

Perceptions of Sibling Relationships during Middle Childhood and Adolescence

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BUHRMESTER, DUANE, and FURMAN, WYNDOL. *Perceptions of Sibling Relationships during Middle Childhood and Adolescence*. CHILD DEVELOPMENT, 1990, 61, 1387-1398. Children in grades 3, 6, 9, and 12 were administered the Sibling Relationship Questionnaire. Relationships were rated as progressively more egalitarian across the 4 grade groups, with adolescents reporting less dominance and nurturance by their older siblings than younger participants. Adolescents also reported less companionship, intimacy, and affection with siblings than younger participants reported. Levels of perceived conflict with younger siblings were moderately high across all 4 grades, whereas ratings of conflict with older siblings were progressively lower across the 4 grades. The findings suggested that sibling relationships: (a) become more egalitarian and less asymmetrical with age, (b) become less intense with age, and (c) encompass experiences that are partially determined by the child's standing in the family constellation.

A number of studies have examined qualities of sibling relationships (i.e., warmth, power, and conflict) and how they are related to family constellation (Abramovitch, Corter, & Lando, 1979; Bryant & Crockenberg, 1980; Dunn & Kendrick, 1982; Furman & Buhrmester, 1985; Koch, 1960; Minnett, Vandell, & Santrock, 1983). Not as much is known, however, about how these features differ with age. Several investigators have examined how sibling relationships change during early childhood (see Dunn, 1983) and during adulthood (see Cicirelli, 1982), but information about age trends during middle childhood and adolescence is scarce (Bryant, 1982), with the few existing studies yielding discrepant findings.

Bigner (1974), for example, found that children ascribed more power to older siblings than to younger siblings, and the amount of power attributed to older siblings increased with age. An opposite age trend, however, was revealed in laboratory observations by Vandell, Minnett, and Santrock (1987). They found that 11-year-old participants, especially girls, exercised less power

over younger siblings than did 8-year-old participants; additionally, they found an increase between ages 4 and 8 in the extent to which younger siblings exercised power over their older siblings. The amount of instruction and help that older siblings provided to younger siblings also decreased as children got older.

Past studies also yield an unclear picture of age trends in warmth or closeness between siblings. Vandell et al. (1987) found an increase with age in the extent to which older siblings worked and played cooperatively with younger siblings and a parallel increase in the positive emotional tone of younger siblings' behavior toward older siblings. The authors interpreted these results as being consistent with retrospective accounts and case studies suggesting that sibling relationships become closer and more supportive during adolescence and young adulthood (Cicirelli, 1982; Ross & Milgram, 1982). On the other hand, Raffaelli and Larson (1987), in a study of fifth and ninth graders, found no systematic developmental trends in either the amount of time spent with siblings or in the emotional closeness of their interactions. Similarly,

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Buhrmester and Furman (1987) found no differences among second-, fifth-, and eighth-grade participants' ratings of companionship with siblings.

Finally, it is unclear whether sibling relationships become more or less conflictual as children grow older. Although Vandell et al. (1987) expected a decrease in conflict during middle childhood, they found that 11-year-olds engaged in more conflict with younger siblings than 8-year-old children did. Raffaelli and Larson (1987), on the other hand, expected to find an increase in conflict during adolescence, but found no definitive developmental trends.

The primary purpose of the present study was to clarify developmental trends in children's perceptions of the qualities of sibling relationships. We gathered ratings of children's perceptions of sibling relationships using the Sibling Relationship Questionnaire (SRQ) (Furman & Buhrmester, 1985). The SRQ assesses 15 qualitative features of relationships that together capture the major dimensions of sibling relationships (i.e., warmth/closeness, relative power/status, conflict, and rivalry).

A secondary purpose of the study was to attempt to replicate and extend previous findings concerning associations between constellation status (i.e., age spacing, relative age, sex, and sex of siblings) and relationship qualities. Specifically, several investigators have found that the balance of power in relationships is strongly related to the relative age of the sibling, with subjects whose siblings are older than themselves reporting less power than subjects whose siblings are younger (Bigner, 1974; Bragg, Ostrowski, & Finley, 1973; Furman & Buhrmester, 1985; Minnett et al., 1983). The warmth or closeness of relationships has also been found to vary with gender composition, with same-sex siblings reporting greater warmth/closeness than opposite-sex dyads (Bowerman & Dobash, 1974; Dunn & Kendrick, 1982; Furman & Buhrmester, 1985). Finally, the extent of conflict in the relationship has been found to be greater when the age spacing between siblings is narrow rather than wide (Furman & Buhrmester, 1985; Koch, 1960; Minnett et al., 1983).

Method

Subjects

Participants were 106 third graders (68 girls and 38 boys), 112 sixth graders (52 girls and 60 boys), 85 ninth graders (39 girls and 46 boys), and 60 twelfth graders (33 girls and 27

boys). Average ages were 8-4, 11-4, 14-4, and 17-5, respectively.

