Changes that occurred in the use of the dimensions of power and function were investigated in a cross-sectional study of second-born and only children aged five to 13 years. The investigation focused on age of child, sex of child, sex of sibling, age-spacing between sibling and sibling status of child. Results indicated that children significantly utilized these dimensions to discriminate sibling age- and sex-roles and that the presence of an older sibling facilitated the learning of power and function in social interaction. Sex of the sibling produced markedly different perceptions and discriminations of intersibling interaction. Age changes were prevalent in the use of these dimensions to discriminate sibling age- and sex-roles. The results were discussed in relation to previous investigations concerned with Parsonian theory of the family as a social system. (Author)
CHILDREN'S DISCRIMINATION OF SIBLING ROLE CONCEPTS

Jerry J. Bigner, Ph.D.
Department of Home Economics
Indiana University
Bloomington, Indiana 47401

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Abstract

Changes that occurred in the use of the dimensions of power and function were investigated in a cross-sectional study of second-born and only children aged five to thirteen years. The investigation focused on age of child, sex of child, sex of sibling, age-spacing between siblings, and sibling status of child. Results indicated that children significantly utilized these dimensions to discriminate sibling age- and sex-roles and that the presence of an older sibling facilitated the learning of power and function in social interaction. Sex of the sibling produced markedly different perceptions and discriminations of intersibling interaction. Age changes were prevalent in the use of these dimensions to discriminate sibling age- and sex-roles. The results were discussed in relation to previous investigations concerned with Parsonian theory of the family as a social system. (Emmerich, 1959, 1961).
CHILDREN'S DISCRIMINATION OF SIBLING ROLE CONCEPTS

Numerous social scientists have stressed the significance of role perception as an antecedent of social behavior (Mead, 1934; Parsons, 1955; Stryker, 1964). The ability to discriminate roles is believed to aid the individual in social interaction by providing a basis for anticipating his and others' behavior.

Investigation of the nature of role discrimination within the family has been vastly neglected (Emmerich, 1959, 1961). These few investigations have focused on describing children's perceptions of age- and sex-roles found within the family setting (mother, father, son, daughter). The theoretical orientation upon which these studies were based followed the views of Parsons (1955) in describing the socialization process of children within the family. In brief, Parsons (1955) hypothesized that the socialization of the child occurred through interactions with family members in which motivation was directed toward some goal or where behavior was based on some feeling of the child. Each step in the socialization process followed a sequence of aroused needs and role conceptions. The organization or cognition of these needs and role conceptions by the child is thought to be based on the discrimination of a certain dimension derived from the Pattern Variables (Parsons and Shils, 1951), i.e. alternatives that represent a predisposition toward available choices for behavior in a particular social system.

Basing his investigations on Parsonian theory, Emmerich (1959, 1961) hypothesized that the discrimination of parent-child (age) roles was based on the perception of the dimension of relative power and the discrimination of sex-roles was based on the dimension of function, e.g. instrumental or expressive forms. Parsons (1955)
hypothesized that children's discrimination of age-roles by the power dimension began during the first year following birth while discrimination of sex-roles by function commenced during the third year. Discrimination of sex-role concepts was believed to increase steadily thereafter, implying that older children would make sharper sex-role discriminations than young children.

Since Parsons (1955) failed to provide explicit definitions of role behaviors based on the power and function dimensions, Emmerich (1959, 1961) defined these as follows: (a) relative power --- the degree of control an individual has over the outcome or goal of an interaction sequence; and (b) function --- the degree of agreement between individuals concerning the goals of an interaction sequence. The use of these dimensions to discriminate role performances is believed to be based on a dichotomous pattern. Power may be perceived in high or low terms and function may be perceived in terms of behavior that serves to facilitate (goal agreement) or interferes (goal disagreement) with others' actions. Role concepts were defined as discriminations of a particular social position on a specific behavioral dimension and were based on intragroup consensus of the characteristic behavior of a position.

