Gender Differences in Social Networks

Joyce F. Benenson
Harvard University

Researchers of peer relations in late middle childhood and early adolescence have often neglected to examine the context in which social relations occur. The present study was designed to examine one aspect of the context of peer relations—the social networks of males and females. Fourth- and fifth-grade children were asked to rate their peers using friendship and play rating scales and to describe their same-sex peers in open-ended interviews. Although males and females did not differ in the number of best friends they reported, males were found to have larger social networks than females. Further, for males, position in a social network was more highly linked with acceptance by the peer group. Finally, males were concerned with attributes that could be construed as important for status in the peer group, and females were concerned with attributes that appeared essential to relationships with a few friends.

The quality of a child's peer relations beginning in middle childhood has been shown to be a good indicator of a child's present and future socioemotional health (e.g., Putallaz & Gottman, 1982). Therefore, researchers are carefully designing methods to best identify children who are experiencing difficulty in peer relations (e.g., Bukowski & Newcomb, 1984; Coie & Dodge, 1988; French, Waas, & Tarver-Behring, 1986; Parker & Asher, 1988). Additionally, important research is being conducted on the causes, correlates, and consequences of the quality of children's and adolescents' peer relations (e.g., Caspi, Bem, & Elder, 1989; Dodge, Petit, McClaskey, & Brown, 1986; Karweit & Hansell, 1983; Putallaz, 1987).

Researchers of peer relations are beginning to recognize the importance of studying the social context to better understand the quality of children's and adolescent's peer relations (e.g., Allen, Weissberg, & Hawkins, 1989;

The author would like to thank Mr. Robert Grant for his generous support and Anita Peterson for her dedication and spirit throughout the project. In addition, the author is grateful to Professors Jerome Kagan, David McClelland, and Sheldon White for their insightful advice. This article is partially based on a dissertation submitted to Harvard University.

Journal of Early Adolescence, Vol. 10 No. 4, November 1990 472-495

Cairns, Cairns, Neckerman, Gest, & Gariepy, 1988; Epstein, 1989). As children enter adolescence, many important changes occur in their social contexts (e.g., Brown, 1989). Understanding the social context of children's peer relations in late middle childhood and early adolescence is essential, therefore, to an explanation of children's and adolescent's social relations.

One factor that has consistently been recognized as important in predicting outcomes in longitudinal research is the gender of the child (e.g., Caspi, Elder, & Bem, 1987; Kagan & Moss, 1962). In fact, Kagan and Moss (1962) believed that prediction to adult outcomes from middle childhood is very much affected by the child's gender and by the influence of the peer group. Despite the previously documented significance of the child's gender in longitudinal studies, researchers of peer relations have generally ignored gender differences, often pooling data across gender instead of examining relations between variables within gender (Block, 1984).

Nevertheless, the few researchers of peer relations who have studied gender as a factor in the social context in middle childhood and early adolescence have found significant effects of gender. First, based on a large review of the literature, Maccoby (1988) conclusively showed that by middle childhood, children's social interactions occur predominantly with members of the same gender. Although after middle childhood the number of contacts with opposite-sex peers increases, Cairns, Perrin, and Cairns (1985) also found evidence that in early adolescence, there are stable clusters of same-sex peers that have an important effect on children's peer relations.

Furthermore, research has suggested that the size and meaning of play groups and the attributes important to a child are different depending on the gender of the child. Although the results are somewhat contradictory regarding gender differences in the number of playmates or friends, researchers conducting observational studies have shown that males play in larger groups than females (Sutton-Smith, 1979; Sutton-Smith, Rosenberg, & Morgan, 1963; for reviews, see Belle, in press; Thorne, 1986). However, the number of best friends that a child has was not found to differ for the two sexes (e.g., Cairns et al., 1985).

Several researchers have suggested that membership in same-sex social networks may be differentially related to peer acceptance for males and females. Specifically, Best (1983) observed that by middle childhood, peer acceptance for males was determined by whether they were a member of the males' social network. No similar "in-group, out-group" system was observed for females. Similarly, Waldrop and Halverson (1975), using factor analyses of mothers' diaries plus observations of children's solitary and peer play, concluded that peer acceptance was related to belonging to a group for males and to having a few close friends for females. No further research has

been conducted, however, on gender differences in the relation between membership in a social network and peer acceptance.

Finally, for several decades, it has been known that in early childhood and continuing through adolescence, the attributes that children consider important in themselves and their same-sex friends are different for the two sexes (e.g., Huston, 1983, 1987; Karweit & Hansell, 1983; Rogosch & Newcomb, 1989; Tuddenham, 1951, 1952). For example, Karweit and Hansell (1983) stated that adolescent males are concerned with attributes related to status and females with attributes related to affiliation.

The current study was based on the assumption that gender is an important part of the social context and exerts a significant effect on children's peer relations. Three hypotheses were tested. First, based on conclusions from past observational studies combined with the results from Cairns and his colleagues (Cairns et al., 1985, 1988), it was predicted that males and females would not differ in the number of best friends they reported but that the size of the peer group would be larger for males than for females. That is, males would form larger social networks than would females. Second, based on the classroom observations of Best (1983) and the findings of Waldrop and Halverson (1975), it was hypothesized that position in a same-sex social network would be more highly connected to group acceptance for males than for females. Third, it was expected that males and females would differ in the attributes that they considered relevant to children of their gender.

METHOD

Subjects

Children from three schools in the greater Boston area participated in the first part of the study. Specifically, all classes of fourth- and fifth-grade children in which the number of males and females were relatively equal—less than a ratio of 2:1—were given the friendship and play rating scales. In sum, 81 males and 73 females from eight classes participated in this part of the study. In the first school, several children did not receive parental permission to participate in the study: 91% (10) of the males and 75% (9) of the females from the first class, 67% (8) of the males and 77% (10) of the females from the second class, and 80% (8) of the males and 90% (9) of the females from the third class received permission to participate. Although having missing children clearly could affect the validity of the results, examination of scores with and without these children demonstrated that the conclusions would have been the same had all children received

permission to participate. In the second and third schools, all children received permission to participate in the study. Every class contained at least seven children of each gender. The three schools served a predominantly White, lower-middle- to working-class population. The mean age of the subjects was 9 years 10 months for the fourth-grade children and 11 years 0 months for the fifth-grade children.