The participants attended suburban public schools in Denver, Colorado, which served predominantly Caucasian children of middle- and upper-middle-class families. Not surprisingly, the number of siblings varied somewhat across the four grades, $F(3,387) = 6.90$, $p < .001$ ($M = 1.54, 1.76, 1.66, 2.23$, respectively). Mean ages of participants' older and younger siblings are presented in Table 2.

Measures

The Sibling Relationships Questionnaire (SRQ) consists of 15 scales (see Table 1), each containing three items. Each item asks how characteristic of the relationship a particular feature is. A five-point Likert-type format (1 = hardly at all, 2 = not too much, 3 = somewhat, 4 = very much, 5 = extremely much) is used for all scales except the parental partiality scale. In that case, response choices range from "1 = almost always him/her [favored]" to "5 = almost always me [favored]," with a midpoint of "3 = about the same."

Internal consistency coefficients (Cronbach alpha) computed separately for each of the four grade levels were .71, .79, .77, and .81, respectively. Of the 60 alpha coefficients that were computed, all were greater than .60 except those for the following five scales: third graders' competition (.57) and admiration toward sibling (.57); ninth graders' nurturance by sibling (.54); and twelfth graders' nurturance toward sibling (.53) and nurturance by sibling (.55). In other research, children's perceptions of these qualities have been found to be moderately to strongly correlated with reports by other family members (Furman, Jones, Buhrmester, & Adler, 1989).

Procedures

Questionnaires were administered to groups of children at schools in a testing session lasting 20–30 min. Siblings' names were written on each child's SRQ so he or she could easily keep track of who was being rated. Questions were read aloud to third and sixth graders. For the purposes of this report, scores for only one sibling relationship were selected for analysis. Selections were made so as to achieve an approximately equal distribution of subjects in the different combinations of the following variables: sex of subject, sex of sibling, relative age of sibling (older/younger), and the age spacing between the subject and sibling (less than 4 years vs. 4 or more years). The criterion of 4 years differ-

ence in age was selected because it permitted the most equal division of subjects.

Results

In order to limit the number of chance findings, three multivariate analyses of variance (MANOVA) were conducted on sets of conceptually related scales assessing the general dimensions of warmth/closeness, relative power, and conflict as identified by Furman and Buhrmester (1985).¹ The scales included in each MANOVA are grouped together as shown in Table 1. The independent variables in the analyses were grade, sex, sibling sex, relative age (i.e., the sibling is older or younger than the participant), and sibling spacing (4 or less years vs. more than 4 years difference). Univariate analyses were conducted when the corresponding multivariate effect was significant (see Table 1). Follow-up analyses used Newman-Keuls tests with .05 alpha level. The significant MANOVA effects are reported in the text, whereas Table 1 summarizes the significant univariate effects. Means and standard deviations broken down by grade level and by subjects' ratings of older and younger siblings are presented in Table 2.

Relative Power/Status

Grade differences.—The MANOVA of the four scales reflecting status/power revealed a main effect of grade, $F(12,759) = 3.39, p < .001$, which was qualified by a grade \times relative age interaction, $F(12,759) = 6.02, p < .001$. Follow-up ANOVAs yielded main effects of grade for all scales except dominance over sibling; grade \times relative age interactions were also found for all four scales.

In general, the findings were consistent with the results of Vandell et al. (1987), but contrary to those of Bigner (1974). That is, grade differences in nurturance by sibling were found for subjects who had older siblings. Subjects in grade 3 reported being most nurtured by older siblings, whereas subjects in grades 9 and 12 reported being least nurtured; scores for grade 6 fell in between those for grades 3 and 9. Interestingly, subjects' ratings of nurturance of younger siblings were moderately high across grade 3 to grade 9, with only twelfth graders reporting significantly lower levels of nurturance directed toward younger siblings. Not surprisingly, sub-

jects' reports of being nurtured by younger siblings, as well as reports of nurturing older siblings, were infrequent and varied little across the four grade levels.

At first glance, the different developmental trends for subjects' ratings of nurturance by older siblings and nurturance of younger siblings would seem to indicate a discrepancy between earlier- and later-born subjects' perceptions of the age at which nurturance decreased. For earlier-borns' ratings of relationships with younger siblings, the decline occurred between grade 9 and grade 12, whereas later-borns' ratings of relationships with older siblings declined between grade 3 and grade 6. It should be noted, however, that later-borns' ratings of nurturance by older siblings described relationships with siblings who were on the average 4 years older than themselves, whereas earlier-borns' ratings of nurturance of younger siblings described siblings who were on the average 4 years younger than themselves. When the age of the sibling being rated is considered, we found that there was general agreement in reports of nurturance (see Fig. 1). Perceived nurturance declined most rapidly when younger members of dyads were on average between 10 and 15 years old and older members of dyads were on average between 14 and 19 years old.