The primary purpose of the present study was to determine if descriptive data could be obtained, comparable to that of Emmerich (1959, 1961), regarding children's discriminations of sibling age- and sex-roles according to the power and function dimensions. The nature of the sibling relationship offers an important additional avenue for investigating the dynamics of dyadic relationships within the family. Since Emmerich (1959, 1961) has described children's use of these dimensions in discriminating family roles (parent-child,
male-female), it is probable that the use of these dimensions generalize to discrimination of sibling roles. The descriptive nature of this investigation had several objectives which are pertinent to developmental social psychology. First, since little empirical evidence is available concerning the nature of sibling relations, any emerging patterns in role perceptions will aid in describing a child's social milieu within the sibling relationship and serve to predict future behavior. Second, information concerning sex and age changes in role consensus will have bearing on theoretical formulations such as that of Parsons (1955). Third, the derived parameters will add further information on the value of the sibling relationship in aiding a child's development of self-definition and to anticipate both his own and others' behavior in social interaction. To further illustrate this point, current research trends have focused on sources other than the parental model, e.g., siblings, in explaining sex-role development (Bigner, 1972; Bronfenbrenner, 1958; Kahn et al., 1970; Kohlberg and Zigler, 1967; Santrock, 1970). An important question in this area would attempt to ascertain which role relationships (age or sex) serve as referents of the modeling process within the sibling relationship.

Research interest in sibling interaction has focused repeatedly on differences between first- and second-born children within the sibling constellation. The greatest amount of attention has been placed on the research paradigms that: (a) an older sibling acts as a model and pacemaker for younger siblings; and (b) siblings perceive each other as rivals and antagonists in social interaction (Sampson, 1965). Differences between children have been attributed to interaction between variables such as sibling status, (presence...
or absence of a sibling), ordinal position, sex of child, sex of sibling, and age-spacing between sibling (Rigner, 1971, 1972; Brim, 1957; Koch 1956 a, b, 1957; Sutton-Smith and Rosenberg, 1964, 1965, 1968, 1970). If it is assumed that differences in personality traits among children might well be ascribed to the dissimilar, divergent roles that are enacted in intersibship interaction as Sietto (1934) as suggested, then it is possible that these variables would be particularly salient in mediating differences in children's perception of the power and function role dimensions within the sibling relationship.

On the basis of the rationale previously discussed, the following predictions were made: (1) Sibling Age-Roles: Children would assign (a) high power actions more frequently to an older sibling and low power actions to a younger sibling; and (b) goal interference actions more frequently to an older sibling and goal facilitation actions to a younger sibling. (2) Children would assign (a) high power actions more frequently to a male sibling and low power actions to a female sibling; and (b) goal interference actions to a male sibling and goal facilitation actions to a female sibling.

It was predicted also that there would be no significant difference in children's assignments of social action dimensions in Hypotheses 1 and 2 as a function of age, sex of child, sibling status, sex of sibling, and age-spacing between sibling.

Method

Subjects

Four hundred ninety-eight male and female children ranging in age from 5.7 to 13.4 years composed the sample population. Since the investigation utilized a cross-sectional design, subjects were
selected at grades K, 2, 4, 6, and 8. The subjects were selected at each age level according to the following criteria: (a) second-born or only (singleton) child; (b) age-spacing between sibling of either 12 to 20 months or 28 to 48 months; (c) from intact homes (both mother and father present); (d) middle-class socioeconomic background; and (e) Caucasian race. Socioeconomic status was measured by the McQuire-White Index of Social Status, Short Form (1955). The subjects who met these criteria were assigned to one of the following subgroups on the basis of sex of sibling and age-spacing between sibling status:

1. **Age-Sibling Dyad A** (12-20 months age-spacing)
   - a. Males with an older brother (AMM)
   - b. Males with an older sister (AFM)
   - c. Females with an older brother (AMP)
   - d. Females with an older sister (AFF)

2. **Age-Sibling Dyad B** (28-48 months age-spacing)
   - a. Males with an older brother (BMM)
   - b. Males with an older sister (BFM)
   - c. Females with an older brother (BMP)
   - d. Females with an older sister (BFF)

Table 1 presents subgroup sizes and age descriptions.

