

# Children's Perceptions of the Qualities of Sibling Relationships

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FURMAN, WYNDOL, and BUHRMESTER, DUANE. *Children's Perceptions of the Qualities of Sibling Relationships*. CHILD DEVELOPMENT, 1985, 56, 448-461. Although many studies of family constellations exist, only recently have investigators begun to examine the qualities of sibling relationships. The purpose of the present investigation was to develop a systematic framework for describing and assessing such relationship qualities. In the first study, upper elementary school children were interviewed about their perceptions of the qualities of their sibling relationships. These interviews yielded a list of 15 salient qualities. In the second study, a self-report questionnaire that assessed their perceptions of these qualities was administered to a sample of 198 fifth- and sixth-grade children. A principal components analysis yielded 4 underlying factors: (a) Warmth/Closeness, (b) Relative Status/Power, (c) Conflict, and (d) Rivalry. Relative Status/Power was found to be strongly related to the relative ages of the child and sibling. The other 3 factors were also related to various family constellation variables, but these relations were modest in size. Because family constellation variables and the qualities of sibling relationships are not isomorphic with one another, it is important to study relationship qualities directly, rather than simply examining family constellation variables. Some of the determinants of such qualities are discussed.

Siblings are an integral part of most children's social worlds (Furman & Buhrmester, 1982; Lamb & Sutton-Smith, 1982). The emotional ties between siblings are commonly second in strength only to those between parents and children (Irish, 1964). Brothers or sisters can be a source of frequent companionship, help, or emotional support. Older siblings can serve as caretakers, teachers, or models; in some instances they can even help compensate for absent or distant parents. In their interactions with each other, siblings may acquire many social and cognitive skills that are central to healthy social development.

Whereas siblings may have major effects on one another's development, the specific nature of the influence can vary considerably. One reason is that there is marked diversity in the qualities or characteristics of sibling relationships. Sibling relationships can be egalitarian or asymmetrical in terms of power and status. The affective tone can also vary; relationships may be close or distant, harmonious or conflicted, cooperative or competitive. It is essential that we examine the qualities of sib-

ling relationships in order to understand the influence siblings have.

As yet, however, relatively little research has been conducted on the qualities of sibling relationships. Certainly, many investigators have examined the effects of structural or constellation variables, such as ordinal position, sex of sibling, and age spacing (see Sutton-Smith & Rosenberg, 1970; Wagner, Schubert, & Schubert, 1979), but research on the effects of structural variables and research on the qualities of sibling relationships are not one and the same. It seems unlikely that the qualities of sibling relationships are exclusively or even primarily determined by family constellation variables. Differences in sibling relationships may occur even when the same family constellation exists. Additionally, it would be incorrect to explain family constellation effects solely in terms of their impact on the qualities of sibling relationships. Structural or constellation variables may affect the qualities of parent-child or marital relationships as well as those of sibling relationships. Thus, although studies of family constellation vari-

This research was supported by a grant no. 1R01HD 16142 from the National Institute of Child Health and Human Development (Wyndol Furman, Principal Investigator). Portions of this research were presented at the International Conference on Personal Relations, Madison, Wisconsin, 1982, and at the Society for Research in Child Development, Detroit, Michigan, 1983. Appreciation is expressed to Wendy Ritz for her assistance in the data collection. We are also indebted to the faculty and students of St. Louis Elementary School and Van Dellen Elementary School. Reprints of this paper can be obtained from Wyndol Furman, Department of Psychology, University of Denver, Denver, CO 80208.

ables can be valuable, they should not be substituted for studies of the qualities of sibling relationships.

A few investigators have begun to study the qualities of sibling relationships, particularly in early childhood (see Dunn, 1983; Lamb & Sutton-Smith, 1982). For example, some researchers have examined siblings' perceptions and attitudes toward each other (Bowerman & Dobash, 1974; Koch, 1960). Similarly, observational studies have been done on tutoring by siblings (Cicirelli, 1972, 1973), cooperative and competitive behavior (Bryant & Crockenberg, 1980; Minnett, Vandell, & Santrock, 1983), and naturalistic patterns of interaction in the home (Abramovitch, Pepler, & Corter, 1982; Dunn & Kendrick, 1982).

The results of these studies are encouraging, but the field still lacks a systematic way to characterize the qualities of sibling relationships. Most investigators have focused on a particular aspect of sibling relationships, such as rivalry, without trying to capture the multifaceted nature of the relationships. Similarly, many researchers have focused on sibling interactions in circumscribed contexts, such as during tutoring or when the mother is present. The variables incorporated in questionnaires or observational coding schemes have varied from study to study. We need a systematic framework for portraying the qualities of sibling relationships if we are to understand their influence on development.

The methods of data collection have also varied and have included interviews, self-report questionnaires, structured tasks, and naturalistic observations. Olson (1977) proposed two distinctions that are useful for conceptualizing how the various methods yield different information about relationships. He first distinguishes between insiders' and outsiders' descriptions of relationships. In his terminology, an insider is a participant or member of the relationship being studied (in this case, a sibling), whereas an outsider is someone not involved in the relationship (typically a social scientist). An insider's description of a relationship, as might be obtained in an interview, can provide a rich picture of the history and current status of a relationship. An insider is also sensitive to the private meaning of a behavior and can interpret behaviors within the broad context of the relationship. On the other hand, an outsider can provide a detached perspective and may be in a better position to compare and contrast the qualities of different relationships.

Olson also distinguished between objective and subjective forms of data. The former are measures of what actually occurs in a relationship (e.g., observational coding systems), whereas the latter are measures of perceptions that involve some interpretation or judgment by a rater (e.g., most questionnaires or rating scales). Both forms of data can be obtained from either an insider or outsider's perspective (see Furman, 1984, for further discussion).