In the second part of the study, individual interviews were conducted with each of the 67 children (33 males and 34 females) from the first school who received parental permission to participate. It was not possible to conduct this part of the study in the second and third schools because individual testing was not permitted in these schools.

Procedure

One of three female researchers administered the measures to the children. In the first school, the friendship and play rating scales were administered to, and the interviews were conducted with, each child individually. In the second and third schools, the scales were administered to the class as a whole. In all schools, the same instructions were followed. The children were told by the researcher that she was interested in fourth- and fifth-grade children and would very much appreciate their help in answering some questions. Children were assured that all of their answers would be kept confidential. As proof of the confidentiality of their answers, only numbers and not names were included on their answer sheets. After children had completed the scales, they were thanked for their help and asked not to discuss their answers with their classmates, so as not to hurt any child's feelings.

Measures

Best Friend Ratings

Best friend ratings were used to examine the number of best friends of males and females and to delineate the social networks of the two sexes. Hallinan and Sorensen (1985) recommended the use of best friend relationships to depict social networks because these relationships are the most salient to children and adolescents and thus the clearest measure for delineating the social networks of peers. As these researchers emphasized, no upper or lower limits are set on the number of best friends chosen by a child so that the actual social networks of peers can emerge.

A modified version of the friendship measure by Hallinan (1981) was administered. At the top of the measure was the question "Are you a best friend of these kids, a friend of these kids, kind of a friend of these kids, don't know these kids, or not a friend of these kids?" Then, each same-sex classmate's name was listed, followed by the words "best friend," "friend," "kind of a friend," "don't know kid," and "not a friend." Children circled their relationship to each same-sex classmate.

Best friend ratings were used in several ways to construct a picture of the peer relations of males and females. First, the percentage of best friend ratings *received* by each child was calculated by counting the number of best friend categorizations that the child received and dividing by the number of same-sex peers that rated the child. The mean percentage of best friend ratings received for each gender yielded the first measure of the number of the best friends reported by males and females. Second, the percentage of best friend ratings *given* by each child was calculated by counting the number of best friend categorizations that the child gave and dividing by the number of same-sex peers that the child rated. The mean percentage of best friend ratings given for each gender yielded the second measure of the number of best friends reported by males and females.

Third, the number of *interconnections* between best friend ratings was examined to determine a child's position in a social network and to depict the size of the social networks for males and females. To examine the number of interconnected best friend ratings for each child, a scoring system was created, based on a modified version of the one described by Hallinan and Sorensen (1985). Children were given a score of zero if they had no reciprocal best friend ratings. Children were give a score of 1 (dyad) if they had one reciprocal best friend—that is, the child rated the peer as a best friend and that peer rated the child as a best friend. However, the child and the peer could not both have best friend ratings linking them to a common third peer. A child was given a score of 2 (triad) if he or she had at least one reciprocal best friend rating and both the child and the best friend had at least a unidirectional best friend rating with a common third peer. Again, however, the three children could not all have best friend ratings with a fourth peer. A child was given a score of 3 (four children) if he or she had one reciprocal best friend rating and had best friend ratings with three peers, provided all of the peers had at least unidirectional best friend relationships to one another but not to a fifth peer. Thus each child's social network score represents the number of interconnected best friend ratings that the child has with other peers, provided the child has at least one reciprocal best friend rating within the social network. The requirement of a reciprocal best friend rating prevented a "rejected" child who received no best friend ratings from any

member of the social network from being counted as a member of the social network simply because he or she gave best friend ratings to the members of the social network. However, a child who was "popular," in that he or she received many best friend ratings but did not have any reciprocal best friend ratings, would receive a social network score of zero in the current coding scheme. The mean of the social network scores for all children in one class of each gender yielded the measure of the size of the social networks for males and females in each class.

Peer Group Acceptance

A 5 point play rating scale was used to measure acceptance by the peer group. According to experts in sociometric assessment, "the rating a child receives in response to the question 'How much would you like to play with (child's name)?' can be regarded as a measure of a child's overall acceptability or likability in the peer group" (Asher & Renshaw, 1981, p. 275). Unlike nomination techniques in which children do not receive assessments from every one of their peers, the rating scale insures that each child receives a score from every other child in the class. Ratings were obtained only from same-sex classmates, because of the clear finding that children of this age interact predominantly with members of the same gender. The scale consisted of the question "How much do you like to play with each of these kids?" at the top of the page, followed by a list of every same-sex child's name in the class with five numbers and descriptors next to each name: (1) not at all, (2) a tiny bit, (3) OK, (4) pretty much, and (5) a lot. The subject then circled how much he or she liked to play with that classmate. Peer group acceptance scores were calculated by taking the mean of the ratings that each child received from his or her same-sex peers.

Open-Ended Descriptions of Same-Sex Classmates

The 33 males and 34 females from the first school were presented with a list of the same-sex children in their classes and then were asked to describe each same-sex child in their class into a tape recorder, according to the instructions "I'd like you to tell me what the boys/girls in your class are like when they are at school." After the child described each classmate, the researcher asked, "Anything else?" When the child replied no, the child was asked about the next classmate on the list. No other prompts were given.

Each child's descriptions of his or her same-sex classmates were transcribed. Transcripts were coded into thought units. A thought unit was defined

as a group of words expressing only one idea. Every thought unit in a transcript was coded into a category, the categories being derived solely from these children's descriptions. A child was given credit for using each category only once for each classmate. For example, if a child used the same category three times in describing the same classmate, the category was counted as being used only once for that classmate. If, however, the child used the category to describe three different classmates, then the category was counted as being used three times. After all children's responses were coded, categories that contained fewer than 10 entries were discarded. Factor-analytic techniques using various rotations did not yield any more succinct descriptors. Thus the appendix contains a description, with examples, of each of the 26 categories that were retained: nice, academic ability, quality of work habits, athletic ability, humor, fun, interests, fighter, relation to authority, strange, active, quality of looks, talkative, temper, makes fun, honest, popular, pain, helpful, giving, snobby, bossy, reciprocal, artistic, good/bad, and goof. The category labeled interests was the only one in which one thought unit could be coded simultaneously with another category. For example, the thought unit "he does artwork as a hobby" was simultaneously coded in the two categories, artistic and interests. All other categories were mutually exclusive—that is, thought units were coded in only one category.

