RELATION OF SELECTED VARIABLES TO DOMINANT-SUBMISSIVE PATTERNS IN CHILDREN

by

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Patterns of dominance and submissiveness in preschool children were related to the variables of age, sex, height, weight, intelligence, ordinal position in the family, disciplinary methods used by the parents, and educational level of the parents.

Subjects for the study were thirteen children, enrolled in the Longitudinal Studies in Personality of the University of North Carolina at Greensboro. Diary records for the first year of nursery school attendance were available for these subjects.

A dominant-submissive categorization was applied to the interactions recorded in the stratified random sample of diary records. Subjects were ranked according to the percentage of dominant interactions revealed by the application of this categorization. Information related to the variables was obtained from additional records available in the files of the Longitudinal Studies in Personality. Descriptive analysis and Spearman's rank-difference correlation technique were applied to the relation of the percentage of dominant interactions and the variables under consideration.

No statistically significant relationship was found between dominant-submissive interactions and the selected variables.

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CHAPTER I

INTRODUCTION

The task of acquiring the ability to get along harmoniously with others is of extreme importance in our modern world and determines one's general acceptability when in interaction with others (Stott, 1955, p. 22). Most of the hours in an individual's life are spent in interaction with other people.

> From the time of birth, when the individual becomes a member of a family and begins his conditioning to others, through the whole course of his waking hours, in school, church, at work, in clubs, societies, and political organizations, his behavior is constantly being modified by the actions of others (Chapple, 1940, p. 51).

In every interaction with another person, "an individual is in varying degrees either ascendant or submissive" (Stott and Ball, 1957, p. 260). These interactions are recognized in the preschool child as the overt social behavior of an individual in learning to adjust to an environmental situation.

> No two social contacts are identical and the child must make a new adjustment in every new social setting in which he is placed. He must learn to submit to, to cooperate with, and to dominate others to take his place in the group (Cates, 1939, p. 1).

The importance of the preschool period for social development is generally recognized because of the rapid

rate of the social changes which take place during the first six years of an individual's life (Bott, 1933), and because of the relative simplicity and spontaneity of behavior in early childhood (Arrington, 1932, p. 1). The nursery school provides a fairly constant environment for social experiences and permits an intensive study of the changing characteristics and adjustments of an individual child (Stott, 1955). The child is placed in a situation where some adjustment must be made in his associations with his peers and with his adult leaders. Out of these adjustments and expanding social experiences, habitual ways of behavior emerge.

I. THE PROBLEM

Statement of the Problem

The problem was to study the dominant-submissive patterns of children enrolled in the Longitudinal Studies in Personality of the University of North Carolina at Greensboro, and to relate these patterns to selected variables.

Objectives

The objectives were: (1) to classify the interactions of children as dominant or submissive in order to determine the dominant-submissive personality traits of the children, and (2) to investigate the relationship between the behavior tendency of dominance or submission and the

variables of age, sex, height, weight, intelligence, ordinal position in the family, disciplinary methods used by the parents, and educational level of the parents.

II. THEORETICAL FRAMEWORK

Dominance and submission are considered consistent personality traits. Beaver (1932, p. 2) found that "leadership, domination, resistance, and submission are already specific factors to be reckoned with even at twenty months of age." In studying children between the ages of four and five, Gellert (1956) found that the children maintained self-consistent patterns of dominance or submission when conditions were held constant and that the degree of relative dominance and submission in paired interaction could be predicted on the basis of ratings made prior to the experimental sessions. Seven social-behavior types of children, including the "timid, withdrawing" and the "natural leader," constituted a study by Stott (1958); a later examination of the longitudinal records revealed that in every case the pattern was "clearly in evidence when the child entered the nursery school and continued consistently to be characteristic of him throughout the period of contact with the school" (1958, p. 72). Allport believed that by the time adolescence is passed these traits of dominance and submission are set to such a degree that "a fair prediction may be made concerning a person's tendency to control, or be controlled

by, other people in social situations" (Allport, 1928, p. 118).

Personality is a social product. Dalton (1961, p. 3) stated that the way a person talks or acts is a result of the experiences which he has had with other people. Folsom (1931, p. 389) agreed with this statement when he wrote:

> When two individuals meet, one of them because of previous experience is more likely to adopt the masterly attitude than is the other. The more he adopts it, the more the other adopts a submissive attitude, and vice versa. Only in those rare cases where the two individuals are about equal in strength, or are ignorant of each other's powers, does a real combat take place.

Another author concluded:

> . . . the reaction of each is centered in the drives of his own personality. . . . Each one therefore strives to carry his point in the encounter. In the sequel there stands revealed one of the fundamental traits of personality. One is likely to become the master: his impulse dominates. The other yields and adjusts his behavior to the control of the first (Allport, 1924, p. 119).

It seems that people are dominant toward some individuals and submissive toward others. Dalton (1961, p. 3) proposed that this reaction of one individual toward another is in terms of his interpretation of the meaning of the behavior of the other, by stating:

> If his action, emanating from his interpretation, proves to be inappropriate as judged by the responses he receives, he will normally take this into account before proceeding further.

The change in circumstances from one situation to another may be so different that "its personal significance warrants responses in opposite directions" (Allen, 1958, p. 53).

Allport and Allport (1939, p. 2) recognized this by stating that "not all of the responses . . . reveal an unvariable ascendance or submission, for more people show both types of behavior at different times and under different conditions."

Personality differences are to be found among children of the same age. Personality differences were apparent in the Dionne quintuplets at an early age in spite of presumably identical heredity and an environment as standardized as was humanly possible (Blatz and others, 1937). Some individuals are characteristically inclined to be less dominant than others and to occupy a particular position on a continuum from extreme dominance to extreme submissiveness (Stott and Ball, 1957, p. 260). Gellert (1956, p. 64) found great individual differences with respect to the amount of dominance, submission, and resistance displayed by the children in her study and concluded that:

> . . . the wide range of scores found was a function of (a) individual differences in the "need" to dominate, submit, or resist, and (b) differences in the social environment (the "social environment" of each child was his partner in the play session).

Overt behavior is indicative of the personality of the individual. The widespread use of observation methods in the study of social phenomena has indicated that direct observation of social behavior can provide reliable data in field studies as well as in laboratory experimentation (Heyns and Zander, 1953, p. 381). Dalton (1961, p. v) believed that "an analysis of personality gains in

objectivity by concentrating on overt behavior and relating this to the adequate antecedent stimuli."

Assumptions

The following assumptions were made for this study:

1. Overt behavior, which meets the qualification of an interaction as defined herein, may be categorized into a dichotomy of dominance-submission.
2. There will be individual differences in the frequency of dominant interactions.
3. The percentages of dominant interactions will disclose the child's overall tendency of dominating or being dominated.

Hypotheses

Loomis (1931) and Parten (1932) found, in similar studies of nursery school children, that there was a positive correlation between social participation and age. Another investigator (Arrington, 1932) found social contacts twice as frequent in the nursery school at age three as at age two. A study by Berne (1930) revealed that three-year-old and four-year-old children exceed two-year-old children in ascendance. Stott and Ball (1957) found a consistent increase in ascendant behavior during the three-year period of nursery school attendance. Parten and Newhall (1943) went a step further in interpreting this relationship; correlation of date of entrance into nursery school with

social-participation score yielded an insignificant coefficient, indicating that nursery-school experience alone cannot account for the correlation between age and social participation. In a recent study by Gellert (1956), it was found that dominance was a positive function of age when girls were paired with girls. These studies form the basis for the first hypothesis. Hypothesis I. There should be an increase of dominant interactions with an increase in age.

Anderson (1939) found that boys when paired with boys showed higher mean domination scores than did girls when paired with girls. Caille (1933) found, in her study of aggression, that the boys exceeded the girls by an amount which approached statistical significance. Hypothesis II. Boys should have a higher percentage of dominant interactions than girls.

Allport (1924) considered physical size to be a leading condition of ascendance. Gellert (1956), in studying patterns of dominance, submission, and resistance, found that relative height could be used to predict relative dominance when girls were paired with girls. Hypothesis III. Children above the mean of the group in height and weight should have a higher percentage of dominant interactions than the children below the mean of the group in height and weight.

Hubbard (1929) reported that the degree of social participation tended to increase with an increase in IQ.

Barker (1929) found a small positive relation here. Parten and Newhall's (1943) study revealed a relation between intelligence and social participation regardless of age group. Sontag, Barker, and Nelson (1958, pp. 117-118) concluded that it would appear that the child who shows aggressiveness, self-initiation, and competitiveness during the preschool years will later show acceleration in performance on mental tasks. Hypothesis IV. The intelligence quotient of the child should be positively related to dominance.

In relating ascendance-submission to other factors in personality, Bender (1928) found a tendency for the only child and the oldest child in the family to be slightly above the mean of the group in ascendance, and the youngest child as well as the intermediate child to be below the mean of the group in ascendance. However, these findings were not statistically significant. McFarland (1938), in studying the relationships of sisters, found that older sisters tended to direct their younger sisters more than their younger sisters directed them, and younger sisters tended to be submissive to their older sisters in more instances than their older sisters were submissive to them. Allport (1924, p. 365) stated that childhood relations leave a permanent influence upon many personalities, and "the ascendance of the elder and submission of the younger children were persisting traits." Hypothesis V. The child who is the only or the oldest child in the family should

have a higher percentage of dominant interactions than the intermediate or the youngest child in the family.

"The foundations of personality structure are laid in the early experiences in the family, a structure which will influence all subsequent experience of the individual" (Dalton, 1961, p. 15). Sears, Whiting, Nowlis, and Sears (1953, p. 202), in studying child rearing practices that were related to aggressiveness in children, found that:

> . . . the more severely punished children showed a higher proportion of instances of dependency toward children than the less severely punished children. Maternal punitiveness in the most extreme cases was associated with a widespread generalized inhibition in the girls and a somewhat less generalized inhibition in the boys.

In conclusion, these authors stated that their findings supported the hypothesis that "punishment increases aggressive behavior by virtue of the conflict-drive it produces" (Sears and others, 1953, p. 220). Hypothesis VI. Children subjected to positive disciplinary methods used by the parents should have a higher percentage of submissive interactions.

Wellman (1943) examined the relation between educational level of both parents and the intelligence quotient of the child. Using data for 464 preschool children, she found that the mean IQ was higher for the children whose parents had a greater amount of formal schooling. Hypothesis VII. The educational level of the parents should be related to dominance on the part of the child.

III. IMPORTANCE OF THE STUDY

There are some problems which can be studied effectively only by the longitudinal method. Studies in personality development are of necessity longitudinal in nature because they are concerned with individual changes in personality patterns. These patterns can be most clearly observed if the same individuals are kept under regular observation.

The Longitudinal Studies of Personality of the University of North Carolina at Greensboro were begun with broad goals in mind. The various kinds of information obtained on each child have been assembled into a central file. By reading the file of any child it is possible to get a fairly complete picture of the child's environmental situation, his physical growth, his developing mental abilities, and his developing personality. The extensive nature of various kinds of information gathered over many years has yielded a great amount of data which is difficult to use without some means of quantification. This study is an effort to quantify some of this available data for comparison of one child in relation to other children of the same age in order to obtain the clearest possible picture of the child as he develops and adjusts in interaction with the broader environment. There are future possibilities for use of the study in evaluation and comparison of

personality patterns.

> One of the major problems facing psychologists who are concerned with the dynamics of group interaction is the development of a standardized procedure for observing and categorizing behavior in different groups under varying conditions (Allen, 1958, p. 417).

In order to quantify the information available in the files a new technique for categorizing behavior had to be developed. This was done when Therry Nash Deal (1963) created a category system to be applied in coding the interactions as recorded in diary records. A coder agreement of 84.9 per cent was achieved in dichotomizing the dominant-submissive interacts. This system was used in this study and applied to the diary records of the children presently enrolled in the Longitudinal Studies of Personality.

Categorizing behavior into dominant or submissive traits may conceivably be used in vocational guidance and in determining qualities of leadership (Allport, 1928, p. 134). Personality assessment techniques are also used by clinics, educational systems, industries, and the armed services (Allen, 1958, pp. 427-428).

