80
n = 149							
White children							
Mean	3.06**	3.58**	3.15*	3.29	3.48	3.96	3.83
SD	.82	.59	.99	.84	.88	.17	.50
n = 255							

*p < .05; **p < .01.

Racial and socioeconomic differences in closure across contexts. Table 2 also presents means and standard deviations for closure calculated separately across contexts reported separately for Black and White children. White children had higher levels of closure than Black children within the contexts of school, $t(149.44) = -5.81$, $p < .01$, neighborhood, $t(138.99) = -4.54$, $p < .01$, and child care, $t(91) = -2.51$, $p = .01$.

Associations between socioeconomic status and closure indicated that more socioeconomically advantaged families experienced higher levels of closure for school friendships, $r(319) = .26$, $p = .00$, neighborhood friendships, $r(290) = .16$, $p = .01$, and church friendships, $r(126) = .19$, $p = .04$.

HLM results
HLM modeling analyses are presented in Tables 3–5. Coefficients are presented separately for child-level effects and child-level effects crossed with context. Coefficients are presented separately for analyses

considering all contexts simultaneously versus for the total number of contexts. Values of the intercepts (γ_{00}) across both models were significant, indicating that mean closure levels were significantly different from zero once context was taken into account.

TABLE 3
Multilevel modeling prediction of social network closure across context, child level effects

Predictor	γ	SE	t	p
Race (γ_{01})	.19	.07	2.83	.01
SES (γ_{02})	.01	.00	3.70	.00
School (γ_{10})	−.04	.08	−.46	.65
Neighborhood (γ_{20})	.70	.08	8.67	.00
Church (γ_{30})	.78	.11	6.86	.00
Child care (γ_{40})	−.06	.15	−.43	.66
Family friend (γ_{50})	1.06	.10	10.57	.00
Relative-as-friend (γ_{60})	1.35	.09	14.43	.00
Extracurricular (γ_{70})	.53	.09	5.68	.00

Do levels of closure vary by race? Coefficients presented in Tables 3 and 5 indicate that mean levels of closure differed as a function of race, although this effect did not reach statistical significance in the number of contexts model when traditional $p < .05$ significance levels were used. The γ_{01} values indicate that mean levels of closure were higher for White children than for Black children, controlling for socioeconomic status.

Do levels of closure vary by SES? Coefficients presented in Tables 3 and 5 indicate that mean levels of closure differed for children from varying socioeconomic backgrounds. The γ_{02} values indicate that parents of children from higher SES backgrounds were more familiar with the parents of their children's friends, controlling for race.

Do levels of closure vary based on the contexts of friendships? The coefficients for slope (γ_{10} through γ_{70}) presented in Table 3 indicate that levels of closure were higher when friendships were based within the contexts of neighborhood, church, family friends, relatives-as-friends, and extracurricular activities. In addition, the significant positive coefficient (γ_{10}) for number of contexts presented in Table 5 indicates that levels of closure were higher when children's friendships were maintained across more social contexts.

TABLE 4
Multilevel modeling prediction of social network closure across context, child level × context effects

Predictor	γ	SE	t	p
Race × school (γ_{11})	.22	.20	1.10	.27
SES × school (γ_{12})	−.01	.01	−.89	.37
Race × neighborhood (γ_{21})	.21	.18	1.11	.27
SES × neighborhood (γ_{22})	−.01	.01	−2.14	.03
Race × church (γ_{31})	−.35	.25	−1.40	.16
SES × church (γ_{32})	.00	.01	.21	.83
Race × child care (γ_{41})	.13	.33	.40	.69
SES × child care (γ_{42})	.00	.01	.01	.99
Race × family friend (γ_{51})	−.32	.24	−.31	.19
SES × family friend (γ_{52})	−.01	.01	−1.24	.22
Race × relative-as-friend (γ_{61})	−.30	.23	−1.31	.19
SES × relative-as-friend (γ_{62})	−.02	.01	−2.96	.00
Race × extracurricular (γ_{71})	−.39	.22	−1.80	.07
SES × extracurricular (γ_{72})	−.00	.01	−.48	.63

Does race moderate associations between context and closure? The γ_{11} through γ_{71} coefficients reported in Table 4 represent the effects of race as a moderator of associations between context and closure. No significant effects of race as a moderator were observed in these analyses controlling for both SES and the co-occurrence of friendships across contexts.