Reliability was conducted by having a second person code 20 of the transcripts, a transcript being a subject's descriptions of all of his or her same-sex classmates. Then, correlations were computed between the two coders' use of each category. Correlations were above .88 for all categories with the following exceptions: The correlation coefficient for helpful was .81, for popular, .67, and for strange, .61. A child's score for the use of a category was computed by dividing the number of different classmates that the child described at least once using the attribute by the total number of classmates that the child described. Thus each child received a score for each of the 26 attributes that consisted of the percentage of classmates the child described using that attribute. In addition, children received a binary score for each attribute, indicating whether or not they used the attribute at least once in the transcript of their descriptions of all of their same-sex classmates.

RESULTS

Mean Gender Differences on Best Friend Ratings

There were no mean differences between males and females on the number of best friend ratings received or given or on the peer group

acceptance ratings. Two-tailed t tests showed that males did not differ from females in the mean percentage of best friend ratings received ($\bar{X}$ = .25, SD = .22 for males; $\bar{X}$ = .24, SD = .15 for females; $t[152]$ = .35, n.s) nor in the mean percentage of best friend ratings given ($\bar{X}$ = .25, SD = .17 for males; $\bar{X}$ = .24, SD = .17 for females; $t[152]$ = .35, n.s) nor in the mean peer group acceptance ratings received ($\bar{X}$ = 3.33, SD = .82 for males; $\bar{X}$ = 3.29, SD = .66 for females; $t[152]$ = .33, n.s.). Thus no gender differences were found in the number of best friend ratings received or given: Males and females reported the same number of best friends.

Mean Gender Differences in the Size of Social Networks Using Interconnected Best Friend Ratings

To compute the size of social networks using interconnected best friend ratings, only children who were considered to be members of social networks were included in the analysis. A social "network" was defined as containing at least three children, all of whom were connected by best friend ratings. A child was given credit for being a member of a social network if the child had at least one reciprocal best friend and the child and the best friend were both connected to a common third peer by at least unidirectional best friend ratings. Thus a child had to receive a social network score of at least 2 (triad) to be considered a part of a social network. Children who had no reciprocal best friend ratings or who had only one reciprocal best friend but not a triadic relationship with a third peer were not considered to be members of a network.

Thus 57% (n = 46) of the males and 59% (n = 43) of the females were defined as belonging to a social network. Clearly, no gender differences existed in the number of children who were defined as belonging to a social network. Moreover, no gender differences existed in the number of males versus females who had no reciprocal best friend ratings (30% of the males and 30% of the females) or who had only one reciprocal best friend that did not include a best friend rating with a common third peer (14% of the males and 10% of the females). Before computing the mean of the social network scores, the scores were corrected for the number of same-sex children in the class. Because number of same-sex peers in a class would clearly affect the number of interconnections that were possible for the children in that class, each child's social network score was corrected for the number of same-sex members in the class. This was done by regressing each child's social network score on the number of same-sex members in the class. Results derived from the regression analysis were based on the inclusion of all 154 subjects in this part of the study, regardless of whether they were members of a social network.

members of the same class, the mean of the social network scores was computed by class. That is, the class was considered the unit of analysis, not the individual child, because the number of same-sex children in the class determined the number of interconnections that were possible. Thus a child who came from a larger class had a greater chance of being a part of a larger network than a child who came from a smaller class. Consequently, gender differences in the size of social networks were computed within each class rather than pooling males and females across all classes. Table 1 presents the actual and corrected mean social network scores for males and females by class.

A *t* test comparing the mean class social network scores for the two sexes demonstrated that males were found to belong to larger social networks than females. The mean corrected social network scores for the eight classes for the males was 3.33 (*SD* = .83) and for the females, 2.45 (*SD* = .36), $t(14) = 2.75$, $p < .02$, two-tailed. Figure 1 (pp. 482-483) displays examples of the social networks of males and females in two classes. Social network scores are included for all subjects who received permission to participate in the study. In addition, peer group acceptance ratings are presented for both participating and nonparticipating subjects in these two classes.

Relation Between Position in a Social Network and Overall Acceptance by Same-Sex Peers

To test the hypothesis by Best (1983) that an "in-group, out-group" system exists for males but not females, two-tailed *t* tests were computed within each gender on the mean peer group acceptance ratings for children who were part of a social network versus those who were not part of a social network. Again, a social network was defined as three children who were connected by best friend ratings. The 81 males and 73 females from the three schools were the subjects in this analysis. Results demonstrated that an in-group, out-group system existed for both males and females but that the phenomenon was significantly stronger for the males. Specifically, for the males, those who were part of a social network had higher peer group acceptance ratings ($\bar{X}[46] = 3.78$, *SD* = .60) than those who were not members of a social network ($\bar{X}[35] = 2.77$, *SD* = .73), $t(79) = 6.65$, $p < .001$. For the females, those who were part of a social network also had higher peer group acceptance ratings ($\bar{X}[43] = 3.49$, *SD* = .53) than those who were not members of a social network ($\bar{X}[30] = 3.02$, *SD* = .74), $t(71) = 2.99$, $p < .005$. The effect sizes for these results were then computed using the technique described by Rosenthal and Rosnow (1984). The effect size for the difference for the males was $r = .60$ and for the females, $r = .33$. Comparisons of the magnitudes of

TABLE 1: Mean Social Network Scores for Males and Females, by Class[a]

Class	*n*	*Males*	*n*	*Females*
1	5	3.37	7	2.01
		(3.00)[b]		(2.00)
2	8	2.45	5	2.29
		(2.44)		(2.00)
3	4	3.57	7	2.29
		(2.80)		(2.00)
4	7	4.63	9	2.90
		(6.00)		(2.89)
5	9	3.02	2	2.01
		(3.56)		(2.00)
6	4	3.73	3	2.57
		(4.00)		(2.00)
7	4	2.01	2	2.57
		(2.00)		(2.00)
8	4	3.84	8	2.92
		(3.00)		(2.63)
Mean	8	3.33	8	2.45
		(3.35)		(2.19)

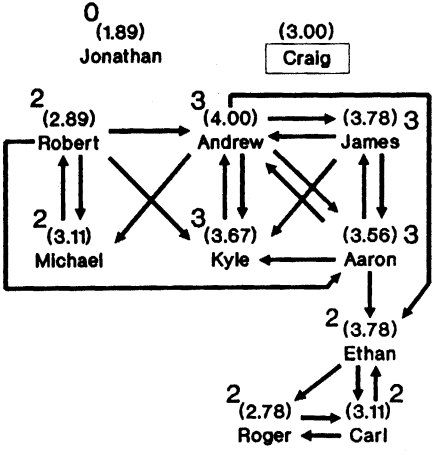
a. Only subjects who received a social network score of at least two were included.
b. The numbers in parentheses are the uncorrected means.

the effect sizes using Fisher z transformations demonstrated that the effect was significantly stronger for the males, $Z = 2.13$, $p < .05$, two-tailed.