IV. DEFINITIONS

Dominance-Submission

The concept of dominance-submission offered by Deal (1963, pp. 4-5) included the following aspects:

> It is a dimension operating at the interactive level of personality, i.e., in face-to-face situations. It may manifest itself in socially desirable or socially undesirable acts of communication. It is a dimension of power or influence;

> the influence may be wielded exploitively (for ego's satisfaction) or sympathetically (with alter in mind). It is conceptualized as a continuum with positive power on the dominance half of the continuum and negative power on the submission half.

The definition of dominance used by Deal (1963, pp. 35-36) included the verbs: advises, directs, helps, attacks, threatens, disapproves, resists, ridicules, boasts, and ignores.

The definition of submission in the same study included the verbs: requests, imitates, assists, withdraws, evades, concedes, agrees, and approaches.

Our culture seems to place a premium upon a position of dominance as necessary for mobility, for "getting ahead in the world" (Jayaswal and Stott, 1955, p. 50), but no attempt was made in this study to evaluate one trait as more desirable than the other.

Interaction

Interaction is made up of single actions manifested by individuals in propinquity. These actions are composed of muscular activities such as facial expressions, gestures, sounds, and words. One individual manifests an action which is followed by the action of another individual. There is a reciprocal exchange between at least two persons in a situation which influences the subsequent behavior of each, "a response on the part of each to a cue emitted by the other" (Dalton, 1961, p. 13).

The definition for interaction used by Deal (1963,

p. 4) will also be used for this study and consists of:

> . . . reciprocal influence of one preschooler and one other person which resulted in some overt behavior on the part of both recorded by the observer on the diary record form.

Examples of recorded interactions are included in the Appendix. They were inserted to illustrate the definitions given in this chapter.

Dichotomy

Dichotomy means the division of the dominance-submission continuum into two categories, the dominance category and the submission category. Dichotomous choice indicates a choice between these two categories.

Category System

A category is a statement describing a given class of phenomena into which observed behavior may be coded; a category system consists of two or more categories (Heyns and Zander, 1953, pp. 388-389). Coding behavior within separate categories is one of the most useful devices to describe qualitative social situations in quantitative form.

Ascendant Behavior

In much of the literature, "the terms domination, dominance, and ascendance are used interchangeably" (Anderson, 1940, p. 21). Jack (1934, p. 12) defined ascendance as including:

> . . . (1) attempts to pursue one's own interests when they conflict with those of others and to direct the behavior of one's companions, and (2) success in these two types of attempts as indicated by compliance on the part of one's companions.

Folsom (1931, p. 271) gave a more general definition of ascendant behavior as "the tendency to show self-assertive or mastering behavior as opposed to submissive behavior."

Diary Record

A diary record is a direct observation of one child recorded in sequential narrative form under specified conditions and time limits. These records provide specimen of the behavior of the observed child and are available for further study. Behavior is described in context by recording behavior with situation.

The diary records for the children enrolled in the Longitudinal Studies in Personality of the University of North Carolina at Greensboro were written by graduate students who were studying in the field of Child Development. Records were made for a thirty-minute period each week the child was present in nursery school. The observer attempted to record everything that the child did or said during the thirty minute period and the child's responses to everything that was said or done to him.

V. ORGANIZATION OF REMAINDER OF THESIS

Literature that is related to the study of dominance-submission is reviewed in Chapter Two.

Chapter Three describes the methods used in collecting and coding the data from the diary records. Explanation is given concerning the procedure used in gathering the additional information related to the variables under consideration. A description of the method of data analysis forms the second part of this chapter.

The analysis of data is presented in Chapter Four. Results are tabulated concerning the relation of the number of dominant interactions to each of the variables of age, sex, height, weight, intelligence quotient, ordinal position in the family, disciplinary methods used by the parents, and the educational level of the parents.

A summary of the study is to be found in Chapter Five.

CHAPTER II

REVIEW OF RELATED LITERATURE

The literature reviewed for this study has been divided into the following subdivisions: studies designed for measuring dominance, definitions of dominance and related behavior, determinants of dominant behavior, consistency of dominance, modification of dominant behavior, relation of dominance to various variables, and techniques used in the study of dominant behavior.

I. STUDIES DESIGNED FOR MEASURING DOMINANCE

Allports' Ascendance-Submission Reaction Study

F. H. Allport and G. W. Allport developed a test for measuring the placement of an individual on the ascendant-submissive continuum (Allport, 1928). They theorized that both traits are present in the individual, but one is prominent and the other subordinate.

The test is composed of a variety of situations in which the authors thought a person would tend to be dominant or submissive, the trait of the individual to be represented by his response to all of the situations. An individual might be dominant in one situation and not in another, but a more dominant person would tend to be dominant in a greater

number of situations than would a less dominant person. The final score was derived by finding the sum of all the choices made by the subject. Two separate forms of the study were devised, one for men, the other for women.

G. W. Allport (1928) proposed that the A-S Reaction Study be used for self-knowledge, vocational guidance, industrial placement, and for determining qualities of leadership.

The Personality Inventory

Robert G. Bernreuter (1931) developed a test designed to do the work of four tests that had been previously used: Laird's Introversion-Extroversion Schedule, the Allports' Ascendance-Submission Reaction Study, the Thurstones' Personality Schedule, and his own test of Self-Sufficiency. These tests served as the basis for the 125 questions comprising the Bernreuter Personality Inventory. Scores on this inventory were supposed to measure neurotic tendency, self-sufficiency, introversion-extroversion, and dominance-submission.

The Guilford Inventories

The Guilford-Martin Inventory of Factors G A M I N (Ferguson, 1952, pp. 198-199) contains 186 questions and provides for the measurement of general activity, ascendance-submission, masculinity-femininity, inferiority feelings, and nervousness.

Additional Studies

A study by Jack (1934) had as one of its aims the construction of tests to measure the ascendant behavior of preschool children. An experimental situation was designed that would keep the children in close physical proximity, remain interesting, resemble a natural play situation, and provide an opportunity for cooperative play. The types of behavior comprising the ascendance scores were:

> . . . his attempts to secure materials or position in line with his own interest, to direct the behavior of others, his success in both types of attempts, and the provision of a pattern for imitation (Jack, 1934, p. 61).

Subjects were placed into three categories according to their ascendance score: ascendant, moderately ascendant, or nonascendant.

Cates (1939) studied the incidents of dominant and submissive behavior and the consistency of this behavior from one setting to another. Free play and experimental settings were used in observing the frequency of incidents of behavior defined as dominant or submissive.

Jayaswal and Stott (1955) studied adults who had been enrolled in the Merrill-Palmer Nursery School and whose files contained ratings by teachers using the Merrill-Palmer Ascendance-Submission Rating Schedule. A composite score based on these ratings, in addition to a self-rating and a rating by the subject's parent, formed the basis of the assessment of ascendance or submission during childhood.

The ascendance or submission of the subject as an adult was determined from the ascendance score of the Guilford-Martin GAMIN inventory and a score on the Adorno F scale. The Ascendance-Submission Rating Schedule was also used by Stott and Ball (1957) for their study of consistency in ascendant behavior.

Gellert (1956) measured dominant behavior in pre-school children by using teacher rank ratings, observations in an experimental setting, and observations during free play.

Deal (1963) categorized dominant and submissive behavior and applied this categorization to recorded interactions of children.

II. DEFINITIONS OF DOMINANCE AND RELATED BEHAVIOR

F. H. Allport (1924, p. 119) has given the classic definition for ascendant behavior:

> If two persons of equal status come into face-to-face relation, and if the behavior of each is a response solely to the immediate behavior of the other, there generally results a conflict, genuine, though often unconscious. The reaction of each is centered in the drives of his own personality. Even where there is agreement as to the ends desired from the interview, there will be some ground for friction as to the choice of means. Social behavior is not a smoothly running machine, but a succession of conflicts and readjustments between individuals. Each one therefore strives to carry his point in the encounter. In the sequel there stands revealed one of the fundamental traits of personality. One is likely to become the master: his impulse dominates. The other yields and adjusts his behavior to the control of the first. The former personality we may call ascendant--the later, submissive.

Jack (1934, pp. 17-18) built on Allport's definition. Eight categories of ascendant behavior were specified, including: verbal attempts to secure play materials; forceful attempts to secure materials; succeeds in securing material from companion's possession; defends, snatches back materials taken from his possession; verbal attempts to direct behavior of companion; companion complies to direction; forbids, criticizes, reproves companion; and provides pattern of behavior which companion imitates.

Bernreuter (1931, p. 98) defined a submissive person as "a shy person who tends to keep in the background; feels inferior and self-conscious, rarely takes initiative in directing people or activities," and a dominant or ascendant person was defined as "an aggressive, self-confident person who assumes responsibility readily, meets important people easily, takes initiative in social situations."

Folsom (1931) used as synonyms with domination the words mastery, self-assertion, ascendance, and aggressiveness. Synonyms used with submission were subordination and self-abasement. The pattern of domination includes vigorous movements, chest expansion, and the posture and movements of a victor; the pattern of submission involves relaxed muscles, drooping head, and the inconspicuous posture of one vanquished.

Barker (1930) called those children leaders who initiated a great many more contacts than most children.

Parten (1933a) classified these leaders as two types: the diplomat who controls by artful and indirect suggestions, and the bully who rules by the use of brute force.

Cates (1939) defined dominant behavior according to the attempts to direct, control, resist, or non-comply; submissive behavior was defined as being compliant to direction or control.

The concepts of the terms domination, dominance, and ascendance were examined by Anderson (1940) and found to be used interchangeably in much of the psychological literature. He offered the concepts of domination and integration as being more descriptive of the techniques used by the ascendant person.

Lerner (1941) considered three motives for ascendant behavior which may be directive (the wish to control and direct people), assertive (the desire to have one's own way), and integrative (corresponding to the idealistic desire seen by Anderson to make the most out of a social situation for the sake of the group and not for the purposes of assertion or control). If an individual was successful in ascendant behavior, Lerner classified him as a leader, and defined leadership as a more or less permanent state of ascendance.

Sanford (1943) considered dominance as a need to control one's human environment. According to his definition, dominance was comprised of efforts to influence or direct the behavior of others by suggestion, seduction,

persuasion or command.

The definitions for domination and submission formulated by Gellert (1956) included the following domination categories: mandate, positive; mandate, negative; dominates play; instructs; suggests orientation; countermandate; calls attention; boast; tease; aggression, per se; noncompliance; self-defense. The submission categories were: comply; submit; agreement, verbal; asks permission, directions, or orientation; imitates; withdraws.

III. DETERMINANTS OF DOMINANT BEHAVIOR

F. H. Allport (1924) believed that a dominant or submissive attitude reaches far back into childhood and results from either compensation to frailty, physical defect, association with older children, or unpleasant environment, or that it results from obedience to extreme repression of an austere adult.

Jack (1934) stated that there are three variables among social factors which determine the degree of ascendance shown by a child. These variables are the child's status in his group, the value he places upon the ability to dominate others, and his skill in controlling his companions.

> All three of these variables have a reciprocal relation. The child's success in controlling his companions is probably dependent in part upon the amount of practice he receives; the amount of practice varies with the frequency of his attempts to direct; and the frequency of these attempts

> varies with the value he places upon directing others, and probably in part upon the position he feels he has attained in the group (Jack, 1934, p. 59).

In her study of sister relationships, McFarland (1938, p. 224) observed that:

> . . . some of the older sisters whose dominance of their younger sisters was exaggerated were particularly unsuccessful in assuming an ascendant position among their peers, and it seemed that they were using the sister relationship to compensate for their own inadequacies in other social situations.

Cates (1939) concluded that individual differences suggest that dominant behavior is dependent upon factors other than age and environmental situation. McLaughlin's study (1931) found that physical defect, suffering from ridicule, self-comparison with superiors, emotional difficulties, and lack of initiative at home were factors associated with submissiveness, while ascendance was related to early assuming of responsibility, many social contacts, prowess in athletics, and compensation for defects or ill health.

One of the main conclusions reached by Sears and others (1953, p. 233) following their investigation of child-rearing antecedents of aggression and dependency was that "the kind and amount of frustration and punishment experienced by the child are major determinants of the properties of both the dependency and the aggression drives."

IV. CONSISTENCY OF DOMINANCE

G. W. Allport (1928, p. 120) believed that ascendance or submission is "to a large degree a constant characteristic," and following the period of adolescence, the trait is set to a degree of predictability concerning a person's tendency to control or to be controlled by other people.