Olson persuasively argued that it is necessary to incorporate multiple perspectives and multiple forms of data in order to obtain a comprehensive picture of relationships. The different types of data each provide valuable and somewhat different information about the qualities of relationships. To obtain such a comprehensive picture of sibling relationships, however, we first need a common set of relationship qualities that can be assessed from different perspectives or in different forms of data.

The purpose of the present study was to begin the process of developing such a common framework. As a first step, we identified the set of qualities that reflected insiders' subjective perceptions of their relationships. In particular, children were interviewed about the qualities of their relationships with siblings. The descriptors the children used were expected to fall into meaningful categories and reveal the subjectively important qualities of their relationships.

It would have been possible to start with another form of data, but there are several advantages to beginning with insider subjective data. The qualities used by children are likely to reflect natural ways of encoding and aggregating information about relationships. Additionally, the list of qualities is likely to include those that occur in a broad range of settings, many of which are not accessible to outside observers. Certain qualities, such as expressions of overt rejection, may occur infrequently and may seldom be witnessed by outsiders, but nevertheless may be important facets of the relationship.

After the list of relationship qualities had been derived from individual interviews with children (Study 1), self-report rating scales were developed to assess each of these qualities (Study 2). The scales were administered to a large sample of children, and factor analyses were used to identify the general dimensions underlying sibling relationships. This strategy yielded a multitiered descriptive framework in which both general dimensions and molecular qualities were incorporated.

It was hypothesized that three general dimensions would be found: (a) Relative Status/Power, (b) Warmth/Closeness, and (c) Conflict. The first dimension of Relative Status and Power refers to the degree and direction of asymmetry in the relationship. One end would be characterized by greater power by the child, whereas the other end would be characterized by greater power by the sibling. Egalitarian relationships would fall in the middle of this dimension. This dimension of Relative Status/Power has consistently emerged in taxonomic studies of interpersonal traits or types of relationships (Wiggins, 1979; Wish, Deutsch, & Kaplan, 1976). Although investigators have usually focused on dominance, we expected that positive qualities, such as admiration and nurturance (caretaking), would also be manifestations of this dimension.

In these taxonomic studies, relationships have also been found to vary along a dimension of positivity-negativity (e.g., Wish et al.'s [1976] Cooperation/Friendly vs. Competitive/Hostile; Wiggins's [1979] Warm/Agreeable vs. Cold/Quarrelsome). Although positive and negative behaviors have often been considered to be bipolar opposites, they should actually be treated as separate dimensions. In several recent studies of young adults' relationships, investigators have found separate, independent factors for relationship qualities reflecting warmth or acceptance and those reflecting conflict (Braiker & Kelley, 1979; Shaver, Furman, & Buhrmester, in press). Similarly, in observational studies of sibling interactions, rates of positive and negative behavior have been found to be essentially uncorrelated (Bryant & Crockenberg, 1980; Minnett et al., 1983). In light of this research, we hypothesized that Warmth/Closeness and Conflict would emerge as separate factors. Warmth/Closeness was expected to be manifested in a range of molecular qualities, such as intimacy, prosocial behavior, companionship, admiration, nurturance, perceived similarity, and affection, whereas conflict was expected to be manifested in terms of quarreling, antagonism, competition, and perceived parental favoritism.

Although principally concerned with the relationship qualities themselves, we were also interested in how and to what degree family constellation variables may be related to these qualities. Previous investigators have found that children ascribe greater levels of power to older siblings than younger ones (Bigner, 1974a; Bragg, Ostrowski, & Finley, 1973; Sutton-Smith & Rosenberg, 1968). Ac-

cordingly, we expected that greater status/power would be assigned to the older child in the dyad, particularly if the difference in age was great. These relations were expected to be relatively large in magnitude. On the basis of previous research (e.g., Bowerman & Dobash, 1974; Koch, 1960), we also hypothesized that feelings of warmth or closeness would be greater in same-sex dyads than in opposite-sex ones, whereas perceived conflict was expected to be greater in narrow-spaced relationships than in wide-spaced ones. These effects were expected to be relatively modest in size, however.

## Study 1

### Purpose

The first task was to develop a list of the primary qualities of sibling relationships. As some investigators of personality traits have done (e.g., Allport & Odbert, 1936), we began with the language of the layperson by asking children to describe their sibling relationships.

### Method

*Subjects.*—The subjects were 49 fifth- and sixth-grade children (20 boys and 29 girls). They ranged in age from 11- to 13-year-olds. The children were enrolled in a parochial school in a large metropolitan area; most were from middle- to upper-middle-class Caucasian families.

*Procedure.*—Each child was individually administered an open-ended interview that lasted approximately 20 min. Previous investigators have asked children what sibling relationships should generally be like (e.g., Bigner, 1974b). In the present case, however, children were asked a series of five basic questions about their relationship with a *specific* sibling: (a) "Tell me about your relationship with [name]"; (b) "What is it like having a brother [sister]?" (c) "Tell me as many good things as you can about your relationship with [name]"; (d) "How about some of the not so good things?" and (e) "How important is the relationship to you? What makes it important?" In order to foster extensive descriptions, three standardized probes were included after each question (e.g., "Tell me more"). If a subject had more than one sibling, he or she was interviewed about a randomly selected sibling. Sex, sex of sibling, and relative age (i.e., older vs. younger sibling) were distributed relatively evenly.

