

## Links Between Social Network Closure and Child Well-Being: The Organizing Role of Friendship Context

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### **Abstract:**

Third grade children ( $N = 404$ ) and their mothers completed questionnaires and participated in interviews designed to identify children's friendships across multiple contexts, determine levels of social network closure for these friendships, and assess child well-being. Cluster analyses revealed distinct patterns in the contexts in which children's friendships were maintained. Closure was highest for children whose friendship clusters heavily represented relatives as friends and lowest when friends were from schools and the broader community. Intermediate levels of closure were observed for the clusters of neighborhood friends and friends from church and school. Both friendship cluster and, to some extent, ethnicity moderated associations between closure and indicators of well-being.

**Keywords:** social network closure, friends, children, context

### **Article:**

Research on children and families increasingly has recognized the complex web of social relationships that supports parents and influences child development. No longer is it acceptable for child development and family researchers to limit inquiries concerning influences on child well-being to the study of parents and peers in isolation or without consideration of the broader social contexts in which children's relationships with others unfold. The current project represents an effort to understand the manner in which the social relationships of both parents and children have implications for child well-being, with the recognition that the nature of such relationships varies from family to family. Such variation is conceptualized in terms of both demographic characteristics of families and the extent to which children's friendships cluster with respect to the diverse social contexts of their lives. In short, in the current effort we seek to understand the development of children's behavioral and psychological competence as it is experienced in distinct social contexts and as a consequence of patterns of social relationships that cross generations.

### **Social Network Closure and Child Well-Being**

The theoretical work of Coleman (1988, 1990) emphasized the importance of taking into consideration points of connection between children's and parents' social networks as potentially facilitating parental socialization goals and supporting children's well being. It was Coleman who first introduced the term *social network* (or *intergenerational*) *closure* to describe the nature of such connections. In particular, Coleman defined closure relationships in terms of the strength of social connections among parents whose children were friends. Thus, social network closure reflects both structural and affective dimensions of social relations among network parents (Coleman, 1988; Fletcher, Newsome, Nickerson, & Bazley, 2001). Although Coleman's earlier work also considered relationships between children and their friends' parents as a component of closure (Coleman & Hoffer, 1987), in his later writings Coleman (1988, 1990) focused primarily on the role of parent-to-parent relationships as the defining component of social network closure.

Coleman (1988, 1990) further suggested that closure functions as a social structural mechanism through which social capital is accrued and socialization goals are realized. Coleman's writings explicitly link relationships among parents whose children are friends with a variety of parenting beliefs and behaviors, which, in turn, are

hypothesized to affect child well-being. In particular, network parents who develop stronger closure relationships are hypothesized to develop common norms for behavior that constrain children's actions, increase communication with one another about children's activities and whereabouts (with resulting benefits in terms of their own ability to monitor and supervise children), and develop shared norms for evaluating children's behavior (which ultimately results in imposition of similar consequences for misbehavior; Coleman & Hoffer, 1987). Thus, both parental norms and behaviors are implicated as mechanisms linking closure relationships and indicators of child well-being. Closure relationships are conceptually distinct from broader conceptualizations of social support in that interparental closure relationships may influence parental norms and behaviors even in the absence of the provision of parent-to-parent support. Yet, despite growing interest in the role of closure relationships with regard to child adjustment, empirical investigations of closure have been infrequent. In addition, they have been limited in scope, defining closure in terms of only a subset of the diverse contexts that define children's lives and failing to recognize demographic variation in the extent to which social relationships may be formed across these contexts.

### **The Social Contexts of Children's and Parents' Lives**

Despite the multiple social contexts that encompass parents and children, studies of social network closure have tended to focus on children's friendships as they are maintained in schools (Fletcher et al., 2001) or have failed to consider explicitly the multiple contexts of children's friendships (Carbonaro, 1998; Morgan & Sorensen, 1999). In contrast, neighborhood-based studies have tended to focus either on global indexes of community integration and collective socialization that are functional byproducts of intergenerational closure or on general indexes of parents' knowledge of their children's friends or neighbors (Caughy, O'Campo, & Muntaner, 2003; Sampson, Morenoff, & Earls, 1999). Such studies have not specified the diverse sites in neighborhoods (e.g., churches, schools) or the broader community (e.g., Scouts, sports, voluntary associations) through which families form social connections.

Formulations of intergenerational closure have also focused solely on nonfamily social relationships and networks to the exclusion of kin networks. Yet extended kinship systems can be a central source of norms and obligations, reciprocated exchanges, and informal control and support of children (Johnson, 2000; Stack & Burton, 1993), all of which are hypothesized to serve as mechanisms linking closure relationships with indicators of child wellbeing. Ethnic minority families may be particularly reliant on friendships with kin and, as a result, may create kin-based social networks that have implications for children's well-being (Burton & Jarrett, 2000; Stack & Burton, 1993).

As we begin to think about the contextual diversity and complexity of the social relationships parents and children may cultivate, questions arise regarding how closure relationships may be differentially related to children's competencies and well-being in these different settings. Our previous work (Fletcher, Troutman, Gruber, Long, & Hunter, 2006) has indicated that children's friendships in middle childhood are maintained in seven distinct contexts: school, child care, neighborhood, religiously based, extracurricular, relatives as friends, and family friends. Yet it seems unlikely that closure relationships maintained in these distinct contexts function similarly with respect to specific indicators of child well-being. Fletcher et al. (2001) found that school-based closure relationships were more consistently related to indicators of academic competence (academic grades, work orientation) than to nonacademic outcomes. Morgan and Sorensen (1999) found that associations between closure and indicators of academic competence varied on the basis of whether students attended Catholic or public schools. Findings such as these suggest that friendship context may be a potential moderator of the strength and/or direction of associations between closure and indicators of child competence. School-based closure relationships may be particularly salient when academic outcomes are considered. Neighborhood-based closure relationships may be more relevant when externalizing behavior is the outcome of interest, given that there are likely more opportunities for children to engage in problem behavior when they are out and about in neighborhoods of residence. For other outcomes, such as internalized distress or feelings of self-efficacy, the contexts in which closure relationships are maintained may be irrelevant.