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**Procedure**

Twelve types of social action were classified by Emmerich (1959) according to power (high and low) and function (interference and facilitation) dichotomies. These actions were derived from Parsonian theory and were used to test the hypotheses concerning
the dimensions children use in discriminating sibling age- and sex-roles. This classification scheme is presented in Table 2.

Insert Table 2 about here

Stylized figure drawings which represented four sibling roles were prepared on three by five inch cards. The figures representing these roles differed according to size and sex and were presented to the subjects based on combinations of the following in pairs: (a) older brother (M1) - younger brother (M2); (b) older sister (F1) - younger sister (F2); (c) older brother (M1) - older sister (F1); and (d) younger brother (M2) - younger sister (F2).

The procedure used in testing followed that of Emmerich (1959). The subjects were tested individually by the experimenter in a private room near each classroom. The test proper consisted of presenting 48 pairs of figures in a predetermined order after Emmerich (1959). The sequence of pair presentation and corresponding social action item is presented in Table 3. Each social action item appeared once in each quarter of the presentation sequence. High and low power items, facilitation-interference items, and individual sibling figures were alternated randomly. The same pair of figures did not appear in succession.

Insert Table 3 about here

The younger subjects (aged five to seven years) were brought into the experimental room under the guise of playing a picture game about siblings. The older subjects (aged nine to 13 years) were simply asked to participate in a project concerned with how siblings related to each other. Each subject was presented with a
sample pair of the stylized sibling figures, e.g., M1M2, before the test proper was administered. Each subject was asked by the experimenter to point to or name the appropriate figure who would say, "I'm the big brother." After a correct response, the experimenter presented another figure pair (F1F2) to the subject and asked, "Who would say, 'I'm the little sister.'?" After the subject had responded correctly, the actual testing began with the presentation of the older brother-older sister pair (M1FL) and the instructions, "Who would say, 'You can have it.'?" (see Table 3).

Description of Measurement

The use of power in discriminating sibling age-roles was measured by the frequency of assignments of high power items to an older sibling figure (male or female) and low power actions to a younger sibling figure (male or female). The use of the function dimension to discriminate sibling age-roles was measured by the frequency of assignments of goal interference items to an older sibling figure and goal facilitation items to a younger sibling figure.

The frequency of high power items assigned to a male sibling figure (older or younger) and low power items to a female sibling figure (older or younger) in opposite-sex figure pair presentations measured the use of the power dimension in discriminating sibling sex-roles. The frequency of assignment of interference items to a male sibling figure and facilitation items to a female sibling figure in opposite-sex figure pair presentations measured the use of the function dimension in discriminating sibling sex-roles.

Analysis

In analyzing the data for intragroup concensus, chi-square
was used to assess if more than half of the social action assignments fell above or below a point that represented equal assignment of both dimension types to each figure pair. This point was referred to as "chance." The median test or its extension to several independent variables was used to test differences in assignments of the sample subgroups, i.e. age, sex, sibling status, etc. groups.

Results

Sibling Age-Roles by Power

The combined frequency of assignments of high and low power items on the older-brother-younger brother and older sister-younger sister pair comparisons was the measure of age-role discrimination by power. Scores could range from 0 to 24 with a score of 12 indicating "chance". The median score for the total sample was 16.23, and 89 percent of the total sample made scores above 12.

The total sample utilized the power dimension in discriminating sibling age-roles (p < .001). The older sibling was consistently assigned high power items and the younger sibling low power items in both figure pair comparisons. The data confirmed the prediction concerning discrimination of sibling age-roles by power.

Sex differences were found in the use of this dimension to discriminate age-roles. Boys appeared to be more sensitive to the use of this dimension than girls (p < .001), and this finding did not change or increase as a function of increase in age of subjects.

Figure 1 presents age changes in discrimination of sibling age-roles by power. The use of this dimension increased significantly as a function of increase in age (p < .001). The tendency for scores to increase with age was significant for both figure pair comparisons.
Only (singleton) subjects differed significantly ($p < .05$) from subjects who had an older sibling in that singleton subjects made more random assignments of high and low power items to both the older and younger sibling figures. This finding failed to change significantly as a function of increasing age of subjects.