*Coding of responses.*—The coding system was not based on an a priori theory, but instead it was derived from an examination of

the children's responses. First, 15 interviews were transcribed. Answers were divided into units of thought, and each unit was written on a separate card. Three research assistants independently sorted the cards into categories based on the perceived similarity of the statements. The three sets of proposed categories were very similar; differences were resolved through discussion.

Next, a coding manual was developed, and two assistants coded a second group of 15 interviews. Minor modifications in the coding rules were made prior to the final coding of the interviews. The list of categories is presented in Table 1.<sup>1</sup> References to either the presence or absence of a relationship quality were scored as instances of a descriptive category; for example, both "We play a lot together" and "We hardly ever play together" were coded as companionship. Responses that could not be classified in any of the categories were coded as miscellaneous. Two naive research assistants recoded all of the protocols. Interrater agreement was calculated on each of the 16 categories using Cohen's kappa. Coefficients ranged from .66 to 1.00 (mean kappa = .93).

### Results

The children's descriptions of their relationships were rich in content. The subjects referred to an average of 8.2 different relationship qualities in their descriptions. Table 1 presents the percentage of descriptions in which each quality was reported. The most commonly mentioned positive qualities were companionship (93%), admiration of sibling (81%), prosocial behavior (77%), and affection (65%). The negative qualities of antagonism (91%) and quarreling (79%) were also frequently reported. Additionally, most (89%) provided some general evaluation of their relationship (e.g., "We have a good relationship").

Most of the other qualities in the list were reported by a significant number of the children as well. However, neither parental partiality nor competition were discussed often (20% and 10%, respectively). Perhaps children are reluctant to discuss these qualities, although they were willing to discuss other negatively valenced aspects of their relationships.

Finally, it should be noted that these categories incorporated almost all the children's comments about their relationships. Less than

TABLE 1  
RELATIONSHIP QUALITIES REPORTED IN  
OPEN-ENDED INTERVIEWS

| Qualities                                    | Percentage |
|--|------------|
| Intimacy . . . . .                           | 55         |
| Prosocial behavior . . . . .                 | 77         |
| Companionship . . . . .                      | 93         |
| Similarity . . . . .                         | 46         |
| Nurturance by sibling . . . . .              | 48         |
| Nurturance of sibling . . . . .              | 34         |
| Admiration by sibling . . . . .              | 8          |
| Admiration of sibling . . . . .              | 81         |
| Affection . . . . .                          | 65         |
| Dominance by sibling . . . . .               | 18         |
| Dominance over sibling . . . . .             | 8          |
| Quarreling . . . . .                         | 79         |
| Antagonism . . . . .                         | 91         |
| Competition . . . . .                        | 10         |
| Parental partiality . . . . .                | 20         |
| General relationship<br>evaluation . . . . . | 89         |

NOTE.—Numbers indicate percentage of children who referred to the quality.

5% of the comments were coded as miscellaneous. Generally, the miscellaneous comments referred to interactions with a third person (e.g., "he plays more with my younger brother than the rest of us do").

In summary, the list of relationship qualities appears to be a relatively comprehensive one. Additionally, almost all the qualities seem to be salient ones as evidenced by the fact that they are commonly reported. Those that were mentioned infrequently warrant further examination as well because of their theoretical significance.

## Study 2

### Overview

The next step was to develop and validate a structured self-report questionnaire to assess children's perceptions of the qualities of their sibling relationships. Scales were developed to assess each of the qualities identified in Study 1. General dimensions or factors that underlay these specific qualities were determined through principal components analyses. Finally, the pattern of relations between the relationship qualities and family constellation variables was examined.

### Method

*Subjects.*—Subjects were 198 fifth- and sixth-grade children (95 boys and 103 girls).

<sup>1</sup> Copies of the interview coding system and Sibling Relationship Questionnaire are available upon request from the first author.

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The sample was drawn from two parochial schools and one public school. Forty-three percent of the children were from two-child families, 27% were from three-child families, and 28% from families with four or more children. Most children were from middle- to upper-middle-class Caucasian families.

*Development of questionnaire.*—The Sibling Relationship Questionnaire contained 17 scales. These scales measured 15 of the 16 qualities identified in Study 1. The remaining quality, "general relationship evaluation," served as the basis for two scales: (a) satisfaction with the relationship, and (b) importance of the relationship.

Each scale consisted of three items. A five-point Likert format (1 = Hardly at all to 5 = Extremely much) was used for all scales except the parental partiality scale. In that case, response choices ranged from "Almost always him/her [favored]" to "Almost always me [favored]," and scores were based on deviations from the midpoint of "About the same." Thus, the scale was a measure of absolute partiality rather than a measure of the direction of partiality for the subject or sibling.

The wording of items was based on the descriptive phrases that were commonly used during interviews. To minimize the perception that some response alternatives are more socially desirable than others, we adopted Harter's (1982) "structured alternative format." In particular, every fifth item was prefaced with a statement intended to make all response alternatives seem equally acceptable. For example, the first item reads: "Some siblings really care about each other, whereas others don't care that much. How much do you care about each other?" The questionnaire was initially administered to 42 children, and several items were subsequently rephrased.

*Procedures.*—In the primary sample, questionnaires were administered to groups of children at the schools. Each question was read aloud by a trained research assistant during a session lasting 20–25 min. In a subsequent session, children completed questionnaires about their relationships with other members of their social network. Those results are reported elsewhere (Furman & Buhrmester, in press).

If a child had more than one sibling, a target sibling was selected for him or her to describe. Selections were made so as to achieve and approximately equal distribution of subjects in the different combinations of

the following variables: sex of subject, sex of sibling, relative age of the sibling (older/younger), the number of siblings in the family (two, three, or more than three), and the absolute age difference between the subject and sibling (less than 4 years vs. 4 or more years). The criterion of 4 years difference in age was selected because it permitted the most equal division of subjects.

