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HARRISON, Lawrence Bright, 1923–
THE RELATIONSHIP BETWEEN ORDINAL POSITION AND DEPENDENCY, DOMINANCE, AFFILIATION, AFFECTION, AND TASK-ORIENTATION.

The University of Oklahoma, Ph.D., 1964
Psychology, clinical
University Microfilms, Inc., Ann Arbor, Michigan

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THE UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

THE RELATIONSHIP BETWEEN ORDINAL POSITION AND DEPENDENCY, DOMINANCE, AFFILIATION, AFFECTION, AND TASK-ORIENTATION

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

DOCTOR OF PHILOSOPHY

BY

LAWRENCE BRIGHT HARRISON

Norman, Oklahoma

1964

THE RELATIONSHIP BETWEEN ORDINAL POSITION AND DEPENDENCY,

DOMINANCE, AFFILIATION, AFFECTION,

AND TASK-ORIENTATION

APPROVED BY

DISSERTATION COMMITTEE

ACKNOWLEDGMENTS

The writer wishes to express his appreciation to Dr. Alfred Glixman who directed the dissertation. Association with him has been a rare and deeply gratifying experience. Appreciation is also expressed to Dr. M. Sherif for his continued warm encouragement, to Dr. Carl Oldroyd for his freely given assistance and emotional support, and to Dr. Roger Nebergall for his cheerful encouragement and cooperation. Deep appreciation is also expressed to Dr. O. J. Rupiper for his assistance in regard to advice and acquisition of resources for carrying out the study. Gratitude is extended to the writer's wife, Patsey, for reassurance in times of stress and for creating the best possible circumstances for success in this work.

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THE RELATIONSHIP BETWEEN ORDINAL POSITION AND DEPENDENCY, AFFILIATION, DOMINANCE, AFFECTION, AND TASK-ORIENTATION

CHAPTER I

INTRODUCTION

Early studies of birth order dealt with the relationship between ordinal position in the family and a variety of phenomena: intelligence, fame, behavior problems, emotional stability, nervousness, sensitivity to pain, happiness, political attitudes, jealousy, school performance, stuttering, neuroticism, and psychosis (Murphy, Murphy & Newcomb, 1937). Studies which were conducted during this period were characterized by the view that ordinal position, in itself, rather than certain uniformities of experience concomitant with ordinal position, had determining value in the development of various personality and social characteristics. Data from these studies were considered by Murphy, Murphy & Newcomb to be ambiguous, contradictory, and inconclusive; and these authors concluded that it was futile to try to explain behavior in terms of such non-psychological factors as birth order.

Since the time these studies were conducted, increasing interest has developed in the use of specific parent-child techniques (Sears, Maccoby, & Levin, 1957; Sears, 1950; Whiting & Child, 1953) and in sib-sib relationships (Koch 1955, 1956a, 1956b, 1956c, 1957; Toman, 1961a). The consequences of parent-child and sib-sib interactions have come into focus, and the resultant psychological climate of the child has received increasing atten-

tion (Adler, 1945; Schachter, 1959; Toman, 1959c, 1959d, 1960c, 1961a, 1961b). As a consequence, a new emphasis has been placed upon the role of ordinal position and upon the differential familial experiences encountered by children in each position. Re-examination of the role of ordinal position has led to the conclusion that if consistent differences do exist among siblings in different ordinal positions, they are likely to be due to the differential experiences accompanying these positions.

The change in emphasis which has taken place is revealed by the changing use of the term "ordinal position." "Ordinal position," at first, referred to birth order in the family. Reflecting a basically physiological orientation, there was an extended discussion (see Krout, 1939, for instance) as to whether actual birth should be considered or whether it might not be better to consider order of conception. If a child's birth was the result of the fourth conception, and if one of the previous conceptions had been aborted, he was in the fourth position even though there had been only two previous births. Currently, the term is used to indicate birth order and several other factors such as sex of siblings. For purposes of clarity, in the present study, "ordinal position" will refer to birth order alone. "Ordinal type" will be used to refer to a combination of birth order, subject's sex, sib's sex, age distance between siblings ("spacings"), and the number of sibs. The particular characteristics of the ordinal types discussed will be specified. (For an example of the degree of elaboration which this kind of typing can reach, see Toman, 1961).

Among the studies which relate ordinal position to personality variables there exists a set of studies which are primarily concerned with

several dimensions of interpersonal relationships and with task-orientation. Although different authors use different descriptive terms and different scales for dealing with these dimensions, the concern seems to be with variables which may be referred to as "dependency," "affiliation," "dominance," "affection," and "task-orientation." Several authors also deal with variables other than these; hence the review of the literature which follows is selective (both with respect to the authors chosen and with respect to the material cited for a particular author) rather than exhaustive.

Stagner & Katzoff (1936) divided 430 college men into six ordinal types (only child, older of two children, younger of two children, oldest of three or more children, and intermediate children), and examined the differences among types with respect to emotionality, self-sufficiency, and dominance. Measures of these characteristics were obtained from the Emotionality, Self-sufficiency, and Dominance scales of the Bernreuter Personality Inventory (1933). No significant differences were found among ordinal types for any of the variables.

Krout (1939) studied the relationships between ordinal type and each of the following: parent-initiated behaviors (parental dominance, parental favorites, and parental discipline), sibling relationships (dominance, submission, and attachment), and relationships with non-familial peers (dominance, submission, and attachment). His data are based on responses by 1,093 college-aged men and women from lower-middle and working-class groups to a four-part inventory. The first section contained a request for a list of all living and dead family members of each subject. This list gave the parents' ages, and the siblings by sex, age, and date of birth. The second section contained a check-list of ordinal positions.

The third section contained twenty-four statements concerning relations within the home, especially those related to discipline, dominance, and emotional attachment. The fourth section contained eight statements referring to affection, domination, and submission in relationships with extrafamilial individuals.

Barring a complete reanalysis of his data, Krout's conclusions cannot be checked. His statistical tests are not clear, and a number of his conclusions seem to be contradictory among themselves and to be contradicted by the data. For what they are worth, his conclusions are: younger brothers are dominated (in descending order) by the older of two males, a male between a male and a female, oldest male followed by a male or a female, and by a male between two females. No relationship was found between ordinal type and domination of a younger sister. For each sex, the dominant sibling was found to be either an intermediate child surrounded by siblings of similar sex or an older child followed by a sibling of the opposite sex. For males, domination of a younger sister (when it occurs) is not associated with domination of non-familial peers. Males who do not dominate younger sisters tend to dominate non-familial males but they do not dominate non-familial females. Males who dominate younger brothers dominate non-familial males, but they do not dominate non-familial females. Females who do not dominate younger sisters do not dominate non-familial males or females.

For males, attachment to brothers (older or younger) is accompanied by attachment to non-familial males; attachment to sisters (older or younger) is accompanied by attachment to non-familial males and females. For females, attachment to brothers is concomitant with attachment to males outside of

the family; lack of attachment to siblings is accompanied by lack of attachment to non-familial individuals.

Neither Stagner & Katzoff (1936) nor Krout (1939) provided a strong conceptual system for the interpretation of their results. For the former investigators, no relationship between personality characteristics and ordinal type was predicted because they believed that personality was only little influenced by ordinal type. In part, this prediction was consistent with their mild anti-psychoanalytic view and with their emphasis on social determinants of personality. Krout offered after-the-fact interpretations of some of his results. In general, these interpretations consisted of a set of statements of "common-sense" expectations of the consequences of playing out different familial roles. Beller (1955, 1957) and his associates, on the other hand, have been engaged in a systematic study of several aspects of child behavior--notably dependency and independence--which uses the conceptual system developed by Whiting & Child (1953), Sears (1950), and Sears, Maccoby, & Levin (1957). This system attempts to deal with developmental phenomena by extending Hull's system of concepts. By combining these concepts with ideas that were developed in anthropology and from studies of child behavior, a loose but effective system of understanding the effects of child-rearing practices has developed. Within this system, Beller has been concerned with the development of behavior scales which would permit the testing of some of the ideas.

One of these ideas is that independence training starts earlier and is stronger for later-born children than for first-born children. As a consequence, later-born children should be less dependent than first-born

youngsters. Although the results are not always significant (Gewirtz, 1948; Beller, 1948), there is a set of consistent findings (Gewirtz, 1948; Beller, 1948; Dean, 1947; Habaerle, 1958) which support this prediction. Dean (1948) had mothers in twenty two-child families compare their children with respect to a large number of personality items (including Beller's rating scales for independence and dependency). All of the children involved were younger than seven years, and each pair of siblings contained members of the same sex. Dean found that first-born children were judged by their mothers to be more dependent, more worried, more excitable, more vulnerable to hurt feelings, and less demonstrably affectionate than were their younger sibs.

In a study Gewirtz, (1948) used a set of behavior rating scales developed by Beller (1948) to study dependency in 42 three- and four-year old nursery-school children. The dependency scales deal with behavior which involves seeking help, seeking physical contact, seeking proximity, seeking attention, and seeking recognition. Using a time-sampling technique which provided four hours of observation of each child over a four-month period, nursery school teachers rated each child on these scales. Later-born children were less dependent than first-born (or only) children. The differences found were not significant but were consistent.