Sex of the older sibling influenced the use of the power dimension in that subjects, both male and female, who had an older male sibling differed significantly ($p < .05$) from subjects who had an older female sibling in assigning high power items to the older sibling and low power actions to the younger sibling figure. Subjects who had an older male sibling assigned more high power actions to the older sibling than subjects who had an older female sibling. This finding failed to change significantly as a function of increase in age of subjects.

Age-spacing between sibling failed to produce significant differences in assigning high and low power actions to discriminate age-roles by power, except for girls who had an older brother (AMF-BMF groups). Girls who were spaced from 12 to 20 months from their older brother assigned more high power items to the older sibling and low power actions to the younger sibling figure and girls who were spaced 28 to 48 months between their older brother ($p < .01$). This finding failed to increase significantly as a function of increasing age.

**Sibling Age-Roles by Function**

The use of the function dimension to discriminate age-roles was measured by the combined assigned frequency of interference items
to the older sibling and facilitation items to the younger sibling in both the older brother-younger brother and older sister-younger sister pair comparisons. Scores could range from 0 to 24 with a score of 12 indicating "chance." The median for the total sample was 14.71, and 86 percent of the total sample made scores above 12.

Discrimination of age-roles by function did not occur as predicted. Subjects consistently assigned facilitation rather than interference items to the older sibling (p < .001). Facilitation actions were assigned slightly more than interference items to the younger sibling figure (p < .05). There were no significant sex differences on this measure as a function of increasing age of subjects.

Age changes in discrimination of age-roles by function are presented graphically in Figure 2. Significant increases in assignment of facilitation and interference actions to the older and younger siblings as a function of increasing age were found for both the combined scores and the older brother-younger brother pair comparisons (p < .01), while changes in scores approached significance for the older sister-younger sister comparison.

Both male and female singleton subjects differed significantly (p < .05) from subjects who had an older sibling on this measure. Singleton subjects made assignments of facilitation and interference items randomly to both younger and older sibling figures.

Sex of the older sibling significantly (p < .01) influenced the use of this dimension only for males who had a same- or opposite-sex older sibling. Male subjects who had a same-sex older sibling
assigned more facilitation actions to the older sibling and more interference actions to the younger sibling than male subjects who had an opposite-sex older sibling. This finding failed to increase or change significantly as a function of increase in age.

Age-spacing between sibling produced significant differences in scores only for girls who had an older sister. The APP group subjects assigned more facilitation actions to the older sibling and more interference items to the younger sibling than the BFF group subjects. ($p < .01$). This finding also failed to change or increase significantly as a function of increasing age.

Sibling Sex-Roles by Power

The combined frequency of assignments of high power actions to a male sibling figure and low power actions to a female sibling figure in cross-sex figure pair presentations measured discrimination of sibling sex-roles by power. The median for the total sample on this measure was 14.04, and 79 percent of the total sample made scores above 12, or "chance."

The total sample utilized clear-cut perception of the power dimension to discriminate sibling sex-roles by power ($p < .001$) as predicted. Changes were prevalent in the use of this dimension as a function of increasing age ($p < .01$) as presented graphically in Figure 3.

Sex differences were found on this measure in that females appeared to be more perceptive of the power dimension to discriminate sibling sex-roles than boys ($p < .01$). This finding failed to change significantly as a function of increasing age of subjects.
The presence of an older sibling appeared to influence significant differences ($p < .001$) in comparisons of scores of both boys and girls with an opposite-sex older sibling and singleton subjects. The singleton subjects made more random assignments than subjects who had an opposite-sex older sibling.

Analysis of the data indicated that sex of the older sibling produced unexpected differences in assignments of high and low power items. Boys who had an older sister performed opposite to that predicted in consistently assigning high power actions to the female sibling figure and low power actions to the male figure. This response pattern produced a significant difference ($p < .001$) in comparison with responses of boys who had an older brother. A similar result was found in comparing responses of girls with same- or opposite-sex older sibling. Girls who had an older brother consistently assigned high power actions to a male sibling figure and low power actions to a female sibling figure than girls who had an older sister ($p < .001$).