## **Competence, Social Ecologies, and Social Network Closure**

Social network closure reflects the diverse social and cultural ecologies in which parents and children are embedded. To the extent that desired (as well as needed) competences vary with demands, resources, and “values” in the cultural and ecological niches of families, both levels of closure and closure’s impact may vary (Garcia Coll et al., 1996; Harrison, Wilson, Chan, & Buriel, 1990; Slaughter-Defoe, Nakagawa, Takanishi, & Johnson, 1990). Several models of ethnic minority child development have emphasized the influences of social location and stratification, parenting and socialization, and adaptive cultures (Garcia Coll et al., 1996; Harrison et al., 1990; Slaughter-Defoe et al., 1990). Although they were developed to highlight the contexts of minority experience that are often left out of traditional models and approaches to child development, these models provide a way of thinking about children’s social ecologies that is relevant for European American children and families as well. For example, residential segregation (by both race and class), race and gender privileges, and cultural values create distinctive contexts in which social connections form and child development is shaped. These models make race and culture, gender, and social stratification more visible as influences on children’s patterns of friendship maintenance.

The importance of kin-based and church-based social networks in the life of African American families is well documented (Billingsley, 1992; Lincoln & Mamiya, 1990). Accordingly, African American children may be more likely than European American children to form friendships in these contexts. Given that these are both contexts characterized by high levels of interparental knowledge and contact, African American children may experience higher levels of closure than do their counterparts from other ethnic groups. Economic variation across families may also be reflected in patterns of friendship formation, with children from more advantaged circumstances more likely to participate in extracurricular activities that yield friendship partners (Quiroz, Gonzalez, & Frank, 1996). In contrast, ethnic and socioeconomic characteristics of children are less likely to affect friendship formation in contexts such as school and neighborhood, which are experienced by the overwhelming majority of children during the middle childhood years.

Recent empirical work considering links between school-based closure relationships and child adjustment supports the suggestion that the impact of closure may also be framed by race/ethnicity. Fletcher et al. (2001) found that children whose school-based social networks were higher in closure were more academically competent and scored higher on work orientation than peers whose friendships were characterized by lower levels of closure, regardless of ethnic background. Among European American children, higher levels of closure were also associated with greater social competence and less involvement in problem behavior. Yet among African American children, closure was unassociated with these variables. Fletcher et al.’s findings persisted despite inclusion of statistical controls for social class. Still, given confounds between ethnicity and social class in modern American society (Williams & Collins, 1995), it is of interest to consider whether both ethnicity and social class may moderate associations between closure and child well-being. The current effort extends prior work in this area by considering the moderating roles of ethnicity and social class with respect to associations between closure and children’s friendships as they are maintained across the multiple contexts of children’s lives, whereas previous work has focused exclusively on children’s school-based friendships.

The role of gender with respect to closure relationships remains unexplored. At first glance, there appears to be little reason to suspect that the benefits of interparental connectedness vary for boys versus girls. Yet when closure relationships are considered as potentially varying across the social contexts of friendships, the importance of gender cannot be ignored. Girls typically report higher levels of parental monitoring than do boys (Richards, Miller, O’Donnell, Wasserman, & Colder, 2004; Smetana & Daddis, 2002), with the likely consequence that girls’ friendships are more likely to be maintained in contexts that include both parents and children, such as church, relatives as friends, and family friends. In such contexts, levels of closure are likely to be higher, raising the possibility that girls will experience greater exposure to its potential benefits. In contexts that are more removed from the watchful eyes of parents, the role of interparental relationships as a tool for monitoring and supervising children may be perceived by parents to be more important for girls.

## **Purpose and Research Hypotheses**

This article focuses on identifying links between social network closure and various indicators of child well-being while taking into account the multiple contexts in which children's friendships may be maintained. Coleman's (1988, 1990) work implied that closure should be beneficial to all children but failed to consider that children may vary in their patterns of friendship maintenance and that such variation may reflect characteristics of children themselves. Consequently, specific hypotheses for the current study are as follows.

First, we hypothesize that taking a person-centered approach to understanding patterns of friendship formation will yield distinct clusters of children who vary on the basis of the contexts in which their friendships are maintained. Second, we hypothesize that demographic characteristics of children will predict cluster membership in the following ways: Girls will be more likely to concentrate their friendships in contexts that involve closer parental supervision (i.e., relatives as friends, family friends, church); boys will be more likely to concentrate friendships in contexts that are less closely supervised by parents (i.e., the neighborhood). African American children will be more likely to concentrate friendships in the contexts of church and relatives as friends; European American children will be more likely to concentrate friendships in the context of extracurricular activities. More affluent children will be more likely to concentrate friendships in the context of extracurricular activities, which require financial resources. We hypothesize no demographic differences in the likelihood that children will form or maintain friendships in the contexts of school and child care.

Third, we hypothesize that distinct friendship maintenance clusters will vary in levels of social network closure, with higher levels of closure observed for children who concentrate their friendships in contexts that include both parents and children, such as churches, relatives as friends, and family friends. Finally, we hypothesize that closure will be predictive of indicators of child well-being but that the strength of such associations will vary on the basis of the contexts in which friendships are maintained and demographic characteristics of families. Closure is anticipated to be unassociated with child well-being in clusters that emphasize friendships in contexts defined by high levels of closure (relatives as friends, family friends), because of low levels of variability in closure in these settings. In clusters characterized by greater variation in closure, we anticipate that closure will be predictive of greater academic achievement when friendships are concentrated in schools and fewer externalizing problems when friendships are more heavily concentrated in neighborhoods and the broader community. We hypothesize that higher levels of closure will be linked with greater feelings of self-efficacy and lower levels of internalized distress regardless of context. Specific hypotheses regarding the potential moderating role of demographic characteristics of children are not offered, given the exploratory nature of these analyses.

## **Method**

### ***Participants***

Participants were 404 third grade children and their mothers. Children were recruited into the project from nine public elementary schools in a single county in the southeastern United States during the 2001–2002 school year. Schools were diverse with regard to ethnic and socioeconomic composition and community type (rural, urban, and suburban). Participation was limited to African American and European American children and parents (the two most prevalent racial groups in the region). Sixty-three percent ( $n = 255$ ) of participants were European American, and 37% ( $n = 149$ ) were African American, with no mothers or children self-identifying as biracial or multiethnic. Of all participating children, 51% were girls and 49% were boys. Seventy-one percent of mothers reported being married to the participating child's father, 6% were married to the participating child's stepfather, and 23% were single parents (although some were involved in same-gender or cross-gender cohabiting relationships). Socioeconomic status (SES) of participating families was determined according to the Hollingshead (1975) four-factor index of social status. Hollingshead scores for the sample ranged from 9 (unskilled laborers) to 66 (major business persons and professionals), with a mean of 43 (medium business personnel and minor professionals).