As part of a larger study of dependency and aggression, Habaerle (1958) studied the relationship between dependency and ordinal position. Subjects were mildly disturbed children, three to six years old, who attended a therapeutic nursery school. Almost all of the subjects had only one or two sibs. They were rated on Beller's scales four times a year by the teachers. Summated ratings provided the dependency scores. For boys

and girls combined, first-born children were more dependent than later-born children. This finding was true for boys alone, but was not true for girls alone (i.e., there was no difference between first- and later-born girls).

Koch uses a conceptual system similar to that used by Beller to try to account for her findings. Because her study is so complex, with so many detailed findings, she is unable to offer a general interpretation of her findings; instead, there are many after-the-fact interpretations of relatively isolated results. In a series of articles (1955, 1956a, 1956b, 1957), Koch reports the results of an extensive study of 384 five- and six-year old children, all of whom come from native-born, urban, intact, two-child families. The purpose of the study was to investigate the relationships between a set of classification variables and a variety of attitudes. Each child was placed into one of twenty-four classification groups formed by the intersection of four variables: subject-sex, ordinal position (first-born, second-born), sibling-sex, and age-spacing (sib's age distance from the subject: 7-24 months, 25-48 months, 49-72 months). Personality information was obtained from teachers' ratings on the Fels Child Behavior Rating Scales (Richards & Powell, 1941) and the California Behavior Inventory for Nursery School Children (Conrad, 1933), children's responses to the Childrens' Apperception Test (Bellak & Bellak, 1950) and to a semi-structured interview schedule. Only the results from the Fels Child Behavior Rating Scales and the California Behavior Inventory for Nursery School Children are reported in these articles. Of the forty-two variables which were analyzed, nineteen seem to have relevance for affiliation, affection, dominance, dependency, and task-orientation: gregariousness,

friendliness to children, social apprehensiveness, uncooperativeness with peers (affiliation); affectionateness, kindness, friendliness to adults, selfishness (affection); aggressiveness or initiative (dominance); tendency to bid for adult attention, tendency to appeal to adults for help, responsiveness to adult sympathy and approval (dependency); and planfulness, ambition, responsibleness, tenacity, curiosity, enthusiasm, tendency to dawdle or procrastinate (task-orientation). Analyses of these variables reveal that there are significant ordinal-position effects or significant interactions involving ordinal-position for only five of these variables.

For friendliness to children, the interaction of subject-sex with ordinal position spacing is significant. Second-born males whose sib is 49-72 months removed are friendlier than second-born males with other sib spacings. All classes of girls are equally friendly to other children, and the level of friendliness is relatively high.

The sib-sex by ordinal-position by spacing interaction is significant for the variable bids for adult attention. With a spacing of 7-24 months, children with younger brothers make the most bids for attention; for 25-48 months, younger children make more bids for attention than do older children; and for 49-72 months, boys make more bids than do girls. With regard to responsiveness to adults, there is a significant subject-sex by sib-sex by ordinal position interaction: of second-born children, boys with older sisters are least responsive.

There is a significant subject-sex by sib-sex by ordinal-position effect for enthusiasm. For first-born boys, those with younger brothers are less enthusiastic than those with younger sisters; for all other clas-

es, children with brothers are more enthusiastic than children with sisters. With respect to dawdling, the subject-sex by ordinal position effect shows: for older children, there is no sex difference; for younger children, boys are rated higher than are girls. Younger girls do less dawdling than does any other group.

During his investigation of the determinants of gregariousness, Schachter (1959) was led to a consideration of the relationships between ordinal position and affiliation and (later) dependency. It is clear from a number of studies that anxiety is one of the major consequences of social isolation. Schachter then reasoned that affiliation with others --association with others as a means to social goals (prestige, approval) rather than as a means to asocial goals (making money, finishing a job)-- would have an effect opposite to that of isolation; namely, affiliation should serve as a reliever of anxiety. He further reasoned that first-born children should be more anxious than later-born children and that they should be more likely to find affiliation a means of relieving anxiety. His argument is based on the notion (which is supported by the findings of Sears, Maccoby, & Levin, 1957) that a mother of a first-born child is more consistent in her treatment of the child than she is in her treatment of later children. Further, she is more ill-at-ease, more worried, more immediately responsive, and more anxiety reducing with this child than with later children. The mother is more casual about child-rearing in general with later children, and she is less responsive to them. In addition, later-born children have in their immediate situation other individuals (siblings) who are as likely to raise anxiety as they are to lower it. Two predictions follow from this line of reasoning: (1) first-born

children are more anxious than later-born children; (2) first-born children are more likely to seek association with others (be affiliative) in the presence of anxiety.

With respect to the prediction that first-born children are more anxious than later-born children, relevant experimental data are found in a study of the effects of cognitive content on anxiety and time perception by Schachter & Heinzelmann (1959), the results of which Schachter (1959) related to ordinal position. In this experiment, each subject (all females) received three series of shocks. Each series consisted of up to twenty-four shocks systematically increasing in intensity in steps of approximately two volts. In each series, the subject was asked to tell the experimenter when she first felt the current, when it became painful, and when it became unbearable and she wanted the experimenter to stop. First-born subjects were considerably less willing or able to withstand pain than were later-born subjects. These findings are used to support Schachter's conclusion that more anxiety and fear are generated in first-born children than in later-born children when both groups are exposed to anxiety-provoking situations. Further support for this conclusion is found in the self-ratings of subjects on a 6-point anxiety scale developed by Schachter (1959); first-born subjects rated themselves as feeling more uneasy (anxious) about participating in an experiment in which they were to be shocked than did later-born subjects.

The likelihood that first-born children seek association with others in the presence of anxiety was investigated in a study by Schachter (1959). In this study, he used sixty-two female college students recruited from courses in introductory psychology at the University of Minnesota. He di-

vided the subjects into two groups and had each group participate in one or the other of two experimental conditions. The experimental conditions differed only with respect to the set created by the experimenter. "High anxiety" was induced in one group by creating a fear of being painfully shocked. The "low anxiety" experimental condition was one in which the subjects were assured that the experiment was a routine one which they would probably enjoy. The examiner asked the subjects in each group to indicate their feelings about being shocked by rating their reactions on a five-point scale. Following this step in the procedure, the examiner explained that there would be a ten-minute waiting period while experimental arrangements were being completed. He further explained that there were a number of rooms available for use while waiting, and that subjects could either wait alone or together with others. He passed out a sheet on which the subjects could indicate their preference (to wait alone or with others), then another sheet on which they could indicate the intensity of their preference. To get a final measure of the effectiveness of the anxiety manipulation, the experimenter passed out another sheet on which each subject was asked to indicate whether or not she would still like to participate in the experiment. The experiment ended after the subjects had marked these last sheets, and the examiner explained the procedure to the subjects and told them why deception had been used.

Results indicated that in the high anxiety condition, first-born and only children strongly preferred being together, whereas later-born children did not. In the low anxiety condition, there were no ordinal-position differences. On the scales of anxiety, the fear-inducing situation aroused considerably more anxiety and fear in first-born than in la-

ter-born subjects.

With respect to the relationship between ordinal position and dependency, Schachter draws upon the work of Dean (1947), Gewirtz (1948), Beller (1948), and Habaerle (1958) whose findings are consistent with his own. The concomitance of greater anxiety and more dependency found in first-born children, in contrast to later-born children, led Schachter to the consideration that affiliative tendency is a function of dependency, with dependency as the more basic factor.

Schachter's reasoning with respect to dependency involves differences in the amount of parental attention given first-born and later-born children, the presence of other sibs in the later-born child's environment, differential parental protectiveness, and differential consistency of parental behavior toward first-born and later-born children. Hypotheses relevant to this line of reasoning are offered by Sears, Whiting, Nowles, & Sears (1953) and Whiting & Childs (1953) who suggest that the development of dependency is contingent upon two factors: generous amounts of attention lavished upon the child and frustration of infantile dependency needs. Sears, Maccoby, & Levin (1957) treated this problem in a study of patterns of child rearing and found that parental behavior toward first-born children is characterized by considerably more permissiveness and attention than in the case of later-born children. These authors also found greater inconsistency in the behavior of parents in the training of first-born children than in the training of later-born children. With first-born children, parents are more extreme in their behavior than with later-born children; while they are more attentive and permissive on the one hand, they are also more demanding and harsh in the discipline of first-born children

than is the case with later-born children, thus simultaneously reinforcing and frustrating dependency needs in first-born children.

Toman (1961) presents the most elaborate system for dealing with the relationships between ordinal type and personality characteristics. In a manner similar to that of other workers, he assumes that role relationships which develop in the family carry over to non-familial interpersonal relationships. His predictions about interpersonal relationships are based on the principle that interpersonal relationships will be harmonious to the degree that the individuals involved have a history of complementary familial roles. In order to understand this principle, it is necessary to understand Toman's handling of ordinal types. Each person is described by considering his sex and ordinal position, the sex and ordinal position of each of his sibs, the age-distance to nearest sibling, and loss of any member of the family. Loss of parent or sibling serves as a modifier of other characteristics. Age-distance to nearest sibling of more than six years is considered to be the equivalent of having no sibs. If possible, the ordinal typing of an individual includes the typing of each of his parents. All of these factors are used to type the individual. Two people will interact in a conflict-free fashion if they are complementary types; e.g., a marriage will be a good one if an older brother of a sister marries a younger sister of a brother. In effect, Toman expects the role relationships which are developed in the family to be extended into the marriage.