Does SES moderate associations between context and closure? The effects of SES as a moderator of associations between context and closure are indicated by the γ_{12} through γ_{72} coefficients in Table 4. Two significant effects were observed in these analyses controlling for race and co-occurrence of friendships across contexts. The direction of these effects indicated that the tendency for closure relationships to be stronger within

the neighborhood and relatives-as-friends contexts was greater for children from more economically disadvantaged backgrounds.

Discussion

Our findings indicate that children's friendships were maintained across a diverse group of contexts including schools, neighborhoods, childcare settings, extracurricular activities, churches, relatives-as-friends, and family friends. Although school friendships were the most prevalent within children's lives, they constituted a minority of children's friendships. Moreover, the extent to which parents knew their children's friends' parents varied considerably from context to context, with closure relationships being stronger within the contexts of neighborhoods, churches, family friends, relatives-as-friends, and extracurricular activities. Closure relationships were also stronger when children's friendships were maintained across multiple contexts. Closure relationships were stronger for White children and children from more economically advantaged backgrounds. The tendency for closure relationships to be stronger within the neighborhood and relatives-as-friends contexts was greater for children from more economically disadvantaged backgrounds.

TABLE 5
Multilevel modeling prediction of social network closure from number of contexts

	Child level effects			
Predictor	γ	SE	t	p
Race (γ_{01})	.14	.08	1.88	.06
SES (γ_{02})	.01	.00	3.06	.00
Number of contexts ($\gamma10$)	.15	.07	2.09	.04

	Child level × number of contexts effects			
Predictor	γ	SE	t	p
Race × number of contexts (γ_{11})	.13	.17	.79	.43
SES × number of contexts (γ_{12})	−.00	.01	−.09	.93

Our central finding involves the organizational role of context in the development of closure relationships. Interestingly, the single context in which children both spent the most time and were most likely to maintain friendships was also that for which parents reported the lowest levels of closure: children's schools. We believe this is due in large part to the infrequency with which children maintain contact with their school friends during the out-of-school hours (Fletcher, Rollins, & Nickerson, 2004). Parents, who typically spend little time in their children's schools, have few opportunities to forge relationships with their children's school friends and these friends' parents. Similar dynamics likely account for the lower levels of closure reported for children's friendships maintained within the context of childcare, but are further complicated by several factors. First, working parents may have less time available to get to know their children's friends and friends' parents. Second, children from less affluent families may be more likely to utilize childcare facilities (as opposed to having in-home childcare or a parent in the home after school). It may be that such parents have fewer resources (e.g., time, accessibility, money) that would permit them to build relationships with the parents of their children's friends.

In contrast to the closure relationships characteristic of school and childcare, parents were more likely to know their children's friends' parents in the neighborhood, extracurricular, and church contexts. As opposed to the contexts of school and childcare, which typically involve children outside of the company of their parents, the contexts of neighborhood, extracurricular activities, and church are typically jointly experienced by children and parents. Children and parents live in the same neighborhoods and typically attend the same places of worship. Extracurricular activities may involve parents in a number of roles, for example, as providers of transportation, leaders, and/or volunteers. In addition, the voluntary nature of extracurricular activities means that parents and children are able to choose which, if any, activities children pursue. It is likely that parent-to-parent contacts are a source of information about these activity choices. Accordingly, parents and children are

likely to both select activities in which children's friends also participate and get to know the parents of other children who have selected the same activities.

In the cases of relatives-as-friends and family friends, closure relationships were so strong as to constitute defining features of these relationships. In some of these cases, it is likely that relationships among parents preceded friendships among children. In the case of family friends, some children may have been introduced by parents who already knew one another, while in other cases, children's friendships may have served as a source of parents' friendships. In the case of children's friendships with same-aged relatives, relationships among parents are explained by family ties that connect both children and adults.