In studying the modification of ascendant behavior, Page (1936) found that ascendance was held fairly constant during periods of preschool attendance. Periods of non-attendance, such as summer vacation periods, were accompanied by a decrease in the mean ascendance score.

Sanford (1943) found that the "need" designated as dominance seemed to change very little in absolute amount during the years five to fifteen.

In the review of literature by Jayaswal and Stott (1955), it was indicated that the personality tendencies of dominance and authoritarianism are generally assumed to be persistent in nature. Their study, however, failed to find a general group trend for ascendance-submission to persist into adulthood. Strong tendencies in some individuals to be ascendant or submissive throughout life were revealed, while other individuals underwent marked changes.

Gellert (1956) concluded that dominance and submission are relatively stable behavior systems. This conclusion was based on findings that children maintained comparatively self-consistent patterns under constant

conditions, relative dominance and submission could be predicted on the basis of previous ratings, and individual dominant or submissive behavior maintained some degree of stability even under variable social settings.

In following the behavior of children through a ten-year period, Stott and Ball (1957) found that incidents of ascendant behavior increased during nursery school attendance, became less frequent after the change to kindergarten, and remained consistent during the remainder of the period. In a later study, Stott (1958) examined the longitudinal records of children that had been typed according to social behavior. It was revealed that in every case the pattern was in evidence when the child entered nursery school and continued consistent throughout the period covered by the records.

V. MODIFICATION OF DOMINANT BEHAVIOR

Jack's (1934) study of ascendant behavior revealed an outstanding difference between the ascendant and non-ascendant groups; this difference was the observable indication of the presence of self-confidence in the ascendant subjects and the lack of self-confidence in the nonascendant subjects. A deliberate attempt was made to place the subjects in a position where they would feel more secure through a certain degree of confidence.

> . . . children found to have low ascendance scores were familiarized with certain situations and supplied with such knowledge and skill as the situations required. They were then placed in those situations with other members of their preschool group, to whom the situations were entirely new (Jack, 1934, p. 59).

The trained subjects showed a greater increase in ascendance scores than the remainder of the preschool group and a decidedly greater increase than a control group of non-ascendant children of the same age.

Page's (1936) findings agreed with the findings of Jack's study. The subjects of her study showed significant increases in ascendant scores when an attempt was made to increase their confidence in various activities.

McLaughlin (1931) attempted to alter the behavior of extremely submissive and extremely ascendant subjects in such a way as to produce greater "normality." Out of thirteen submissive subjects, twelve became more ascendant, but of the original twelve ascendant subjects, only five were changed in the direction of submissiveness. She concluded that ascendance was less modifiable than submissiveness.

VI. RELATION OF DOMINANCE TO VARIOUS VARIABLES

F. H. Allport (1924, p. 119) stated that "two of the leading conditions of ascendance are physical size and energy," and that ascendance is related to leadership and is of paramount importance in obtaining a submissive attitude from followers.

Scores of the A-S Reaction Study were applied by

Bender (1928) to the factors of height and weight, intelligence and scholarship, introversion-extroversion, order of birth within the family, and academic status. He found a correlation of -.03 between heights and A-S scores and +.09 between weights and A-S scores. In considering the possibility that the shorter individuals may compensate by increased ascendance, the median height and the median weight of those highest and lowest in the tests were studied; this, too, failed to show any significant difference. Negligible correlations were found between these test scores and intelligence, scholarship, position in the family, and class in college. Although not statistically significant, but studied in terms of mean scores, a tendency was revealed for the only and the oldest child to be above the mean of the group in ascendance. Only suggestive differences were shown toward submissiveness for those who were highest in scholarship, those who were intermediate children in the family, and those who were seniors in college.

In their study of family relations, Goodenough and Leahy (1927) found oldest children to be conspicuously non-aggressive compared with those who were either the youngest or the only children in their families.

Hubbard (1929), Barker (1929, 1930), and Jack (1934) reported that in the nursery school children studied, the amount of social participation increased with an increase in IQ.

A relation between age and ascendance was recorded by Berne (1930) when her study revealed that the three-year-old and four-year-old groups exceeded the two-year-old group in ascendance.

Jersild (1930) used the scores of college women on the A-S test and compared them with ratings made by associates and scores on other tests. His study found a correlation of .51 with associate-ratings on ascendance-submission, .03 with associate-ratings on amiability, .31 with associate ratings on personal beauty, .18 with a measure of emotional stability, .14 with scores on the George Washington Social Intelligence Test, and .31 with scores on the Otis S-A test of general intelligence.

No correlation between scores on the A-S Reaction Study and the variables of intelligence, height, weight, or scholarship was reported by Folsom, but a correlation of .38 with the Heidbreder Extroversion-Introversion Test. "This leads us to suspect that ascendance-submission may be in part a phase of extroversion-introversion" (Folsom, 1931, p. 272).

In studying the physical contacts of children in the age range of 24 to 51 months, Loomis (1931) found that the intelligence quotient of a child had no relation to number of contacts made or received. There was, however, a positive correlation between number of total contacts and ages, the number of contacts increasing with age. Parten found

some relation between intelligence and social participation, but not as definite a relation as that between age and social participation (Parten and Newhall, 1943, p. 518). Arrington (1932) found that social activity increased with age and was twice as great at three as at two years of age. Beaver's (1932) findings supported this. Parten (1932) found in studying social participation in nursery school children that the correlation between social participation and age was .61 and the correlation between social participation and IQ was .26.

In considering leadership among young children, Parten (1933a) arrived at the conclusion that even at the preschool age there are two definite types of leaders. She labeled these the "diplomat," who uses artful and indirect suggestions to control a large number of children, and the "bully," who uses force to control the group he has chosen. She found, also, that leaders exceed non-leaders in intelligence, but sex differences in leadership were negligible. In a study of social play among young children, Parten (1933b) found that preschool children played most frequently in groups of two, but the size of the group increased with the age of the child. In reviewing Parten's studies, Newhall considered the interpretation of the relation between age and social participation (Parten and Newhall, 1943). Correlation of date of entrance with social-participation score yielded an insignificant coefficient, however, which

indicated that length of time spent in nursery school is not the determining factor in the correlation between age and social participation.

Caille's (1933) study suggested that physical resistance tended to decrease with age while vocal resistance tended to increase. No significant relationship was found between chronological age or IQ and resistance, acquiescence, or aggression. In aggression, the boys exceeded the girls by an amount which approached statistical significance. Boys also showed more resistant and acquiescent responses than the girls in the sample, but the differences were slight.

Educational level of parents was found by Wellman (1943) to be positively related to the IQ level of their children.

Jack (1934, p. 32) found that a high degree of social responsiveness was a concomitant of ascendant behavior, but stated that "social responsiveness is not of necessity accompanied by ascendant behavior." She found a relation of ascendance with the tendency to resist adult control and with expressions of a rivalrous, competitive attitude. The most noticeable difference between the ascendant and non-ascendant subjects was the evidence of self-confidence. An increase in self-confidence was found to have a direct bearing on an increase in ascendancy, as scored by Jack's ascendance test.

Anderson (1939) found that boys showed higher domination scores when paired with boys than did girls when paired with girls. This was a reversal of previous findings with preschool children in which girls were consistently more dominating than boys in own-sex pairings. In her study of the relationships between young sisters, McFarland (1938) found a consistent tendency for older sisters to direct their younger sisters, and for younger sisters to be submissive to their older sisters. In Gellert's (1956) study of patterns of dominance, submission, and resistance, it was found that when girls were paired with boys, the girls dominated the boys in twelve sessions out of eighteen. When girls were paired with girls the taller and older member of the pair had the higher dominance score. This trend was not found when boys were paired with boys.

VIII. TECHNIQUES USED IN STUDYING DOMINANCE

Dorothy Thomas (1929) and associates in the Child Development Institute, Columbia University, sought to develop techniques of recording overt behavior that would produce more satisfactory data. This was done by dividing the behavior-complex into simple units of behavior and recording every recurrence of one of these behavior units. It was found that a study of physical contacts could be made quite objectively if contacts were accurately defined. Margaret Barker made floor plan charts of all contacts made

by the observed children to objects and persons during successive five-minute periods of observation (Barker, 1930).

Loomis (1931) studied physical contacts as one phase of social interaction that would reveal characteristic individual differences in proportions of contacts made and received, and particular kind and quantity of contacts. The observer recorded data in code and later summarized in categories all the contacts recorded during the observation of the child. This made up the data for the direct observation. Data for the indirect observation were obtained from the records of the other children, as the object of a physical contact. This gave two pictures of a child, one when he was the initiator of contacts, and the other when he was the receiver of contacts. It was found that the number of children present had no effect on the total number of contacts, the aggressive contacts made, or the number of cooperative contacts received.

Arrington (1932) used time-sample observations of material, social, and personal activities during free play. Observations were for five-minute intervals with a total of two hours per child. This was found to be a sufficient number of records to furnish a representative sample of each child's behavior. Beaver (1932) used time-sample observations of free play, observing the older group in the nursery school of the Child Development Institute. She found that a child's degree of social aggressiveness

may be estimated by a comparison of the number of contacts initiated by him with the number of contacts initiated by others to which he responded.

Parten (1933a) made observations of the spontaneous play of nursery school children by the one-minute sampling method when studying leadership among children and again when studying social play among young children (Parten, 1933b). Sixty one-minute samples were obtained, all taken at the same hour every day. Caille (1933) believed that controlled observation when a child is in a natural situation is the method to be used in studying resistant behavior. Twenty-four records were taken on each child. Her study found that whether the children were indoors or outdoors, having free play or routine activities, had little effect upon the amount of resistance recorded. Also, the number of children present had no effect upon the number of instances of resistance or of acquiescence.

The study of ascendant behavior done by Lois Jack (1934) was divided into three steps, and each step used a different technique for the collection of data. The first study was planned to devise tests for the measurement of ascendant behavior and used four-year-old children in the preschool laboratories of the Iowa Child Welfare Research Station in an experimental situation. The children were allowed to play in pairs with combinations of related toys, while unseen observers recorded instances of interaction, participation, and direction. Each observation period was

five minutes in length. A different group of subjects was used in establishing the reliability of the experimenter in obtaining the ascendance scores. The method used for estimating the validity of the device was to determine the relationships between the results of the test and scores on a series of ratings. The three teachers in the group, working independently, rated each subject according to the frequency of the appearance of specific types of behavior. The final rating score was a composite of the three, and correlated .81 with the ascendance scores.

The second part of Jack's study was planned to discern concomitants of ascendance. The types of characteristics studied included certain characteristics of social behavior. Social responsiveness and expansive behavior were determined by a series of controlled observations in the play group and the daily story group. The degree to which the children were amenable to adult control was determined by an experimental situation. The frequency with which they exhibited a competitive attitude and a tendency to draw attention to their accomplishments was determined by records of behavior taken in a controlled situation. Behavior records of free play were analyzed for techniques used in attempts to control the behavior of companions.

An effort to modify the behavior of nonascendant children was the third phase of Jack's study. The subjects were trained in a certain skill or ability until they acquired a degree of confidence in their ability and then

placed in an arranged situation with a companion who did not possess that skill or ability applicable to the situation and who had acted as a companion in the initial ascendance experiment. Scores were secured for an amount of time equal to that of the initial ascendance experiment.

Jayaswal and Stott (1955) studied the persistence of personality characteristics from childhood to adulthood. Childhood ascendance-submission was assessed from three sources: (1) a composite score of ascendance-submission based on all rating sheets available on the subjects in the Merrill-Palmer file; (2) a self-rating based on memory of behavior as a preschool child; and (3) a rating by the parent of the subject. Adult ascendance or submission was determined for the subjects from the A score of the Guilford-Martin GAMIN inventory and the score made on the Adorno F scale.

Three techniques were used by Gellert (1956) in measuring dominant, submissive, and resistant behavior of the nursery school children: (1) composite teacher rank-ratings, (2) observations under controlled conditions in an experimental setting, and (3) observations during free play periods.

Stott and Ball (1957) used a qualitative analysis of data from the Ascendance-Submission Check List developed at The Merrill-Palmer School as the basis for their study of consistency in ascendance-submission in the interaction

of children.