The behavior Toman deals with is not easily specifiable. He describes people by referring to their attitudes and to broad role relationships which develop in the family, and he tests his predictions by con-

sidering global criteria such as marital success (1960a, 1961b), success in therapy (1961a), and parent-child conflict (1961a). An example of the kind of description Toman uses is given by the summary of oldest brother of brothers. The oldest brother of brothers is a leader and master of other men. He manipulates others, through various persuasive or forceful techniques, to do as he directs them. He is a good worker, readily taking hardships upon himself. He deals with authority either by becoming like specific authority figures or by finding loopholes and undermining authority. In either case, he is always ready to assume the role of authority himself. He builds up property in an orderly and tenacious manner. He is a tough guy with women, treating girls like younger brothers who are expected to live up to his assignments and to be content with very little in return. His best match is a girl who is the youngest sister of brothers. The poorest of all possible matches that the oldest brother of brothers can make would be that with the oldest sister of sisters only. He is planful for the future of his family and tends to be an autocrat in dealing with his wife and children. Politically, he believes in strong leadership, even dictatorships; although he may be a revolutionary as a young man, he ends up as a conservative. He is reluctant to rely upon outside help and would rather give than receive help. He is rigid in his religious attitudes and can rarely be an ordinary pious person. If he ever enters psychotherapy, he is inclined to dislike his dependence upon the therapist, just as he dislikes unavoidable dependence upon other people.

Although Toman offers no specific empirical support for these conclusions, they are based upon his observations of more than 400 persons, 317 of which he had contact with in clinical settings. For this reason,

and because of his well-developed system, they should be given serious consideration. A summary of his statements about affiliation, dependency, dominance, affection and task-orientation follows: With respect to dependency, first-born siblings, in contrast to last-born siblings, are more independent, planful, self-sufficient, and intolerant of help or support from others. They are more prone than last-born siblings to give help, protection, and support to others. Last-born siblings are more affiliative than first-born siblings who are more exclusive and impersonal in interpersonal relationships. Friendships tend to be strong among first-born siblings, but they are confined to relatively few individuals; last-born siblings are more gregarious in a general sense. With respect to dominance, first-born siblings are more dominant and controlling than are last-born siblings. First-born siblings, except older sisters of brothers, generally are affectionate toward fewer people than are last-born siblings. Older sisters of brothers are demonstratively affectionate as well as nurturant toward males. Regarding task-orientation, first-born siblings are considerably more task-oriented, more planful, more practical, and less easily distracted by non-job-oriented goals.

A summary of the findings of different investigators with respect to dependency, affiliation, dominance, affection, and task-orientation is given below. In this summary, despite a lack of specific empirical support, Toman's conclusions will be given the same status as are the results of other investigators.

Regarding dependency, Schachter (1959), Dean (1947), Gewirtz (1948), Beller (1948), Habaerle (1958), Ehrlich (1958), and Sears (1950) found that first-born children are more dependent than later-born children.

Toman holds that first-born children are less dependent than later-born children. Stagner & Katzoff (1936) found no relationship between ordinal position and self-sufficiency, and Koch (1956a) found no relationship between ordinal position and asking for adult help. Koch did find a significant subject-sex by sib-sex by ordinal-position interaction with respect to responsiveness to adult sympathy and approval: of first-born children, girls with younger brothers are most responsive; of second-born children, boys with older sisters were least responsive.

With respect to affiliation, Schachter (1959), Schachter & Heinzelmann (1960), and Ehrlich (1958) found that first-born children are more affiliative than later-born children. Koch found no relationship between ordinal position and friendliness; however she did obtain a significant interaction of subject-sex with ordinal position spacing. Second-born males whose sib is 49-72 months removed are friendlier than second-born males with other sib spacings. Toman takes the position that first-born siblings are less gregarious and affiliative than last-born children.

In regard to dominance, Stagner & Katzoff (1936), Koch (1956a), and Krout (1939) found no differences between children in different ordinal positions. Toman, on the other hand, states that first-born siblings, both male and female, are more dominant than last-born siblings. First-born children with siblings of the same sex are more dominant than children with opposite sex siblings, according to Toman.

Koch (1955) and Krout (1939) found no significant differences among ordinal positions with respect to affection. Dean (1948) and Toman (1961a) found first-born siblings to be less affectionate than later-born children.

Only Koch (1956b) and Toman (1961a) present material concerning

task-orientation and ordinal position. Koch did not find significant ordinal position differences with regard to dawdling; however she did find a significant subject-sex by ordinal position effect which showed that among later-born children, boys are rated higher for dawdling than are girls. Toman states that first-born children, in contrast to last-born children, are more task-oriented, more planful, and more responsible.

It is apparent that for none of the variables is there complete agreement among investigators. Lack of agreement may be attributable to differences with respect to: age and sex of subjects, sex- and age-characteristics of sibs of subjects, sources of data (whether teachers, mothers, or self), and the nature of the behavior studied. Schachter (1959), for instance, is concerned with very specific behavior in a concrete situation. Toman, on the other hand, is concerned with global behavior which is relatively independent of immediate situations. A real question arises as to whether investigators are talking about the same phenomena when they speak of "dependency," for instance. If they are, Toman certainly is wrong in his conclusions. But perhaps they are not speaking of the same thing. There is need for a study which deals with the same variables studied by previous investigators, but which concerns itself with behavior that is more general than the kind considered by some investigators but more formally designatable than the kind considered by Toman.

CHAPTER II

PROBLEM

A review of the literature dealing with the relationships between ordinal position or ordinal type and several aspects of behavior reveals no consistent set of conclusions about these relationships. The aspects of behavior under consideration are: dependency, affiliation, dominance, affection, and task-orientation. Despite the fact that different investigators use similar or identical variable names (e.g., "dependency"), they frequently seem to focus on markedly different kinds of behavior. Toman's views (1961a) frequently are divergent from those of other investigators, and it seems significant that he is least concerned with specific, situationally determined behavior. Studies are needed which translate Toman' global statements into manageable data sets which have reference to fairly broad forms of behavior. It is usual, when seeking such data, to use scores on tests from which general behavior tendencies may be inferred.

Since these variables may be characterized in different ways, it seems advisable to indicate the ways in which they will be used in this study: Dependency relationships frequently involve two complementary modes of behaving: being succorant and being nurturant. "Succorance" refers to the need to seek help and encouragement from others; to have others be kindly, sympathetic, and understanding about personal problems; to seek and accept attention, recognition, and favors from others. "Nurturance" refers to the need to help, sympathize, and give attention to others; to care for others and to share in efforts to cope with the problems of others.

"Affiliation" refers to the need to participate with others; to make

as many friends as possible; to seek the company of others rather than to do things alone. In general, to interact with others because there is something desirable about the interaction itself.

"Dominance" refers to the need to influence and to manipulate the behavior of others; to maintain a position of power over others; to seek the position of leadership in groups; to make decisions for others; to supervise and direct the actions of others.

"Affection" refers to the need to display or to receive love and friendship in relation to others; to originate affectionate personal relationships or to respond favorably to affectionate, personal behavior initiated by others; to seek close, emotionally involved relationships with others.

"Task-orientation" refers to the need to do one's best on jobs requiring skill and effort; to be concerned with the job to the relative exclusion of self- or interaction-oriented goals; to achieve success in relation to the job itself rather than in relation to the attitude of others; to stick to a job until it is satisfactorily completed.

The general problem to which the current study is addressed is that of investigating the relationships between ordinal position and dependency, affiliation, dominance, affection, and task-orientation. More specifically, the purpose of the current study is to determine the relationships between ordinal position and each of the following needs as defined by standard tests: nurturance, succorance, affiliation, dominance, affection, and task-orientation.

CHAPTER III

METHOD

In a single session for each subject, subjects completed a personal data sheet, the Orientation Inventory, the FIRO-B, and the Edwards Personal Preference Schedule, in that order. Subjects were tested in groups but they were not all tested at the same time. They were allowed to begin taking the tests, in the order stated, at the time of their arrival to the testing rooms. Subjects were instructed that they could retain anonymity, if desired, by entering initials in the spaces where names were requested. Approximately 10% of the subjects identified their records in this way.

Subjects

Of the ninety-two individuals who completed the personal data sheet, thirty-nine men and thirty-two women were selected as subjects. The personal data sheet (see Appendix A) provided information about ordinal position, sex, and age of the subject and of each sibling; age intervals between subjects and siblings; stability of the family; illnesses, deaths, separations, divorces, or other prolonged absences of persons in the family; presence and length of stay of living-in relatives or other persons; ages of parents at the time of the subject's birth; and occupations of parents. Only the following information was used to select and to classify subjects: sex, ordinal position, and sex of siblings. Only individuals who satisfied the following criteria were used as subjects: people who were either the oldest (first-born) or youngest (last-born) child and whose sibs were all of the same sex (not necessarily that of the

subject). The number of subjects in each Sex x Ordinal Position x Sib-Sex classification is given in Table 1.