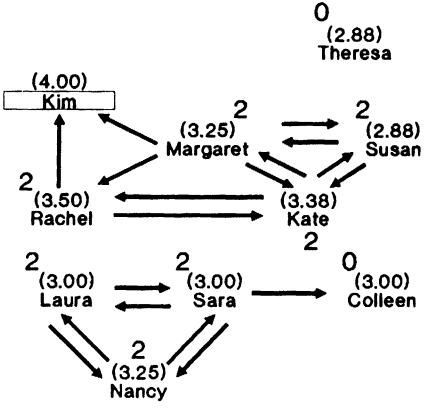
Interestingly, males who were part of social networks were found to receive significantly higher peer group acceptance ratings than females who were part of social networks. As previously reported, the mean for the males was 3.78 and for the females, 3.49, a difference that was significant, $t(87) = 2.42$, $p < .02$, two-tailed. There was no significant difference, however, in the mean peer group acceptance ratings for males ($\overline{X} = 2.77$) and females ($\overline{X} = 3.02$) who were not part of social networks, $t(63) = -1.37$, n.s.

To examine the relation between an individual child's position in a social network and the child's overall acceptance within the peer group, correlations were computed between social network scores and peer group acceptance

BOYS


0
(1.89)
Jonathan
(3.00)
Craig
2
(2.89)
Robert
3
(4.00)
Andrew
(3.78) 3
James
2
(3.11)
Michael
3
(3.67)
Kyle
(3.56) 3
Aaron
2
(3.78)
Ethan
2
(2.78)
Roger
(3.11) 2
Carl

GIRLS


0
(2.88)
Theresa
(4.00)
Kim
2
(3.25)
Margaret
2
(2.88)
Susan
2
(3.50)
Rachel
(3.38)
Kate
2
2
(3.00)
Laura
2
(3.00)
Sara
0
(3.00)
Colleen
2
(3.25)
Nancy

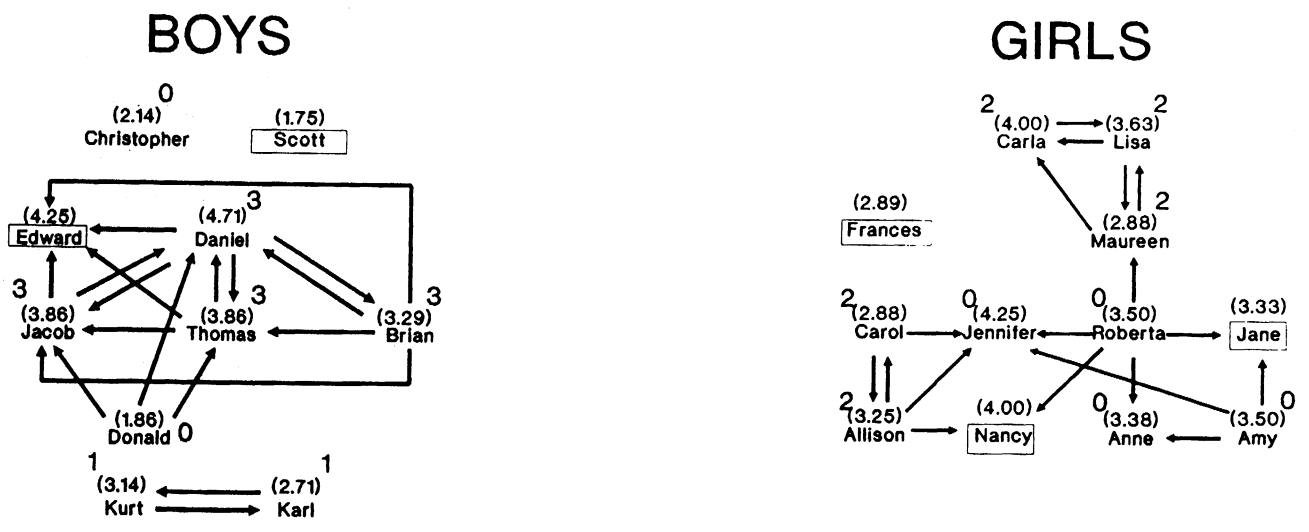


Figure 1: Social Networks of Males and Females in Two Classes

ratings. All subjects who received permission to participate in the study were included in the analysis. Because males more than females were found to have larger social networks and to have higher peer group acceptance ratings when in social networks, the variance of the social networks scores and peer group acceptance ratings was frequently greater for the males. Consequently, to eliminate effects due to gender differences in the variances of the social network scores and peer group acceptance ratings, both social network scores and peer group acceptance ratings were standardized for each gender within each class.

Results demonstrated that the size of the social network to which a child belonged was strongly related to the child's overall acceptance in the same-sex peer group for males, $r(79) = .72, p < .001$, but much less so for females, $r(71) = .28, p < .02$. Using Fisher z transformations to compare the sizes of the correlation coefficients, the correlation coefficient was found to be significantly higher for males than for females, $Z = 3.77, p < .001$, two-tailed.

Gender Differences in Open-Ended Descriptions of Peers

To investigate whether males and females differed in the attributes they used to describe same-sex peers, a multivariate analysis of variance (MANOVA) was performed with gender as the independent variable and the mean percentage of same-sex peers described using each of the 26 attributes as the dependent variables. In this analysis, 33 males and 34 females from the first school were the subjects. The results demonstrated that there were significant gender differences in the use of attributes, $F(28, 38), p < .001, U = .27$. In addition, using chi-square analyses, the percentage of children who used an attribute at least once was compared for each gender for each of the 26 attributes. Because the results from the MANOVA and the chi-square analyses were virtually identical, for the sake of simplicity, only the results from the chi-square analyses are reported.