Age-spacing effects failed to produce significant differences on this measure except for boys and girls who had an opposite-sex older sibling. Boys who were closely spaced (12 to 20 months) to their older sister assigned significantly ($p < .001$) more high power items to the female sibling figure and low power items to the male sibling figure than boys who were widely spaced (28 to 48 months) from their older sister. Girls who were spaced close to their older brother made significantly more ($p < .01$) high power assignments to the male sibling figure than girls who were spaced widely from their older brother. These findings failed to change significantly with increases in age of subjects.
Sibling Sex-Roles by Function

The combined frequency of assignments of interference actions to a male sibling figure and facilitation actions to a female sibling figure measured discrimination of sibling sex-roles by function. The median for the total sample was 13.80, and 75 percent of the total sample made scores above 12, or "chance.

The total sample discriminated sibling sex-roles by function as predicted in that the male sibling figure was consistently assigned interference actions and the female sibling figure was assigned facilitation actions ($p < .001$). Significant ($p < .01$) age changes were found on this measure as presented in Figure 4.

A significant sex difference in performance was found on this measure. Girls were found to make significantly more assignments of facilitation items to the female sibling and interference items to the male sibling than boys ($p < .01$). This finding failed to change significantly as a function of increase in age of subjects.

Significant differences in response patterns were found in comparisons of singleton subjects with those who had an older sibling. Singleton subjects randomly assigned both facilitation and interference items to both sibling figures ($p < .05$).

 Significant differences were found in response patterns on this measure when comparing both boys and girls who had a same- or opposite-sex older sibling. Those who had an older brother assigned more interference items to the male sibling figure than those who had an older sister ($p < .001$). A similar pattern occurred in assignments of facilitation items. Those who had an older sister assigned
more of these items to a female sibling figure than those subjects who had an older brother \((p < .001)\).

Age-spacing failed to produce significant differences in sibling subgroup comparisons except for boys of both age-spacing differentials who had an older sister. For this group comparison, it was found that boys who were spaced closely to their older sister assigned significantly \((p < .01)\) more facilitation items to a male sibling figure and more interference items to a female sibling figure than boys who were spaced widely from their older sister. This finding failed to change significantly as a function of increase in age.

**Discussion**

The paucity of empirical data on the sibling relationship as a dynamic social system was the basis of performing the present research. The data presented in this study appeared to indicate the value and importance of an older sibling in that second-born children perceived an older sibling as a "significant other" and, in all likelihood, used the interpersonal perception of sibling roles as an adjunct to other operative social forces (parents, peers, etc.) in defining their role positions and concepts. This is consistent with other data in this area (Bigner, 1971; Cicirelli, 1972; Sampson, 1965; Sutton-Smith and Rosenberg, 1968). The data appeared to indicate that second-born children relied extensively on the social-action dimensions of power and function in defining and discriminating sibling age- and sex-roles, and that the extent of use of these dimensions was contingent on the age of the child, his sex, the sex of his older sibling, and, in certain instances, the age-spacing between his older sibling. The data perhaps give
relevance to the assumption that younger children in the sibling constellation "look up to" or rely on the older sibling as a model. In this instance, the data would indicate that if second-born children do indeed look to their older sibling for social guidance, modeling, etc., perhaps it is because they have learned to recognize and acknowledge his social power and ability to provide certain functions and powers in their relationship. The data additionally indicate that second-born children ascribe to their older sibling as well as to themselves culturally determined sex-role standards and discriminations and perhaps are influenced by the presence of an older sibling in learning a sex-role. It would appear from the data that second-born children who have an older sibling of the opposite sex are presented with the opportunity to learn to discriminate role behaviors of this sex-role better than children who have a same-sex older sibling. This is consistent with other research (Bigner, 1972; Brim, 1957; Koch, 1956a; Sutton-Smith and Rosenberg, 1965, 1970). Thus, it is possible that such patterns of discrimination of age- and sex-roles within the family and learned within the unique properties of the sibling constellation may generalize to discriminations of the behaviors and roles of other individuals, guide the developing child in the development of his self-concept, and serve to predict future behavior in social interaction with others.