Bernreuter (1931) used a self-rating sheet for continuums of neurosis, dominance-submission, introversion-extroversion, and self-sufficiency. On the dominance-submission continuum, placement at the extreme left would indicate an extremely shy, self-conscious, submissive person. A position on the other extreme of the scale would indicate an aggressive, self-confident, dominant person.

Jones and Burks (1936) present a thorough review of research studies through the year 1935 that have dealt with personality development in childhood. Time-sample observations during free play seem to be the most frequently used technique for collecting data.

CHAPTER III

METHODS AND PROCEDURES

Diary records were made at regular intervals for all the children enrolled in the Longitudinal Studies of Personality of the University of North Carolina at Greensboro. Special forms were used, requiring the name of child, date of birth, name of recorder, setting, and date of observation. Time was recorded in the first column, the child's behavior in the center column, and the observer's interpretations in the third column. An example of a diary record form is included in the Appendix.

In making a diary record, the observer recorded everything that one child did or said during a thirty-minute observation period. No effort was made to control the observed situation. Graduate students in the field of Child Development served as observer-recorders and were assigned a specific child, i.e., Student A observed and recorded all of the diary records for Subject X for one scholastic year. These records were the basic materials used in this study.

I. METHOD OF DATA COLLECTION

The collection of data consisted of three steps: (1) selecting the sample; (2) coding the diary records; and (3) collecting related information.

Selection of Sample

There were twenty children enrolled in the Longitudinal Study of Personality. All of the children had attended the Nursery School of the University of North Carolina at Greensboro. A diary record was made each week during their attendance at this nursery school.

An examination of the records revealed that there were thirteen children in the Longitudinal Study of Personality whose diary records were available for the first year of nursery school attendance. These thirteen children became the subjects for the study. The investigator was not acquainted with any of the children or with their families.

Since age is a part of one of the hypotheses to be considered in this study, the diary records for each subject were divided into three three-month periods. The first period included the records made in September, October, and November; the second period included December, January, and February; the third period included March, April, and May. Using a table of random numbers, three records were chosen from each of the periods, making a total of nine diary records for each subject, and a total of one hundred

seventeen records for all of the thirteen subjects. Each record was for a thirty-minute period, making a total of 270 minutes of observation for each child and a total of 3,510 minutes of observation for all of the subjects.

Codification of Diary Records

After the diary records had been selected by stratified random sampling, the records were treated individually. The entire record was read through, then reread while applying the category system developed and tested by Deal (1963) for coding interactions into a dichotomy of dominance or submission. After a segment of the record had been determined an interaction as defined in this study, a judgment was made as to the classification of that interaction as dominant or submissive.

Determination of interaction. A review of the definition of interaction indicates that there are two people involved, and one is displaying some form of overt behavior that is recognized and recorded by the observer as being influenced by the other. There must be some action on the part of one person that stimulates the other person to respond in a visible manner. This eliminates, for purposes of this study, the descriptions of unoccupied behavior, solitary play, onlooker behavior, or parallel play.

Since the recorders of the diary records have reported the direct observation of one particular child, i.e., Subject X, only the interactions of Subject X were classified

from that diary record; whether that subject was the initiator or the recipient of the interact was not a determining factor in the decision to classify the behavior as an interaction for the subject whose diary record was being examined.

Classification of interaction as dominant or submissive. Deal (1963) obtained a composite coder agreement of 84.9 per cent on the dichotomous choice of indicating an interaction as dominant or submissive when using her categorization. An effort was made for finer discrimination of the degree of dominant or submissive behavior involved in the interaction by indicating a choice of one of ten dominant or eight submissive sub-categories. Only 59.1 per cent coder agreement was obtained in the decisions on sub-categories, but these were retained in this study for the purpose of facilitating the decision of classifying an interaction as either dominant or submissive. This categorization is reproduced from her study (Deal, 1963, pp. 35-36). The examples were taken from the actual records that were coded for this study and are included for purposes of illustration only. The full scope of the definition of each category is not represented by the selected examples which are presented here.

CATEGORIES AND THEIR DEFINITIONS

DOMINANCE

1. ADVISES
   recommends a course of action; gives requested information; suggests

   Example: At easel. Holds cup of paint in one hand and paints very freely from it. Takes cup to Mrs. M. "When this is all gone we'll have to get some more." Mrs. M. agrees.

2. DIRECTS
   regulates activities or course of them; assigns roles; leads activity

   Example: Goes to jungle gym. Boy, "Let's play telephone men." "O. K. I'll be down and you be up. We'll be telephone men."

3. HELPS
   aids or provides protection of own volition without being requested to do so

   Example: He looks around and seeing Mrs. M. putting up the musical instruments, he goes over to help, picks up a handful of things and puts them in a drawer.

4. ATTACKS
   uses actual physical force against another person; uses to get an object

   Example: Girl pushes door bell on activity board. M. pushes her away.

5. THREATENS
   promises punishment, reprisal, or discomfort

   Example: "That's not the way to do it," declares K. In a moment B. stands up. She sniffs nose; says, "I'm going off and I'm not gonna play wif you."

6. DISAPPROVES
   passes unfavorable judgment upon

   Example: B., "Do you want me to push it?" H., "No, no, it come loose."

7. **RESISTS**
exerts oneself to counteract

Example: Goes to mechanical board. Works door bell and light switches. M. hits his arm. Mi. says, "I can play with it, too." Looks out window. Pushes buttons again. Hits M. lightly on arm. "She hit me and I hit her cause I wanta do this, too."

8. **RIDICULES**
makes fun of; teases

Example: In line behind M, Mi. pulls off M.'s hair ribbon. He smiles, stands back, and pulls bow out of ribbon. M. grabs it from him.

9. **BOASTS**
gives oral expression to one's pride in self or a possession or a relationship

Example: H. puts all the small pieces in the "house of doors." Smiles and says, "Look, Mrs. M." Mrs. M. says, "Yes, H., you certainly have done that well."

10. **IGNORES**
willfully disregards

Example: S. hits B. on the arm with his palm. B. continues to pick up blocks and add to the structure he is building.

SUBMISSION

11. **REQUESTS**
asks or petitions for information, assistance, permission

Example: M. says, "Help me." Miss C. takes his arm and shows him how to put a leg over and hold on to a bar. He gets down with her support.

12. **IMITATES**
follows or copies as a pattern, not in jest

Example: Sees T. ask student for dollars for fixing telephone. Goes to student and holds out his hand. She gives him "money."

13. **ASSISTS**
provides support upon being requested to do so

Example: H. jumps up and goes to sit at the table,

but Mrs. W. tells him that things have to be cleaned up before we have juice. H. goes over to help Miss C. put up the small blocks. He picks up the blocks quickly and puts them in the correct place.

14. WITHDRAWS
retreats; goes away from

Example: H. goes over to S. who is playing with the snap-it beads. When H. picks up a bead, S. says, "No. I'm making this." H. turns and goes back to the fire engine.

15. EVADES
avoids confrontation with; attempts to change conversation

Example: She grabs the rocket as soon as it shoots, turns her back to D. who tries to get it. She picks all up and goes to locker room. Puts box down in front of locker, goes to bathroom.

16. CONCEDES
gives up or yields after resisting

Example: J. takes beads out of box. M. says, "No. You have yours right there." J. says, "I need some more." M. lets him take them.

17. AGREES
concurs; is in harmony with; acquieses

Example: Mrs. E. intercepts and suggests reading a story about a fireman. H. readily agrees.

18. APPROACHES
comes near; takes preliminary steps to

Example: Comes to Miss W. Allows himself to be hugged but quickly runs off.

An example of one of the coded diary records is included in the Appendix to illustrate the choice of interaction and the appropriate category. The example is one of the diary records that was actually used in this study.

Collection of Related Information

In addition to the diary records, there were various behavioral and developmental records available on each child in the Longitudinal Study of Personality. Other theses give detailed descriptions of the development and use of these records (Herndon, 1958; Carter, 1961). The Initial Parent Interview, Family Information, Follow-Up Parent Interview, Mental Tests, and Physical Records were examined for information related to the variables used in this study. Examples of these forms (with the exception of Mental Tests) are included in the Appendix.

The Initial Parent Interview and the Family Information forms were completed during the year of the child's entrance into the longitudinal program. Applicable to this study, an examination of these two forms furnished the name of the child, the date of birth and sex of the child, and the educational background of the parents. The Follow-Up Parent Interview is used each year for recording current information. The one that was completed during the year that corresponded to the child's first year of nursery school was used to ascertain the child's ordinal position in the family and the disciplinary methods used by the parents.

Mental tests were administered annually, using the Stanford-Binet test. The IQ listed for each child was obtained from the test given during the first year of nursery school attendance.

Height and weight records of the children involved in the study varied in number from two to four records made during the child's first year of attendance at nursery school. The height and weight measurements used in this study were the mean of the first and last measurements made during that specific year.

II. METHOD OF DATA ANALYSIS

In coding the diary records, every dominant and every submissive interaction was recorded for each subject. The raw data are included in the Appendix. The percentage of the total number of interactions that were dominant was used to rank the subject in relation to the other subjects in the study. The highest score received the rank of 1. These rank numbers became the code numbers used in the presentation of data.

Findings were examined in descriptive analysis and presented in the form of tables which rank the subjects in relation to the variable under consideration. Spearman's rank-difference correlation technique was used when applicable.

CHAPTER IV

DATA ANALYSIS

Findings are presented separately for the number of interactions found in the diary records and for the relation of these interactions to each of the variables of age, sex, height, weight, intelligence quotient, ordinal position in the family, disciplinary methods used by the parents, and the educational level of the parents.

I. INTERACTIONS

The number of diary records actually recorded for each subject for the first year of nursery school attendance ranged from 11 to 28 records, with an overall total of 272 diary records for the 13 subjects. There was a range of three to 11 records for each child for each of the three periods. The 117 records coded for the 13 subjects were more than 43 per cent of the total available diary records.

The total number of interactions for each subject ranged from 47 to 116, and the percentage interactions that were dominant ranged from 45 per cent to 78 per cent.

Table I presents the subjects ranked according to dominant interactions. For the group studied, there was a mean of 62.4 per cent dominant interactions as recorded in the total number of diary records that were coded.

TABLE I

RANK OF SUBJECTS IN PERCENTAGE OF INTERACTIONS

Child	Rank	Total	No. Dom.	No. Sub.	% Dom.	% Sub.
F1	1	83	65	18	78	22
M2	2	66	51	15	77	23
F3	3	47	32	15	68	32
F4	4	48	32	16	67	33
F5	5	107	71	36	66	34
M6	6.5	106	69	37	65	35
F7	6.5	102	66	36	65	35
M8	8	54	34	20	63	37
M9	9	83	50	33	60	40
M10	10	116	62	54	53	47
F11	11.5	77	40	37	52	48
F12	11.5	60	31	29	52	48
F13	13	60	27	33	45	55

II. AGE

The ages of the 13 children used in this study, calculated at the beginning of the first year of nursery school attendance, ranged from 36 months to 45 months.

Table II presents the tabulation of the variable of age as related to the percentage of dominant interactions during the three periods of the nursery school year. For the total subjects there was an increase of dominant interactions and a corresponding decrease of submissive interactions during the year. For the first period, the dominant interactions were 57 per cent of the total interactions; for the second period, this percentage was increased to 62 per cent; and for the third period, there was a continued increase of dominant interactions to 67 per cent of the total interactions.

There were great individual differences, however, with seven of the subjects showing an increase in dominant interactions, five subjects showing a decrease in dominant interactions, and one subject remaining the same when the interactions of the first period were compared with the interactions of the third period of nursery school attendance. Table III presents a comparison of the changes in the percentage of dominant interactions for each child for the three periods of the first year of nursery school attendance.