Not surprisingly, males and females differed in the attributes used to describe their same-sex peers. No gender differences were found in the number of words that children used to describe same-sex classmates ($\overline{X} = 28.54$ for males and $\overline{X} = 26.44$ for females). However, significant gender differences were found in the use of some of the attributes, and partial support was found for the hypothesis that males are more concerned with status in the peer group and females more concerned with affiliation. Table 2 presents the percentage of males and females who use each attribute at least once to describe their same-sex peers. Specifically, males were significantly more likely than females to use the categories relation to authority, quality of work habits, strange, athletic ability, interests, artistic, academic ability, fighter,

TABLE 2: Percentage of Males and Females Who Used Each Attribute at Least Once to Describe Same-Sex Peers

Category	*Males*	*Females*	$\chi^2(1)$	*p*
Authority	78	9	33.26	< .001
Work habits	81	34	15.02	< .001
Strange	44	6	13.31	< .001
Athletic ability	66	29	9.23	< .005
Interests	69	34	7.94	< .01
Artistic	34	9	6.72	< .01
Academic ability	91	66	5.97	<.025
Fighter	34	11	5.07	< .05
Goof	31	11	3.97	< .05
Good/bad	66	43	3.49	< .10
Makes fun	34	17	2.62	n.s.
Reciprocal	3	23	5.60	< .025
Nice	72	91	4.36	< .05
Humor	41	34	< 1	n.s.
Temper	31	26	< 1	n.s.
Talkative	47	43	< 1	n.s.
Snobby	31	29	< 1	n.s.
Popular	22	20	< 1	n.s.
Giving	9	20	< 1	n.s.
Honest	13	26	< 1	n.s.
Bossy	9	20	< 1	n.s.
Quality of looks	19	29	< 1	n.s.
Fun	19	26	< 1	n.s.
Helpful	25	31	< 1	n.s.
Pain	34	37	< 1	n.s.
Active	28	29	< 1	n.s.

and goof to describe their peers. In contrast, females were significantly more likely than males to use the categories nice and reciprocal to describe their peers. No significant gender differences were found in the use of the categories good/bad, makes fun, humor, temper, talkative, snobby, popular, giving, honest, bossy, quality of looks, fun, helpful, pain, and active.

Next, the relation between being described with a negative attribute and peer group acceptance was explored. Because males and females are hypothesized to have different types of peer relations, both peer group acceptance and having a reciprocal best friend were examined for their possible relation to being described with negative attributes. It was predicted that the attributes used significantly more by males than females would be more related to peer group acceptance for males and the attributes used more by females than males would be more related to having a reciprocal best friend for females. Only peer group acceptance, however, and not presence of at least one reciprocal best friend, was related to receiving negative attributes. Therefore, the nine attributes used more by males—relation to authority, quality of work habits, strange, athletic ability, interests, artistic, academic ability, fighter, and goof—and the two attributes used more by females—nice and reciprocal—were reexamined for all negative uses and correlated with peer group acceptance. Thus, for example, all instances of not obeying authority, of poor quality of work habits, or of being strange were tabulated. Correlations were computed within each gender between the percentage of children in a class who described the subject using the negative attribute and standardized peer group acceptance ratings for the 11 attributes.

Results showed several significant correlations between being described as having negative sex-typed attributes and peer group acceptance. Specifically, being described as a fighter was associated with lower peer group acceptance for males, $r(31) = -.48$, $p < .01$, but females never used the negative form of the attribute. In contrast, being described as not being nice was associated with lower peer group acceptance for females, $r(32) = -.44$, $p < .01$, but not for males, $r(31) = .02$, n.s. Comparison of the magnitudes of the correlations for males and females using Fisher z transformations, however, demonstrated that the difference for the attribute not being nice was only a trend, $Z = 1.78$, $p < .08$. Being described as having poor work habits was significantly associated with lower peer group acceptance for males, $r(31) = -.43$, $p < .02$, and marginally significantly associated with lower peer group acceptance for females, $r(32) = -.31$, $p < .10$, the gender difference clearly not being significant, $Z = .54$, n.s. None of the other correlations were significant. Although these findings are only exploratory, it is interesting that not fighting appears relevant to peer group acceptance for males and being nice seems important to peer group acceptance for females.

Finally, exploratory analyses showed that males exhibited a tendency to agree more than did females on the attributes used to describe their same-sex peers. To compare the consensus on the use of attributes by males and females, the number of attributes used by a majority of the members of each gender was examined. Table 3 displays the percentage of males and females

TABLE 3: Percentage of Males and Females Who Used Each Attribute at Least Once, in Order of Popularity of Attribute

Category	*Males*	*Category*	*Females*
Academic ability	91	Nice	91
Work habits	81	Academic ability	66
Authority	78	Talkative	43
Nice	72	Good/bad	43
Interests	69	Pain	37
Athletic ability	66	Work habits	34
Good/bad	66	Humor	34
Talkative	47	Interests	34
Strange	44	Helpful	31
Humor	41	Athletic Ability	29
Fighter	34	Active	29
Makes fun	34	Quality of looks	29
Pain	34	Snobby	29
Artistic	34	Fun	26
Goof	31	Temper	26
Snobby	31	Honest	26
Temper	31	Reciprocal	23
Active	28	Popular	20
Helpful	25	Giving	20
Popular	22	Bossy	20
Fun	19	Makes fun	17
Quality of looks	19	Fighter	11
Honest	13	Goof	11
Bossy	9	Artistic	9
Giving	9	Authority	9
Reciprocal	3	Strange	6

who used each attribute at least once in order of popularity of the attribute. As shown in the table, more than 50% of males used seven attributes—academic ability, quality of work habits, relation to authority, nice, interests, athletic ability, and good/bad. In contrast, more than 50% of females used only two categories—nice and academic ability. Using the Fisher Exact Test, a trend

appeared, $p < .06$, which suggested that males exhibit greater consensus on more attributes than do females.

DISCUSSION

In sum, the three main hypotheses were supported. First, males and females were found to have the same number of best friends, but males were found to form larger social networks than females. Second, position in a social network was more strongly connected with peer group acceptance for males than females, although for both sexes, membership in a social network was linked to greater overall acceptance by the peer group. Finally, males and females differed in the attributes used to describe same-sex peers.