Similar age trends were evident for dominance ratings. At each successive grade level later-borns reported being dominated less by their older siblings. Later-borns' ratings of dominance over older siblings and earlier-borns' ratings of dominance by younger siblings were low and varied modestly across the four grades, with only third graders' ratings of dominance over older siblings being significantly higher than all other grade levels. Taken together, these findings indicate that as children grow older, they perceive that older brothers and sisters exercise less power/status over younger ones, whereas the power/status of the younger sibling is perceived as remaining relatively low.

Constellation effects.—As expected, the MANOVA revealed a large main effect of relative age for the scales assessing aspects of power/status, $F(4,251) = 132.50, p < .001$. Consistent with past findings (Bigner, 1974; Furman & Buhrmester, 1985; Sutton-Smith & Rosenberg, 1970), subjects perceived older

¹ Although Furman and Buhrmester (1985) found that the Parental Partiality Scale loaded on a fourth factor labeled "Rivalry," they noted that this was an underidentified factor that was moderately correlated with the conflict dimension. Therefore, Parental Partiality scores were grouped with the scales reflecting conflict in the current analyses.

TABLE 1
SUMMARY OF SIGNIFICANT ANOVA EFFECTS

Variable and Effect	F	Description
Relative status/power scales:		
Nurturance by sib:		
Grade	10.20	Grade 3 (2.60) greater than all other grades (2.12).
Relative age	323.40	Subjects nurtured more by older (2.98) than by younger sibs (1.55).
Grade × relative age	23.04	Decreases with grade when sibs are older: grade 3 greater than grade 6, which is greater than grades 9 and 12. No grade differences when sibs are younger (see Table 2).
Relative age × age spacing	17.59	Nurturance by wide-spaced older sibs (3.08) greater than by narrow-spaced older sibs (2.68), which was greater than nurturance by younger sibs (1.55).
Nurturance of sib:		
Grade	3.43	Grade 12 (2.26) less than all other grades (2.76).
Relative age	223.43	Subjects more nurturant of younger (3.31) than older sibs (1.98).
Grade × relative age	4.04	Grade 12 less than all other grades when sib is younger; no grade difference when sib is older (see Table 2).
Relative age × age spacing	19.73	Nurturance toward wide-spaced younger sibs (3.58) greater than by narrow-spaced younger sibs (2.97), which was greater than nurturance toward older sibs (1.98).
Dominance by sib:		
Grade	5.40	Grade 3 (2.60) greater than all other grades (2.39).
Relative age	122.77	Subjects dominated more by older (2.94) than by younger sibs (1.82).
Age spacing	4.04	Subjects dominated more by narrow-spaced (2.53) than wide-spaced sibs (2.27).
Grade × relative age	2.75	When sib is older, significant decreases between each successive grade. When sib is younger, only grade 3 greater than grade 6, with no other grade differences (see Table 2).
Dominance over sib:		
Relative age	148.33	Subjects more dominant over younger (3.04) than older sibs (1.80).
Age spacing	6.74	Subjects more dominant over narrow-spaced (2.57) than wide-spaced sibs (2.33).
Grade × relative age	4.64	Grade 3 is greater than all other grades when sibs are older. No grade difference when sibs are younger (see Table 2).
Warmth/closeness scales:		
Intimacy:		
Grade	3.95	Grades 3 (3.05) greater than all other grades (2.58).
Relative age	19.96	Subjects more intimate with older (3.00) than younger sibs (2.43).
Age spacing	4.00	Subjects more intimate with narrow-spaced (2.88) than wide-spaced sibs (2.58).
Sib sex × relative age	10.26	Subjects more intimate with older sisters (3.23) than all other sibs (2.59).
Sex × sib sex	6.16	Girls more intimate with sisters (3.03) than brothers (2.60); no significant difference between sisters (2.53) and brothers (2.71) for boys.

TABLE 1 (CONTINUED)

