An experimental study in measuring and modifying assertive behavior in young children

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AN EXPERIMENTAL STUDY IN MEASURING AND MODIFYING ASSERTIVE BEHAVIOR IN YOUNG CHILDREN

by

Gertrude E. Chittenden

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, in the Department of Child Welfare, in the Graduate College of the State University of Iowa

August, 1941
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Chapter I

A STATEMENT OF THE PROBLEM AND ITS ORIENTATION
IN THE FIELD OF SOCIAL BEHAVIOR

Every social group has its individuals who are outstanding in their ability to interpret and respond to the behavior of others in such a way that the persons concerned experience mutual satisfaction; and every social group has members who are outstanding for their lack of this same skill. Theorists and investigators alike have long been trying to account for these great individual differences; the majority of them would agree that whatever responses an individual employs result from an interplay of the person and his social environment.

The little child enters into his social group unequipped with the repertoire of responses he needs to enable him to engage in successful social interchange. His attempts to influence the behavior of others and his responses to their attempts to influence him are crude. He must learn, largely by trial and error and with more or less incidental help from experienced persons, which of these attempts and responses are likely to result in his acceptance by his
associates and which will meet with their disapproval. Such a learning period, if marked with many failures and only chance successes, may result in the child's loss of interest in initiating social contacts accompanied by increased submission to other persons' attempts to influence him, or it may result in a more frequent use of force in the attempt to make himself successful. Neither of these possible results, if extreme, contributes toward the integration of the child and his social group. Consequently, the sooner that he can build up a fund of usable social knowledge and develop attitudes which indicate his increasing awareness of other individuals and their needs and desires, the sooner will he be in rapport with those individuals.

In this study an attempt was made to give direct help to a specially selected group of young children in developing ability to interpret social situations and to respond to others in light of this interpretation. Since selection of the children was based on their status in the use of forceful and non-forceful methods of social interaction relative to the status represented by their social groups, a second purpose of the study was the development of a measure of
the behavior used by young children in making their social contacts. By teaching these selected subjects certain social techniques and by giving them opportunities to analyze social situations, the writer hoped to shorten the period of trial and error learning.

A play technique involving dolls which "lived through" social experiences similar to those of the children was used as a teaching device. Such a method, if it accomplishes its purpose easily and successfully, should prove useful to parents, teachers, and mental hygienists who are interested in helping young children "grow into" society with as little frustration as possible.

The Setting of the Problem

The present problem fitted into and grew out of a background of theory and research dealing with the behavior used by one individual in influencing another. The brief summaries of the relevant theoretical and research materials which are presented here are reviewed in more complete detail later.
Theoretical Background

Theoretical viewpoints of the origin and growth of social behavior patterns vary all the way from that of the psychoanalytic concept of an instinctual basis to that of the Lewinian interpretation of behavior as a function of the immediate situation. Between these two extremes lie various other theories, some of which stress an inherent capacity but allow for the influence of environmental impacts, others of which emphasize the effects of social pressure and minimize the existence of any fundamental capacity, attitude or impulse within the individual. Suffice it to say here that the present study rests upon the assumptions (1) that social responses are learned as the result of interaction of the individual and his social environment, and (2) that any change which is made in either the individual or his psychological environment can produce a change in social behavior.

Research Background

Most closely related to the present investigation are studies of ascendant behavior by Jack (31), Page (47), Hatherly (28), and Fairlie (20) and the studies of domination-integration by Anderson (1, 2, 3).
Jack's concept of ascendance included all the efforts made by a child to achieve status for himself in social situations and his success in achieving that status. Anderson (1, 2, 3), still concerned with success of effort in achieving status, conceived of integration and domination as two dynamically different modes of behavior which could not be included within the one concept, ascendance; integration, a mature form of behavior, resulted from personality growth; domination indicated lack of growth.

All these studies were concerned with the attempts made by a child to influence others, and, as such, are similar to the present one. However, important questions remained unanswered at the conclusion of this series of investigations. This question was not answered by the experiments on ascendance: Should a child's success in achieving status, regardless of how he achieves it be interpreted as the sole criterion of his skill in influencing others, or are the methods he uses, the responses of the other child, and the subsequent behavior of both more important criteria of success of social contact? Anderson (1, 2) attempted to answer this question by introducing his concepts of
domination and integration, his implication being that the achievement of status through domination was a less mature, less successful social process than the achievement of status by integrative means.