Before these conclusions can be accepted, however, several alternative hypotheses must be considered. First, it is possible that best friend ratings have different meanings for males and females, so that the size of social networks might have been found to be more equal for males and females if a different construct had been used. However, males and females received and gave equal numbers of best friend ratings, a result also found by other researchers (e.g., Cairns et al., 1985). Furthermore, results from observational studies of children's activities support the finding that males have larger social networks than do females (e.g., Belle, in press).

Second, it is possible also that the measure of peer group acceptance used in the present study—play ratings—may have different meanings for males and females, so that the relation between position in a social network and greater overall acceptance by the same-sex peer group might have been found to be more similar for males and females if a different construct had been used. However, pilot testing showed that males and females defined the word "play" similarly. In addition, it is suggested that any continuous measure of peer group acceptance would be more highly correlated with males' than females' positions in a social network, because males' more so than females' peer relations have been found to be hierarchical in nature (Savin-Williams, 1976, 1979, 1980). In support of this hypothesis, Ullman (1975) found that "rating devices appear to have more in common with, or to be more valid measures of, the adjustment of boys as a group than of girls as a group" (p. 260). This result is important, because current sociometric techniques use noncontinuous nomination procedures as opposed to continuous rating measures and use the same measures for both males and females.

Finally, the elimination of opposite-sex ratings may exaggerate gender differences in the types of social interactions in which males and females of this age engage. Although the time span of late middle childhood and early

adolescence has been shown to be one in which relationships are predominantly with members of the same gender (e.g., Maccoby, 1988), the relationships between boys and girls may still be an important part of the social context. Thus the current results should be construed as representing only one facet of the context of peer relations that children encounter at this time in their lives.

Acceptance of the results suggests that males and females interact in different social contexts. Although the mean social network scores for males and females differed only by 1, the stronger connection between position in a social network and peer group acceptance for males versus females lends further support to the hypotheses that males and females form different types of peer relationships. Gender differences in the use of attributes can be viewed as partially supporting previous findings that males are concerned with status and females are concerned with affiliation (Karweit & Hansell, 1983). However, based on the finding in the current study that groups appear more important to the social relations of males than of females, it is proposed that the defining attributes of males and females be expanded to include the idea of the importance of groups to males and the importance of a different type of status to females. Specifically, it is hypothesized that males are more concerned with *status or attributes that lead to acceptance by the group* and females are more concerned with *status or attributes that lead to affiliation.*

In fact, many of the attributes that were used more by males than by females—relation to authority, quality of work habits, strange, athletic ability, interests, artistic, academic ability, fighter, and goof—can be construed as integral attributes for participation in group activities. Furthermore, given that groups are important to the social relations of males, it is reasonable to suppose that boys most dislike other boys who "break" their social system by fighting inappropriately. In support of this theory, researchers found that no variable predicts peer rejection better for males than inappropriate fighting or rule-breaking (e.g., Dodge et al., 1986). Similarly, the attributes used more by females than by males—nice and reciprocal—can easily be construed as essential attributes for affiliation. In addition, given that a relatively small group of friends is important to the social relations of females, it is reasonable to suppose that girls are most concerned with other girls who "break" these few friendships by not being nice and reciprocal.

Finally, a trend appeared that suggests that males exhibit more consensus than females in the attributes used to describe same-sex peers. This also may be related to males' system of larger social networks. The formation of larger as opposed to smaller social networks is more conducive to building consensus. Given that in the current study, males' peer relations appeared to take the form of a cohesive group, it is not surprising that a trend appeared to

indicate that males exhibited more consensus than females in the attributes used to describe their same-sex classmates. Similarly, given that in the current study, females' peer relations appeared to take the form of small and diverse groups that are less connected to one another, it is expected that females would exhibit more varied ideas and less agreement on the importance of specific attributes. In support of this hypothesis, previous researchers found males to be more consensual and rigid than females in the activities and interests they find important (for reviews, see Huston, 1983, 1987).

What are the causes and consequences of gender differences in the social contexts that children create for their peer relations? Researchers have suggested several reasons for gender differences in types of social interactions. Chodorow (1978) theorized that males need to begin to break away from their mothers more than do females, so males need a more highly structured support group than females. Savin-Williams (1976, 1979, 1980b) found evidence for stable dominance hierarchies in males but not in females that may serve to inhibit the expression of overly aggressive and sexual impulses in males. For females, the lack of dominance hierarchies may reflect a lesser need to inhibit sexual and aggressive impulses, although conflicts would be expected to be expressed in different ways than for males. Alternatively, females may form dominance hierarchies based on different attributes more related to abilities to engage in relationships with a few friends. Finally, McClelland (1975) and Jacklin and Maccoby (1978) posited that males and females simply enjoy different styles of interaction, styles that begin in early childhood and may have an evolutionary basis. Thus males may have evolved to form groups for protection of their families or "in-group," and females may have evolved to engage in dyadic interactions for protection of their children.

It is hypothesized that as children enter the stage of early adolescence, peer pressure would exert differential effects on males and females, with males still more interested in group status and females more concerned with status related to attributes conducive to the formation of intimate, reciprocal relationships. As heterosexual relationships become more common, it is suggested that male groups and female friendships will incorporate these new relationships differently. Heterosexual relationships could be seen as more threatening to the cohesiveness of a male peer group, because they draw males away from the group into more individualistic relationships that foster different attributes than in male groups. In contrast, female friendships could more easily coexist with heterosexual relationships, because the attributes important in female relationships are also important in female-male relationships. Thus, although females would miss time spent with a close friend who is involved in an intense heterosexual relationship, they would still be able

to continue the same type of relationship. Nevertheless, the qualitative aspects of males' and females' friendships demand much further investigation.

Examining the social context of peer relations is important also for understanding individual differences in the ways in which children respond to the context. For example, Putallaz and Wasserman (1989) found differences in the entry behavior of children that were related to both peer group acceptance and the size of the group being entered. It seems probable that those boys who are having difficulty with peer relations and are unable to enter a relatively large social network will have different problems than girls who are having difficulty with peer relations and need to be able to engage in relationships with a few friends.