The multicontextual nature of children's friendships emerges clearly from these results. Indeed, 17% of all friendships identified by children within our sample were maintained across two or more contexts of children's lives. Children do not reside within social vacuums, moving from context to context and encountering unique social relationships in each. Instead, friendships are often maintained across multiple contexts. The friend from church may also be a friend from ballet class. Children who reside in the same neighborhoods are likely to attend the same schools. Friendships that cross contexts are likely to be particularly important in children's lives, as they imply increased opportunities for interaction as well as common experiences, backgrounds, and interests. In addition, they provide parents with multiple opportunities to get to know other parents as their paths cross repeatedly across settings. Therefore, it is not surprising to find that the strength of closure relationships increases linearly with the number of contexts in which a given friendship is maintained.

Parents from lower socioeconomic backgrounds are more likely to develop closure relationships within the neighborhood and relatives-as-friends contexts. This is likely due to the social constraints created by economic adversity. Parents who have fewer financial and material resources likely find it more difficult to encourage children's friendships outside of the contexts that are most proximal within their lives – those of neighborhood and family. These parents may lack both the time and material possessions that are critical to maintaining contacts with individuals outside of their immediate contexts. Economic disadvantage may restrict lower-income families' access to social events and interactions that support the development of closure relationships (e.g., having dinners out with other parents or attending recreational activities within the community). In the absence of such opportunities to build social relationships that require financial resources, economically disadvantaged parents may come to feel more comfortable getting to know parents who share or understand the day-to-day challenges present in their own lives. Such individuals are likely to reside within the same neighborhoods or to be family members, and have children who will forge friendships with one another.

Our results imply that a literature that defines children's friendships strictly in terms of relationships maintained at school is unable to describe the reality of the social lives of both children and parents. School represents the single extrafamilial context in which children spend the most time and our findings indicate that it is also the most common setting of children's friendships. Yet only 37% of children's friendships were maintained within the school context. This may be good news for parents, who were differentially likely to forge relationships with their children's friends' parents based on the specific contexts, as well as number of contexts, in which friendships were maintained. Of particular note were the high levels of closure observed within the relatives-as-friends and family friends contexts. That such friendships would be virtually defined by the presence of strong parent-to-parent relationships is intuitively obvious, but has far-reaching implications for the study of closure relationships. It is possible that parents of children who count more family members (typically cousins) and children of their parents' friends as their own friends may have greater access to the social capital benefits implied by closure relationships. Yet we cannot discount the possibility that maintaining closure relationships predominantly with family members may actually restrict parents' access to other social capital resources. Such a possibility is elaborated in the 'strength of weak ties' hypothesis set forth by Granovetter (1973) and suggests that ties with parents outside the family network might be particularly advantageous.

Limitations and directions for further research

The findings presented here highlight the diverse nature of contexts within which children maintain friendships and the key role of context in relation to social network closure. Yet the reality of children's friendships clearly presents challenges to any methodology that seeks to describe and understand the role of context with respect to such relationships. Friendships are nested within children, and different children report varying numbers of friendships within their lives. Friendships are also maintained across multiple contexts. This complexity in and of itself may partially account for the reluctance of many researchers to tackle research questions that focus on children's friendships outside the school context. Our use of HLM procedures has allowed us to overcome some of the challenges of addressing research questions that relate to friendships as nested within children, as well as the multicontextual nature of friendships.

The analyses reported here represent an effort to understand the diverse contexts in which children maintain friendships, as well as the manner in which context is linked with social network closure. They were not intended to provide insight into the likelihood that, or processes by which, children who spend time in a given context will develop friendships within that context. The comparatively greater proportion of children's friendships maintained within contexts such as school and neighborhood certainly reflects the reality that all children in our sample attended school and lived in a 'neighborhood.' In all likelihood, only a subset of children attended after-school care programs or church, participated in extracurricular activities, or had same-age relatives or family friends who might have served as friends. Accordingly, our findings with respect to the distribution of friendships across contexts are indicative of the social opportunity structures present in children's lives. To have a friendship in a given context, children must spend time in that context themselves. However, this fact does not negate our findings concerning the social locations of children's friendships and the implications of such locations for the development of closure relationships.