Variable and Effect	F	Description
Affection:		
Grade	2.78	Grade 3 (4.12) greater than all other grades (3.77).
Age spacing	10.70	Subjects more affectionate with wide-spaced (4.02) than narrow-spaced (3.73) sibs.
Sib sex \times relative age	2.95	Subjects more affectionate with older sisters (4.01) than all other sibs (3.80).
Prosocial behavior:		
Age spacing	3.77	Subjects more prosocial with wide-spaced (3.42) than narrow-spaced (3.25) sibs.
Sib sex \times relative age	3.96	Subjects more prosocial with older sisters (3.54) than all other sibs (3.28).
Companionship:		
Grade	16.88	Grade 3 (3.63) greater than grade 6 (3.31), which is greater than grade 9 (3.01), which is greater than grade 12 (2.51).
Sex \times sib sex	14.05	For girls, more companionship with sisters (3.48) than brothers (3.12); for boys, no significant difference between sisters (2.90) and brothers (3.26).
Similarity:		
Sex \times sib sex	10.82	Girls feel more similar to sisters (3.22) than brothers (2.83); for boys, no significant difference between sisters (2.64) and brothers (3.06).
Admiration by sib:		
Sex \times sib sex	3.74	Girls feel more admired by sisters (3.64) than by brothers (3.37); for boys, no significant difference between sisters (3.42) and brothers (3.55).
Admiration of sib:		
Grade	2.68	Grade 3 (3.77) greater than grade 6 (3.39) and grade 9 (3.45); grade 12 (3.68) not different from grades 3, 6, and 9.
Relative age	21.64	Subjects admire older sibs (3.79) more than younger sibs (3.33).
Age spacing	3.58	Subjects admire wide-spaced sibs (3.62) more than narrow-spaced sibs (3.49).
Conflict/rivalry scales:		
Quarreling:		
Relative age	13.86	Subjects quarreling more with younger (3.14) than older sibs (2.69).
Age spacing	15.40	Subjects quarreling more with narrow-spaced (3.15) than wide-spaced sibs (2.71).
Grade \times relative age	2.64	When sibs are older, grade 3 is greater than grade 12. No grade differences when sibs are younger (see Table 2).
Antagonism:		
Grade	2.65	Grade 3 (2.88) greater than grade 12 (2.44); grade 6 (2.63) and grade 9 (2.60) not different from grades 3 or 12.
Relative age	10.35	Subjects report more antagonism with younger (2.84) than older sibs (2.48).
Age spacing	12.41	Subjects report more antagonism with narrow-spaced (2.86) than wide-spaced sibs (2.50).
Grade \times relative age	3.91	Decreased with grade when sibs are older: grade 3 greater than grades 9 and 12, and grade 6 greater than grade 12. No grade difference when sibs are younger (see Table 2).

TABLE 1 (CONTINUED)

Variable and Effect	F	Description
Competition:		
Grade	10.04	Grade 3 (3.09) greater than grade 9 (2.48) and grade 12 (2.44); grade 6 (2.63) greater than grade 12 but not grades 3 or 9.
Age spacing	6.29	More competition with narrow-spaced (2.80) than wide-spaced (2.55) sibs.
Grade \times relative age	2.70	Effect of grade holds only when sibs are older (see Table 2).
Parental partiality for sib:		
Relative age	14.38	Subjects report greater partiality for sib when sib is younger (2.69) than when sib is older (3.00).

NOTE.—Relative age = relative age of sibling and subject; age difference = absolute difference in age between siblings (less than 4 years vs. 4 or more). Values in parentheses are means of relevant cells. Degrees of freedom for F 's are 1 and 270, except for effects involving grade, where they are 3 and 270. All F 's and follow-up comparisons reported in the table are significant at the .05 level.

siblings as more domineering and nurturing than younger siblings. Similarly, subjects reported directing more dominance and nurturance toward younger siblings than toward older ones.

The MANOVA also revealed main effects for sibling spacing, $F(4,251) = 2.36$, $p < .001$, with the ANOVAs showing that greater dominance over siblings, as well as dominance by siblings, were reported in closely spaced rather than widely spaced sibling pairs. The MANOVA also revealed a relative age \times age spacing interaction, $F(4,251) = 7.73$, $p < .001$, with greater nurturance of younger siblings reported when pairs were widely rather than narrowly spaced.

Warmth/Closeness

Grade differences.—The MANOVA for the set of warmth/closeness scales revealed a main effect of grade, $F(21,732) = 3.16$, $p < .001$. Univariate ANOVAs found grade effects for four of seven of the scales. Companionship ratings showed the most noteworthy grade differences: third graders reported the highest levels of companionship; scores for each subsequent grade level were significantly lower than the previous one. Twelfth graders reported less affection, intimacy, nurturance by siblings, and admiration toward siblings than younger students, with the differences between grade 3 and grade 6 accounting for most of the grade effect. Thus, contrary to the views of several authors (Cicirelli, 1982; Ross & Milgram, 1982), older subjects reported feeling more distant from siblings than younger ones. Adolescents reported spending considerably less time engaging in enjoyable activities with siblings and felt slightly less

warm toward siblings than did younger subjects.

Constellation effects.—Counter to expectations, the MANOVA did not yield a significant sex \times sibling sex interaction, $F(9,277) = 1.77$, $p > .13$. In order to explore whether the findings reported by other investigators would nonetheless replicate for individual scales, univariate findings were examined. Consistent with previous findings, the ANOVAs revealed significant sex \times sibling sex interactions for the intimacy, companionship, similarity, and admiration by sibling scales. In each case, girls rated sisters significantly higher than brothers, whereas there was a nonsignificant trend in the direction of boys rating brothers higher than sisters. These results partially replicate previous findings (Furman & Buhrmester, 1985), showing that there was a tendency for girls, at least, to feel more positive toward same-sex sibling.