Again, however, there are these important questions which must be answered if we are to be able to go beyond mere theorizing about social behavior: (1) Granted that there are children who attempt to influence others and who respond to others in such a way that mutual satisfaction does not result, can we aid these children in developing skill in making the kind of contacts that are likely to result in satisfaction for both individuals? (2) Can this be done first, by giving them social techniques to replace those that have proven unsuccessful, and then by helping them to analyze social situations, by helping them to see them from the point of view of the other fellow, to look ahead to the result of using this or that technique, and finally to choose and use the response that will result in the greatest possible satisfaction to both individuals? It was this practical aspect of the problem with which the present investigator was most concerned.
The Concept of Assertive Behavior

The broad behavioral concept used in the present study was that of assertiveness. Assertiveness was defined as (1) any overt attempt to influence the behavior of another and (2) any overt response to the above behavior so long as the child responding maintained his status in the situation. Conversely, non-assertive behavior included (1) no attempt to influence the behavior of another and (2) immediate compliance with another's efforts to influence one's behavior with loss of status of the one complying. Chief emphasis, of course, was on the first classification.

Observation of a group of young children revealed that in general two types of assertive behavior were shown: (1) behavior characterized by direct force, either physical or verbal, applied to the other person or his possessions in the attempt to influence him or to withstand his influence, and (2) behavior which was indirect and non-forceful and used in the attempt to influence another or to withstand his influence, with obvious recognition of his status in the situation. For purposes of convenience the former category was
called dominative behavior, the latter co-operative.

It is evident that these concepts are related to those of Jack (31) and Anderson (1, 2, 3). However, a comparison with Jack's construct of ascendance reveals a fundamental difference. In the Jack study the stress lay upon the total number of efforts to achieve status with every successful achievement raising the child's score, while the concept of assertiveness stresses the specific kinds of methods used by a child in attempting to influence the behavior of others. The success of his initiated attempts to dominate does not contribute directly or indirectly to the score, although the child's success in resisting domination indirectly contributes to the scores.

Undoubtedly, dominative assertive behavior is very closely related to Anderson's term, domination. But the present writer preferred to define it strictly in terms of its most obvious properties, that is, as a kind of behavior that is characterized by (1) direct force applied against another individual or his possessions and (2) lack of consideration for the status of that individual. No attempt has been made to build up as complex a theoretical description as that stated by Anderson (2):

"Dominative behavior, on the contrary, is rigid, fixed, static. A dominating individual has his mind made up, has his goals or desires
predetermined. He does not yield to differences; he is not abandoning status; he is trying to preserve status. He is not seeking a better understanding of another nor is he trying to achieve a redefining of desires, values and objectives, in order to discover a lower common denominator of differences. He is expending energy against another. He is not reducing conflict, he is either maintaining or increasing the conflict of differences.

"Domination seeks first not self-abandoning, but self-preservation. It resists change. However justified the individual may be in preserving the status quo, domination is decidedly less than growth at its optimum." (2, p. 345-346)

Similarly, Anderson's concept of integrative behavior probably is closely related to co-operative assertiveness as defined in this study. While he described integrative behavior as:

"...flexible, dynamic, yielding, spontaneous; it shows no fear of abandoning status, no fear of change." (2, p. 345)

again the present writer preferred to define it in terms of its observable properties, that is, as a kind of behavior which is characterized by (1) indirect, non-forceful attempts to influence the behavior of another, and (2) obvious consideration of that person's status in the situation.
The writer agrees wholely with Anderson in his insistence that the two kinds of behavior are different fundamentally and should be studied separately.

Statement of the Problem

The general aims of this study, as were stated previously, were those of developing a measure of the behavior used by young children in making social contacts and of helping a selected group of children develop ability in analyzing social situations and in responding to these situations in light of the analysis. Specifically, the steps which needed to be taken in fulfilling these aims were: (1) the development of a method of measuring assertiveness and the use of this method in selecting a group of children who were at the upper extreme of their social groups in domination and at the lower extreme in co-operation, (2) the formulation of a hypothesis as to some of the variables which operate to produce domination and co-operation, and (3) on the basis of this hypothesis the devising of a method of teaching which would be efficacious in decreasing domination and increasing co-operation.
Numerous among the theoretical explanations and scientific investigations of the origin and growth of social behavior patterns are those dealing with behavior similar to the dominative assertiveness of the present study. That such great emphasis has been placed here is evidence of the concern felt by investigators and theorists for explaining a type of behavior which stands out in high relief from a background of "expected" social reactions. Co-operative behavior patterns have received a minimum of attention. Evidently, little need is felt for accounting for the existence of behavior which does not deviate from the "expected." In this respect research workers and theorists are no more and no less in error than those clinicians, teachers, and mental hygienists who deem it necessary to try to account for a child's behavior only when it becomes a problem.
Theoretical Explanations of Assertive Behavior