Research on children's friendships is always constrained by limitations inherent to available methods of identifying friends. Children are known to be imperfect reporters of their friendships (Gest & Fletcher, 1995; Leung, 1993). Overlap between parents' and children's lists of children's friends has been reported to be as low as 13% (Fletcher & Cairns, 1995), implying biases on the parts of both individuals. Social consensus methods and measures of reciprocated friendships are limited to use in group settings, rendering them useless for identifying friendships outside of such contexts. We suggest that the methodology we have used in the current effort represents an improvement over all of these other methods in that it (i) relies on parents and children to correct one another's errors and omissions, and (ii) allows for the identification of friendships across the multiple contexts of children's lives. However, we recognize that there were likely biases within this methodology as well. Of greatest concern is that children may have felt reluctant to discuss friendships with their parents, or that parents' opinions and perspectives may have predominated as parents and children generated friendship lists.

The current effort represents a first attempt to describe associations between the contexts in which children's friendships are maintained and the extent to which parents maintain relationships with their children's friends' parents. As such, we recognize that our data are primarily descriptive and do not address issues related to directionality of effects or the role of friendship stability in relation to associations. As discussed earlier, we suspect that links between context and closure are highly dynamic and bidirectional. Children are more likely to enter contexts that include friends whose parents already know their own parents, but the strength of parent-to-parent relationships likely grows once children's friendships are maintained within certain contexts. As longitudinal data become available, we will be better able to untangle the nature of such effects and begin to more clearly elaborate the complex manner in which parent-to-parent relationships operate for children's friendships across the multiple contexts of their lives.

The current effort was limited to children attending public schools in a single county in the southeastern portion of the United States. Participation was restricted to Black children and White children. Every effort was made to involve schools that enrolled diverse groups of students (based on socioeconomic background, academic achievement, and community type). However, we recognize that the generalizability of our findings is limited to

children from two racial groups who reside in a specific region of the country. We look forward to future opportunities to determine the extent to which the patterns and findings reported here are consistent across diverse populations and regions.

Relationships among the parents of children who are friends (closure relationships) represent a crucial source of social capital in the lives of both children and adults. The current effort emphasizes the role of friendship context as an influence on both the likelihood that children will forge social relationships with other children, and that parents of children who become friends will themselves develop social connections with one another. We urge researchers who are interested in understanding the nature of children's friendships to move away from an exclusive focus on school-based friendships and the study of friendships without regard to parental input and involvement. It is only by understanding the interconnections of parents and peers within the real contexts in which family members maintain social connections that we can adequately represent the social lives of children.

REFERENCES

Brown, B. B. (1990). Peer groups and peer cultures. In S. S. Feldman & G. R. Elliott (Eds.), *At the threshold: The developing adolescent* (pp. 171–196). Cambridge, MA: Harvard University Press.

Bukowski, W. M., Newcomb, A. F., & Hartup, W. W. (1996). *The company they keep: Friendship in childhood and adolescence*. Cambridge: Cambridge University Press.

Burton, L. M., & Jarrett, R. L. (2000). In the mix, yet on the margins: The place of families in urban neighborhood and child development research. *Journal of Marriage and the Family*, *62*,1114–1135.

Carbonaro, W. J. (1998). A little help from my friend's parents: Intergenerational closure and educational outcomes. *Sociology of Education*, *71*, 295–313.

Chatters, L. M., Taylor, R. J., Lincoln, K. D., & Schroepfer, T. (2002). Patterns of informal support from family and church members among African Americans. *Journal of Black Studies*, *33*, 66–85.

Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, *94*,95–120.

Coleman. J. S. (1990). *Foundations of social theory*. Cambridge, MA: Harvard University Press.

Darling, N., Steinberg, L., & Gringlas, M. (1993, March). *Community integration and value consensus as forces for adolescent socialization: A test of the Coleman and Hoffer hypothesis*. Paper presented at the biennial meetings of the Society for Research in Child Development, New Orleans.

Coleman, J. S., & Hoffer, T. (1987). *Public and private high schools: The impact of communities*. New York: Basic Books.

Fletcher, A. C., & Cairns, R. (1995). *Parent and child perceptions of closure within children's friendships networks*. Unpublished manuscript, University of North Carolina at Chapel Hill.

Fletcher, A. C., Newsome, D. W., Nickerson, P. F., & Bazley, R. (2001). Social network closure and child adjustment. *Merrill-Palmer Quarterly*, *47*,500–531.