### Results

*Psychometric analyses.*—Scores were computed for each of the 17 scales by averaging the three items designed to assess the quality. The internal consistency coefficients (Cronbach's alpha) for these composites all exceeded .70 except for the competition scale (.63) ( $M = .80$ ). It should also be noted that the questionnaire has been administered twice 10 days apart to another sample of 94 children, and test-retest reliabilities for the three-item scales were found to be high, mean  $r = .71$ , ranging from .58 to .86. In this supplementary sample, correlations between SRQ scale scores and Crandall, Crandall, and Katkovsky's (1965) Children's Social Desirability Questionnaire were also found to be very low, mean  $r = .14$  in the socially desirable direction. Only two of the 17 correlations were significant.

*Principal components analysis.*—In order to identify underlying dimensions, a principal components analysis was performed on scores on 15 scales of the SRQ. Satisfaction and importance scores were not included in these analyses because they assessed general evaluations of a relationship rather than specific qualities. Four factors were extracted, accounting for 71% of the common variance. Table 2 presents the pattern weight matrix from an oblique Promax rotation. The factors were labeled "Warmth/Closeness" (accounting for 38% of the common variance after rotation), "Relative Power/Status" (24%), "Conflict" (27%), and "Rivalry" (10%). The four were minimally correlated with each other ( $r$ 's =  $-.08$  to  $-.16$ ), except for Conflict and Rivalry, which were moderately correlated ( $r = .35$ ). Exact factor-score coefficients were calculated from the rotated factor pattern matrix using Kaiser's (1962) procedure.

It should be noted that the eigenvalue of the fourth factor (.95) was below the conventional root one cutoff. Parental partiality scores were, however, almost exclusively accounted for by this fourth factor. Rather than exclude the fourth component and, in effect, ignore the parental partiality scores, it was retained in the analyses and cautiously viewed as an underrepresented dimension.

TABLE 2  
FACTOR PATTERN COEFFICIENTS OF SIBLING RELATIONSHIP QUESTIONNAIRE SCALES

| QUALITIES                   | FACTORS              |                          |          |         |
|-----------------------------|----------------------|--------------------------|----------|---------|
|                             | Warmth/<br>Closeness | Relative<br>Status/Power | Conflict | Rivalry |
| Intimacy.....               | 70                   | ...                      | ...      | ...     |
| Prosocial behavior.....     | 83                   | ...                      | ...      | ...     |
| Companionship.....          | 78                   | ...                      | ...      | ...     |
| Similarity.....             | 70                   | ...                      | ...      | ...     |
| Nurturance by sibling.....  | 28                   | -77                      | ...      | ...     |
| Nurturance of sibling.....  | 26                   | 85                       | ...      | ...     |
| Admiration by sibling.....  | 67                   | 25                       | -29      | ...     |
| Admiration of sibling.....  | 69                   | -28                      | ...      | ...     |
| Affection.....              | 69                   | ...                      | -36      | ...     |
| Dominance by sibling.....   | ...                  | -65                      | 55       | ...     |
| Dominance over sibling..... | ...                  | 80                       | 41       | ...     |
| Quarreling.....             | ...                  | ...                      | 88       | ...     |
| Antagonism.....             | ...                  | ...                      | 92       | ...     |
| Competition.....            | ...                  | ...                      | 63       | 36      |
| Parental partiality.....    | ...                  | ...                      | ...      | 96      |

NOTE.—Scores are factor loadings on a principal components analysis with a general pro-max rotation. Factor loadings below .25 are not presented. Factors are minimally correlated ( $-.20 > r < .20$ ), except Conflict and Rivalry ( $r = .35$ ).

### Family Constellation Effects

Analyses of variance were conducted to determine the influence of family constellation variables on the qualities of sibling relationships. Five constellation variables were examined: (a) sex of subject, (b) sex of sibling, (c) relative age (i.e., older or younger sibling), (d) age difference, and (e) family size. Preliminary regression analyses revealed that effects due to birth order could almost totally be accounted for by relative age of the child and family size. Consequently, birth order was not considered further because it was confounded with these other factors that are germane to the dyadic relationship.

To reduce the number of chance effects, five-way multivariate analyses of variance (MANOVAs) were first conducted on each of the four sets of the variables that corresponded to the factors presented in Table 2. These MANOVAs included the scores for the scales that had high loadings ( $> .30$ ) on that factor. Scales that had high loadings on more than one factor were included in all of the relevant MANOVAs. If a multivariate effect was significant ( $p < .05$ ), univariate analyses of variance of the relevant factor and scales were conducted. Follow-up analyses were done using Newman-Keuls tests. The results of the univariate analyses are reported in Table 3.<sup>2</sup> A brief summary is presented in the following section.

*Warmth/Closeness.*—The analysis of variance of Warmth/Closeness factor scores revealed a significant interaction of sex  $\times$  sibling-sex. As predicted, children felt greater feelings of closeness toward same-sex siblings than opposite-sex ones. This effect was qualified, however, by a significant interaction among sex, sibling-sex, and age difference. The difference in closeness between same-sex and opposite-sex siblings was only significant for narrow-spaced dyads (narrow same  $M = .36$  vs. narrow opposite  $M = -.37$ ,  $p < .05$ ; wide same  $M = .07$  vs. wide opposite  $M = -.09$ , N.S.).

Similar sex  $\times$  sibling-sex interactions were found on the intimacy, companionship, prosocial behavior, similarity, and nurturance by sibling scales. For intimacy and companionship, the difference between same- and opposite-sex siblings was only significant for narrow-spaced dyads, but on the other scales the difference was significant regardless of the age spacing. Finally, greater companionship was reported to occur with younger siblings than with older siblings.