The MANOVA also revealed a main effect for the spacing between siblings among the scales reflecting closeness/warmth, $F(7,242) = 3.05$, $p < .01$. Follow-up ANOVAs showed that children reported greater affection, prosocial behavior, and admiration of siblings who were more than 4 years different in age than more closely spaced siblings. The interesting exception to this general trend was that subjects reported greater intimacy with siblings who were less than 4 years different in age.

Finally, the MANOVA revealed a main effect of relative age, $F(7,242) = 6.50$, $p < .001$, which was qualified by a relative age \times sibling sex interaction, $F(7,242) = 2.37$, $p <$

TABLE 2
AGES OF SIBLINGS AND MEANS AND STANDARD DEVIATIONS OF SRQ RATINGS

	Grade			
	3	6	9	12
Average ages of siblings (in years):				
Younger sibling	4.51 (3.93)	7.30 (3.20)	10.21 (4.71)	14.20 (3.97)
Older sibling	13.46 (2.38)	17.16 (3.60)	19.11 (3.23)	23.33 (5.57)
Relative status/power scales:				
Nurturance by sibling:				
Younger	1.41 ^a (.50)	1.48 ^a (.52)	1.69 ^a (.59)	1.75 ^a (.55)
Older	3.89 ^a (1.09)	2.87 ^b (.91)	2.45 ^c (.68)	2.45 ^c (.66)
Nurturance of sibling:				
Younger	3.36 ^a (.99)	3.56 ^a (.75)	3.31 ^a (.84)	2.68 ^b (.73)
Older	2.18 ^a (1.02)	1.77 ^a (.57)	2.06 ^a (.65)	1.91 ^a (.60)
Dominance by sibling:				
Younger	2.03 ^a (1.00)	1.60 ^b (.68)	1.86 ^{ab} (.76)	1.83 ^{ab} (.63)
Older	3.40 ^a (1.23)	3.00 ^b (1.13)	2.77 ^c (1.15)	2.34 ^d (.99)
Dominance over sibling:				
Younger	2.92 ^a (1.31)	3.17 ^a (.99)	2.98 ^a (.80)	3.12 ^a (.81)
Older	2.24 ^a (.90)	1.71 ^b (.90)	1.70 ^b (.67)	1.44 ^b (.47)
Warmth/closeness scales:				
Intimacy:				
Younger	2.87 ^a (1.20)	2.33 ^b (1.08)	2.11 ^b (1.02)	2.31 ^b (1.08)
Older	3.25 ^a (1.22)	2.92 ^b (1.32)	2.86 ^b (1.52)	2.96 ^b (1.18)
Affection:				
Younger	4.23 ^a (.78)	3.90 ^b (.78)	3.67 ^b (.80)	3.44 ^b (.80)
Older	3.99 ^a (.97)	3.75 ^b (1.02)	3.79 ^b (1.14)	4.12 ^b (.80)
Prosocial behavior:				
Younger	3.49 (.90)	3.28 (.81)	3.18 (.72)	2.96 (.88)
Older	3.52 (1.19)	3.44 (1.01)	3.30 (1.09)	3.38 (.90)
Companionship:				
Younger	3.60 ^a (.96)	3.38 ^b (.83)	2.87 ^b (.85)	2.45 ^b (.95)
Older	3.67 ^a (.99)	3.24 ^b (1.05)	3.17 ^b (1.19)	2.55 ^b (1.27)
Similarity:				
Younger	3.04 (.91)	2.87 (.89)	2.78 (.95)	3.08 (1.07)
Older	2.74 (1.02)	3.03 (.95)	2.87 (1.05)	3.24 (1.06)
Admiration by sibling:				
Younger	3.56 (1.09)	3.58 (.66)	3.60 (.80)	3.59 (.82)
Older	3.51 (1.25)	3.32 (1.06)	3.32 (1.19)	3.49 (.88)
Admiration of sibling:				
Younger	3.61 ^a (1.00)	3.17 ^a (.90)	3.21 ^a (.80)	3.32 ^{ab} (.86)
Older	3.93 ^a (.93)	3.60 ^b (.94)	3.71 ^b (1.11)	3.98 ^{ab} (.81)
Conflict/rivalry scales:				
Quarreling:				
Younger	3.07 ^a (1.18)	3.04 ^a (1.12)	3.27 ^a (.89)	3.24 ^a (.99)
Older	2.99 ^a (1.20)	2.73 ^{ab} (1.20)	2.74 ^{ab} (1.10)	2.10 ^b (.98)
Antagonism:				
Younger	2.80 ^a (1.19)	2.73 ^a (1.04)	2.89 ^a (.78)	3.03 ^a (.96)
Older	2.96 ^a (1.26)	2.51 ^{ab} (1.10)	2.26 ^{bc} (1.10)	1.97 ^c (1.02)
Competition:				
Younger	2.87 ^a (1.17)	2.75 ^a (.99)	2.52 ^a (.97)	2.40 ^a (.88)
Older	3.31 ^a (1.09)	2.51 ^{ab} (1.10)	2.44 ^b (.97)	2.10 ^c (1.06)
Parental partiality for sibling:				
Younger	2.79 (.75)	2.72 (.66)	2.56 (.74)	2.64 (.85)
Older	3.07 (.81)	2.99 (.54)	2.91 (.65)	3.04 (.77)

NOTE.—Superscripts indicate results of post hoc comparisons made across the four grades; means with different superscripts are significantly different.