## Measures

### *Demographic Information*

Demographic information was gathered via the Demographic Screening Questionnaire, created for the current project. Mothers provided a list of all household members and noted each member's race, age, sex, and relationship to the participating child. Mothers were also asked to provide information regarding the highest level of education they and children's fathers (if fathers were involved in children's lives) had completed and their current occupations. Educational and occupational information was used to calculate an SES score for each child via the Hollingshead (1975) four-factor index of social status.

### *Contexts of Children's Friendships*

Children's friends were identified using the Social Contexts of Friendships Interview (Fletcher et al., 2006), jointly completed by mothers and children. This measure was developed for the current project to identify friendships across the multiple contexts of children's lives. It was designed to overcome potential limitations associated with children's self-reports of friendships (Gest & Fletcher, 1995) and the lack of consensus regarding children's friendships as reported by mothers versus children (Fletcher & Cairns, 1995). This measure has been shown to reduce error resulting from forgetting that is present in both mother and child reports (Fletcher, Troutman, Madison, & Hunter, 2005). Mothers and children worked together to generate a list of no more than 10 of the participating child's closest nonsibling and nonadult friends. The interviewers elicited friendship context information by asking mothers and children to describe all settings in which children interacted with friends as well as whether the friend was biologically related to the target child. Interviewers then made detailed notes concerning context information provided. We had no a priori expectations as to the number or type of contexts that would be mentioned during interviews. When all interviews had been conducted, two trained undergraduate research assistants reviewed all interviewer notes and developed a context categorization system. The contexts of friendships that emerged were school, neighborhood, church (all participating families reported Christian denominations, which is not uncommon given our focus on African American and European American families in the southeastern portion of the United States), child care, extracurricular activities, nonrelated children of family friends (friendships established with nonrelated children whose parents were friends of adult relatives), and relatives as friends. Interrater reliability coefficients were calculated for the full set of all friendships for all target children and yielded kappas ranging from .95 to .98 for all contexts except child care. The kappa for child care was .85. All disagreements between raters were resolved through consultation with Anne C. Fletcher. In the case of child care, resolution of disagreements required obtaining additional information concerning the types and names of child care arrangements available in the target communities. We calculated the percentage of friends in each context by dividing the number of friends from each particular context by the total number of friends indicated by the participating child.

### *Social Network Closure*

Mothers were asked to rate how well they knew the parents of each friend identified in the Social Contexts of Friendships Interview (Fletcher et al., 2006) using a 4-point scale ranging from (1) *never met* to (4) *know well*. Higher scores were therefore indicative of greater levels of closure for individual friendships identified for each child. We then assigned each family an overall closure score by averaging individual closure scores across all identified friends. Previous attempts to develop measures of the strength of closure relationships either have relied on responses to yes/no questions regarding whether parents know the parents of their children's friends (Carbonaro, 1998) or have arrived at scales similar to the one used in this effort through coding of open-ended responses to questions to parents concerning the nature of their relationships with children's friends' parents (Fletcher et al., 2001). The rating scale presented to mothers in the current effort is consistent with the second of these strategies and provides more detail concerning the nature of interparental relationships than do responses to yes/no questions presented to parents.

### *Child Adjustment*

**Problem behavior.** Children's problem behavior was measured by maternal reports via the 118-item Problem Items questions of the Child Behavior Checklist (Achenbach & Edelbrock, 1981). The Child Behavior Checklist is a standardized clinical measure used in a variety of settings to assess a broad spectrum of child behaviors. For

all items, parents indicate whether children exhibit specific behaviors on a 3-point scale ranging from (0) *not true (as far as you know)* to (2) *very true or often true*. The Problem Items questions yield several scales, including the 31-item Internalizing Behavior scale and the 32-item Externalizing Behavior scale. Item scores for each scale are summed, and higher scores on all scales indicate higher levels of problem behavior.

**Academic achievement.** Parents provided permission for us to obtain children's official academic grades from participating schools at the end of the academic year during which data were collected. Grades were reported by teachers for math and language arts and scored on a conventional 4-point scale (A = 4.0, B = 3.0, C = 2.0, D = 1.0, F = 0.0). Math and language arts grades were averaged, and the resulting grade point average (GPA) for the full sample ranged from 1.0 to 4.0, with a mean of 3.14 and a standard deviation of 0.75.

**Self-efficacy.** Participating children reported on their beliefs in their own ability to successfully deal with challenges in various areas of their lives using the 13-item Self-Efficacy Scale (Furstenberg, Cook, Eccles, Elder, & Sameroff, 1999). Items on this scale were applicable to children's experiences across a diverse set of contexts, in that whereas some items focused on school-based efficacy (e.g., children were asked to indicate the extent to which they believed they could accomplish such tasks as "get teachers to help you when you get stuck on schoolwork"), others focused on efficacy more broadly conceptualized (e.g., children were asked about their abilities to "stand up for yourself when you are being treated unfairly"). Children responded to items on a 7-point Likert-type scale with options ranging from 1 (*not at all well*) to 7 (*very well*). Scores were averaged across the 13 items. Resulting scale scores ranged from 1 to 7, with higher scores indicating higher levels of self-efficacy. The alpha for this measure was .72.

### ***Procedure***

Parents of all third grade children enrolled at the nine participating schools were contacted by letter to gain permission for children to participate in school-based data collection sessions. Data collected during these sessions focused on school-based social networks and were not analyzed for the current project. Eligibility for the home interview component of the project was determined on the basis of children's responses to a demographic questionnaire administered during school data collection. Eligible mothers were then contacted by telephone and asked to participate in home interviews with their participating children. Eligibility was defined in terms of ethnicity (African American or European American), coresidence of mothers and children, and children having been born in the United States. Seventy-nine percent of mothers contacted in this manner agreed to participate in home interviews. This group represented 46% of all children enrolled in the target grades and schools at the time of recruitment, with the discrepancy between these two participation percentages explained largely by ineligibility for home interviews. Ineligibility was due to failure to obtain completed consent forms for the earlier, school-based portion of the project ( $n = 41$ ), parental refusal for the school-based portion of the project ( $n = 92$ ), or failure of children to meet demographic screening criteria ( $n = 180$ ).