Table 1

Number of Subjects by Ordinal Position, Subject-sex, and Sibling-Sex

	Subjects			
	First-born		Last-born	
Siblings	Male	Female	Male	Female
Male	7	10	8	7
Female	15	11	9	4

Sixty-three of the seventy-one students who were selected as subjects were enrolled in Introductory and Developmental Psychology courses at the University of Oklahoma. Eleven additional students, not enrolled in these courses, spontaneously volunteered to participate in the study, having heard of it through friends. Eight of these students met selection criteria and were included. Subjects had a mean age of twenty years with an age range from eighteen to twenty-three years. Intervals between the age of subjects and that of nearest siblings ranged from one year to nine years with a mean age interval of three and one-half years. Nine of the subjects had losses in the family due to death of the father; in three of these cases the subject was less than twelve years old when the loss occurred. Fifty-two subjects had only one sibling; none had more than four siblings.

Tests

Orientation Inventory. The Orientation Inventory (Bass, 1962) is designed to measure task-orientation, self-orientation, and interaction-orientation. Each of twenty-seven items contains three statements, one for task-orientation, one for self-orientation, and one for interaction-orientation. The subject's task is to select the most preferred and the least preferred statement in each item. Directions are printed on the test booklet and the subject is instructed to read these directions carefully, then to begin the test. Reliability and validity data are presented in the manual by Bass (1962).

FIRO-B. The FIRO-B (Fundamental Interpersonal Relations Orientation - Behavior) is a test in which fifty-four items are rated by the subject on a six-point scale. The test is designed to measure the individual's tendency to initiate behavior and to have others initiate behavior toward him in three areas of interpersonal interaction: inclusion, control, and affection. Initiating behavior is referred to as "Expressed." Behavior designed to elicit behavior initiated by others is referred to as "Wanted." There are six basic scores, therefore: Expressed and Wanted scores for Inclusion, Control, and Affection. Inclusion behavior refers to the attempt to include or to be included in interactions with others, for example, inviting others to a party or asking to be invited to a party given by others. Control refers to dominating or being dominated by others, for example, making decisions for others or having others make decisions for oneself. Affection refers to originating tender and loving relationships with others or seeking to be the object of the affection of others, for example, making affectionate overtures to others or passively seeking af-

fectionate overtures on the parts of others.

Instructions for the FIRO-B are printed on the test forms. The subject is told to place in the box at the left of each statement the rating (one through six) which best applies to him. The subject is asked to be as honest as he can, and this request is repeated midway through the test. Reliability and validity data may be found in Schutz (1958, pp. 66-80).

EPPS. The Edwards Personal Preference Schedule consists of 410 different statements which represent fifteen of the manifest needs from the list developed by Murray et al., (1938). There is a subscale for each of the following needs: Achievement, Deference, Order, Exhibition, Autonomy, Affiliation, Intraception, Succorance, Dominance, Abasement, Nurturance, Change, Endurance, Heterosexuality, and Aggression. These items are presented as 210 different pairs, the members of each pair being equal in social desirability and representing different needs. Fifteen pairs are repeated so that consistency of response may be estimated. The total number of pairs presented to the subject, therefore, is 225. The subject is directed to read the instructions which are printed on the answer sheet to see how he is to record his responses. Reliability and validity data are presented in the revised manual by Edwards (1957).

These three tests were used because they measure the behavior tendencies under consideration in this study: dependency, affiliation, dominance, affection, and task-orientation. When two tests provide measures of the same variable, both tests are used in order to provide measures of different facets of the variable. The measures of dependency-linked behavior are the Succorance and Nurturance scores on the EPPS. Affiliation-related

scores are Affiliation scores on the EPPS and Inclusion scores for Expressed and Wanted on the FIRO-B. The measures of dominance-related behavior are the Control scores for Expressed and Wanted on the FIRO-B and the Dominance scores on the EPPS. Affection-related scores are the Affection, Expressed and Wanted, scores on the FIRO-B. Task-orientation scores were obtained from the Orientation Inventory.

CHAPTER IV

RESULTS

For scores based on the Edwards Personal Preference Schedule (Succorance, Table 3; Nurturance, Table 5; Affiliation, Table 7; Dominance, Table 11) and the Orientation Inventory (Task-orientation, Table 17), the statistical design is a 2 x 2 x 2 factorial. For scores based on the FIRO-B (Inclusion, Table 9; Control, Table 13; Affection, Table 15), the design is a 2 x 2 x 2 x 2, with replication across scores. The major classification variables in both designs are Ordinal Position (first-born, last-born), Subject-sex, and Sibling-sex; the design for the FIRO-B scores has the additional variables Scores (Expressed, Wanted) as a repeated-measures variable.

Analysis of variance based on unequal cell frequencies (Walker & Lev, 1953) are conducted for all scores. The error terms reported are computed by dividing the error sum of squares by the product of the degrees of freedom and the harmonic mean of the number of observations in the three-way cells. With one exception, the frequencies upon which the three-way means are based appear in Table 1 (p. 21): For the analyses based on scores from the EPPS (Tables 3, 5, 7, 11), the frequency in the cell for First-born Females with Male Siblings should be reduced from 10 to 9. One female subject submitted an unusable EPPS.

Where significant interactions are found, individual t-tests are conducted between means of appropriate cells. These t-values are reported as being significant when they fall into a .05 two-tailed region of rejection. For all t-tests, the error terms are based on the appropriate error

terms taken from the overall analysis of variance.

The data relevant to dependency may be found in Tables 2, 3, 4, and 5. Table 2 contains the distribution of means of Succorance scores over ordinal position, subject-sex, and sibling-sex, and Table 3 contains the summary of the analysis of variance for these scores. Table 4 contains the distribution of means of Nurturance scores over ordinal position, subject-sex, and sibling-sex, and Table 5 contains the summary of the analysis of variance for these scores.

Table 2

Succorance Scores

Distribution of Means[a] over Ordinal Position, Subject-sex, and Sibling-sex

	First-born		Last-born		
Sibling-sex	Male	Female	Male	Female	Total
Male	13.14	14.00	11.13	8.86	11.78
Female	12.13	16.09	16.00	15.25	14.89
Total	12.63	15.05	13.56	12.05	13.33

[a]Means for Total are unweighted.

Table 3

Succorance Scores

Summary of Analysis of Variance

Source of Variation	df	Mean Squares	F
Total	69		
(A) Ordinal position	1	2.12	--
(B) Subject-sex	1	0.40	--
(C) Sibling-sex	1	19.03	5.75*
AB	1	7.68	--
AC	1	12.95	3.91
BC	1	2.67	--
ABC	1	0.31	--
Error	62	3.31	

*p < .05

Table 4

Nurturance Scores

Distribution of Means[a] over Ordinal Position, Subject-sex, and Sibling-sex

Sibling-sex	First-born		Last-born		Total
	Male	Female	Male	Female	
Male	13.43	18.78	12.50	15.71	15.11
Female	11.40	15.82	11.89	12.50	12.90
Total	12.41	17.30	12.19	14.11	14.01

[a]Means for total are unweighted.

Table 5

Nurturance Scores

Summary of Analysis of Variance

Source of Variation	df	Mean Squares	F
Total	69		
(A) Ordinal position	1	5.83	2.31
(B) Subject-sex	1	23.09	9.16 **
(C) Sibling-sex	1	9.70	3.84
AB	1	4.43	1.75
AC	1	.17	--
BC	1	1.56	--
ABC	1	.35	--
Error	62	2.52	

**$p < .01$.

For Succorance, there is no significant ordinal position effect. The only significant result is that subjects with sisters are more succorant than are subjects with brothers. The lack of a relationship between ordinal position and succorance supports the findings of Stagner & Katzoff (1936). Koch's finding that there is an Ordinal position x Subject-sex x Sibling-sex interaction for responsiveness to adult sympathy and approval is not supported by the present results. Dean (1947), Gewirtz (1948), Beller (1948), and

Habaerle (1958) all found that first-born children were more dependent than later-born children, a finding which is not supported by the present study. Toman's statement that younger siblings are more dependent is not supported by the current data.

Nurturance is an aspect of dependency which has a reciprocal relationship to succorance; i.e., succorance demands nurturant behavior on the part of others. It was included in the present study in order to provide contextual information about dependency as it appears in the family constellation. Girls are more nurturant than boys. This result complements the finding that subjects with sisters are most succorant.

The data relevant to affiliation are presented in Tables 6, 7, 8, and 9. Table 6 contains the distribution of means of Affiliation scores over ordinal position, subject-sex, and sibling-sex, and Table 7 contains the summary of the analysis of variance for these scores. Table 8 contains the distribution of means of Inclusion scores over ordinal position, subject-sex, and sibling-sex, and Table 9 contains the summary of the analysis of variance for these scores.