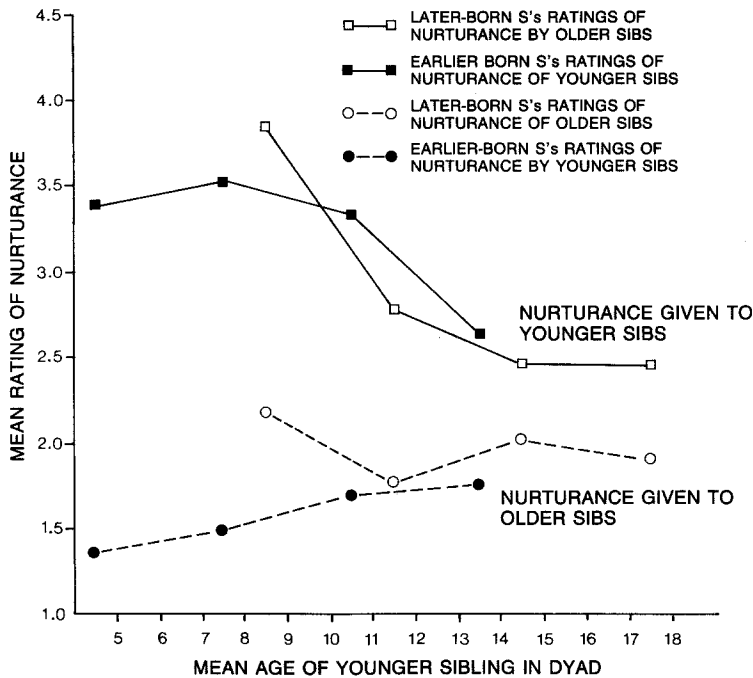


FIG. 1.—Ratings of nurturance plotted according to the average ages of younger siblings in dyads

.05. The ANOVAs showed that greater admiration of siblings was reported when siblings were older rather than younger. Subjects also reported greater intimacy, affection, and prosocial behavior with older sisters than with older brothers or younger siblings of either sex.

Conflict/Rivalry

Grade differences.—The MANOVA for the scales reflecting conflict and rivalry revealed a main effect of grade, $F(9,801) = 4.36$, $p < .001$, which was qualified by a significant grade \times relative age interaction, $F(9,801) = 2.71$, $p < .05$. Contrary to Vandell et al.'s (1987) findings of increased conflict during middle childhood, the ANOVAs revealed that twelfth graders reported considerably less quarreling, antagonism, and competition with older siblings than third graders, and that these developmental trends were gradual. Reports of quarreling, antagonism, and competition with younger siblings were moderately high and did not vary across the four grades.

Constellation effects.—The MANOVA revealed a main effect of the age spacing between siblings, $F(3,265) = 5.71$, $p < .001$. Consistent with findings from past studies (Furman & Buhrmester, 1985; Koch, 1960; Minnett et al., 1983), the ANOVAs showed that relationships with siblings who were

more than 4 years apart in age were seen as less conflictual than those with siblings less than 4 years apart in age. Subjects reported less quarreling, antagonism, and competition with wide-spaced siblings and more dominance by and over narrow-spaced siblings.

The MANOVA also revealed a main effect of relative age, $F(3,265) = 4.16$, $p < .01$. Follow-up ANOVAs showed that greater parental partiality, quarreling, and antagonism were reported with younger than with older siblings. It was possible, however, that the effects of relative age for the latter two scales were merely artifacts of the grade-related decline in quarreling and antagonism described previously. That is, we would expect subjects to report less conflict with older siblings than younger siblings because their older siblings are further along the developmental continuum and therefore less likely to quarrel with them. Figure 2 reveals, however, that when the ages of the siblings are considered in the ratings of antagonism with younger and older siblings, a discrepancy still remains. This discrepancy was most apparent when the older member of the dyad averaged 14 years old and the younger member of the dyad averaged 18 years old. At this point, later-born subjects' ratings of antagonism with older siblings are approximately three-quarters of a scale point lower than earlier-born