Home interviews were conducted by two research assistants and took place in participants' homes or at a location of their choosing. At least one research assistant was always female, and at least one research assistant was always from the same ethnic group (African American or European American) as the family. Interviews took approximately 1 hr 15 min to complete. Mothers reviewed and signed written consent forms authorizing their own and their children's participation. Children provided verbal assent for participation. Mothers and children completed questionnaires and answered interview questions separately. All questionnaires were read aloud to children. Questionnaires were read aloud to mothers if they appeared to be having difficulty or requested assistance. Mothers and children completed the Social Contexts of Friendships Interview jointly. Mothers were compensated \$35 for their participation, and children received a small gift (a pencil box filled with school supplies).

## **Results**

### ***Distribution of Friends Across Contexts***

Table 1 presents means and standard deviations (full sample, by ethnicity, by gender) for the distribution of friends across the seven identified contexts of children's lives. European American children identified more

friends from the contexts of school,  $t(402) = -4.02, p = .00$ ; neighborhood,  $t(402) = -2.50, p = .01$ ; child care,  $t(402) = -2.02, p = .04$ ; and extracurricular activities,  $t(389.69) = -9.09, p = .00$ . In contrast, African American children identified more same-age relatives as friends,  $t(261.25) = 2.80, p = .01$ . There were no gender differences for number of friends in any context. Children from more affluent homes had more friends in the contexts of school,  $r(397) = .10, p = .05$ ; neighborhoods,  $r(397) = .14, p = .01$ ; child care,  $r(397) = .10, p = .05$ ; and extracurricular activities,  $r(397) = .27, p = .00$ . Children from less affluent homes had more relatives as friends,  $r(397) = -.13, p = .01$ .

Table 1  
*Distribution of Children's Friendships Across Contexts*

Sample	Context						
	School	Neighborhood	Child care	EC	Church	Relative	Family friend
Full sample ( $N = 404$ )							
<i>M</i>	2.64	2.21	0.51	1.13	0.63	0.83	0.63
<i>SD</i>	2.26	2.18	1.14	1.71	1.20	1.24	1.14
European American children ( $n = 255$ )							
<i>M</i>	2.98	2.42	0.59	1.60	0.69	0.69	0.62
<i>SD</i>	2.24	2.18	1.17	1.88	1.22	1.12	1.08
African American children ( $n = 149$ )							
<i>M</i>	2.06**	1.86*	0.36*	0.33**	0.54	1.07**	0.65
<i>SD</i>	2.18	2.14	1.07	0.92	1.15	1.38	1.22
Girls ( $n = 206$ )							
<i>M</i>	2.77	2.09	0.43	1.03	0.69	0.78	0.65
<i>SD</i>	2.26	2.06	0.99	1.62	1.24	1.16	1.10
Boys ( $n = 191$ )							
<i>M</i>	2.55	2.38	0.57	1.18	0.57	0.92	0.63
<i>SD</i>	2.24	2.26	1.17	1.61	1.15	1.33	1.19

Note. Values represent number of friends. EC = extracurricular.  
\*  $p < .05$ . \*\*  $p < .01$ .

### *Intercorrelations Among Percentages of Friends in Contexts*

Intercorrelations among the percentages of friends in each of the seven identified contexts are presented in Table 2. Children who reported more friends from school named fewer friends from neighborhoods and family networks and fewer relatives as friends. Children who named more friends from school also tended to name more friends from extracurricular activities. Children who named more friends from neighborhoods named fewer friends from the church, family networks, relatives as friends, and extracurricular activities contexts. Children who named more relatives as friends named fewer friends from church and child care. Children who named more relatives as friends named fewer friends from extracurricular activities.

Table 2  
*Intercorrelations Among Percentages of Friends in Contexts, Full Sample ( $N = 397$ )*

Variable	1	2	3	4	5	6	7
1. % school	—						
2. % neighborhood	-.33**	—					
3. % church	-.04	-.22**	—				
4. % day care	-.09	-.07	-.08	—			
5. % family network	-.27**	-.19**	.01	-.07	—		
6. % relatives	-.22**	-.32**	-.13**	-.10*	.00	—	
7. % activities	.12*	-.15**	-.03	-.01	-.08	-.22**	—

\*  $p < .05$ . \*\*  $p < .01$ .

### *Cluster Analytic Procedure*

Clustering variables were the percentages of total identified friends in each of the seven contexts of children's friendships. Bivariate correlations among clustering variables (see Table 2) indicated that collinearity among clustering variables was not a concern. Examination of graphic profile diagrams identified 4 outliers, who were removed prior to initiation of clustering procedures. The final clustering sample thus consisted of 397 cases. Cluster analyses were conducted using Ward's method with squared euclidean distance to measure the proximity of cases from one another and to combine cases with similar distances into clusters. Agglomeration coefficients generated at each step in the clustering procedure were examined to identify the points at which sudden jumps in the size of these coefficients were observed. The clustering procedures yielded four clusters.

### *Descriptions of Clusters*

Table 3 indicates the clusters identified and the number of children represented in each cluster. This table also provides the average percentage of total friends listed by each child in each context category. Cluster 1 (family;  $n = 84$ ) children identified primarily relatives ( $M = 34\%$  of friends) as friends and identified comparatively fewer friends from the remaining six contexts. Cluster 2 (neighborhood;  $n = 107$ ) children identified the largest percentage of their friends as from their neighborhood ( $M = 67\%$ ) and identified comparatively fewer friends from other contexts. Cluster 3 (church/school;  $n = 54$ ) children named more friends from church ( $M = 44\%$ ) and school ( $M = 31\%$ ) than from any other contexts. Cluster 4 (school/community;  $n = 152$ ) children named a large percentage of friends from schools ( $M = 63\%$ ) but also identified a good number of friends from neighborhoods ( $M = 22\%$ ) and extracurricular activities ( $M = 21\%$ ). We demonstrated the replicability of this clustering solution by randomly splitting the clustering sample into two subgroups, then repeating the clustering procedures within these groups. In both subgroups, four clusters emerged that were conceptually identical to those identified for the full sample. When classifications for the full clustering sample versus the subgroups were compared, 82% of children in Subgroup A were classified the same across procedures ( $K = .76$ ; across-cluster accuracy ranged from 66% in Cluster 1 to 96% in Cluster 3). Eighty-four percent of children in Subgroup B were classified the same across procedures ( $K = .80$ ; across-cluster accuracy ranged from 70% in Cluster 1 to 100% in Cluster 2).