*Relative Status/Power.*—As expected, relative age had a strong effect on perceptions of status and power. When subjects were the older members of dyads, they reported greater nurturance of and dominance over their siblings than when they were younger

<sup>2</sup> Results of the multivariate screening analyses are available upon request from the first author.

TABLE 3

SUMMARY OF SIGNIFICANT CONSTELLATION EFFECTS ON FACTOR AND SCALE SCORES

| Variable and Effect                            | F      | Description   |
|--|--------|---|
| Factor scores:                                 |        |   |
| Warmth/Closeness:                              |        |   |
| Sex × sib sex.....                             | 9.79   | Greater with same-sex sibs.   |
| Sex × sib sex × age<br>diff.....               | 4.22   | Greater with narrow-spaced, same-sex sibs than narrow-spaced, opposite-sex sibs.  |
| Relative Status/Power:                         |        |   |
| Rel. age.....                                  | 418.51 | Greater influence over younger sibs.  |
| Rel. age × age diff. ...                       | 3.96   | Greatest influence over wide-spaced younger sibs; least influence over narrow- or wide-spaced older sibs.   |
| Rel. age × fam. size ..                        | 4.01   | Less influence over older sib in 4+ child families than in 2- or 3-child families. Regardless of family size, more influence over younger than older sibs.                    |
| Conflict:                                      |        |   |
| Age diff.....                                  | 16.23  | Greater when close in age.  |
| Age diff. × rel. age ×<br>fam. size .....      | 3.86   | Not interpretable.  |
| Rivalry:                                       |        |   |
| Rel. age.....                                  | 8.34   | Greater when sibs are younger.  |
| Rel. age × age diff. ×<br>fam. size .....      | 3.38   | Greatest when sibs are wide-spaced, younger in 4+ child family.   |
| Scale scores:                                  |        |   |
| Intimacy:                                      |        |   |
| Sex × sib sex.....                             | 17.42  | Greater with same-sex sibs.   |
| Sex × sib sex × age<br>diff.....               | 4.25   | Greater with narrow-spaced, same-sex sibs than narrow-spaced, opposite-sex sibs.  |
| Prosocial behavior:                            |        |   |
| Sex × sib sex.....                             | 4.84   | Greater with same-sex sibs.   |
| Companionship:                                 |        |   |
| Sex × sib sex.....                             | 24.04  | Greater with same-sex sibs.   |
| Sex × sib sex × age<br>diff.....               | 6.01   | Narrow-spaced, same-sex sibs greater than opposite-sex, narrow-spaced sibs.   |
| Rel. age.....                                  | 15.25  | Greater with younger sibs.  |
| Similarity:                                    |        |   |
| Sex × sib sex.....                             | 10.57  | Greater with same-sex sibs.   |
| Nurturance by sibling:                         |        |   |
| Rel. age.....                                  | 179.67 | Greater when sibs are older.  |
| Rel. age × age diff. ...                       | 4.61   | Greatest when sibs are wide- or narrow-spaced older. Least when sibs are wide-spaced younger.   |
| Rel. age × fam. size ..                        | 5.63   | Greatest by older sibs in 4+ child family; least by younger sibs in any family size.  |
| Sex × sib sex.....                             | 7.36   | No significant post-hoc comparisons.  |
| Nurturance of sibling:                         |        |   |
| Rel. age.....                                  | 277.84 | Greater when sibs are younger.  |
| Rel. age × age diff. ...                       | 17.22  | Rank of scores is: wide-spaced younger sibs, narrow-spaced younger sibs, narrow-spaced older sibs, wide-spaced older sibs. All four significantly different from one another. |
| Admiration by sibling:                         |        |   |
| Rel. age.....                                  | 20.14  | Greater when sibs are younger.  |
| Age diff.....                                  | 5.12   | Less when close in age.   |
| Rel. age × age diff. ×<br>fam. size × sex..... | 3.50   | Not interpretable.  |
| Age diff. × sib sex ×<br>sex.....              | 8.47   | Not interpretable.  |
| Admiration of sibling:                         |        |   |
| Sex × sib sex × age<br>diff.....               | 4.43   | Not interpretable.  |

TABLE 3 (Continued)

| Variable and Effect                       | F     | Description  |
|---|-------|--|
| Affection .....                           | ...   | No significant effects.  |
| Dominance by sibling:                     |       |  |
| Rel. age .....                            | 87.90 | Greater when sibs are older.   |
| Sex × sib sex .....                       | 4.85  | No significant post-hoc comparisons.   |
| Sex × sib sex × rel.<br>age .....         | 4.76  | Older same-sex sibs more dominant than older opposite-sex sibs. All older sibs more dominant than younger sibs.  |
| Dominance over sibling:                   |       |  |
| Rel. age .....                            | 86.20 | Greater when sibs are younger.   |
| Rel. age × fam. size ..                   | 3.70  | When target children are younger, less dominant in 4+ child family than 2-child family. Regardless of family size, less dominant when target children are younger. |
| Quarreling:                               |       |  |
| Age diff. ....                            | 9.31  | Greater when close in age.   |
| Age diff. × rel. age ...                  | 4.38  | Greater if close-spaced older sibs than wide-spaced older sibs or younger sibs.  |
| Age diff. × rel. age ×<br>fam. size ..... | 3.79  | Not interpretable.   |
| Antagonism:                               |       |  |
| Age diff. ....                            | 14.26 | Greater when close in age.   |
| Competition:                              |       |  |
| Age diff. ....                            | 7.04  | Greater when close in age.   |
| Age diff. × rel. age ×<br>fam. size ..... | 4.58  | Not interpretable.   |
| Parental partiality for either:           |       |  |
| Rel. age .....                            | 6.42  | Greater when sibs are younger.   |
| Rel. age × age diff. ×<br>fam. size ..... | 3.75  | Not interpretable.   |
| Partiality for sibling (vs. subject):     |       |  |
| Rel. age .....                            | 8.80  | Greater when sibs are younger.   |
| Satisfaction:                             |       |  |
| Rel. age × age diff. ...                  | 7.13  | Greater with wide-spaced older sibs than narrow-spaced older sibs.   |
| Importance .....                          | ...   | No significant effects.  |