TABLE II

RELATION OF AGE TO PERCENTAGE OF DOMINANT INTERACTIONS DURING THREE PERIODS OF NURSERY SCHOOL YEAR

Child *	Age	First Period Interactions			Second Period Interactions			Third Period Interactions			Total Periods Interactions		
		Total No.	Dom. No.	%	Total No.	Dom. No.	%	Total No.	Dom. No.	%	Total No.	Dom. No.	%
M2	36	24	20	83	20	14	70	22	17	77	66	51	77
M8	37	15	10	67	16	8	50	23	16	70	54	34	63
M6	38	38	24	63	25	17	68	43	28	65	106	69	65
F12	40	23	13	57	20	11	55	17	7	41	60	31	52
F11	40	28	12	43	29	15	52	20	13	65	77	40	52
M10	41	36	14	39	36	21	58	44	27	61	116	62	53
F5	44	37	20	54	33	21	64	37	30	81	107	71	66
F3	44	13	8	62	14	7	50	20	17	85	47	32	68
M9	45	15	9	60	17	13	76	51	28	55	83	50	60
F7	45	30	21	70	32	21	66	40	24	60	102	66	65
F1	45	26	13	50	14	12	86	43	40	93	83	65	78
F4	45	10	7	70	8	6	75	30	19	63	48	32	67
F13	45	18	8	44	17	8	47	25	11	44	60	27	45
Total		313	179	57	281	174	62	415	277	67	1009	630	62

rho = .00

* Ranked according to age in months at beginning of nursery school year

TABLE III

CHANGES IN DOMINANT INTERACTIONS FOR EACH CHILD RELATED TO INCREASE IN AGE

Child *	Age	Percentage of Dominant Interactions First Period	Second Period	Third Period
M2	36	83%	70%	77%
M8	37	67	50	70
M6	38	63	68	65
F12	40	57	55	41
F11	40	43	52	65
M10	41	39	58	61
F5	44	54	64	81
F3	44	62	50	85
M9	45	60	76	55
F7	45	70	66	60
F1	45	50	86	93
F4	45	70	75	63
F13	45	44	47	44

*Ranked according to age in months

Rank-difference correlation was applied to the variables of age and total percentage dominant interactions with a coefficient of .00 resulting.

III. SEX

There were 5 boys and 8 girls whose records were used in this study. This is indicated in the data by the preceding letter F before the code number for the girls and the letter M for the boys. The comparison of the interactions is presented in Table IV. Considering the mean for each group, the boys exceeded the girls in the total number of interactions and in the number of interactions that were categorized as dominant. In comparing percentages, however, the difference between the two groups was very slight. Of the total number of interactions for the boys, 62.6 per cent were dominant; of the total interactions for the girls, 62.4 per cent were dominant.

IV. HEIGHT AND WEIGHT

The height of the subjects used in this study was derived by using the average of the measurement made at the beginning of the nursery school year and the measurement made near the end of the school year. The derived measurements ranged from 38 1/2 inches to 43 1/4 inches.

Table V presents the relation of height to dominant interactions, with the children ranked according to height.

TABLE IV

RELATION OF SEX OF SUBJECT
TO DOMINANT INTERACTIONS

Interactions, Boys				Interactions, Girls			
Code No.	Total No.	Dom. No.	%	Code No.	Total No.	Dom. No.	%
M6	106	69	65	F11	77	40	52
M8	54	34	63	F7	102	66	65
M10	116	62	53	F12	60	31	52
M2	66	51	77	F4	48	32	67
M9	83	50	60	F13	60	27	45
				F1	83	65	78
				F5	107	71	66
				F3	47	32	68
Total	425	266			584	364	
Mean	85	53	62.6		73	45.6	62.4

TABLE V

RELATION OF HEIGHT TO PERCENTAGE OF DOMINANT INTERACTIONS

(Mean height, 40 7/8 inches)

Child	Ht.	Interactions Total No.	Dom. No.	Dom. %
SUBJECTS ABOVE THE MEAN OF THE GROUP				
M10	43 1/4	116	62	53
F7	42 5/8	102	66	65
F3	42 1/2	47	32	68
F1	42 1/8	83	65	78
F11	41 1/8	77	40	52
F4	41	48	32	67
Total		473	297	62.6
SUBJECTS BELOW THE MEAN OF THE GROUP				
M2	40 3/4	66	51	77
F5	40 5/8	107	71	66
M9	40	83	50	60
M6	39 5/8	106	69	65
M8	39 3/8	54	34	63
F13	39 3/8	60	27	45
F12	38 1/2	60	31	52
Total		536	333	62.1

rho = .44

The mean height was 40 7/8 inches. Five girls and one boy ranked above the mean of the group, ranging in height from 41 inches to 43 1/4 inches. Of the total number of interactions, these subjects above the mean of the group had 62.6 per cent dominant interactions. Three girls and four boys ranked below the mean of the group, ranging in height from 38 1/2 inches to 40 3/4 inches. These subjects had 62.1 per cent dominant interactions, which very closely resembled the percentage of the subjects above the mean of the group in height.

Rank-difference correlation was applied to the variables of height and dominance, with a coefficient of .44. This did not prove to be statistically significant.

The weight used for the subjects was ascertained by getting the average of the weight recorded at the beginning of the nursery school year and the recorded weight at the end of the school year. The weight derived in this manner ranged from 28 3/4 pounds to 41 1/2 pounds.

Table VI presents the relation of weight to dominant interactions and divides the subjects into those above and those below the mean of the group, which was 35.07 pounds. The group above the mean in weight was composed of 4 boys and 3 girls with a total of 64 per cent dominant interactions. The group below the mean in weight was composed of 1 boy and 5 girls with a total of 61 per cent dominant interactions.

A non-significant coefficient of .39 was revealed

TABLE VI

RELATION OF WEIGHT TO PERCENTAGE OF DOMINANT INTERACTIONS

(Mean weight, 35.07 pounds)

Child	Wt.	Interactions Total No.	Dom. No.	Dom. %
SUBJECTS ABOVE THE MEAN OF THE GROUP				
M10	41 1/2	116	62	53
M2	39 3/4	66	51	77
F3	39 1/4	47	32	68
F7	37 3/4	102	66	65
M8	37	54	34	63
F5	36 1/4	107	71	66
M9	35 3/4	83	50	60
Total		575	366	64
SUBJECTS BELOW THE MEAN OF THE GROUP				
M6	35	106	69	65
F1	34 1/4	83	65	78
F11	32 1/2	77	40	52
F4	30 1/4	48	32	67
F13	29	60	27	45
F12	28 3/4	60	31	52
Total		434	264	61

rho = .39

when rank correlation was applied to the variables of weight and dominance.

These weights and measurements were in no sense abnormal; they were simply normal deviates from the mean of the group as a whole.

V. INTELLIGENCE QUOTIENT

One may expect that a group of children attending a school in connection with a university would be higher than the so-called average child in intelligence, and that proved to be true in the subjects of this study. The lowest IQ among these children was 100, the highest was 143, and the mean was 124. Eight children ranked above the mean of the group with a range of IQ from 125 to 143. Five children ranked below the mean of the group with a range of IQ from 100 to 122.

The relation of IQ to dominant interactions is presented in Table VII. No consistent relation between intelligence quotient and percentage of dominant interactions is found when the table alone is studied. The application of Spearman's rank-difference correlation technique, however, revealed a relationship that approaches statistical significance. This analysis results in a coefficient of .524, but a coefficient of .532 is necessary to be significant at the .05 level. This is suggestive of a possible significant relationship between IQ and dominance.

TABLE VII

RELATION OF IQ TO PERCENTAGE OF DOMINANT INTERACTIONS

(Mean of group, 124)

Child	IQ	Interactions Total No.	Dom. No.	Dom. %
SUBJECTS ABOVE THE MEAN OF THE GROUP				
F12	143	60	31	52
F1	139	83	65	78
M2	128	66	51	77
F7	128	102	66	65
F4	126	48	32	67
M6	126	106	69	65
F5	125	107	71	66
F11	125	77	40	52
Total		649	425	65
SUBJECTS BELOW THE MEAN OF THE GROUP				
F3	122	47	32	68
M10	119	116	62	53
M9	117	83	50	60
F13	117	60	27	45
M8	100	54	34	63
Total		360	205	57

rho=.524

VI. ORDINAL POSITION

The ordinal positions considered were: only, oldest, intermediate, and youngest. Two of the subjects were only children, two were the oldest of two-children families, two were the intermediate children in a family of three children, and five were the youngest children in a family of two or three children. Two children in the study were twins with two older siblings. These twins were both given the ordinal position of youngest in the family.

The presentation of data in Table VIII shows the relation of the ordinal position in the family to the percentage of dominant interactions. The subjects were divided into two groups, corresponding to the hypothesis stated earlier in this study. The only and oldest children had a percentage of dominant interactions that exceeded the dominant interactions of the intermediate and youngest children. The relation is 66 per cent for the only-oldest group to 61 per cent for the intermediate-youngest group.

It was interesting to observe in Table VIII that the two subjects who ranked first and second in percentage of dominant interactions were oldest and only children. Also, the subjects who ranked eleventh, twelfth, and thirteenth (the three lowest ranks) in percentage of dominant interactions were all youngest children in the family.

TABLE VIII

RELATION OF ORDINAL POSITION
TO DOMINANT INTERACTIONS

Child	Position	Interactions Total No.	Dom. No.	Dom. %
M2	Only	66	51	77
M8	Only	54	34	63
F1	Oldest	83	65	78
M10	Oldest	116	62	53
Total		319	212	66
M6	Intermediate	106	69	65
F7	Intermediate	102	66	65
F3	Youngest	47	32	68
F4	Youngest	48	32	67
F5	Youngest	107	71	66
M9	Youngest	83	50	60
F11	Youngest	77	40	52
F12	Youngest	60	31	52
F13	Youngest	60	27	45
Total		690	418	61

VII. DISCIPLINARY METHODS

Disciplinary methods were listed in a random manner on the interview forms examined for this study, and the methods most often used with the child were checked by the parents. An arbitrary decision was made by the investigator in dividing these methods into the two categories of positive and negative. The methods placed in the positive category were: assistance, praising, rewarding, offering choices, suggesting, demonstrating, reasoning, preparing in advance, diverting, and ignoring. The methods placed in the negative category were: bribing, cajoling, depriving of pleasure, threatening, scolding, spanking, isolating, and putting to bed. This arbitrary decision placed 10 methods in the positive category and 8 methods in the negative category. The methods checked as most often used with the child ranged from 3 to 10 of the positive methods and from 0 to 5 of the negative methods. For purposes of comparison in a tabular form, percentages of the positive methods are presented in Table IX and the subjects ranked according to the percentage of the positive methods checked by the parents.

Applying the rank-difference correlation formula to the variables of submission and percentage of positive disciplinary methods yielded a coefficient of -.10, which was not significant. As a further effort to study this relationship, the rank-difference correlation for the

TABLE IX

RELATION OF POSITIVE DISCIPLINARY METHODS OF PARENTS TO SUBMISSIVE INTERACTIONS

Child	Percentage of Positive Methods	Interactions		
		Total No.	Sub. No.	%
M2	100	66	15	23
F1	90	83	18	22
F4	90	48	16	33
F7	90	102	36	35
F11	90	77	37	48
F13	90	60	33	55
F5	80	107	36	34
M10	80	116	54	47
F12	80	60	29	48
M6	60	106	37	35
M8	60	54	20	37
F3	50	47	15	32
M9	30	83	33	40

rho = -.10

variables of dominance and percentage of positive disciplinary methods was ascertained, yielding a coefficient which was not significant.

It was expected that the disciplinary methods most often used by the mother would differ from the disciplinary methods of the father. This was not true, according to the response on the interview form to the question of parental agreement on methods of discipline and punishment. An affirmative reply was given on all of the interviews examined for purposes of this study.

VIII. EDUCATIONAL LEVEL OF PARENTS

The parents of the children were a group whose educational level was above that of the average population. Of the thirteen fathers, all had had some college training, and twelve had finished college with a B.S. or A.B. degree. Of these twelve fathers, two had earned advanced degrees of LL.B. and five had earned degrees of M.D., Ph.D., Sc.D., and LL.D. Of the mothers, all had had some training beyond the high school level, nine had finished college, and, of these nine, one had earned an advanced degree in medical technology.

The relation of the educational level of the fathers to the dominant interactions of their children is presented in Table X. Application of Spearman's rank-difference correlation to the variables of dominant interactions and educational level of the father revealed a coefficient of

TABLE X

RELATION OF EDUCATIONAL LEVEL OF FATHER TO DOMINANT INTERACTIONS

Child	Education of Father*	Interactions Total No.	Dom. No.	Dom. %
F3	8	47	32	68
F4	8	48	32	67
M8	8	54	34	63
M9	8	83	50	60
F13	8	60	27	45
F7	7	102	66	65
F11	7	77	40	52
F1	6	83	65	78
F5	6	107	71	66
M6	6	106	69	65
M10	6	116	62	53
F12	6	60	31	52
M2	5	66	51	77

rho = .374

*Code for educational level:
1 Some grade school study
2 Completed grade school
3 Some high school study
4 Completed high school
5 Some college study
6 Bachelor's degree: B.S., A.B.
7 Advanced degree: LL.B.
8 Doctorate: M.D., Ph.D., Sc.D., LL.D.