### *Across-Cluster Differences in Child Well-Being and Number of Friends*

One-way analyses of variance and follow-up Tukey tests were conducted to determine whether mean number of friends and indicators of child well-being differed across clusters. Across-cluster differences were observed only for GPA,  $F(3, 393) = 2.90, p = .04$ , with follow-up comparisons indicating that children in the family cluster ( $M = 2.96, SD = 0.80$ ) received lower grades than children in the school/community cluster ( $M = 3.25, SD = 0.64$ ).

### *Demographic Characteristics of Children as Predictors of Cluster Membership*

To determine whether cluster membership was predicted by demographic characteristics, we conducted a series of logistic regressions predicting membership in each cluster from demographic variables entered simultaneously, thus controlling for potential confounds among demographic predictors (see Table 4). More economically disadvantaged children were overrepresented in the family cluster, and girls were overrepresented in the church/ school cluster.

### *Across-Cluster Variation in Levels of Closure*

To determine whether levels of social network closure varied across clusters, we conducted a regression analysis in which we first entered demographic controls (ethnicity, gender, SES), then dummy-coded cluster variables (with school/community as the reference group). Results indicated that closure was highest in the family cluster, followed by the church/school cluster, then the neighborhood cluster, and finally the school/community cluster. Significant across-cluster differences in closure were observed between the school/community cluster and all other clusters and between the neighborhood cluster and the family cluster.

### *Associations Between Closure and Child Well-Being: Direct and Moderated Effects*

We conducted regression analyses predicting each indicator of child well-being. On Step 1, we entered demographic controls for ethnicity, gender, and SES. On Step 2, we entered the number of friends. On Step 3, we entered closure. On Step 4, we entered cluster membership, dummy coded with school/community as the reference group. On Step 5, we entered the interaction of closure and dummy-coded context. The final step of the regression involved entering two-way interactions for demographic variables (Context  $\times$  Ethnicity, Context  $\times$  Sex, Context  $\times$  SES), with each interaction entered individually in three separate regression analyses, one for each of these final interaction terms. In cases in which interaction terms were significant, analyses were repeated separately for groups defined on the basis of cluster and/or the demographic variables in question.



### Associations Between Closure and Academic Grades

Closure was unassociated with academic grades for the full sample. However, interaction terms indicated that associations between closure and GPA varied on the basis of cluster membership and the interaction between cluster membership and gender. Accordingly, we first split the sample by cluster, then conducted regression analyses in which we entered, sequentially, demographic controls, number of friends, closure, and the interaction of closure and gender (see Table 5). There was a significant effect of closure in the school/community cluster,  $t(151) = 2.42, p = .02$ , with higher levels of closure associated with higher academic grades. Closure  $\times$  Gender interactions were not significant, so no further analyses were conducted for academic grades.

**Table 3**  
*Average Percentages of Friends per Context for Friendship Clusters*

Context	Cluster			
	Family	Neighborhood	Church and school	School and community
School	19	15	31	63
Neighborhood	15	67	14	22
Church	4	3	44	4
Child care	8	7	6	6
Family friends	11	5	7	5
Relative	34	5	7	7
Activities	9	9	12	21
<i>n</i>	84	107	54	152

**Table 4**  
*Logistic Regressions Predicting Cluster Membership*

Predictor	<i>B</i>	<i>SE</i>	Wald $\chi^2$	<i>p</i>	Odds ratio
<b>Family</b>					
Gender	-0.22	.25	0.77	.38	0.80
Ethnicity	-0.28	.27	1.01	.32	0.76
SES	-0.03	.01	5.34	.02	0.97
Constant	0.11				
<b>Neighborhood</b>					
Gender	-0.42	.23	3.48	.06	0.65
Ethnicity	-0.09	.26	0.11	.74	0.92
SES	0.01	.01	1.72	.19	1.01
Constant	-1.35				
<b>Church/school</b>					
Gender	0.82	.31	6.79	.01	2.25
Ethnicity	-0.04	.33	0.01	.91	0.96
SES	0.01	.01	0.36	.55	1.01
Constant	-2.67				
<b>School/community</b>					
Gender	0.11	.21	0.30	.58	1.12
Ethnicity	0.30	.24	1.58	.21	1.35
SES	0.00	.01	0.12	.73	1.00
Constant	-0.87				

Note. For all chi-squares:  $df = 3, N = 397$ . SES = socioeconomic status.

**Table 5**  
*Hierarchical Regression Analyses Predicting Academic Grades Separately by Cluster*

Step and variable	Family					Neighborhood					Church/school					School/community				
	<i>B</i>	<i>SE</i>	$\beta$	<i>p</i>	$\Delta R^2$	<i>B</i>	<i>SE</i>	$\beta$	<i>p</i>	$\Delta R^2$	<i>B</i>	<i>SE</i>	$\beta$	<i>p</i>	$\Delta R^2$	<i>B</i>	<i>SE</i>	$\beta$	<i>p</i>	$\Delta R^2$
<b>Step 1</b>																				
Ethnicity	0.51	0.19	.32	.01		0.24	0.16	.14	.15		0.48	0.21	.31	.03		0.37	0.10	.27	.00	
Gender	-0.18	0.17	-.12	.28		0.13	0.14	.08	.35		-0.46	0.22	-.28	.04		-0.24	0.09	-.19	.01	
SES	0.01	0.01	.09	.45	.15**	0.03	0.01	.46	.00	.30**	0.02	0.01	.30	.02	.23**	0.02	0.00	.41	.00	.31**
<b>Step 2</b>																				
No. friends	-0.04	0.03	-.12	.30	.01	-0.02	0.03	-.06	.49	.00	0.08	0.04	.26	.04	.07*	0.03	0.02	.11	.14	.01
<b>Step 3</b>																				
Closure	-0.20	0.19	-.11	.30	.01	0.09	0.11	.07	.42	.00	0.13	0.17	.10	.45	.01	0.17	0.07	.18	.02	.03*
<b>Step 4</b>																				
Closure $\times$ Gender	0.26	0.39	.57	.50	.04	0.15	0.22	.30	.49	.00	0.21	0.37	.43	.58	.00	0.08	0.13	.20	.53	.00

Note. SES = socioeconomic status.  
\*  $p < .05$ . \*\*  $p < .01$ .