Fletcher, A. C., Rollins, A., & Nickerson, P. (2004). The extension of school-based inter- and intraracial children's friendships: Influences on psychosocial well-being. *American Journal of Orthopsychiatry*, *74*,272–285.

Gest, S., & Fletcher, A. C. (1995). *Concordance between self-reported and consensus-based peer groups as a function of social network status in early adolescence*. Unpublished manuscript.

Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, *78*, 1360–1380.

Higgins, E. T., & Parsons, J. E. (1983). Social cognition and the social life of the child: Stages as subcultures. In E. T. Higgins, D. N. Ruble, & W. W. Hartup (Eds.), *Social cognition and social development* (pp. 15–62). Cambridge: Cambridge University Press.

Hoffmann, D. A., Griffin, M. A., & Gavin, M. B. (2000). The application of hierarchical linear modeling to organizational research. In K. J. Klein & S. W. J. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations: Foundation, extensions, and new directions* (pp. 467–511). San Francisco: Jossey-Bass/Pfeiffer.

Hollingshead, A. (1975). *Four factor index of social status*. Unpublished manuscript, Yale University.

Kiesner, J., Poulin, F., & Nicotra, E. (2003). Peer relations across contexts: Individual–network homophily and network inclusion in and after school. *Child Development*, *74*,1328–1343.

Ladd, G. W. (1992). Themes and theories: Perspectives on processes in family–peer relationships. In R. D. Parke & G. W. Ladd (Eds.), *Family -peer relationships: Modes of linkage* (pp. 3–34). Hillsdale, NJ: Erlbaum.

Ladd, G. W., & Coleman, C. C. (1993). Young children's peer relationships: Forms, features, and functions. In B. Spodek (Ed.), *Handbook of research on the education of young children* (pp. 57–76). New York: Macmillan.

Ladd, G. W., Le Sieur, K. D., & Profilet, S. M. (1993). Direct parental influences on young children's peer relations. In S. Duck (Ed.), *Learning about relationships: Vol. 3. Understanding relationships processes series* (pp. 152–183). Newbury Park, CA: SAGE Publications.

Leung, M. (1993). *Social cognition and social networks of Chinese school children in Hong Kong*. Unpublished doctoral dissertation, University of North Carolina at Chapel Hill.

Lin, N. (2001). *Social capital: A theory of social structure and action*. New York: Cambridge University Press.

Marshall, N. L., Noonan, A. E., McCartney, A. Y., Marx, F., & Keefe, M. (2001). It takes an urban village: Parenting networks of urban families. *Journal of Family Issues*, *22*(2),163–182. Meeks, C. B., & Mauldin, T. (1990). Children's time in structured and unstructured leisure activities. *Lifestyles*, *11*(3), 257–281.

Morgan, S. L., & Sorensen, A. B. (1999). Parental networks, social closure, and mathematics learning: A test of Coleman's social capital explanation of school effects. *American Sociological Review*, *64*,661–681.

Parke, R. D., & Buriel, R. (1998). Socialization in the family: Ethnic and ecological perspectives. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (pp. 463–552). New York: Wiley.

Parke, R. D., & Ladd, G. W. (1992). *Family –peer relationships: Modes of linkage*. Hillsdale, NJ: Erlbaum.

Portes, A. (1998). Social capital: Its origins and applications in modern sociology. *Annual Review of Sociology*, *24*,1–24.

Qualter, P., & Munn, P. (2005). The friendships and play partners of lonely children. *Journal of Social and Personal Relationships*, *22*, 379–397.

Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods*. London: SAGE Publications.

Rubin, K. H., Bukowski, W. M., & Parker, J. G. (1998). Peer interactions, relationships and groups. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (pp. 619–700). New York: Wiley.

Simpkins, S. D., & Parke, R. D. (2001). The relations between parental friendships and children's friendships: Self-report and observational analysis. *Child Development*, *72*, 569–582.

Smith, C. (2003). Religious participation and network closure among American adolescents. *Journal for the Scientific Study of Religion*, *42*, 259–267.

Snyder, T. D. (1996). Trends in education. *Principal*, *76*, 57–60.