.374, which was not statistically significant.

The relation of the educational level of the mothers to the dominant interactions of their children is presented in Table XI. A rank-difference correlation coefficient of -.12 was obtained when the variables of dominance and educational level of the mother were ranked.

TABLE XI

RELATION OF EDUCATIONAL LEVEL OF MOTHER TO DOMINANT INTERACTIONS

Child	Education of Mother*	Interactions Total No.	Dom. No.	Dom. %
M6	7	106	69	65
M2	6	66	51	77
F4	6	48	32	67
F7	6	102	66	65
M8	6	54	34	63
M9	6	83	50	60
M10	6	116	62	53
F11	6	77	40	52
F13	6	60	27	45
F1	5	83	65	78
F3	5	47	32	68
F5	5	107	71	66
F12	5	60	31	52

rho = -.12

*Code for educational level:
1 Some grade school study
2 Completed grade school
3 Some high school study
4 Completed high school
5 Some college study
6 Bachelor's degree: B.S., A.B.
7 Advanced degree: Medical Technology
8 Doctorate

CHAPTER V

SUMMARY, CONCLUSIONS, RECOMMENDATIONS

A summary of the first four chapters of this thesis is presented, with conclusions, limitations, and suggestions.

I. SUMMARY

Most of the waking hours in an individual's life are spent in interaction with other people through activities in family life, school, church, work, clubs, societies, and political organizations. In these social contacts, involving the participation of more than one person, an individual is in varying degrees either dominant or submissive.

This study was based upon a study of dominant-submissive interactions of preschool children who were enrolled in the Longitudinal Studies in Personality of the University of North Carolina at Greensboro. The dominant-submissive patterns of these children were related to the variables of age, sex, height, weight, intelligence, ordinal position in the family, disciplinary methods used by the parents, and educational level of the parents.

Theories supported by some authorities in the field

indicate that dominance and submission are consistent personality traits; that these traits are the product of previous experience; that different conditions call for responses that vary in the degree of dominance or submission; that individual differences in these traits are to be found among children of the same age; and that overt behavior is indicative of the personality of the individual.

For this study it was assumed that: overt behavior may be categorized into a dichotomy of dominance-submission; there will be individual differences in the frequency of dominant interactions; and the percentages of dominant interactions will disclose the child's overall tendency of dominating or being dominated.

Hypotheses presented for consideration were:

1. There should be an increase of dominant interactions with an increase in age.
2. Boys should have a higher percentage of dominant interactions than girls.
3. Children above the mean of the group in height and weight should have a higher percentage of dominant interactions than the children below the mean of the group in height and weight.
4. The intelligence quotient of the child should be positively related to dominance.
5. The child who is the only or the oldest child in the family should have a higher percentage of dominant

interactions than the intermediate or the youngest child in the family.

6. Children subjected to positive disciplinary methods used by the parents should have a higher percentage of submissive interactions.
7. The educational level of the parents should be related to dominance on the part of the child.

The definition of dominance included the verbs: advises, directs, helps, attacks, threatens, disapproves, resists, ridicules, boasts, and ignores. The definition of submission included the verbs: requests, imitates, assists, withdraws, evades, concedes, agrees, and approaches.

Related Literature

The pattern of dominance may be determined by early childhood compensations, associations, environmental conditions, and enforced obedience. Experimental designs have been devised to modify submissive behavior by increasing the self-confidence of the subject. Dominance has been related in literature to the variables of physical size and energy, leadership, height and weight, sex of subject, intelligence and scholarship, introversion-extroversion, order of birth within the family, academic status, age, social participation and responsiveness, and self-confidence.

Method of Data Collection

The collection of data consisted of three steps: selecting the sample, coding the diary records, and

collecting related information.

Thirteen children in the Longitudinal Study of Personality whose diary records were available for the first year of nursery school attendance were chosen as subjects for this study. The investigator was not acquainted with any of the children or with their families.

The diary records for each subject were divided into three three-month periods. Three records for each subject were chosen from each period using a table of random numbers, with a total of nine diary records for each subject. Each record was for a thirty-minute period, making a total of 270 minutes of observation for each subject.

The entire diary record was read through to determine interactions, then reread while applying the category system developed and tested by Deal (1963) for coding interactions into a dichotomy of dominance or submission. Every dominant and every submissive interaction was recorded for each subject.

In addition to the diary records, there were various behavioral and developmental records available on each child in the Longitudinal Study of Personality. The Initial Parent Interview, Family Information, Follow-Up Parent Interview, Mental Tests, and Physical Records were examined for information related to the variables used in this study.

Data Analysis

The percentage of the total number of interactions

that were dominant was used to rank the subjects.

In considering the interactions for all of the subjects for each of the three periods of first-year nursery school attendance, there was a consistent increase in the percentage of dominant interactions, from 57 per cent for the first period, to 62 per cent for the second period, to 67 per cent for the third period. Rank-difference correlation was applied to the variables of age and dominance with a coefficient of .00 resulting.

Records of five boys and eight girls were included in this study. When the percentage of dominant interactions were considered separately for each sex there was only slight difference, with 62.6 per cent for the boys and 62.4 per cent for the girls. In considering the mean for each group, the boys exceeded the girls in the total number of interactions and in the number of interactions that were categorized as dominant.

The mean height of the subjects was 40 7/8 inches. Those ranking above this mean had a total of 62.6 per cent dominant interactions; those ranking below the mean of the group had a total of 62.1 per cent dominant interactions. Rank-difference correlation was applied to the variables of height and dominance with a coefficient of .44. This does not attain statistical significance.

The mean weight of the subjects was 35.07 pounds. The subjects ranking above the mean had a total of 64 per

cent dominant interactions. The group below the mean in weight had a total of 61 per cent dominant interactions. A nonsignificant coefficient of .39 was revealed when rank-difference correlation was applied to the variables of weight and dominance.

The IQ of the subjects involved in this study ranged from 100 to 143, with a mean IQ of 124. Rank-difference correlation applied to the variables of IQ and percentage of dominant interactions resulted in a coefficient of .524, which approaches statistical significance.

The subjects were divided into two groups of only-oldest and intermediate-youngest. In comparing the percentage of dominant interactions of these two groups, the only-oldest exceed with 66 per cent, to 61 per cent for the intermediate-youngest group. The two subjects who ranked highest in dominant interactions were only-oldest children; the three who ranked lowest were youngest children.

It was expected that a relationship would exist between positive disciplinary methods used by the parents and a high rank on the part of the child in percentage of submissive interactions. This was not true for the subjects of this study. A coefficient of -.10 was obtained, which was not significant.

The parents of the subjects ranked unusually high in the educational level. When applying the rank-difference correlation to the variables of dominance of the child and educational level of the father, a coefficient of .374 was

obtained; for a similar application to the educational level of the mother, a coefficient of -.12 resulted.

II. CONCLUSIONS

Considering only the total percentage of dominant interactions for the subjects of this study, there was an increase in dominance corresponding to an increase in the time the group was in attendance in nursery school. When age of child was correlated with the total percentage of dominant interactions for the three nursery school periods, there was a coefficient of .00. This indicated that although the percentages of dominant interactions increased as the children attended nursery school longer, there was no significant relationship between ages of children and percentage of dominant interactions. It should be recognized that a relatively short age span accounted for this group of children.

Studied in terms of mean scores, there was very little difference in the dominance of boys and girls and in the relation of dominance to height. Some difference was found relating dominance to those above the mean of the group in weight and to those who were only or oldest children in the family.

Although not statistically significant, a strong tendency was revealed for a positive relationship between dominance and the IQ of the subjects. Negligible

correlations were found, however, between percentage of dominant interactions and the variables of age, height, weight, disciplinary methods of parents, and educational level of parents.

III. RECOMMENDATIONS

Limitations

The judgment of the investigator was involved in determining interactions and in dichotomizing these interactions into a dominant or submissive category. Difficulty was experienced in interpreting the intonation and implication of the words used, the facial expressions, and the bodily movements.

The observations recorded in the diary records included free play activities indoors and outdoors, rest periods, story periods, and lunch periods. This introduced variations in the samples which were randomly chosen. If observations had been confined to a specific period of the day's activities, the diary records would have been more uniform in content. Also, one person did not record all of the observations, which created another variation in content.

Recommendations for Further Research

Applying these methods to the same children during the second year of nursery school attendance and comparing the results of the two studies would be of value in the

longitudinal study for evaluation and comparison of personality patterns. This more inclusive picture of the child might be of some value in considering the consistency of characteristics.

The diary records will be available for further study. It is feasible that they may be analyzed by other investigators interested in social behavior at different stages of growth, frequency in changes of activity, selection and use of play materials, progressive development from parallel play to cooperative play, or evidences of characteristics of leadership.

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APPENDIXES

APPENDIX A

TABLE XII

INTERACTIONS FROM CODED DIARY RECORDS

Name of Child: Ma. R. Date of Birth: 12/24/1954 Code Number: F1

Diary Number	Record Date	Interactions (D or S)	Total No.	Number Dom.	Number Sub.	Percentage Dom.	Percentage Sub.
00	10/15/58	S S S D D D	6	3	3		
01	10/23/58	S D S S S	5	1	4		
03	11/17/58	D S D D D S D S D D D D S S S	15	9	6		
		Total for First Period of Nursery School Year	26	13	13	50	50
02	1/5/59	D D D D D	5	5	0		
01	12/16/58	S	1	0	1		
03	2/12/59	D D D D S D D D	8	7	1		
		Total for Second Period of Nursery School Year	14	12	2	86	14
04	4/7/59	D D D D D D S D D S D D D D D D D D D D	20	18	2		
06	4/22/59	D D D D S D D D D D D D D D D	15	14	1		
05	4/17/59	D D D D D D D D	8	8	0		
		Total for Third Period of Nursery School Year	43	40	3	93	07
Total Interactions and Percentages for First Year of N. S.			83	65	18	78	22

APPENDIX A

TABLE XIII

INTERACTIONS FROM CODED DIARY RECORDS

Name of Child: B. L. Date of Birth: 9/7/1956 Code Number: M2

Diary Number	Record Date	Interactions (D or S)	Total No	Number Dom.	Number Sub.	Percentage Dom.	Percentage Sub.
07	11/20/59	D D D D D D D D D D D	11	11	0		
02	10/13/59	D	1	1	0		
00	9/25/59	D D D S D D D S D S D S	12	8	4		
		Total for First Period of Nursery School Year	24	20	4	83	17
01	12/3/59	S D S D D S S D S	9	4	5		
03	2/3/60	D D D	3	3	0		
04	2/24/60	D D S D D D D D	8	7	1		
		Total for Second Period of Nursery School Year	20	14	6	70	30
05	4/1/60	S D S S D D D D	8	5	3		
08	4/29/60	D D D D D S D D	8	7	1		
03	3/29/60	D D D D S D	6	5	1		
		Total for Third Period of Nursery School Year	22	17	5	77	23
Total Interactions and Percentages for First Year of N. S.			66	51	15	77	23

APPENDIX A

TABLE XIV

INTERACTIONS FROM CODED DIARY RECORDS

Name of Child: K. S. Date of Birth: 1/13/1956 Code Number: F3

Diary Number	Record Date	Interactions (D or S)	Total No.	Number Dom.	Number Sub.	Percentage Dom.	Percentage Sub.
00	9/20/59	D S D	3	2	1		
07	11/19/59	D S D S S D	6	3	3		
03	10/15/59	D D S D	4	3	1		
		Total for First Period of Nursery School Year	13	8	5	62	38
02	1/12/60	D D D D S	5	4	1		
03	2/11/60	S D D S D	5	3	2		
06	2/29/60	S S S S	4	0	4		
		Total for Second Period of Nursery School Year	14	7	7	50	50
01	3/21/60	D D D D D D D D D	9	9	0		
04	4/7/60	S D D	3	2	1		
07	5/2/60	D D S D S D D D	8	6	2		
		Total for Third Period of Nursery School Year	20	17	3		
Total Interactions and Percentages for First Year of N. S.			47	32	15	68	32