Table 6

Affiliation Scores

Distribution of Means[a] over Ordinal Position, Subject-sex, and Sibling-sex

Sibling-sex	Subjects				Total
	First-born		Last-born		
	Male	Female	Male	Female	
Male	11.14	16.78	14.50	14.57	14.25
Female	14.67	15.91	12.56	11.00	13.54
Total	12.90	16.34	13.53	12.79	13.89

[a]Means for total are unweighted.

Table 7

Affiliation Scores

Summary of Analysis of Variance

Source of Variation	df	Mean Squares	F
Total	70	[illegible]	[illegible]
(A) Ordinal position	1	4.31	2.73
(B) Subject-sex	1	3.63	2.30
(C) Sibling-sex	1	1.02	--
AB	1	8.76	5.55*
AC	1	8.34	5.28*
BC	1	4.55	2.88
ABC	1	.96	--
Error	62	1.58	

*$p < .05$

Table 8

Inclusion Scores

Distribution of Means[a] over Ordinal Position, Subject-Sex, and Sibling-Sex

Ordinal Position	Subject Sex	Expressed Sibling-Sex: Male	Expressed Sibling-Sex: Female	Wanted Sibling-Sex: Male	Wanted Sibling-Sex: Female	Total
First	M	4.43	5.87	1.71	5.53	4.38
First	F	6.20	6.64	4.60	6.36	5.95
Last	M	5.13	6.44	5.00	6.11	5.67
Last	F	5.57	4.25	5.14	4.25	4.80
Total		5.33	5.80	4.11	5.56	5.20

[a]Means for total are unweighted.

Table 9

Inclusion Scores

Summary of Analysis of Variance

Source of Variation	df	Mean Squares	F
Total	141		
(A) Ordinal Position	1	0.02	--
(B) Subject-sex	1	0.49	--
(C) Sibling-sex	1	3.68	2.79

Table 9--Continued

Source of Variation	df	Mean Squares	F
AB	1	5.92	4.49*
AC	1	3.28	2.49
BC	1	3.70	2.81
ABC	1	0.15	--
Error	63	1.32	
Within g	71		
(D) Score	1	2.12	4.66*
DA	1	1.03	2.25
DB	1	0.09	--
DC	1	0.97	2.12
DAB	1	0.08	--
DAC	1	0.75	1.65
DBC	1	0.01	--
DABC	1	0.18	--
Error	63	0.46	

*$p < .05$

For Affiliation and Inclusion, there are no ordinal position effects. For Affiliation, the Ordinal position x subject-sex and the Ordinal position x sibling-sex interactions are significant. Among first-born subjects, females are more affiliative than males; there is no sex difference for last-born subjects. Among females, first-born subjects are more affiliative than last-born subjects; there is no ordinal position difference for men. The findings obtained for Inclusion support, but are not identical with, those obtained for Affiliation. There is a significant Ordinal position x Subject-sex interaction. There are no significant differences between pairs of cells. The interaction, therefore, states that there is a significant difference between the ordinal-position differences for men as compared with the ordinal-position differences for women. For men there is a lower mean for first-born than for last-born subjects; for

women, there is a higher mean for first-born subjects than for last-born subjects. For female subjects, the present results are consistent with Schachter's finding that first-born girls are more affiliative than last-born girls. However, his position is not supported by the finding that there is no ordinal position difference in the case of men. Present findings do not support Koch's statement that girls, irrespective of ordinal position, are equally friendly, nor do they support Toman who states that last-born individuals are more affiliative than first-born individuals.

The fact that subjects want to include others more than they want to be included by them (higher Expressed score than Wanted score) is of interest but is not relevant to the major concern of this paper.

The data relevant to dominance are presented in Tables 10, 11, 12, and 13. Table 10 contains the distribution of means of Dominance scores over ordinal position, subject-sex, and sibling-sex, and Table 11 contains the summary of the analysis of variance for these scores. Table 12 contains the distribution of means of Control scores over ordinal position, subject-sex and sib-sex, and Table 13 contains the summary of the analysis of Variance.

Table 10

Dominance Scores

Distribution of Means[a] over Ordinal Position, Subject-sex, and Sibling-sex

	First-born		Last-born		
Sibling-sex	Male	Female	Male	Female	Total
Male	14.00	14.44	14.50	14.43	14.34
Female	15.46	12.91	17.33	13.75	14.86
Total	14.73	13.68	15.92	14.09	14.60

[a]Means for Total are unweighted.

Table 11

Dominance Scores

Summary of Analysis of Variance

Source of Variation	df	Mean Squares	F
(A) Ordinal position	1	1.28	--
(B) Subject-sex	1	4.15	1.28
(C) Sibling-sex	1	0.54	--
AB	1	0.30	--
AC	1	0.62	--
BC	1	5.28	1.62
ABC	1	0.03	--
Error	62	3.25	

Table 12

Control Scores

Distribution of Means[a] over Ordinal Position, Subject-Sex, and Sibling-Sex

Subject Ordinal Position	Sex	Expressed Sibling-Sex		Wanted Sibling-Sex		Total
		Male	Female	Male	Female	
First	M	2.29	5.00	5.71	5.67	4.66
First	F	3.50	4.73	6.10	5.55	4.97
Last	M	3.75	6.22	6.13	6.33	5.61
Last	F	3.00	4.50	5.71	5.50	4.68
Total		3.14	5.11	5.91	5.76	4.98

[a]Means for Total are unweighted.

Table 13

Control Scores

Summary of Analysis of Variance

Source of Variation	df	Mean Squares	F
Total	141		
Between s	70		
(A) Ordinal Position	1	0.42	--
(B) Subject-sex	1	0.39	--
(C) Sibling-sex	1	3.34	3.99*

Table 13—Continued

Source of Variation	df	Mean Squares	F
AB	1	1.52	1.81
AC	1	0.02	--
BC	1	0.71	--
ABC	1	0.02	--
Error	63	0.84	
Within s	71		
(D) Score	1	11.75	14.39**
DA	1	0.11	--
DB	1	0.02	--
DC	1	4.53	5.54*
DAB	1	0.22	--
DAC	1	0.02	--
DBC	1	0.15	--
DABC	1	0.01	--
Error	63	0.82	

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

There are no significant effects for Dominance, nor is there a significant ordinal position effect for Control. These findings are consistent with those of Koch, Krout, and Stagner & Katzoff, all of whom found no ordinal position effects with respect to dominance. They do not support Toman who states that first-born individuals are more dominant than last-born individuals.

The interaction of Score x Sibling-sex is significant for the Control scores. A score difference was also found; scores for "Wanted" control were higher than those for "Expressed." These scores refer, respectively, to eliciting dominant behavior from others and being controlled by others, or, actively dominating or controlling the behavior of others. When siblings are female, there is no difference in Score; when siblings are male, subjects scored higher in seeking to be controlled.

The data relevant to Affection are presented in Tables 14 and 15.

Table 14 contains the distribution of means of Affection scores over ordinal position, subject-sex, and sibling-sex, and Table 15 contains the summary of the analysis of variance.

Table 14

Affection Scores

Distribution of Means[a] over Ordinal Position, Subject-Sex, and Sibling-sex

Ordinal Position	Subject Sex	Expressed Sibling-sex Male	Expressed Sibling-sex Female	Wanted Sibling-sex Male	Wanted Sibling-sex Female	Total
First	M	2.43	3.27	3.71	4.67	3.52
First	F	4.80	5.09	6.10	5.27	5.27
Last	M	2.75	3.33	4.13	5.78	3.99
Last	F	4.14	2.25	4.14	3.75	3.57
Total		3.53	3.48	4.52	4.87	4.10

[a]Means for Total are unweighted.

Table 15

Affection Scores

Summary of Analysis of Variance

Source of Variance	df	Mean Squares	F
Total	141		
Between s	70		
(A) Ordinal Position	1	1.61	1.10
(B) Subject-sex	1	1.87	1.28
(C) Sibling-sex	1	0.09	--
AB	1	4.94	3.38
AC	1	0.11	--
BC	1	2.93	2.01
ABC	1	0.29	--
Error	63	1.46	
Within s	71		
(D) Score	1	5.63	16.85*
DA	1	0.09	--
DB	1	0.78	2.33
DC	1	0.15	--
DAB	1	0.08	--
DAC	1	0.80	2.34
DBC	1	0.04	--
DABC	1	0.17	--
Error	63	0.33	

*$p < .05$

For Affection, no ordinal position effects were obtained, nor were there significant findings with respect to subject-sex or sibling-sex. These findings support those of Krout and those of Koch, both of whom found no ordinal position differences with respect to affection. Present findings do not support those of Dean, who found first-born children to be less affectionate than last-born children, nor Toman, who describes last-born individuals as more affectionate than first-born individuals. The only significant finding in the present study with respect to Affection was a difference in Expressed versus Wanted scores: subjects scored higher on Wanted (wishing to receive affection from others) than on Expressed (active demonstration of affection toward others) Affection. Again, this is of interest but is not directly relevant to the main concern of this paper.

The data relevant to Task-orientation are presented in Tables 16 and 17. Table 16 contains the distribution of means of Task-orientation scores over ordinal position, subject-sex, and sibling-sex, and Table 17 contains the summary of the analysis of variance.