For children experiencing no difficulty in peer relations, gender differences in the social context would still influence their peer relations. The boys who are members of a social network may find themselves provided with a secure set of friendships but may be constricted in their freedom to choose their friends. In addition, boys may feel a lot of pressure to conform to group norms, even when they disagree with the norms. Not only would this influence them to engage in behaviors that might be uncomfortable but they might be inhibited in their desires to pursue interest and activities that were more personal but alien to the group norms. For girls who have good peer relations, they may be able to experiment with many more types of friendships than can boys but may miss having a large, interconnected group of peers. In addition, girls may feel more dependent on their families because of not having a stable and clear-cut support group. Further, as children get older, they are confronted with more group situations in less supervised settings, which might lead to greater difficulty for girls who have not had practice interacting with peer groups. Finally, those boys who are not members of a social network and do not wish to be may function more like girls in their friendship patterns. Similarly, those girls who are members of a relatively larger social network and enjoy this form of interaction may function more like boys in their social networks.

The limitations of the current study include the lack of heterogeneity of the children's backgrounds and the small number of classrooms included. Whether the same results would be found with children from different ethnic and cultural backgrounds, from higher or lower socioeconomic classes, from more urban or rural settings, from same-sex or mixed-age schools, or from schools that are either more or less structured remains unknown. Thus the factors that lead to gender differences deserve further investigation.

Future research needs to address the stability of gender differences as children move from middle childhood through early adolescence, adolescence, and into adulthood. Longitudinal studies that include children from

different backgrounds in diverse settings would greatly expand the current findings. For example, children who enter same-sex schools in early adolescence might develop different patterns of interaction than those found in the current study. Thus, in an all-girls school, girls might engage in more prototypically male patterns of behavior in the absence of competition with and attraction to boys. Likewise, males attending schools that provide many small group activities might engage in more prototypically female patterns of behavior.

Understanding the development of peer relations of children requires detailed analysis of gender differences in the relationships that children create. Results from the present study clearly suggest that future research on quality of peer relations include the possibility that males and females may find different types of relationships pleasurable and that individual differences in peer relations within genders may have separate correlates for the two sexes.

APPENDIX: Categories of Descriptions of Same-Sex Classmates

Nice: Quality of "niceness" that the classmate exhibits, from "very mean" and "not nice at all" to "nicest person in the class"

Academic ability: Quality of the classmate's academic ability or work, from "the teacher always says good things about the classmates' work" to "always gets bad marks on her report card"

Quality of work habits: Quality of work habits that the child exhibits, from "never gets his work done" to "always hands in her work on time"

Athletic ability: Any references to participation in sports or to quality of aptitude for sports, from "he's a klutz" to "she likes to play kickball a lot"

Humor: Any references to having or not having a sense of humor, from "class clown," and "makes everyone laugh" to "can't tell a joke"

Fun: Description of classmate who is or is not fun or good to do things with, from "good to hang around with" to "not a fun kind of kid"

Interests: Descriptions of the classmate's interests, likes, and hobbies, including whether the classmate has or does not have interests, likes, and hobbies, examples being "interested in science," "curious about wars," and "boring, not interested in anything" (this is the only category into which one thought unit could be coded while simultaneously being coded into another category, e.g., "loves to play football all the time" would be coded into both this category and athletics)

Fighter: Any reference to the type of classmate who continually or rarely fights, from "bully" and "rough" to "would never pick a fight"

APPENDIX Continued

Relation to authority: Description of the classmate's relation to authority, including references to proper or improper school behavior, like "never comes to class," "always in trouble," and "behaves good in school"

Strange: References to strangeness or "out-of-it-ness" of the classmate, such as "head in space," "weird," and "different sort of person"

Active: References to the activity level of the classmate from high to low, including "shy" and "hyperactive"

Quality of looks: Description of the quality of the classmate's looks, such as "pretty," "very fat," and "attractive"

Talkative: References to the classmate's amount of talking from "quiet" to "yells" and "never shuts up"

Temper: Descriptions of the classmate's propensity to get into arguments, to become easily angered or to never argue or get mad, including "never stays mad for long," "gets out of control a lot," and "never shows her temper"

Makes fun: References to the classmate's teasing behavior or lack of it, for example, "never makes fun of a person" or "calls people names"

Honest: Descriptions of the classmate as honest or dishonest, including "truthful," "fair," and "liar"

Popular: References to the number of friends or popularity of the classmate, including "nobody likes her" and "most popular kid in the class"

Pain: Description of how easy or hard it is to get along with the classmate, for example, "difficult," "gets in the way," and "never a pain"

Helpful: References to the classmate's helpfulness or lack of it, including "helps around the class" and "would help you with a problem"

Giving: References to giving, lending, sharing, and taking or not giving, lending, or sharing.

Snobby: Any description of the classmate as being a snob or not being a snob, including "show-off" and "thinks he's cool"

Bossy: References to the classmate's bossiness or lack of it, for example, "bosses people a lot" or "would never boss you"

Reciprocal: References to mutuality, for example, "if she borrows something from you, she lends something to you" and "he pays people back for what they do to him"

Artistic: References to the classmate's artistic ability or desire that were almost always positive, for example, "loves to make paintings" and "loves art class"

Good/bad: Description of the classmate as good, OK, or bad, including "an all right kid," "she's OK," and "he's just a great kid"

Goof: References to goofiness or fooling-around behavior, including "he's goofy" and "she's always fooling around"

REFERENCES

Allen, J. P., Weissberg, R. P., & Hawkins, J. A. (1989). The relation between values and social competence in early adolescence. *Developmental Psychology, 25*, 458-464.

Asher, S., & Renshaw, P. (1981). Children without friends: Social knowledge and social skill training. In S. R. Asher & J. M. Gottman (Eds.), *The development of children's friendships* (pp. 273-296). New York: Cambridge University Press.

Belle, D. (in press). Gender differences in children's social networks and supports. In D. Belle (Ed.), *Children's social networks and social supports*. New York: Wiley.

Best, R. (1983). *We've all got scars*. Bloomington: Indiana University Press.

Block, J. H. (1984). *Sex role identity and ego development*. San Francisco: Jossey-Bass.

Brown, B. B. (1989). The role of peer groups in adolescents' adjustment to secondary school. In T. Berndt & G. Ladd (Eds.), *Peer relationships in child development* (pp. 188-215). New York: Wiley.