APPENDIX A

TABLE XV

INTERACTIONS FROM CODED DIARY RECORDS

Name of Child: D. P. Date of Birth: 12/29/1954 Code Number: F4

Diary Number	Record Date	Interactions (D or S)	Total No.	Number Dom.	Number Sub.	Percentage Dom.	Percentage Sub.
03	11/10/58	D D	2	2	0		
01	10/22/58	D D D S S D	6	4	2		
00	10/16/58	S D	2	1	1		
		Total for First Period of Nursery School Year	10	7	3	70	30
01	12/10/58	D D	2	2	0		
03	2/19/59	D S D	3	2	1		
00	12/1/58	D D S	3	2	1		
		Total for Second Period of Nursery School Year	8	6	2	75	25
03	4/24/59	D D S S D S S D D D S D D	13	8	5		
02	4/22/59	D D D D S S D D S D D	11	8	3		
00	4/7/59	D D S S S D	6	3	3		
		Total for Third Period of Nursery School Year	30	19	11	63	37
		Total Interactions and Percentages for First Year of N. S.	48	32	16	67	33

APPENDIX A

TABLE XVI

INTERACTIONS FROM CODED DIARY RECORDS

Name of Child: Me. R. Date of Birth: 1/4/1957 Code Number: F5

Diary Number	Record Date	Interactions (D or S)	Total No.	Number Dom.	Number Sub.	Percentage Dom.	Percentage Sub.
00	9/19/60	D S D S S S D S S S	10	3	7		
07	11/16/60	D D S D D D D D D D S D S S	15	11	4		
02	10/3/60	D D S D S D S D S D S S	12	6	6		
		Total for First Period of Nursery School Year	37	20	17	54	46
04	2/13/61	S D S S D D D S	8	4	4		
03	2/5/61	D D D D D D S D S D D S D	13	10	3		
00	12/2/60	D D D S S D D D S D S S	12	7	5		
		Total for Second Period of Nursery School Year	33	21	12	64	36
02	4/13/61	D D S D D D D S	8	6	2		
03	4/21/61	D D D D D D D D D S D D S D D D D D D D S S D D	24	20	4		
01	3/23/61	D S D D D	5	4	1		
		Total for Third Period of Nursery School Year	37	30	7		
Total Interactions and Percentages for First Year of N. S.			107	71	36	66	34

APPENDIX A

TABLE XVII

INTERACTIONS FROM CODED DIARY RECORDS

Name of Child: J. D. Date of Birth: 7/17/1958 Code Number: M6

Diary Number	Record Date	Interactions (D or S)	Total No.	Number Dom.	Number Sub.	Percentage Dom.	Percentage Sub.
09	11/27/61	S D D D D D D D D D D D S S	14	11	3		
08	11/16/61	S S S D S D D D S D D D	12	7	5		
00	9/21/61	D S D D S D D S S D S S	12	6	6		
		Total for First Period of Nursery School Year	38	24	14	63	37
08	2/22/62	D S S	3	1	2		
03	1/4/62	D D D D D S S D D D D D S D	14	11	3		
04	1/9/62	D D S S D D D S	8	5	3		
		Total for Second Period of Nursery School Year	25	17	8	68	32
01	3/12/62	D S D D D D D D S S S D D D D D S D	18	13	5		
03	4/3/62	D S S D S D D D S S	10	5	5		
07	5/22/62	S D D D S S D S D S D D D D D	15	10	5		
		Total for Third Period of Nursery School Year	43	28	15		
Total Interactions and Percentages for First Year of N. S.			106	69	37	65	35

APPENDIX A

TABLE XVIII

INTERACTIONS FROM CODED DIARY RECORDS

Name of Child: M. K. Date of Birth: 12/19/1956 Code Number: F7

Diary Number	Record Date	Interactions (D or S)	Total No.	Number Dom.	Number Sub.	Percentage Dom.	Percentage Sub.
09	11/23/60	D D S D D S D S D S D D D D D	15	11	4		
07	11/7/60	D D S S S D D D D D	10	7	3		
03	10/11/60	D S S D D	5	3	2		
		Total for First Period of Nursery School Year	30	21	9	70	30
07	2/14/61	D D D S D D S S	8	5	3		
08	2/20/61	S D D D D D S D	8	6	2		
00	12/1/60	D S S D S D D D D D D D D S S S	16	10	6		
		Total for Second Period of Nursery School Year	32	21	11	66	34
04	5/5/61	S S D D D D D D D S S S D	13	8	5		
01	3/22/61	D D D D D D D D D D S D S	13	11	2		
02	4/24/61	D S D D S S S D S S S S S D	14	5	9		
		Total for Third Period of Nursery School Year	40	24	16	60	40
Total Interactions and Percentages for First Year of N. S.			102	66	36	65	35

APPENDIX A

TABLE XIX

INTERACTIONS FROM CODED DIARY RECORDS

Name of Child: H. F. Date of Birth: 8/17/1956 Code Number: M8

Diary Number	Record Date	Interactions (D or S)	Total No.	Number Dom.	Number Sub.	Percentage Dom.	Percentage Sub.
03	10/8/59	D D D S D S	6	4	2		
04	10/14/59	D S D D	4	3	1		
08	11/20/59	D S D S D	5	3	2		
		Total for First Period of Nursery School Year	15	10	5	67	33
03	2/8/60	S D D	3	2	1		
04	2/19/60	D D S D S S S S S	9	3	6		
00	12/8/59	D D S D	4	3	1		
		Total for Second Period of Nursery School Year	16	8	8	50	50
03	4/1/60	D D D D D D	6	6	0		
07	5/5/60	D D D D S S D D S	9	6	3		
02	3/24/60	D D S D S S D S	8	4	4		
		Total for Third Period of Nursery School Year	23	16	7	70	30
Total Interactions and Percentages for First Year of N. S.			54	34	20	63	37

APPENDIX A

TABLE XX

INTERACTIONS FROM CODED DIARY RECORDS

Name of Child: J. W. Date of Birth: 12/7/1954 Code Number: M9

Diary Number	Record Date	Interactions (D or S)	Total No.	Number Dom.	Number Sub.	Percentage Dom.	Percentage Sub.
00	11/10/58	D S S S D D S D D D	10	6	4		
01	11/18/58	D	1	1	0		
02	12/3/58	D D S S	4	2	2		
		Total for First Period of Nursery School Year	15	9	6	60	40
02	1/15/59		0	0	0		
03	2/13/59	D D D S	4	3	1		
01	1/5/59	D D S D S D D D S D D D D	13	10	3		
		Total for Second Period of Nursery School Year	17	13	4	76	24
02	4/13/59	S D S D D D S S S	9	4	5		
03	4/15/59	S S S D D D D S D S S S D D D S S D S D D	21	11	10		
01	4/10/59	S D D S D D D D D D S S S S D D D S D D S	21	13	8		
		Total for Third Period of Nursery School Year	51	28	23	55	45
Total Interactions and Percentages for First Year of N. S.			83	50	33	60	40

APPENDIX A

TABLE XXI

INTERACTIONS FROM CODED DIARY RECORDS

Name of Child: M. H. Date of Birth: 4/13/1957 Code Number: M10

Diary Number	Record Date	Interactions (D or S)	Total No.	Number Dom.	Number Sub.	Percentage Dom.	Percentage Sub.
01	9/27/60	D D S S D S S S S S S D	12	4	8		
03	10/12/60	D D D D D S D D S S S S	12	7	5		
00	9/19/60	D D S S S S S D S S S S	12	3	9		
		Total for First Period of Nursery School Year	36	14	22	39	61
03	12/4/60	S D S D D S D S D D D	11	7	4		
04	1/4/61	D D D S D D D D S S D D S S	14	9	5		
00	12/1/60	S S D S D S S D S D D	11	5	6		
		Total for Second Period of Nursery School Year	36	21	15	58	42
00	3/3/61	D D D D S D S D S D D D S D	14	10	4		
02	3/22/61	D D S D D S S S D D S D S S D	15	8	7		
03	4/21/61	D D S D D D D D S S S S D S D	15	9	6		
		Total for Third Period of Nursery School Year	44	27	17	61	39
Total Interactions and Percentages for First Year of N. S.			116	62	54	53	47

APPENDIX A

TABLE XXII

INTERACTIONS FROM CODED DIARY RECORDS

Name of Child: B. K. Date of Birth: 5/22/1958 Code Number: F11

Diary Number	Record Date	Interactions (D or S)	Total No.	Number Dom.	Number Sub.	Percentage Dom.	Percentage Sub.
03	10/11/61	S S S D S S S D S D	10	3	7		
01	9/29/61	S S S D D S S S D	9	3	6		
00	9/21/61	S D D D D S D S D	9	6	3		
		Total for First Period of Nursery School Year	28	12	16	43	57
05	2/2/62	S D S D S	5	2	3		
02	12/12/61	D S S S D D D D D S S D	12	7	5		
03	1/2/62	S D S S S D D S S D D D	12	6	6		
		Total for Second Period of Nursery School Year	29	15	14	52	48
05	4/3/62	S D D S D D D D D S D D	12	9	3		
08	4/25/62	D D D S	4	3	1		
03	3/19/62	S S D S	4	1	3		
		Total for Third Period of Nursery School Year	20	13	7	65	35
Total Interactions and Percentages for First Year of N. S.			77	40	37	52	48

APPENDIX A

TABLE XXIII

INTERACTIONS FROM CODED DIARY RECORDS

Name of Child: L. L. Date of Birth: 5/4/1958 Code Number: F12

Diary Record Number	Date	Interactions (D or S)	Total No.	Number Dom.	Number Sub.	Percentage Dom.	Percentage Sub.
09	11/16/61	D D S D D S S D D D D	11	8	3		
07	11/3/61	D S S D D D S S D S	10	5	5		
10	11/21/61	S S	2	0	2		
		Total for First Period of Nursery School Year	23	13	10	57	43
02	2/6/62	S S D S S D S	7	2	5		
03	2/16/62	S D D S	4	2	2		
04	2/21/62	D D S D D D S D D	9	7	2		
		Total for Second Period of Nursery School Year	20	11	9	55	45
08	5/17/62	S D D D S	5	3	2		
02	3/-/62	S S D D D	5	3	2		
09	5/25/62	S S S S S S D	7	1	6		
		Total for Third Period of Nursery School Year	17	7	10	41	59
Total Interactions and Percentages for First Year of N. S.			60	31	29	52	48

APPENDIX A

TABLE XXIV

INTERACTIONS FROM CODED DIARY RECORDS

Name of Child: S. P. Date of Birth: 12/29/1954 Code Number: F13

Diary Number	Record Date	Interactions (D or S)	Total No.	Number Dom.	Number Sub.	Percentage Dom.	Percentage Sub.
01	10/14/58	S	1	0	1		
04	11/20/58	S D S S	4	1	3		
05	11/24/58	S D D S D D S S S S D D D	13	7	6		
		Total for First Period of Nursery School Year	18	8	10	44	56
04	2/25/59	S S S S D D S D D S D S D D S	15	7	8		
00	12/5/58	D	1	1	0		
03	2/3/59	S	1	0	1		
		Total for Second Period of Nursery School Year	17	8	9	47	53
03	4/13/59	D D S S S S	6	2	4		
00	3/4/59	S S S D S S D S S D D	11	4	7		
02	4/7/59	S S D D D D D S	8	5	3		
		Total for Third Period of Nursery School Year	25	11	14	44	56
Total Interactions and Percentages for First Year of N. S.			60	27	33	45	55

APPENDIX A

TABLE XXV

COMPILED INFORMATION, RELATION OF RANK OF DOMINANCE TO SELECTED VARIABLES

Code No.	Rank of Child	% Dom. Int.	Age	Sex	Height	Weight	IQ	Ordinal Position	Disciplinary Methods Positive	Disciplinary Methods Negative	Educational Level F.	Educational Level M.
F1	1	78	45	Girl	42 1/8	34 1/4	139	Oldest	90%	37 1/2 %	6	5
M2	2	77	36	Boy	40 3/4	39 3/4	128	Only	100	25	5	6
F3	3	68	44	Girl	42 1/2	39 1/4	122	Youngest	50	12 1/2	8	5
F4	4	67	45	Girl	41	30 1/4	126	Youngest	90	62 1/2	8	6
F5	5	66	44	Girl	40 5/8	36 1/4	125	Youngest	80	25	6	5
M6	6.5	65	38	Boy	39 5/8	35	126	Intermediate	60	12 1/2	6	7
F7	6.5	65	45	Girl	42 5/8	37 3/4	128	Intermediate	90	62 1/2	7	6
M8	8	63	37	Boy	39 3/8	37	100	Only	60	00	8	6
M9	9	60	45	Boy	40	35 3/4	117	Youngest	30	00	8	6
M10	10	53	41	Boy	43 1/4	41 1/2	119	Oldest	80	12 1/2	6	6
F11	11.5	52	40	Girl	41 1/8	32 1/2	125	Youngest	90	62 1/2	7	6
F12	11.5	52	40	Girl	38 1/2	28 3/4	143	Youngest	80	37 1/2	6	5
F13	13	45	45	Girl	39 3/8	29	117	Youngest	90	62 1/2	8	6
Mean		62	41.9		40 7/8	35.07	124				6.8	5.7

APPENDIX B

CODED DIARY RECORD

NAME OF CHILD: J. W. RECORDER: A. B.