Table 16

Task-Orientation Scores

Distribution of Means[a] over Ordinal Position, Subject-sex, and Sibling-sex

Sibling-sex	Subjects				Total
	First-born		Last-born		
	Male	Female	Male	Female	
Male	34.29	30.20	29.25	34.43	32.04
Female	33.40	33.00	28.44	33.75	32.15
Total	33.85	31.60	28.85	34.09	32.09

[a]Means for Total are unweighted.

Table 17

Task-Orientation Scores

Summary of Analysis of Variance

Source of Variation	df	Mean Squares	F
Total	71		
(A) Ordinal position	1	3.15	--
(B) Subject-sex	1	4.50	1.11
(C) Sibling-sex	1	0.02	--
AB	1	28.05	6.93*
AC	1	1.45	--
BC	1	1.82	--
ABC	1	1.58	--
Error	63	4.05	

*$p < .05$

The ordinal position effect is not significant. The only significant effect is the Ordinal Position x Subject-Sex interaction. For males, first-born subjects are more task-oriented than last-born subjects. For females, first-born subjects are less task-oriented than last-born subjects. Alternatively, among last-born subjects, females are more task-oriented than males. First-born subjects are more consistent with respect to task-orientation than last-born subjects. Last-born males are less task-oriented than any other group. These findings support Koch's findings with respect to dawdling. She finds no sex difference for first-born children. Last-born boys dawdle more than last-born girls, and last-born girls dawdle less than any other group. Only with respect to males does the present study support Toman's view that first-born individuals are more task-oriented than last-born individuals.

CHAPTER V

DISCUSSION

In the light of the many inconsistencies which exist in the field, it seems important to emphasize those consistencies that make conceptual sense, and to organize those consistencies around the data for the present study. First, it should be emphasized that ordinal position, independent of other factors, is not related to any of the variables under study. It may be stated, therefore, that Toman's position, as it has been presented, is wrong. In fairness to Toman, it should also be stated that his position has been oversimplified and that many of his modifications have been omitted. Nonetheless, his position, as presented here, represents an extreme interpretation of the things Toman has said. Second, the interactions of ordinal position with other variables such as subject-sex and sibling-sex have important consequences for our understanding of familial events. These interactions seem to imply that sibling-sibling relationships have a degree of importance that has not generally been recognized. Further, these interactions imply that parental treatment of the children depends upon a combination of the child's sex and his position in the family. Considering some of the subject sex x sibling-sex interactions as they appear, it may be that the parental treatment of the child depends also upon the sex of the child's siblings. Parenthetically, perhaps more than any other writer, Toman is sensitive to these determinants in the treatment of the child.

In searching for consistency, two sources of pertinent evidence may be examined. In the present study there were three dimensions which entailed an examination of two different scores for each dimension. In all

three instances, the results based upon two sets of scores have been compatible. In other instances, the results of this study have been consistent with the results of other studies where markedly different techniques were used. Consider first the relationship between nurturance and succorance as scores related to dependency. The major findings are that female subjects are more nurturant than men and that subjects who have sisters are more succorant than subjects who have brothers. By the nature of the selection of subjects, female subjects are, themselves, sisters. It may be said, therefore, that sisters are nurturant and siblings of sisters are succorant. That this reciprocal relationship is not merely a measurement artifact (since both scores come from the same test: the EPPS) is shown by the fact that some siblings of sisters are, themselves, women. Therefore, there must be a group of women who are both highly succorant and highly nurturant. This finding is reminiscent of Beller's (1955) finding that there are some children who are both highly dependent and highly independent.

Stagner & Katzoff (1936) and Adler (1946) argue that the birth of a later child serves as a "dethronement" of the first-born child. Consequently, the first-born child becomes more sensitive to dependency-relationships and develops greater independence. This argument is refuted by the data of the current study. Ehrlich (1958), Gewirtz (1948, 1949, 1956), and Sampson (1962) argue that the result of "dethronement" is the development of greater dependency in first-born children. This conclusion also is not supported by the results of the present study. Adler presents no empirical evidence to support his argument. Stagner & Katzoff (1936) make their conclusion in the face of their own finding a non-significant relationship between ordinal position and dependency. Gewirtz (1948), Dean (1947), Ha-

baerle (1958), and Beller (1948), on the other hand, have strong data to support their position. There is, therefore, obvious disagreement between their findings and the current findings. Differences between their findings and the current ones may be due to the fact that different subjects and techniques were employed in the different studies. Dean (1958), Beller (1948), Habaerle (1958), Gewirtz (1948), Ehrlich (1958), and Koch (1955a, 1955b, 1956a, 1956b, 1956c) all studied the behavior of children as rated by adult observers (mothers or teachers). It is possible that the behavior which was observed was specific, for the child, to the observer (especially if it is the mother). Aside from this consideration, observations and frequency counts of children in specific situational circumstances do not appear likely to yield similar results obtained from self-descriptions of adults. There is serious question as to whether the same order of phenomena are under investigation despite the similarity of variable dimensions. Current findings are more compatible with previous studies in which adults were used as subjects.

Aside from the fact that the current findings with respect to task-orientation agree with those of Koch (studying children), these results make good psychological sense. Ordinal position effects were obtained in neither study. In the current study, the ordinal position x subject-sex interaction was significant: for males, first-born subjects are more task-oriented than last-born subjects; among last-born subjects, females are more task-oriented than males; and last-born males are less task-oriented than any other group. These findings are complementary to those of Koch with no disagreement. One would expect an inverse relation between task-orientation and orientation toward people or an interest in interac-

ting with others. In the first place, the nature of the definition of task-orientation (the need to do one's best on jobs; to be concerned with the job to the relative exclusion of self- or interaction-oriented goals; to achieve success in relation to the job itself rather than in relation to the attitude of others; to stick to a job until satisfactorily completed) excludes interpersonal orientation. Then, on the Orientation Inventory, this relationship would hold because a high score on one variable yields a low score on the other.

It should be noted, however, that in the current study, the only score taken from the Orientation Inventory is the Task-orientation score. If, now, subjects who are high on task-orientation are low on the interpersonal-interaction variables, the inverse relation cannot be attributed to a statistical artifact. The two highest groups on task-orientation are first-born males and last-born females. With one exception, these two groups have the lowest mean scores on all other variables. The exception is on nurturance, for which the first-born men have the lowest score and last-born women have next to the highest score. It is understood that not all of the differences among groups within a dimension are significant, but the consistently low scores support the notion that there is an inverse relationship between task-orientation and interpersonal-orientation.

For both measures of affiliation (Affiliation from the EPPS and Inclusion from the FIRO-B), there is agreement that first-born females are more affiliative than last-born females, and that there is no difference between first- and last-born men. (This statement is complicated by the nature of the interaction for Inclusion scores. See p. 30). The former finding agrees with Schachter's findings that first-born subjects are more

affiliative than last-born subjects because all of his subjects were female. The latter finding (that there is no difference between first- and last-born males) does not agree with Schachter's statement that first-born children should be more affiliative than later-born children under conditions of anxiety, nor does it agree with the results from studies of dependency conducted by Dean, Habaerle, Beller, Gewirtz, and Ehrlich. The disagreement with the latter group of investigators again may be attributed to the fact that they studied relatively specific behaviors of children. What stands out is the agreement with Schachter.

Schachter has no results for male subjects with which to compare the present findings; therefore, whether these findings contradict what he would have found with men cannot be stated. It should be noted that affiliative behavior, for Schachter, was observed under anxiety-inducing conditions. In the current study, anxiety was not provoked and general measures of affiliation were used. Schachter's statement that affiliation is used to relieve anxiety may be true only for women; i.e., it may be that male children in our society are not provided with as much other-person comforting in the face of anxiety as are female children, hence the difference between first-born and last-born male children would not exist. Second, it may be that there is a different ordinal position treatment of males as compared to females. The current data suggest that there may be more other-person comforting of last-born males (compared to first-born males) but then there is more other-person comforting of first-born females. A third possibility exists. Schachter may be correct but women may be more generally anxious than men. In Schachter's experiment, under conditions of no-anxiety, there was no ordinal position difference.

It is difficult to interpret the lack of relationship between the classification variables and Dominance and Affection, nor can the disagreement between the present results for affection and those of Dean be interpreted easily. The disagreement with Dean again may be a function of the fact that she had mothers rate the behavior of their children. The last relationship observed here may be attributable to the specific nature of the variables, Dominance and Affection. The development of needs for dominance and affection may depend upon highly idiosyncratic factors which cut across ordinal position, subject-sex, and sibling-sex. These variables may depend more on specific interactions with other people so that one enters into affection and dominance relationships with others on the basis of the specific history of interactions with these people.