Parsonian theory holds the contention that children discriminate age-roles by the power dimension and sex-roles by the function dimension. Implicit in the theory is the converse, i.e. that age-roles would not be discriminated on the function dimension and sex-roles would not be discriminated on the power dimension. The present
Data supported the first contention in that children discriminated sibling age-roles by power and sibling sex-roles by function. The data further indicated that second-born children utilized both the power and function dimensions to discriminate sex- and age-roles, respectively. However, discrimination of age-roles by function did not occur as predicted in that the older sibling was consistently assigned facilitation rather than interference items. The data indicated also that sex-roles were discriminated on the power dimension and that girls utilized this dimension significantly more ($p<.01$) frequently than boys. Furthermore, the data suggested that sex of the older sibling and age-spacing between siblings were important determinants of discrimination of sex-roles on the power dimension. Essentially, these data confirm Emmerich's (1959, 1961) findings regarding children's discrimination of family roles.

Parsonian theory implies that age-role discrimination should occur earlier in the developmental scheme than sex-role discrimination. Data of the present study failed to confirm this hypothesis. This finding was comparable to that obtained by Emmerich (1959, 1961). While these data suggest modifications to Parsonian theory, it should be emphasized that additional investigation is necessary to determine whether age-roles are discriminated earlier than sex-roles by other dimensions postulated by Parsons and Shils (1951).

The differences in age-trends in the discrimination of age- and sex-roles provide additional interpretations. The data indicated that the amount of power and function attributed to an older sibling increased at almost each age level (Figures 1 and 2), while there was a curvilinear relation in the amount of power and function attributed to a male sibling and age (Figures 3 and 4). Comparison
of these curves suggests that children appear to continually rely on these dimensions to discriminate age-roles at the ages under investigation while the use of these dimensions to discriminate sibling sex-roles reaches an apex at the ninth year. It appears that the period between the ages of five and nine years are particularly salient in the development of sibling sex-role concepts and that differentiation of these role concepts commences between the ninth and thirteenth years. Data from previous investigations have indicated that the continuity of sibling power relationships occurs across the age levels from childhood through college (Sutton-Smith and Rosenberg, 1968). The data of the present study suggest that the differentiation in sibling sex-role concepts after the ninth year may be due to the increased cognitive and social awareness of children in the completion of the identification process. Perhaps the efficacy of the older sibling as a model has reached an apex at this year and significance has declined thereafter.

The data of this study may be considered to represent the perceptions and discriminations of sibling age- and sex-roles from the viewpoint of the second-born child. It is quite possible that different results would be obtained if children from other ordinal positions were included as subjects. Research is being performed currently by the author to include responses of first-borns for comparison purposes with the present data.
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Koch, H. Some emotional attitudes of the young child in relation to characteristics of his sibling. *Child Development*, 1956, 27, 393-427. (b)


Footnote

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## TABLE 2

Classification of Social Actions According to Power and Function Dichotomies

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<td></td>
<td>2. Thank you for doing it</td>
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<tr>
<td></td>
<td>3. You did that very well</td>
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<tr>
<td></td>
<td>4. You can't have it.</td>
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<tr>
<td>Interference</td>
<td>5. Stop doing that.</td>
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<td></td>
<td>6. You did that wrong.</td>
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TABLE 3

Presentation Sequence of Figure Pairs and Social Action Items

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<th>Sequence Number</th>
<th>Pair</th>
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Figure Captions

Figure 1. Discrimination of sibling age-roles by power.
Figure Captions

Figure 2. Discrimination of sibling age-roles by function.
Figure Captions

Figure 3. Discrimination of sibling sex-roles by power.
Figure Captions

Figure 4. Discrimination of sibling sex-roles by function.