### Associations Between Closure and Self-Efficacy

Higher levels of closure were associated with higher levels of self-efficacy,  $t(396) = 3.30, p = .00$ . A significant Cluster  $\times$  SES interaction term suggested that associations between closure and self-efficacy might differ on the basis of cluster membership and SES. We conducted follow-up regressions separately by cluster in which we entered, sequentially, demographic controls, number of friends, closure, and the interaction of closure and SES (see Table 6). In these regressions, SES and closure were centered prior to computation of the interaction term. Higher levels of closure were associated with higher reported self-efficacy in the neighborhood,  $t(106) = 3.18, p = .00$ , and church/school clusters,  $t(53) = 2.52, p = .02$ . Associations between closure and self-efficacy did not reach conventional ( $p < .05$ ) significance levels in the school/community cluster but were very close to this cutoff,  $t(151) = 1.87, p = .06$ .

**Table 6**  
*Hierarchical Regression Analyses Predicting Self-Efficacy Separately by Cluster*

Step and variable	Family					Neighborhood					Church/school					School/community				
	B	SE	$\beta$	p	$\Delta R^2$	B	SE	$\beta$	p	$\Delta R^2$	B	SE	$\beta$	p	$\Delta R^2$	B	SE	$\beta$	p	$\Delta R^2$
Step 1																				
Ethnicity	0.34	0.21	.20	.11		0.30	0.21	.16	.16		0.26	0.25	.16	.31		0.00	0.15	.00	.98	
Gender	0.27	0.19	.16	.16		-0.13	0.18	-.07	.47		-0.08	0.25	-.04	.76		0.03	0.13	.02	.81	
SES	0.01	0.01	.07	.60	.08	.00	0.01	.04	.75	.04	-0.02	0.01	-.26	.07	.07	0.01	0.01	.18	.03	.03
Step 2																				
No. friends	-0.03	0.04	-.10	.39	.01	0.07	0.03	.19	.06	.03	0.04	0.04	.12	.39	.01	0.05	0.03	.16	.06	.02
Step 3																				
Closure	-0.04	0.22	-.02	.87	.00	0.42	0.13	.30	.00	.09**	0.48	0.19	.34	.02	.11*	0.19	0.10	.16	.06	.02
Step 4																				
Closure $\times$ SES	0.04	0.02	-.24	.07	.00	0.01	0.01	-.12	.23	.01	-0.02	0.02	-.15	.34	.02	-0.02	0.01	-.14	.09	.02

Note. SES = socioeconomic status.  
\*  $p < .05$ . \*\*  $p < .01$

### *Associations Between Closure and Internalizing Problems*

Closure was unassociated with internalizing problems. However, there was a significant Context  $\times$  Ethnicity interaction term. Accordingly, we split the sample by cluster and conducted regression analyses predicting internalizing problems from demographic variables on Step 1, number of friends on Step 2, closure on Step 3, and the interaction of ethnicity and closure on Step 4. Significant interaction terms suggested that it would be appropriate to further divide the sample by ethnicity. Accordingly, we conducted regression analyses separately by both cluster and ethnicity, entering gender and SES on Step 1, number of friends on Step 2, and closure on Step 3 (see Table 7). Among African American children in the neighborhood cluster, higher levels of closure were associated with more internalizing problems,  $t(68) = 2.30, p = .03$ . In contrast, among European American children in the school/community cluster, higher levels of closure were associated with lower levels of internalizing problems,  $t(102) = -2.32, p = .02$ .

**Table 7**  
*Hierarchical Regression Analyses Predicting Internalizing Problems Separately by Cluster and Ethnicity*

Step and variable	Family					Neighborhood					Church/school					School/community				
	B	SE	$\beta$	p	$\Delta R^2$	B	SE	$\beta$	p	$\Delta R^2$	B	SE	$\beta$	p	$\Delta R^2$	B	SE	$\beta$	p	$\Delta R^2$
African American																				
Step 1																				
Gender	-1.20	1.38	-.14	.39		-1.35	1.26	-.18	.29		8.51	4.90	.40	.10		0.22	1.06	.03	.84	
SES	-0.14	0.08	-.28	.09	.13	0.07	0.05	.22	.18	.08	0.06	0.12	.12	.62	.15	-0.07	0.05	-.19	.19	.04
Step 2																				
No. friends	0.00	0.31	.00	.99	.00	-0.14	0.22	-.11	.53	.01	0.27	0.62	.11	.67	.01	-0.13	0.22	-.09	.55	.01
Step 3																				
Closure	0.43	1.36	.05	.76	.00	2.02	0.88	.36	.03	.13*	1.27	2.81	.13	.66	.01	0.41	0.75	.09	.59	.01
European American																				
Step 1																				
Gender	1.42	1.43	.15	.33		-2.78	1.43	-.24	.06		-1.82	1.45	-.22	.22		0.18	1.27	.02	.89	
SES	-0.16	0.08	-.28	.07	.09	0.04	0.07	.08	.51	.07	0.02	0.07	.05	.76	.05	-0.04	0.06	-.07	.50	.01
Step 2																				
No. friends	0.15	0.28	.08	.60	.01	0.01	0.30	.00	.98	.00	0.18	0.28	-.11	.54	.01	-0.66	0.26	-.25	.01	.06*
Step 3																				
Closure	0.87	2.12	.07	.68	.00	-1.28	1.18	-.13	.28	.02	-2.08	1.42	-.26	.15	.07	-2.57	1.11	-.23	.02	.05

Note. SES = socioeconomic status.  
\*  $p < .05$ .