Descriptions of subjects falling into each of the eight ordinal-position x subject-sex x sibling-sex classifications follow. As appears inevitable in descriptions of this kind, there is simultaneously too much and too little attributed to the groups; precision with respect to statistical elaboration, clarity, and accuracy are sacrificed in favor of broad, general remarks which give the flavor of the personality traits involved. In descriptions of this type, introduction of trends in the data are often used in such a way as to suggest significance. In the effort to minimize this tendency in the following descriptions, statistically significant findings are indicated by asterisks. Oldest brothers of brothers are strongly task-oriented. High task-orientation is concomitant with low sociability in this group; persons of this ordinal type are moderately succorant, less nurturant than girls (as are all of the male groups; the youngest sister of sisters is, similarly, non-nurturant), non-affiliative* and non-inclusive*

both on Expressed and Wanted categories. Dominance and controlling behavior for this group is average, with a slight preference for letting others take charge. Affection is lower in this group than all others except the younger sister of sisters. The older brother of sisters is characterized, by present data, as less succorant and less nurturant* than other groups; they are average in affiliative tendency and inclusion. This group shows a slight preference for including others in interpersonal activities rather than seeking to be included by others. Persons in this group are controlling and dominant in comparison with most other groups. Affection is high in this group, as is task-orientation. Youngest brothers of brothers are unremarkable in terms of the scores they obtained. They are average with respect to all variables studied except task-orientation*; they are considerably less task-oriented than other groups. Younger brothers of sisters are more strongly interpersonally oriented than other groups: they are highly succorant and non-nurturant; they are not as affiliative as most of the other groups, but they seek to control and dominate others. They are not as task-oriented as most groups. Need to have others be affectionate toward them is more characteristic of this group than needing to demonstrate affectionate behavior toward others; "wanted" affection is quite high in this group. Older sisters of brothers are moderately succorant and highly nurturant* and affiliative*. This group seeks to be controlled rather than to exert control. Persons in this group are average with respect to the other variables studied. Oldest sisters of sisters are more succorant and nurturant* than other groups. Social activities are actively sought; they are highly affiliative*, inclusive*, and affectionate in the active as well as the receptive sense. They are less task-oriented than most other groups.

Youngest sisters of brothers are least succorant* than persons in other classes; however, they are slightly more nurturant than persons in all male groups and the last-born female group. They score rather highly on task-orientation. Other characteristics are average. Youngest sisters of sisters are succorant, non-nurturant, and unresponsive to interpersonal interaction. They are not affiliative*, nor do they seek inclusion*. Affection is quite low for this group, as is the case with dominance and control. Members of this group are strongly task-oriented* as are oldest brothers of brothers. Similarities are evident in the cases of older brothers of brothers with younger sisters of sisters, and of younger brothers of sisters with older sisters of sisters. The former are both highly task-oriented and show little interest in interacting with others, whereas the latter groups are strongly invested in interpersonal interaction and are relatively non-task-oriented.

CHAPTER VI

SUMMARY

In recent years there has been increasing interest in relationships between ordinal position and a variety of personality factors. This interest is consistent with an increasing body of research concerning aspects of family structure as a source of differential personality development. Two areas of specific focus are pertinent to ordinal-position-research, both of which are concerned with the generality of phenomena associated with ordinal position and their consequences. One involves the search for cultural uniformities of family structure, especially in relation to ordinal position. The other involves the search for uniformities in relation to personality characteristics which may be attributable to ordinal position. Investigation of such differences has produced a sizeable body of data, much of which demonstrates the value of this area of research. Unfortunately, however, much of the effort of previous investigators in ordinal position research appears to have been guided by enthusiasm rather than caution and rigor; what has been produced is decried by many investigators as inconsistent, ambiguous, contradictory, and frequently unconvincing.

The present research is addressed to the investigation of relationships between ordinal position and dependency, affiliation, dominance, affection, and task-orientation. More specifically, the purpose was to determine relationships between ordinal "types" and a set of needs related to these variables as defined by standard tests.

Seventy-one undergraduate students at the University of Oklahoma

were selected as subjects for the study. Criteria for selection required that subjects were either the first-born or last-born child in his family and that all of his siblings were of the same sex. Thirty-nine men and thirty-two women, most of whom were recruited from introductory courses in Psychology, participated in the study. Ages of the subjects ranged from eighteen to twenty-three years; mean age was twenty years. The age intervals between each subject and his nearest-in-age sibling ranged from one year to nine years with a mean age interval of three and one-half years. Most of the subjects came from intact homes.

Each subject was given three self-administering tests which were completed by each subject in one session. These tests, administered in the order named, were: the Orientation Inventory, the FIRO-B, and the Edwards Personal Preference Schedule. Scores from these tests were selected as measures for the variables under investigation in the following manner: for Dependency, the Succorance and Nurturance scales of the EPPS were used; for Affiliation, the Affiliation scale of the EPPS and the Inclusion scales (Expressed and Wanted) of the FIRO-B were used; for Dominance, the Dominance scale of the EPPS and the Control scale of the FIRO-B were used; for Affection, the Affection scales of the FIRO-B were used; and for Task-Orientation, the Task-orientation scale of the Orientation Inventory was used.

Subjects were classified into eight groups according to ordinal position, sex of the subject, and the sex of the subject's siblings. Each set of scores were subjected to an analysis of variance. For scores based on the EPPS and the Orientation Inventory, the design was a 2 x 2 x 2 factorial. For the scores from the FIRO-B, the design was a 2 x 2 x 2 x 2,

with repeated measures for each variable (to take account of the fact that each FIRO-B scale has an Expressed and a Wanted score).

No ordinal position differences were found for any of the variables studied. Interactions of ordinal position x subject-sex x sibling-sex were significant with respect to three of the variables studied. Results for each variable follow.

Dependency. The significant result with respect to succorance is that subjects with sisters are more succorant than are subjects with brothers. Nurturance is more characteristic of girls than of boys. These two measures produced findings which are consistent and complementary to each other in terms of sibling-sibling dependency relationships.

Affiliation. Among females, first-born subjects are more affiliative than last-born subjects. Boys do not differ according to ordinal position.

Dominance. There are no significant results with respect to dominance in this study.

Affection. There are no significant results with respect to Affection in this study.

Task-orientation. For males, first-born subjects are more task-oriented than last-born subjects. For females, first-born subjects are less task-oriented than last-born subjects. Among last-born subjects, females are more task-oriented than males. Last-born males were less task-oriented than any of the other groups.

Comparisons within this study with the results of separate measures on three of the variables revealed high consistency within the study. There was also reasonable agreement with other investigators.

Consideration of ordinal position, itself, as a variable, may be helpful in the attempt to explain the results of the present study. Ordinal position is a non-psychological designation of one's "place" in a family constellation. As such, psychological phenomena cannot be explained as direct consequences of ordinal position, per se. When psychological concomitants do appear as ordinal-position-related, it could most plausibly be explained as the result of the concurrence of psychological experience peculiar to circumstances which are somehow "linked" to ordinal position. The particular quality of such linkages, as determined by the combined effects of ordinal position and other, equally salient, features define the extent and effect of ordinal position upon the variables under consideration. Without designation of factors providing the context within which ordinal position is a single variable, ordinal position effects cannot be adequately measured or evaluated. To the extent that ordinal position could be said to be the most salient factor producing a given psychological climate, the consequences of which result in given personality characteristics, a relationship between ordinal position and personality characteristics may be said to exist. Such relationships were not found in the present study, and results from other studies also suggest that the saliency of ordinal position over all other factors in the molding of personality characteristics cannot be supported. At the same time, that there is the likelihood that ordinal position is related in some way to personality development is fairly well established as fact. Such a relationship was found in the present study, but only insofar as other factors, subject-sex and sibling-sex, were combined with ordinal position, thus providing a measurable context for this variable. Subject-sex and sibling-sex are only two of perhaps numerous factors which may define the limits of ordinal position ef-

fects and the specific consequences of these effects. Factors of age differences between subjects and their sibs have been clearly shown to interact with ordinal position to produce various effects. Age of subjects studied is highly probable to bear a similar relationship to ordinal position. Numerous factors: physical, maturational, psychological, and social, may be related to ordinal position in various definitive ways. For example, one might consider the economic history of the parents in the determination of the particular psychological climates experienced by children in different ordinal positions. Losses of parents or siblings (as Toman has suggested), periods of family or cultural crisis, frequency and closeness of interactions with persons outside the immediate family are other factors which may combine to produce differential effects of ordinal position. It is suggested that "ordinal position," isolated from such related factors, has no known relationship to personality variables, as shown in the present study with respect to the variables under consideration.

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APPENDIX A. SCREENING DATA SHEET FOR SUBJECTS

SCREENING DATA SHEET FOR SUBJECTS IN O-P STUDY

Please provide the following information as accurately and completely as you can. If you don't know the answer to some of these questions, please estimate an answer which is as close as possible to fact.

Date_____

1. Name (or initials)_____ Sex_____
   Date of birth_____ Present age_____
   Order of your birth(first or last)___ No. brothers & sisters_____
   Age of nearest-age sibling_____ Age range of all siblings___

2. Please list here all of your parents' children, including yourself, in order of their ages, listing the first-born child first and the others in order of their births. Place an asterisk (*) to indicate your own name.

Name	Sex	Current age	# years different from your own age.

*Please indicate if any of the above are step-children or half-siblings.