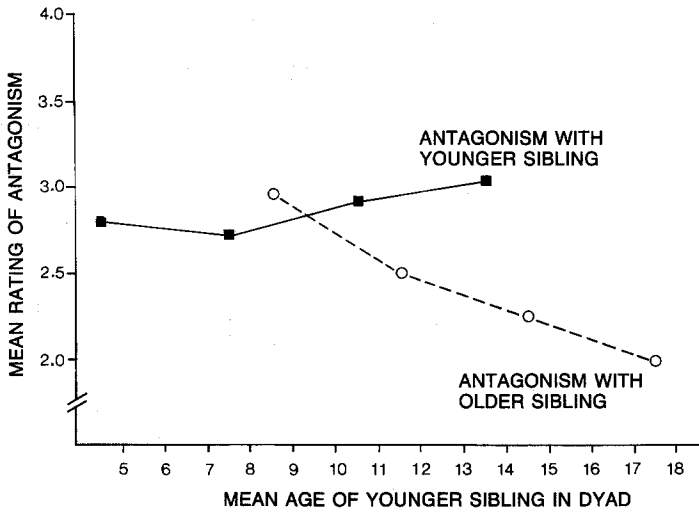


FIG. 2.—Ratings of antagonism plotted according to the average ages of younger siblings in dyads

subjects' ratings of antagonism with younger siblings. These findings indicate that relationships with younger siblings are generally perceived as less harmonious and warm than those with older siblings.

Discussion

When the current findings are considered in conjunction with results from other studies of sibling relationships, three tentative generalizations about the developmental course of sibling relationships emerge. *First, significant transformations occur in the power/status structure of sibling relationships wherein relationships become more egalitarian and less asymmetrical with age.* Across the four grades studied, there were noteworthy decreases in the extent of nurturance and dominance perceived to be directed toward younger siblings. These trends can probably be traced to age-related changes in the developmental status of the individual children in the dyads. The current findings indicate that the bulk of this transformation is complete by the time younger siblings are roughly 12 years old, the age at which children typically show a reasonable amount of self-sufficiency and no longer need continuous supervision. Thus, as later-born siblings grow older, they become more competent and independent, thereby requiring and accepting less nurturance and direction from older siblings. At the same time, the relative difference in developmental status between older and younger siblings diminishes as children get older. For example, a 3-year-old child is vastly more competent than his or her newborn younger sibling (in

terms of physical, social, and cognitive capabilities), but, by the time these siblings are 21 and 18 years old, respectively, they will be virtually equal in competence. In sum, as siblings grow more competent and their developmental statuses become similar, their relationships become more symmetrical and egalitarian.

This developmental trend parallels, to some degree, the change in authority structure that takes place in parent-child relationships during adolescence (Youniss, 1980; Youniss & Smollar, 1985). If anything, the changes in the distribution of power in sibling relationships may precede those in parent-child relationships. Such would be expected if these changes reflect a convergence in the competence of the members of dyads. That is, even during adolescence, the difference in the competence and status of parent and child would be expected to be greater than that between two siblings.

The changes that occur in sibling relationships, however, are unique in at least one important respect: children's experiences with siblings differ greatly depending on whether they are older or younger siblings. Older siblings inherit positions of authority and responsibility that they never hold in their relationships with parents and peers. As they grow up, older siblings are faced with relinquishing power/status, whereas younger siblings acquire a more equal footing. Additional research is needed to explore the dynamics of this transformation in power/status

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and to determine whether it has significant consequences for child development.

Second, as children grow older, their sibling relationships typically become less intense. Ratings of every major dimension of sibling relationships dropped off to some degree with age, including the exercise of power, the warmth/closeness of relationships, and the extent of reported conflict. This trend can partially be traced to the decreasing amount of interaction among siblings as they grow older. In fact, the most pronounced age trend among the warmth/closeness scales was found for companionship, with ratings for twelfth graders being over a full standard deviation lower than those for third graders. Data from other studies corroborate this finding. During the preschool years, siblings spend the vast majority of their time in the presence of each other (Ellis, Rogoff, & Cromer, 1981), but by the time siblings are adolescents, they spend a relatively small fraction of their time together (Raffaelli & Larson, 1987). This decreasing rate of interaction undoubtedly affects the frequency of both positive and negative interactions.

Although the changing social ecologies of childhood and adolescence may partially account for decreasing rates of sibling interaction, they may also reflect the psychological transition from dependence on family to investment in peer relationships (Buhrmester & Furman, 1987; Furman & Buhrmester, 1989). Adolescents may want to spend less time with siblings who are part of the family from whom they want to develop some autonomy. In addition, as adolescents become more involved in intimate friendships and romantic relationships, they have less time and perhaps less socioemotional need to invest in relationships with siblings. It is important, however, not to overstate the degree to which sibling relationships become more distant with age. There were, in fact, relatively modest age-related decrements in ratings of intimacy, affection, and admiration (amounting to less than one-half standard deviation difference over the age-range studied). Thus, the emotional attachment between siblings remains moderately strong throughout adolescence, despite the decline in companionship (Weiss, 1974). Moreover, our examination of group averages undoubtedly masked important variations in the developmental course of sibling relationships. Some sibling relationships may become supportive egalitarian friendships during adolescence, whereas others may become distant.