Bukowski, W. M., & Newcomb, A. F. (1984). Stability and determinants of sociometric status and friendship choice: A longitudinal perspective. *Developmental Psychology, 20*, 941-952.

Cairns, R. B., Cairns, B. D., Neckerman, H. J., Gest, S. D., & Gariepy, J. (1988). Social networks and aggressive behavior: Peer support or peer rejection? *Developmental Psychology, 24*, 815-823.

Cairns, R. B., Perrin, J. E., & Cairns, B. D. (1985). Social cognition in early adolescence: Affiliative patterns. *Journal of Early Adolescence, 5*, 339-355.

Caspi, A., Bem, D. J., & Elder, G. H. (1989). Continuities and consequences of interactional styles across the life course. *Journal of Personality, 56*, 375-406.

Caspi, A., Elder, G. H., & Bem, D. J. (1987). Moving against the world: Life-course patterns of explosive children. *Developmental Psychology, 23*, 308-313.

Chodorow, N. (1978). *The reproduction of mothering: Psychoanalysis and the sociology of gender*. Los Angeles: University of California Press.

Coie, J. D., & Dodge, K. A. (1988). Multiple sources of data on social behavior and social status in the school: A cross-age comparison. *Child Development, 59*, 815-829.

Dodge, K. A., Petit, G. S., McClaskey, C. L., & Brown, M. M. (1986). Social competence in children. *Monographs of the Society for Research in Child Development, 51*, 1-85.

Epstein, J. L. (1989). The selection of friends: Changes across the grades and in different school environments. In T. Berndt & G. Ladd (Eds.), *Peer relationships in child development* (pp. 158-187). New York: Wiley.

French, D. C., Waas, G. A., & Tarver-Behring, S. A. (1986). Nomination and rating scale sociometrics: Convergent validity and clinical utility. *Behavioral Assessment, 8*, 331-340.

Hallinan, M. T. (1981). Recent advances in sociometry. In S. R. Asher & J. M. Gottman (Eds.), *The development of children's friendships* (pp. 91-115). New York: Cambridge University Press.

Hallinan, M. T., & Sorensen, A. B. (1985). Ability grouping and student friendships. *American Educational Research Journal, 22*, 485-499.

Huston, A. C. (1983). Sex-typing. In P. H. Mussen (Series Ed.), E. M. Hetherington (Vol. Ed.), *Handbook of child psychology: Vol. 4. Socialization, personality and social development* (pp. 387-467). New York: Wiley.

Huston, A. C. (1987). The development of sex typing: Themes from recent research. In S. Chess & A. Thomas (Eds.), *Annual progress in child psychiatry and child development, 1986* (pp. 168-186). New York: Brunner/Mazel.

Jacklin, C. N., & Maccoby, E. E. (1978). Social behavior at thirty-three months in same-sex and mixed-sex dyads. *Child Development, 49*, 557-569.

Kagan, J., & Moss H. (1962). *Birth to maturity*. New York: Wiley.

Karweit, N., & Hansell, S. (1983). Sex differences in adolescent relationships: Friendship and status. In J. Epstein & N. Karweit (Eds.), *Friends in school* (pp. 115-130). New York: Academic Press.

Maccoby, E. E. (1988). Gender as a social category. *Developmental Psychology, 24*, 755-765.

McClelland, D. (1975). *Power: The inner experience*. New York: Irvington.

Parker, J. G., & Asher, S. R. (1987). Peer relations and later personal adjustment: Are low-accepted children at risk? *Psychological Bulletin, 102*, 357-389.

Putallaz, M. (1987). Maternal behavior and children's sociometric status. *Child Development, 58*, 324-340.

Putallaz, M., & Gottman, J. M. (1982). Conceptualizing social competence in children. In P. Karoly & J. J. Steffen (Eds.), *Improving children's competence: Advances in child behavioral analysis and therapy* (pp. 1-37). Lexington, MA: D. C. Heath.

Putallaz, M., & Wasserman, A. (1989). Children's naturalistic entry behavior and sociometric status: A developmental perspective. *Developmental Psychology, 25*, 297-305.

Rogosch, F. A., & Newcomb, A. F. (1989). Children's perceptions of peer reputations and their social reputations among peers. *Child Development, 60*, 597-610.

Rosenthal, R., & Rosnow, R. (1984). *Essentials of behavioral research*. New York: McGraw-Hill.

Savin-Williams, R. C. (1976). An ethological study of dominance formation and maintenance in a group of human adolescents. *Child Development, 47*, 972-979.

Savin-Williams, R. C. (1979). Dominance hierarchies in groups of early adolescents. *Child Development, 50*, 923-935.

Savin-Williams, R. C. (1980). Social interactions of adolescent females in natural groups. In H. C. Foot, A. J. Chapman, & J. R. Smith (Eds.), *Friendship and social relations in children* (pp. 343-364). New York: Wiley.

Sutton-Smith, B. (1979). The play of girls. In C. B. Kopp & M. Kirkpatrick (Eds.), *Becoming female: Perspectives on development* (pp. 229-257). New York: Plenum.

Sutton-Smith, B., Rosenberg, B. G., & Morgan, E. F., Jr. (1963). Development of sex differences in play choices during preadolescence. *Child Development, 34*, 119-126.

Thorne, B. (1986). Girls and boys together . . . but mostly apart: Sex arrangements in elementary schools. In W. W. Hartup & Z. Rubin (Eds.), *Relationships and development* (pp. 167-184). Hillsdale, NJ: Lawrence Erlbaum.

Tuddenham, R. D. (1951). Studies in reputation: III. Correlates of popularity among elementary school children. *Journal of Educational Psychology, 42*, 257-276.

Tuddenham, R. D. (1952). Studies in reputation: I. Sex and grade differences in school children's evaluations of their peers. Psychological Monographs, 66, 1-39.

Ullman, C. A. (1975). Teachers, peers, and tests as predictors of adjustment. *Journal of Educational Psychology, 48*, 257-267.

Waldrop, M. F., & Halverson, C. F. (1975). Intensive and extensive peer behavior: Longitudinal and cross-sectional analyses. *Child Development, 46*, 19-26.

Requests for reprints should be addressed to Joyce F. Benenson, Department of Psychology, University of Hartford, 200 Bloomfield Avenue, West Hartford, CT 06117.