3. a. Are all of your brothers and sisters still alive?____if, not please specify_____
   b. Have you always lived together with your brothers and sisters? ____until what age?____
   c. Have other children lived in your home for more than 6 months? ____whom?_____how long?_____
   d. Have any of your siblings been hospitalized for a long period of time?_____or absent otherwise?_____how long?_____

4. Have your parents remained together throughout your life?____if not, please explain briefly, indicating your age at the time of separations

_____

5. Have there been prolonged absences of either parent due to hospitalization, business assignments, etc. (more than 6 months at a time)?_____ which parent_____

6. Have other adjult persons lived in your home with your family for prolonged periods of time (more than 6 months at a time)?____If so, how long did they stay?_____what was this person's relationship to you?_____

7. Have there been any deaths in your immediate family ?____If so, whom? _____what was your age at the time of death?_____

8. How old were your parents when you were born? Father____Mother_____

9. What is the occupation your parents? Father_____Mother_____

APPENDIX B. INDIVIDUAL SCORES (RAW DATA)

Succorance - Raw Scores For All Subjects Over Ordinal Position, Subject-Sex And Sibling-Sex

Sibling sex	Subjects	Scores: First-born Male	First-born Female	Last-born Male	Last-born Female
Male	1	16	8	14	6
	2	15	16	12	15
	3	20	21	10	3
	4	6	8	10	7
	5	18	16	15	11
	6	5	13	8	6
	7	12	18	15	14
	8		12	5	
	9		14		
	10				
	11				
	12				
	13				
	14				
	15				
Female	1	10	19	16	17
	2	21	6	9	21
	3	16	22	14	9
	4	17	12	23	14
	5	17	18	23	
	6	9	21	20	
	7	15	23	12	
	8	12	20	17	
	9	2	17	10	
	10	15	9		
	11	5	10		
	12	9			
	13	11			
	14	7			
	15	16			

Nurturance - Raw Scores For All Subjects Over Ordinal Position, Subject-Sex And Sibling-Sex

Sibling sex	Subjects	Scores: First-born Male	First-born Female	Last-born Male	Last-born Female
Male	1	16	15	13	20
	2	13	18	13	22
	3	16	14	11	11
	4	15	18	7	8
	5	9	18	15	16
	6	9	21	19	15
	7	16	20	15	18
	8	20	7		
	9	25			
	10				
	11				
	12				
	13				
	14				
	15				
Female	1	2	17	9	5
	2	20	15	5	15
	3	16	12	11	17
	4	22	15	11	13
	5	14	22	18	
	6	14	17	17	
	7	12	11	16	
	8	7	15	10	
	9	7	20	10	
	10	17	14		
	11	7	16		
	12	11			
	13	6			
	14	6			
	15	10			

Affiliation - Raw Scores For All Subjects Over Ordinal Position, Subject-Sex And Sibling-Sex

Sibling sex	Subjects	Scores: First-born Male	First-born Female	Last-born Male	Last-born Female
Male	1	12	16	17	11
	2	9	16	15	13
	3	13	22	13	18
	4	14	14	8	16
	5	5	16	15	14
	6	13	18	16	14
	7	12	13	15	16
	8		14	17	
	9		22		
	10				
	11				
	12				
	13				
	14				
	15				
Female	1	13	13	10	9
	2	17	14	10	18
	3	25	14	13	12
	4	16	11	14	5
	5	12	22	12	
	6	11	21	16	
	7	18	15	13	
	8	15	20	12	
	9	10	13	13	
	10	18	13		
	11	8	19		
	12	16			
	13	13			
	14	11			
	15	17			

Inclusion[a] - Raw Scores For All Subjects Over Ordinal Position, Subject-Sex And Sibling-Sex

Sibling sex	Subjects	Scores: First-born Male E	First-born Male W	First-born Female E	First-born Female W	Last-born Male E	Last-born Male W	Last-born Female E	Last-born Female W
Male	1	6	4	8	5	3	6	5	3
	2	3	0	7	7	8	5	6	3
	3	7	0	6	9	7	7	5	9
	4	2	0	7	7	7	4	6	6
	5	4	0	6	4	6	9	4	6
	6	5	8	4	0	3	4	5	0
	7	4	0	7	4	2	5	8	9
	8			5	2	5	0		
	9			8	7				
	10			4	1				
	11								
	12								
	13								
	14								
	15								
Female	1	7	8	7	9	4	0	5	8
	2	4	4	4	0	5	4	5	8
	3	5	0	8	9	9	9	4	0
	4	6	8	6	0	8	8	3	1
	5	8	9	8	9	6	8		
	6	6	7	6	7	7	8		
	7	5	3	6	3	7	2		
	8	7	9	5	7	4	8		
	9	1	0	8	9	8	8		
	10	9	9	7	9				
	11	3	6	8	8				
	12	5	1						
	13	7	2						
	14	6	8						
	15	9	9						

[a] Inclusion scores are listed in "E" (EXPRESSED) and "W" (WANTED) columns.

Dominance - Raw Scores For All Subjects Over Ordinal Position, Subject-Sex, And Sibling-Sex

Sibling sex	Subjects	Scores: First-born Male	First-born Female	Last-born Male	Last-born Female
Male	1	10	18	19	9
	2	17	14	13	12
	3	13	14	20	22
	4	15	15	17	13
	5	16	15	15	12
	6	20	4	12	16
	7	7	18	8	17
	8		20	12	
	9		12		
	10				
	11				
	12				
	13				
	14				
	15				
Female	1	26	19	8	15
	2	4	18	11	11
	3	9	21	21	15
	4	11	3	22	14
	5	20	15	16	
	6	17	12	20	
	7	20	4	20	
	8	22	8	17	
	9	12	15	21	
	10	21	15		
	11	12	12		
	12	10			
	13	15			
	14	14			
	15	19			

Control[a] - Raw Scores For All Subjects Over Ordinal Position, Subject-Sex And Sibling-Sex

Sibling sex	Subjects	Scores: First-born Male E	First-born Male W	First-born Female E	First-born Female W	Last-born Male E	Last-born Male W	Last-born Female E	Last-born Female W
Male	1	0	4	6	7	9	5	0	2
	2	1	4	2	3	1	9	0	3
	3	6	8	5	5	9	2	4	5
	4	1	7	6	6	1	3	4	9
	5	1	3	3	7	5	8	5	9
	6	6	8	2	8	3	7	5	3
	7	1	6	5	5	0	8	3	9
	8			5	7	2	7		
	9			1	9				
	10			0	4				
	11								
	12								
	13								
	14								
	15								
Female	1	9	1	8	4	7	9	3	3
	2	0	8	5	3	4	5	3	8
	3	1	6	7	9	9	3	9	5
	4	6	8	0	2	8	8	3	6
	5	9	9	5	5	6	9		
	6	4	7	4	4	6	5		
	7	4	5	4	9	3	7		
	8	5	7	5	8	5	6		
	9	4	1	5	7	8	5		
	10	5	8	5	1				
	11	7	8	4	9				
	12	5	6						
	13	2	6						
	14	6	0						
	15	8	5						

[a] Control scores are listed in "E" (EXPRESSED) and "W" (WANTED) columns.

Affection[a] - Raw Scores For All Subjects Over Ordinal Position, Subject-Sex And Sibling-Sex

Sibling sex	Subjects	Scores: First-born Male E	First-born Male W	First-born Female E	First-born Female W	Last-born Male E	Last-born Male W	Last-born Female E	Last-born Female W
Male	1	3	7	6	5	4	6	3	0
	2	3	1	7	8	3	0	4	6
	3	6	3	7	7	1	8	9	6
	4	1	0	4	5	1	2	1	6
	5	1	1	4	9	4	5	1	0
	6	2	9	3	5	6	8	2	2
	7	1	5	8	9	0	1	9	9
	8			2	3	3	3		
	9			4	5				
	10			3	5				
	11								
	12								
	13								
	14								
	15								
Female	1	4	8	4	5	1	5	2	2
	2	0	6	3	1	2	5	3	5
	3	3	5	7	6	5	9	4	5
	4	8	8	1	0	3	7	0	3
	5	4	4	9	9	8	8		
	6	2	1	7	8	2	6		
	7	3	6	5	5	5	5		
	8	8	9	3	4	2	5		
	9	0	0	8	9	2	2		
	10	8	9	5	5				
	11	1	0	4	6				
	12	3	2						
	13	1	4						
	14	0	4						
	15	4	4						

[a] Affection scores are listed in "E" (EXPRESSED) and "W" (WANTED) columns.

Task - Orientation - Raw Scores For All Subjects Over Ordinal Position, Subject-Sex And Sibling Sex

Sibling sex	Subjects	Scores: First-born Male	First-born Female	Last-born Male	Last-born Female
Male	1	36	29	38	45
	2	45	31	30	35
	3	29	29	19	29
	4	40	28	30	30
	5	22	31	23	36
	6	28	35	32	30
	7	40	28	28	36
	8		31	34	
	9		28		
	10		32		
	11				
	12				
	13				
	14				
	15				
Female	1	33	33	30	31
	2	27	39	37	30
	3	38	30	35	39
	4	28	30	23	35
	5	32	32	10	
	6	35	32	19	
	7	36	33	32	
	8	30	33	37	
	9	37	34	33	
	10	26	36		
	11	40	31		
	12	31			
	13	39			
	14	38			
	15	31			