BIRTH DATE: 12/7/1954 DATE: 11/10/1958

SETTING: Playyard, then playroom

TIME	CHILD'S BEHAVIOR	
10:45	J. is in playyard with other children. He is riding tractor--weaves with it. Leaves it for monkey bars. Climbs to top and back down--looks behind him to be sure of footing. Climbs again, cautiously, down to box and to ground. Runs to tractor. Pulls on wheel and band slips off, almost losing balance. Rides. "Chug-chug-chug-chug" sing-song style. Charlie steps in front of tractor, stopping it. Causes J. to drive into wall and stands over him. J. says "Stop," but Charlie doesn't show signs of leaving. J. gets off without a word.	D_6 S_{14}
	Soon Miss K. makes Charlie get off and calls J. who is sitting on wall. He gets on tractor, steers with one hand, tries to push back wheel with other hand. Back and forth. Backs to wall and pushes away with hand, stretching way back to do so.	S_{17}
10:52	J. just barely reaches the pedals on down strokes. His motions are jerky and quidance of tractor unsure. Loses balance frequently. Stops to watch Miss K. and Charlie picking up leaves. Teddy brings wheel-barrow of sand and gives J. a shovel-full. J. puts a little sand by pedal and some on "motor." He goes back and forth, singing "Choo-choo."	S_{17}
	Pulls his glasses off, swinging them by stem. Goes inside, pulling off hat and coat. Goes to Miss M. "I don't see why the teachers don't come outside." She starts to put his glasses on him, he jerks them off and goes into play room.	D_6 D_7

11:00 Stretches out on table-top looking at book, glasses on table beside him. Puts book on reading stand and stands to read it. Turns pages slowly, looking first at book then at children who are playing in kitchen.

Asks Miss M. to read to him. She explains she can't right now and sets him at table. He sits with chin propped on hand, looking at pictures. Hums to himself and looks around. S_{11}

11:07 "Dis is what I'm gonna have." (Means steering wheel.) Fixes boxes so he can sit on one and turn steering wheel. Turns it around and around.

Miss M. brings cots out. "It ain't time for rest time yet." Helps her unstack and place cots. Goes to closet with her and helps her bring out more cots. D_6 D_3

"Hey, Miss Price," goes to her (she just came) and takes her hand to get her attention and repeats his greeting. Roams around, goes to book a second, back to help with cots. D_2

APPENDIX C

Samples of: (forms)

Initial Parent Interview

Family Information

Follow-Up Parent Interview

Height and Weight Records

Diary Record Form

INITIAL PARENT INTERVIEW

Child's Name_____ Date_____ Sex_____

Birthdate _____

I. Developmental History

A. What kind of a baby was he? (Characterization) Lively, Quiet, Calm, Alert, Over-Active, Irritable, Tense, Happy

B. Age when able to:

1. Sit alone_____
2. Creep _____
3. Walk alone _____
4. Speak first word_____
5. Feed self with spoon_____
6. Drink from cup alone_____

C. Degree of self-help and independence in routine activities. Attitude

II. Health - Comment on health of child during infancy

III. Eating History

A. Breast fed? Weaned to bottle or cup?

Any difficulties?

B. Any trouble adjusting to solid foods?

C. Usual meal set-up - With family? Child's chair and equipment? Table behavior?

D. Any special eating difficulties - special diet? Allergies? Special dislikes?

E. Disciplinary techniques liked?

IV. Toileting History

A. Age when training was begun
1. Bladder _____
2. Bowel _____

B. Age when training complete
1. Bladder _____
2. Bowel _____

C. How was training handled? Any Difficulties?

D. Any special problems concerning toilet training?

V. Sleep History

A. Usual nap procedure?

B. Attitude toward nap?

C. Sleeping conditions: Room alone? Quiet?

D. Usual bedtime routine?

E. Attitude toward "bedtime?"

F. Go to sleep quickly? Lie awake? Demand attention?

G. Sleep pattern - restless or sound?

H. Disciplinary techniques used?

I. Do you feel he gets enough sleep?

VI. Activity

A. Brief outline of typical day's schedule for child?

B. Is child's play at home usually active, sedentary, boisterous, quiet, energetic, self-initiated, dependent on adult direction?

C. Playmates--age? Predominant relationship with this child?

D. Space for play
   1. Indoors

   2. Outdoors

E. Favorite activities
   1. Indoors

   2. Outdoors

F. Main restrictions on play?
   1. Indoors

   2. Outdoors

G. Play opportunities and arrangements satisfactory to parents?

H. Many play materials? What kind?

I. Regular time for reading? How much reading do you do? Does father read? Favorite stories?

J. Contact with music? In what ways? A family interest? Special attitude or interest?

K. Time spent with television?

L. Does family take "excursions" together?

M. Does child have home responsibilities? Of what nature?

VII. Emotional

A. What behavior has been of special concern? What have you attempted to do about it?

1. What situations most often lead to difficulties with the child?

2. For what is he most often punished?

B. What about child has pleased you most? What has been most satisfactory to father?

C. Any nervous habits? Parents' attitude toward this? Handling of this?

D. Child easily upset or disturbed when things go wrong?

E. Child excitable?

F. Predominant "mood" --Happy and content, frustrated and cross?

VIII. Family relationships

A. What is child's place in the family?

B. How does he get along with siblings?

C. Does he have responsibility for siblings in any way?

D. What is siblings' attitude toward child?

E. Amount of time spent with siblings?

F. Any behavior indicating rivalry or jealousy?

G. Any <u>particular</u> attachment to one member of family?

H. Check methods most often used with child:

Assistance	Demonstrating	Threatening
Praising	Reasoning	Scolding
Rewarding	Preparing child in advance	Spanking
Bribing	Diverting	Isolating
Offering choices	Cajoling	Putting to bed
Suggesting	Depriving of pleasure	Other
	Ignoring	

I. Reaction to discipline:

1. Do parents agree on ideas of discipline and punishment?

J. Living arrangements adequate and satisfactory for all members of family?

K. Comment on activities jointly engaged in by members of the family and the child (routines, reading, hobbies, excursions to zoo, museums, railroad station, airport, marketing, nature walks, etc.)

1. Father and child

2. Mother and child

3. Sibling and child

4. Family all together

L. Do one or both parents have special interests outside the home?

IX. Child's group activities outside home

1. Sunday school

2. Bible school

3. Play group

4. Child's reaction to above group experiences

FAMILY INFORMATION

CHILD'S NAME _____ SEX _____

BIRTH DATE _____ DATE _____

PARENTS:

FATHER'S NAME _____ MOTHER'S MAIDEN NAME _____

PRESENT ADDRESS _____ PHONE _____

LENGTH OF RESIDENCE AT PRESENT ADDRESS _____

	FATHER	MOTHER
DATE OF BIRTH		
PLACE OF BIRTH		
HEIGHT		
WEIGHT		
HEALTH		

NO. BROTHERS _____ SISTERS _____ NO. OF BROTHERS _____ SISTERS _____

FATHER

EDUCATION: HIGH SCHOOL AND COLLEGES ATTENDED: (Indicate Below)

	NAME	DEGREE	MAJOR FIELD
1.			
2.			
3.			

OCCUPATION: (Indicate Below)

Position held in present organization: _____

CIVIC ACTIVITY: Organization and church interests

	NAME OF ORGANIZATION	COMMITTEE	OFFICE
1.			
2.			
3.			
4.			
5.			
6.			

MOTHER

EDUCATION: HIGH SCHOOL AND COLLEGES ATTENDED: (Indicate Below)

	NAME	DEGREE	MAJOR FIELD
1.			
2.			
3.			

OCCUPATION: Present or previous occupations other than housewife (Indicate part or full time)

CIVIC ACTIVITY: Organization and church interests

NAME OF ORGANIZATION	COMMITTEE	OFFICE
1.		
2.		
3.		
4.		

OTHER ADULTS LIVING IN THE HOME

NAME	AGE	RELATIONSHIP TO FAMILY
1.		
2.		
3.		

CHILDREN

NAME	AGE	SEX
1.		
2.		
3.		
4.		
5.		

FOLLOW - UP PARENT INTERVIEW

Child's Name_____ Date_____

Sex_____ Birth Date_____

I. Important happenings in family during past year-move, new baby, other adults in home, trips, etc.?

II. Significant changes in child: personality, physical growth, relation to other members of family, etc.?

III. Activity

A. Brief outline of typical day's schedule for child

B. Is child's Play at home usually active, sedentary, boisterous, quiet, energetic, self-initiated, dependent on adult direction?

C. Playmates--age? Predominant relationship with this child?

D. Space for play
   1. Indoors

   2. Outdoors

E. Favorite activities
   1. Indoors

   2. Outdoors

F. Main restrictions on play?
   1. Indoors

   2. Outdoors

G. Play opportunities and arrangements satisfactory to parents?

H. Many play materials? What kind?

I. Regular time for reading? How much reading do you do? Does father read? Favorite stories?

J. Contact with music? In what ways? A family interest? Special attitude or interest?

K. Time spent with television?

L. Does family take "excursions" together?

M. Does child have home responsibilities? Of what nature?

VII. Emotional

A. What behavior has been of special concern? What have you attempted to do about it?

1. What situations most often lead to difficulties with the child?

2. For what is he most often punished?

B. What about child has pleased you most? What has been most satisfactory to father?

C. Any nervous habits? Parents' attitude toward this? Handling of this?

D. Child easily upset or disturbed when things go wrong?

E. Child excitable?

F. Predominant "mood" -- Happy and content, frustrated and cross?

VIII. Family relationships

A. What is child's place in the family?

B. How does he get along with siblings?

C. Does he have responsibility for siblings in any way?

D. What is siblings' attitude toward child?

E. Amount of time spent with siblings?

F. Any behavior indicating rivalry or jealousy?

G. Any <u>particular</u> attachment to one member of family?

H. Check methods most often used with child:

Assistance	Demonstrating	Threatening
Praising	Reasoning	Scolding
Rewarding	Preparing child in advance	Spanking
Bribing	Diverting	Isolating
Offering choices	Cajoling	Putting to bed
Suggesting	Depriving of pleasure	Other
	Ignoring	

I. Reaction to discipline:

1. Do parents agree on ideas of discipline and punishment?

J. Living arrangements adequate and satisfactory for all members of family?

K. Comment on activities jointly engaged in by members of the family and the child (routines, reading, hobbies, excursions to zoo, museums, railroad station, airport, marketing, nature walks, etc.)

1. Father and child

2. Mother and child

3. Sibling and child

4. Family all together

L. Do one or both parents have special interests outside the home?

IX. Child's group activities outside home

1. Sunday school

2. Bible school

3. Play group

4. Child's reaction to above group experiences

SCHOOL OF HOME ECONOMICS
THE WOMAN'S COLLEGE OF THE UNIVERSITY OF NORTH CAROLINA

NURSERY SCHOOL

HEIGHT AND WEIGHT RECORD

Child's Name _____ Birth date _____

DATE	HEIGHT	WEIGHT	REMARKS

DIARY RECORD

NAME OF CHILD _____ RECORDER _____

BIRTH DATE _____ DATE _____

SETTING _____

CHILD'S BEHAVIOR	OBSERVER'S INTERPRETATIONS