NOTE.—Rel. age = relative age of sibling and subject; age diff. = age difference (less than 4 years vs. 4 or more); fam. size = family size (two, three or more than three children). Degrees of freedom for *F*'s are 1 and 148, except for effects involving family size, where they are 2 and 147. All *F*'s and follow-up comparisons reported in the table are significant ( $p$ 's < .05).

members of dyads. Inversely, nurturance and dominance by siblings were greater when the subjects were the younger members than when they were older members. Additionally, subjects were admired more by younger siblings than by older ones.

The size of the difference in age also influenced perceptions of relative power and status as indicated by significant interactions between relative age and age difference for factor scores and for the two nurturance scale scores. In particular, when they were 4 or more years younger than their sibling, children reported that they had the least power or status and engaged in the least amount of nurturant or caretaking behavior. When they were 4 or more years older, they engaged in the greatest amount of nurturant and caretaking behavior. Children also reported less ad-

miration of their sibling when the age spacing was narrow than when it was wide.

Analyses also revealed several significant interactions between relative age and family size, indicating that the power differentiation was also affected by family size. In particular, older siblings in large families of four or more children were perceived as more nurturant than older ones in two- or three-child families. Similarly, children in families with four or more children perceived themselves to be less dominant over older siblings than children in two- or three-child families did.

*Conflict.*—There was a significant effect of age difference on the Conflict factor scores, with children reporting more conflict with narrow-spaced siblings than with wide-spaced siblings. Similar effects were ob-



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served on the quarreling, antagonism, and competition scales. Additionally, children reported quarreling more with narrow-spaced older siblings than wide-spaced older siblings or younger siblings. Finally, a significant interaction occurred among sex, sibling-sex, and relative age on dominance  $\times$  sibling scores. Children perceived older siblings of the same sex to be more dominant than older siblings of the opposite sex.

**Rivalry.**—Children reported greater rivalry and parental partiality when siblings were younger than when they were older. An interaction among relative age, age difference, and family size reflected the fact that feelings of rivalry with wide-spaced younger siblings were particularly marked in families of four or more children.

The parental partiality scale assessed the *degree* of partiality. The data were also examined to determine the effects on the *direction* of perceived partiality—that is, whether the child or sibling was perceived as being favored. Children reported that their siblings were favored more when the siblings were younger than when they were older.

**Satisfaction and importance.**—Finally, univariate analyses of variance were conducted on the satisfaction and importance scales. A significant interaction between relative age and age difference was observed on the satisfaction scores. Children were more satisfied with their relationships with wide-spaced older siblings than their relationships with narrow-spaced older siblings. No significant effects were found on the importance scores.

### *Size of Effects*

The preceding findings indicate that family constellation variables were related to sibling relationship qualities, but the question remained as to the size of these effects. Multiple regression analyses were conducted in which each of the four relationship quality factors was predicted from equations comprised of the five constellation variables and all interactions among the constellation variables that were significant or approached significance ( $p < .10$ ) for the relevant factor in the previous ANOVAs. For example, the regression equation for the affection factor contained the five constellation variables, and the interactions among sex and sibling sex, sex and family size, sex and age spacing, sibling sex and age spacing, age spacing and relative age, and sex, sibling sex, and age spacing.

The Relative Status/Power scores could be predicted quite accurately from the equa-

tion of constellation variables ( $R = .84$ ), principally because of the inclusion of relative age,  $r = .81$ . In contrast, the equations of constellation variables did not account for more than 20% of the variance on the three other factors, Warmth/Closeness  $R = .36$ , Conflict  $R = .43$ , and Rivalry  $R = .38$ . It should be noted that these equations contained a minimum of 11 variables,  $M = 14$  variables; thus, if anything, these analyses provide overestimates of the strength of relations because of capitalization of sample-specific variance.

## Discussion

These two investigations are first steps toward the development of a comprehensive framework for describing the qualities of sibling relationships. In the first study, children were able to provide detailed descriptions of both the positive and negative aspects of their relationships with brothers and sisters. The richness of their comments underscores the multifaceted nature of their sibling relationships.

By beginning with the insiders' perspective on sibling relationships, we tried to insure that the qualities in the list are psychologically meaningful to the children and that the list incorporates the significant aspects of sibling interactions as they occur in a wide range of naturalistic contexts. Although they were responding to questions posed by us, the children provided the data for the sorting and categorization. Because the actual sorting was conducted by adults, it is possible that their conceptions may have altered the list in some unknown manner. However, the three independent lists were very similar, and the coders reported that the categories emerged quite readily.

Certainly, the qualities mentioned by the children are limited to those that they are aware of and are willing to discuss with an unfamiliar interviewer. However, we reviewed previous studies of sibling relationships and were unable to identify any obvious omissions in the list.