Third, the course of experiences with siblings is partially determined by the child's status in the family constellation. The most influential aspect of constellation status is the child's position of being the older or younger member of the dyad. Younger siblings have experienced being nurtured and dominated, whereas older siblings are nurturant and dominating. The size of the effects associated with relative age was very large for the dominance and nurturance scales, indicating that relative age of the two siblings accounted for the vast majority of variance in these scores. Although the strength of these effects diminished substantially with age (as indicated above), it seems clear that being an older versus younger sibling during early childhood is associated with markedly different experiences.

There also appears to be a basic asymmetry in the sentiments that older and younger siblings feel for one another. For instance, there is a discrepancy between older and younger siblings' perceptions of conflict: later-born subjects reported that conflict with older siblings dropped off steadily with age, whereas earlier-born subjects' ratings did not evidence a parallel decline in conflict with younger siblings (see Fig. 2). In addition to less conflict with older siblings, later-born subjects reported greater admiration for and intimacy with older siblings than earlier-born subjects report toward younger siblings. It appears as if younger siblings look up to and value interacting with older brothers and sisters, whereas older siblings view younger siblings as an annoyance. This asymmetry in sentiments may be part of a separation and individuation struggle in which earlier-born adolescents try to distance themselves from the family, whereas the later-born children try to be "more grown up" by identifying with the greater autonomy of older siblings. This interpretation is speculative, of course, but deserves exploration in future research.

Other constellation variables also affect the course of sibling relationships, but to a lesser degree. In general, wider spacing between siblings tends to foster more facilitative relationships than narrower spacing, with wider spacing associated with more nurturance, prosocial behavior, and affection and narrower spacing associated with greater quarreling, antagonism, and dominance. In addition, the gender composition of the dyad affects the warmth/closeness of these relationships. Generally, same-sex siblings feel closer than opposite-sex siblings. It is important to

note, however, that although these constellation effects have now been replicated across several studies, they generally account for a rather modest amount of the variance in sibling relationships (with relative age being the noteworthy exception). In fact, Stocker, Dunn, and Plomin (1989) recently demonstrated that child temperament, maternal behavior, and child age accounted for more of the variance in the quality of sibling relationships than did family structure variables.

In addition to the three foregoing generalizations, we also put forth the following hypothesis: The qualities of sibling relationships during the preschool and early elementary years may be more influential in shaping the distinctiveness of children's personalities than relationships during adolescence. This admittedly speculative contention is a logical derivative of the conclusions specified above, but it is not as yet grounded in empirical findings. Two related considerations suggest this hypothesis. First, it seems likely that the influence of any relationship on individual development is related to the scope and intensity of that relationship. That is, inasmuch as sibling relationships are more intense during early childhood than adolescence, it follows that sibling relationships should have their greatest effects on personalities and adjustment during early childhood.

Second, behavior geneticists have argued that siblings may create different environments for each other, thereby contributing to the differences between them (Rowe & Plomin, 1981; Scarr & Grajek, 1982). It is our view that "complementary" features of sibling relationships such as dominance and nurturance, in contrast to "reciprocal" features like warmth and conflict, are likely to play the greatest role in fostering dissimilarities among siblings (see Dunn, 1983; Rowe & Plomin, 1981). Inasmuch as the current findings indicate that the greatest asymmetry in these complementary features occurs in early childhood, it may be that sibling relationships contribute more to the development of dissimilarity during that time than during adolescence. This possibility may help explain why Rowe and Plomin (1981) found little evidence using a sample of adolescents that the qualities of sibling relationships contributed to differences in siblings' personalities.

Limitations and Conclusions

Although the current data provide a more complete picture of age differences in sibling

relationships than previously available, several cautionary notes are in order. First, we assessed children's *perceptions* of their relationships. Although there is evidence that children's perceptions substantially agree with the perceptions of parents and siblings of their relationships (Furman et al., 1989), their perceptions are not always veridical with accounts of observed behavior. This does not imply, however, that children's perceptions are less worthy of investigation (Olson, 1977). To the contrary, self-perceptions of relationships may be psychologically important variables determining development and psychosocial adjustment.

Second, the findings indicate that sibling relationships are affected in complex ways by family constellation. Although we assessed one of the largest cross-sectional samples examined to date, statistical power for sensitively detecting possible three-, four-, and five-way interactions is still lacking. Our results may capture the most pronounced age and constellation effects but undoubtedly miss more complex and subtler effects.

Finally, the current results provide a picture of age-related differences in sibling relationships but do not address issues concerning continuity and change over time. Longitudinal studies are now called for to determine how siblings resolve issues during development concerning power, conflict, and dependency.

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