### *Associations Between Closure and Externalized Distress*

Closure was unassociated with externalizing problems. However, there was a significant Context  $\times$  Ethnicity interaction term. Accordingly, we split the sample by cluster and conducted regression analyses predicting externalizing problems from demographic variables on Step 1, number of friends on Step 2, closure on Step 3, and the interaction of ethnicity and closure on Step 4. Significant interaction terms suggested that it would be appropriate to further divide the sample by ethnicity. Accordingly, we conducted regression analyses separately by both cluster and ethnicity, entering gender and SES on Step 1, number of friends on Step 2, and closure on Step 3 (see Table 8). Among European American children in the neighborhood cluster, higher levels of closure were associated with lower levels of externalizing problems,  $t(68) = -2.45, p = .02$ . Although they did not reach conventional ( $p < .05$ ) significance levels, three additional associations between closure and externalizing problems approached statistical significance. For African American children in the neighborhood cluster, closure was linked with more externalizing problems,  $t(37) = 1.85, p = .07$ . For European American children in

the church/ school cluster and the school/community cluster, closure was associated with fewer externalizing problems,  $t(33) = -1.78, p = .09$ , and  $t(102) = -1.92, p = .08$ , respectively.

## Discussion

The findings we have reported suggest that the nature of social relationships formed among individuals, as well as the implications of these relationships with respect to child well-being, is shaped by the distinctive social and cultural ecologies inhabited by children and their families. We discuss the implications of our findings first in terms of contextual variation in children's friendships and closure relationships, then by considering the nature of associations between closure and child well-being.

Table 8  
Hierarchical Regression Analyses Predicting Externalizing Problems Separately by Cluster and Ethnicity

Step and variable	Family					Neighborhood					Church/school					School/community				
	B	SE	$\beta$	p	$\Delta R^2$	B	SE	$\beta$	p	$\Delta R^2$	B	SE	$\beta$	p	$\Delta R^2$	B	SE	$\beta$	p	$\Delta R^2$
African American																				
Step 1																				
Gender	0.16	2.04	.01	.94		-1.32	1.78	-.13	.46		21.58	3.30	.85	.00		0.76	1.18	.09	.53	
SES	-0.05	0.12	-.08	.67	.01	0.01	0.07	.03	.86	.02	-0.02	0.08	-.04	.77	.73**	-0.05	0.06	-.12	.41	.02
Step 2																				
No. friends	-0.45	0.45	-.19	.32	.03	-0.28	0.31	-.16	.38	.02	0.12	0.42	.04	.78	.00	0.02	0.24	.01	.93	.00
Step 3																				
Closure	0.24	2.00	.02	.91	.00	2.34	1.26	.30	.07	.09	1.81	1.85	.16	.34	.02	-0.49	0.83	-.10	.56	.01
European American																				
Step 1																				
Gender	0.80	1.44	.08	.58		0.37	1.56	.03	.81		0.87	1.37	.11	.53		0.70	1.07	.07	.51	
SES	-0.14	0.09	-.25	.11	.06	-0.03	0.07	-.05	.67	.00	0.11	0.07	.26	.14	.09	-0.07	0.05	-.14	.15	.02
Step 2																				
No. friends	0.37	0.28	.20	.18	.04	0.27	0.33	.10	.42	.01	0.33	0.26	.22	.22	.05	0.02	0.23	.01	.94	.00
Step 3																				
Closure	0.76	2.09	.06	.72	.00	-3.02	1.23	-.30	.02	.09*	-2.30	1.29	-.30	.09	.09	-1.88	0.98	-.20	.06	.04

Note. SES = socioeconomic status.  
\*  $p < .05$ . \*\*  $p < .01$ .

### Contextual Variation in Children's Friendships and Closure Relationships

American children spend a larger proportion of their awake hours in school than in any other context, with the exception of home (Eccles, 2004). Consistent with this finding, school was an important context of children's friendships in this sample. Yet the importance of schools as a source of children's friendships does not negate the role of other contexts (family, neighborhood, church) as places in which children's same-age social relationships develop and flourish. The importance of kin relationships and church affiliations in the lives of families has often been noted (Burton & Jarrett, 2000; Chatters, Taylor, Lincoln, & Schroeffer, 2002; Stack & Burton, 1993). On the basis of this body of research, we had anticipated that African American families would be overrepresented in clusters that emphasized both relatives as friends and religious organizations as sources of friendships. Instead, we found that the family cluster was characterized by higher rates of economic disadvantage. Given confounds between ethnicity and socioeconomic background, it may be that previous work emphasizing the importance of kin relationships in the lives of African American children has also reflected such relationships' prevalence and meaningfulness in the lives of families facing economic challenges. Indeed, the family is a source of both instrumental and emotional support in times of need (Cochran & Niego, 2002). Systems of mutual support and encouragement that have their basis in both shared relational histories and economic need may result in close relationships being forged among children as well as adults. The absence of ethnic differences in kin- and church-based friendships may also reflect similarities across race that are a function of region and residence. There is a high level of religious involvement and church attendance among both African American and European American families in the South (Hunt & Hunt, 2001). We also sampled European American families who lived in rural communities, where kin-based social networks are central (Hofferth & Iceland, 1998).

Variation in levels of closure across clusters is consistent with our earlier work focusing on associations between friendship context and closure (Fletcher et al., 2006). In short, kin friendships are virtually defined by the presence of strong ties among parents, who are themselves related by birth or marriage. Schools represent a context in which children spend time without their parents, and social and economic barriers may prevent parents from getting to know their children's school friends and these friends' parents. Churches are a context shared by children and their parents, and children whose friendships are maintained in the context of church gatherings are likely to have parents who also spend time together at such gatherings. The comparatively low levels of closure observed in the neighborhood cluster appear, at first glance, to be somewhat surprising, given that neighborhoods of residence are also jointly occupied by children and their parents. However, much of children's play with neighborhood peers is spontaneous and occurs outside of homes. Geographic proximity makes it easy for neighborhood children to spend time together, but this very ease of access often makes it unnecessary for parents to form closure relationships.