In the second study, a self-report measure of sibling relationships was developed from the list of relationship qualities. One strength of this measure is that children's ratings are likely to reflect the nature of their interactions in a wide range of social contexts. At the same time, the ratings are not objective ones. They are affected by the children's memories, their interpretations of events, and their willingness to report their actual perceptions on a questionnaire. The high test-retest

reliabilities and the low correlations with social desirability provide some encouraging evidence for the validity of the SRQ, but the SRQ still must be interpreted as a subjective self-report measure.

Despite these limitations, we believe that the results of the second study provided valuable information about sibling relationships. The features were found to form four distinct, interpretable factors: (a) Warmth/Closeness, (b) Relative Status/Power, (c) Conflict, and (d) Rivalry. The first three factors have been found in most studies of adults' interpersonal behavior and relationships (Wiggins, 1979; Wish et al., 1976). Apparently, children as young as 11–12 years old use the same three dimensions as adults.

The fourth factor of Rivalry has not emerged in studies of other relationships and may be particular to sibling relationships. One of the special characteristics of relationships between brothers and sisters is that they are based on shared biological and affective ties with parents. The relative attention and treatment by others outside the dyad may be more salient in sibling relationships than in other kinds of relationships. Although the Rivalry factor seems particularly interesting, its importance should not be overstated. It is only one of four dimensions underlying children's perceptions.

The pattern of relations among the four factors is interesting in several respects. Warmth/Closeness and Conflict were essentially uncorrelated with each other, supporting the hypothesis that positive and negative qualities are not bipolar opposites (Shaver et al., in press). Perhaps many children have ambivalent feelings about their siblings (Buhler, 1939). Siblings may also vary in their style of coping with potential conflicts. For example, some siblings who are not close to each other may fight regularly, whereas others may prefer to avoid each other. Finally, variation in the intensity or frequency of contact in sibling relationships may lead the Warmth/Closeness and Conflict factors to be more independent than one might intuitively expect. Compared to siblings who only interact with each other infrequently, those who frequently interact may be likely to have both more positive interactions and more negative interactions.

Warmth/Closeness and Conflict were also unrelated to Relative Status/Power. One might have expected younger siblings to resent differential status, but it appears that some children expect power differences because of the difference in age. The only two

factors that were correlated with each other were Conflict and Rivalry. Perceptions of differential attention by parents could foster feelings of antagonism and conflict between siblings. Additionally, frequent conflict between siblings could make the parents' task of treating their children "differently but equally" particularly difficult.

In general, the present results are consistent with previous conceptualizations of sibling relationships. For example, Dunn's (1983) distinguished between complementary and reciprocal aspects of sibling relationships. The relationship qualities that loaded on the Relative Status/Power factor would seem to be instances of complementary aspects of the relationship, whereas those that only loaded on the other factors would be instances of reciprocal features.

Behavior geneticists have argued that the environments of children from the same family may be quite different (Rowe & Plomin, 1981; Scarr & Grajek, 1982). One such reason is that siblings may create different environments for each other. We believe that the complementary qualities that loaded on the Relative Status/Power factor are promising candidates for such nonshared influences on each other's development. In contrast, the degree of Warmth/Closeness or Conflict may prove to be a source of shared influences, although mismatches on these factors could be sources of nonshared influences as well.

#### *Family Constellation Variables and Perceived Relationship Qualities*

Some qualities of sibling relationships seem to be influenced by family constellation variables. For example, children reported that older members of dyads have greater status and power than younger members, particularly when the difference in age is great. This finding is consistent with past research (Bigner, 1974a; Bragg et al., 1973; Sutton-Smith & Rosenberg, 1968), but it is an extension of previous results in that the asymmetry in the relationship is shown to exist in positive qualities, such as nurturance and admiration, as well as in sheer power or dominance.

Feelings of warmth and closeness were greater in same-sex dyads than in opposite-sexed ones. Similar results have been found in Bowerman and Dobash's (1974) study of adolescents' perceptions of sibling relationships and in observational studies of young children's sibling interactions (Dunn & Kendrick, 1981; Whiting & Pope-Edwards, 1977). Children with same-sex siblings who were close in age to them reported the strongest

feelings of warmth and closeness. Thus, similarity in age and gender appears to promote relationships that resemble friendships in some respects.

At the same time, the highest level of conflict is reported by children whose siblings are close in age, a finding consistent with previous research on quarreling or negative behavior among siblings (Koch, 1960; Minnett et al., 1983). This finding illustrates an important difference between friendships and close-age, same-sex sibling relationships. Conflict may be avoided in friendships so that the continuation of the relationship is not threatened. On the other hand, the institutional structure of the family guarantees the survival of sibling relationships, thus allowing the frequent expression of conflict.

Interestingly, children with opposite-sex siblings close in age had the lowest scores on the Warmth/Closeness factor. Moreover, these children reported more conflict than those children with a wide-spaced, opposite-sex sibling. Although one might think that the similarity in age might foster affective closeness in opposite-sex sibling relationships, this is not the case. Rather, it appears that there is a taboo against intimacy and closeness in these relationships just as there is in opposite-sex peer relationships during this developmental period (Buhrmester, 1983).

Although only the effects of constellation variables on the factor scores have been high-

lighted here, corresponding effects were commonly found on the scales that loaded on the relevant factors. At the same time, there were noteworthy differences between the results for the factor scores and those for the scales making up the factors. In part, these differences reflect the fact that some qualities loaded on more than one factor. Even when two scales load on the same single factor, however, differences were present. The fact that there are similarities and differences in the effects found on the various qualities illustrates the value of a multitiered approach in which both specific relationship qualities and general dimensions are examined.

Although influenced by family constellation variables, the qualities of sibling relationships are by no means solely determined by them. A regression equation comprised of the relevant constellation variables predicted scores on the Relative Status/Power factor with considerable accuracy, but the constellation variables accounted for less than 20% of the variance on the other three factors. Clearly, studies of family constellation variables cannot substitute for studies of the qualities of sibling relationships. Individual differences *within* any particular type of constellation seem to be the rule rather than the exception.

#### Future Directions

We believe it is time to move away from studies of family constellation variables and focus our attention on the sibling relationship. Figure 1 presents a diagram of the variables

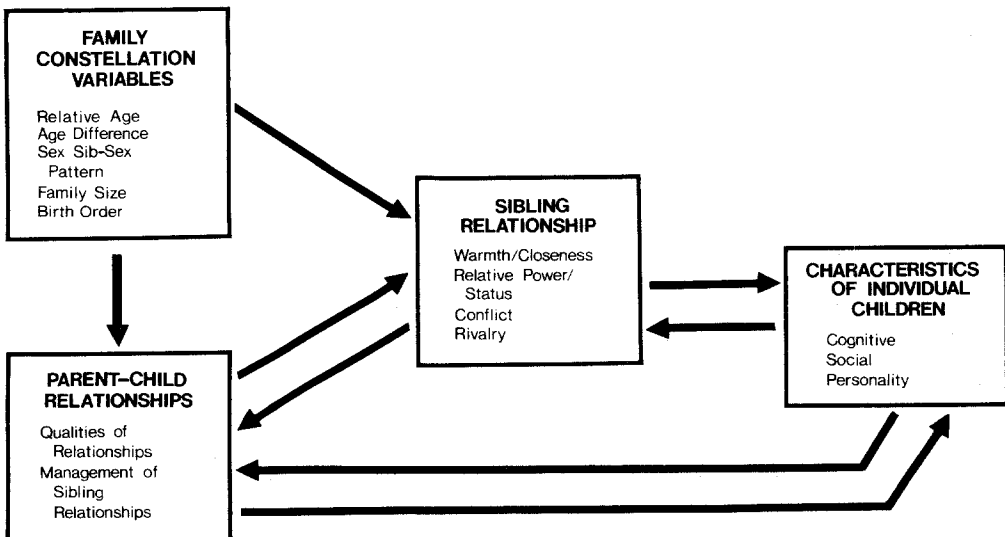


FIG. 1.—A diagram of the primary determinants of sibling relationship qualities

that appear to be most relevant to the study of sibling relationships. The arrows among variable sets represent potential paths of causal influence that warrant investigation. At the center of the diagram are the qualities of the relationship—the focus of the present study. Although the Sibling Relationship Questionnaire appears to be one promising method of measuring these qualities, a comprehensive battery of measures is still needed. In subsequent research it would be important to determine how parents perceive their children's relationships with each other. Similarly, observational methods, such as those used in studies of young children's sibling relationships, can provide valuable information about the qualities of such relationships (see Dunn, 1983).

In the diagram, family constellation variables, such as relative age, age spacing, and the two children's sexes, are depicted as one of the determinants of the qualities of sibling relationship. The results of the present and previous studies of sibling relationships support this hypothesis (see Dunn, 1983; Koch, 1960), but, as was demonstrated in this study, family constellation variables are not the sole determinants of the qualities of sibling relationships.

The qualities of the relationships between each child and each parent are also likely to influence the sibling relationship. In fact, in the present study perceptions of parental partiality were associated with feelings of competition and conflict. Similarly, Bryant and Crockenberg (1980) found that parents who are responsive to their children's behavior are likely to foster prosocial behaviors between their children.

One important, but neglected, factor is the way parents manage the interactions between their children. Parents may vary in what they expect their children's relationships with each other to be like and in the discipline or management techniques they use to promote such relationships. For example, Kendrick and Dunn (1983) found that maternal intervention in their children's quarrels was associated with frequent hostile behavior among siblings 6 months later.

The parental management methods and the qualities of parent-child relationships are likely to be affected by family constellation variables (Hilton, 1967; Lasko, 1954). Just as in the case of sibling relationships, however, constellation variables are likely to be only one of many determinants of parental management methods or parent-child relationships.

The social, personality, and cognitive characteristics of the two children are likely also to shape the nature of their relationship. For example, temperament or sociability can influence the qualities of the relationship (Kendrick & Dunn, 1983). As yet, relatively few investigators have examined the impact of children's individual characteristics on their relationships with each other.

The qualities of sibling relationships can also be expected to have an impact on the other variables depicted in the diagram. For example, we previously hypothesized that sibling conflict may strain parent-child relationships. Similarly, one would expect sibling relationships to affect the individual characteristics of the children (Furman & Buhrmester, 1982).

In the present diagram, family constellation variables are not depicted as having a direct effect on individual personality, social, or cognitive characteristics. Of course, the sex of children does affect these characteristics (Maccoby & Jacklin, 1974), but the influence of the other constellation variables and to some degree sex is expected to occur indirectly through their impact on sibling, parent-child, and perhaps marital relationships. In previous research, family constellation variables have not been found to be very strong or consistent predictors of personality or social characteristics (see Wagner et al., 1979). If a constellation variable is only moderately related to the relationship qualities responsible for some effect on a child's personality, then one can expect to find only small effects for constellation variables. Even when family constellation effects are observed, they can be difficult to interpret without knowing the mediating links.

In light of these considerations, we should turn our attention to the study of the qualities of sibling relationships and their causes and consequences. Many investigators have recognized that family relationships must be conceptualized as a system, but the specific processes interrelating the different relationships have not been elucidated. It is hoped that the present study can contribute to this effort by providing a framework for describing and assessing sibling relationships. We believe that sibling relationships may play a larger role in development than has been found in past family constellation research.

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