### *Social Network Closure and Child Well-Being*

As predicted, the presence of stronger social relationships among parents whose children were friends was linked with higher levels of child well-being—but with some caveats that related to the social contexts in which children maintained friendships. In short, the impact of closure depended on whether the contexts in which friendships were maintained were relevant to the specific indicator of child well-being being considered. When friendships were based primarily in schools, closer interparental (closure) relationships were linked with higher academic grades. Parents who maintain strong school-based closure relationships may share information, norms, and values that are consistent with competency in a school context. Ultimately, parents who talk with one another about such topics as homework assignments, teacher preferences, test-taking strategies, and tutoring options may be more able to translate increased knowledge about how schools function into increased opportunities to become involved in their children's school experiences as well as into academic opportunities and supports for their children. Although such an explanation for associations between closure and academic grades is consistent with Coleman's (1988, 1990; Coleman & Hoffer, 1987) theoretical conceptualization of the manner in which closure may come to benefit children, it is also possible that associations may be spurious, accounted for by the greater likelihood that parents with high levels of closure may also be high in involvement in their children's schooling, which itself is linked with higher academic achievement.

In contrast, a measure of psychological well-being, the extent to which children felt efficacious in their efforts to confront and surmount challenges in their lives, was positively linked with closure in three out of four clusters (all clusters except family). In such cases, interparental contacts may vary in content across contexts but be consistent in their implications for children's feelings of self-efficacy. In the school context, parents' efforts to communicate with one another may benefit children in terms of their feelings of academic knowledge and preparedness. Yet in the church context, intergenerational closure relationships may promote children's feelings that they are members of a religious community that they can rely on in times of need and may inculcate in children religious identities that promote feelings of self-efficacy. In fact, closure relationships have been proposed to function as a mechanism explaining associations between religious participation and positive development during the adolescent years (Smith, 2003). Again, we cannot rule out the possibility that associations between closure and children's self-efficacy are spurious, perhaps accounted for by the greater likelihood that parents who are higher in closure are also higher in efficacy, with that efficacy transmitted to children via mechanisms other than closure relationships.

Regardless of outcome, closure was not associated with child well-being in the family cluster. Previous analyses of these data focusing on friendship context as a determinant of closure relationships (Fletcher et al., 2006) have indicated that in the category of family as friends, levels of closure were so high as to constitute a defining feature of these relationships. Accordingly, the absence of associations between closure and child well-being in this cluster likely reflects the restricted variance in closure in this cluster.

European American children who experienced higher levels of closure tended to have lower levels of externalizing problems (significant in the neighborhood cluster and approaching significance in the church/

school and school/community clusters), with such associations likely explained by increased levels of collective efficacy (Sampson et al., 1999) promoted by closure relationships. Parents who communicate with one another regarding child-rearing norms and values are likely to engage in behaviors such as monitoring one another's children and intervening in the event of problem behavior, all of which should decrease levels of externalizing behavior among children.

In contrast, closure was less consistently associated with internalizing behaviors among European American children (only in the school/community cluster). Within-network consistency in parental expectations and consequences may explain associations between higher levels of closure and lower levels of internalizing behaviors among European American children whose friendships were maintained primarily in the school and community. Within-family interparental consistency has been linked with lower levels of internalized distress among adolescents (Fletcher, Steinberg, & Sellers, 1999), and it is not unexpected to find that the presence of interparental relationships, which are theorized to promote consistency across households, are also linked with lower levels of internalizing problems among children. Among European American children, the direction of associations between closure and internalizing behaviors in other contexts is consistent with such an interpretation, although the effects did not reach statistical significance. This may be in part due to decreases in power resulting from our examination of such associations separately for different ethnic groups.

Although higher levels of closure were generally associated with greater psychological and behavioral health among European American children, among African American children who maintained friendships primarily in the neighborhood context, higher levels of closure were linked with more internalizing and externalizing behavior. Although the pattern for African American children runs contrary to that which would be predicted by Coleman's (1988, 1990; Coleman & Hoffer, 1987) theorizing concerning the potential benefits of closure relationships, it is somewhat consistent with empirical work in this area (Fletcher et al., 2001). In addition, African American children in this sample, regardless of individual family SES, were more likely than European American children to reside in disadvantaged neighborhoods, and residence and knowing neighbors in such neighborhoods have been linked with increased levels of both internalizing and externalizing behavior (Caughy et al., 2003; Darling & Steinberg, 1997). Caughy et al. (2003) argued that this pattern reflects the "downside" of social capital, particularly when network members live in poor and ecologically high-risk neighborhoods. In addition, reliance on neighborhood-based social networks may be indicative of greater isolation from two critical institutions in southern African American communities—the family and the church.

### *Limitations and Conclusions*

The data on which our conclusions are based are not without limitations. Foremost among these is the cross-sectional nature of the current project. We have demonstrated that closure is contemporaneously associated with various indicators of well-being and have speculated that this association is explained by mechanisms theorized by Coleman (1988, 1990; Coleman & Hoffer, 1987) to flow from parents to children. However, a reliance on cross-sectional data does not allow us to test causal paths linking closure relationships and indicators of child well-being. Further research in this area should focus on identifying causal links among variables by considering the manner in which children's friendships and closure relationships unfold over time as well as the manner in which other variables may moderate or mediate associations between closure and indicators of child well-being. Despite this limitation, work that focuses on understanding how interparental relationships come to be linked with indicators of child well-being is inherently developmental in nature, especially as it seeks to identify and elaborate the contexts in which such development occurs.

The nature of associations between social network closure and child well-being is far more complex than has been acknowledged in previous research on this topic. As we become more sophisticated in our approaches to uncovering links between closure and indicators of child adjustment, we are faced with additional challenges regarding sample size and power. We suspect that had cluster sizes been larger, additional associations might have reached conventional levels of statistical significance.

Finally, we expect that strong closure relationships are more likely when children have long-term, high-quality relationships with friends. Unfortunately, data concerning friendship stability and relationship quality were not available for this wave of data collection. However, we look forward to directing our future efforts toward understanding the manner in which both of these variables may further elucidate the nature of associations between closure and child well-being.

Despite these limitations, this project represents the first effort to document associations between social network closure and child well-being in a manner that recognizes the diverse nature of contexts in which children's friendships are maintained. We have succeeded in expanding current knowledge concerning links between school-based closure relationships and indicators of child well-being by looking beyond the school and recognizing the diverse social and geographic contexts in which children and parents develop and maintain social relationships. The ethnic differences we have reported are suggestive of considerable limitations in a body of empirical investigation that has largely focused on the social experiences of European American children. It is critical that theoretical formulations about social network closure be able to explain and accommodate patterns of relationships seen across diverse populations of children and families, such as those reported in this study.

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