Generally speaking, there are two points of view on the origin of dominant or aggressive behavior: one, that there is a basic, persistent instinct or attitude which determines behavior to a large extent, the other that behavior is mainly a product of the environment acting upon the human organism. Theorists who share the latter viewpoint disagree in regard to the temporal aspects of environmental influence. Lewin would say that behavior is a function of environment and organism "at the moment" while the Freudians, who use historical explanation, would insist on the effects of environmental impacts remote in time from the behavior being studied.

The Psychoanalytic View of Aggressive Behavior

For Freud and his followers aggressive behavior springs from an aggressive impulse which is a part of the instinctual equipment of every individual (30). This impulse, in combination with the child's outstanding characteristic, his erotic stimulability resulting in his desire to secure libidinal satisfaction, and with certain situations inherent in family life and
parent-child relationships, accounts for aggressive behavior. These latter situations, which always offer opportunities for satisfaction of libidinal desires, are invariably followed by pain, and, as traumatic experiences, they leave their imprint on all future personality development. These common experiences are:
(1) prenatal existence and the birth trauma, (2) nursing pleasure and the weaning trauma, (3) defecation pleasures and the sphincter training trauma, (4) genital stimulation pleasures and their prohibitions, (5) discovery of anatomical sex differences, and (6) various degrees of parental rebuff of sexual curiosity.
(30, p. 174-178) The Freudians claim that all aggressive behavior can be accounted for by the effects of such traumata (and other accidental ones) upon the child. As far as the present author knows there is no scientific evidence to support this theory. Only long-time, carefully controlled, intensive studies would serve to verify and influence of traumatic experiences of early childhood upon present behavior and such studies have not yet been made.
Dominance as a Basic Attitude

From his study of infra-human primates Maslow (44) made the following statement: "Our suggestions would be that dominance is determined by or is actually a composite of social attitudes, attitudes of aggressiveness, confidence, and cockiness that are at times challenged and which must of course be backed up by physical prowess." (45, p. 305)

Eisenberg (14), using Maslow's definitions (43) made the following careful distinctions between dominance feeling, dominance status, and dominance behavior:

"**Dominance status** depends upon the interactions of at least two persons and is a description of the social relationship between them. For example, let us consider the husband who dominates his wife; his opinion usually has full sway; he is more confident in his behavior; he has his way more often. The wife, on the other hand, expresses deference, respect, inferiority, willingness to give in, etc. But this same husband may be subordinate to his employer, to his father and to his older brother. His status changes with every new relation. Some persons have a dominance status in most situations, while other have subordinate status most of the time. Status may be obtained through personal characteristics sometimes called "strength of personality," or it may be culturally or situationally given, as is the case with employer status, or the status of men with distinguished titles or great wealth. Status, however, is always one man's position in relation to another." (14, p. 6)
"Dominance feeling, however, may be persistent and stable in the individual even when there are no other human beings present. It expresses an attitude which the individual has towards himself in relation to and towards the social world around him. We can best define it empirically in terms of what was found to be the syndrome of feelings of extremely dominant and non-dominant individuals. The individual with a high feeling of dominance is characterized by: self-confidence, self-esteem, high self-respect, and high evaluation of the self, consciousness or feeling of superiority in a general sense, a feeling of sureness with respect to other people, a feeling of being able to handle other people, a feeling of masterfulness and mastery, a feeling that others do and ought to admire and respect him, a feeling of general capability, and an absence of shyness, timidity, self-consciousness and embarrassment. These are general characteristics. An individual does not need to have all these qualities to be dominant, but in fact the components in this group characteristically are found together.

"The individual with a low feeling of dominance is characterized by the absence of these feelings as well as by certain other positive characteristics. His feelings are of uncertainty, lack of self-confidence, general inferiority, weakness, general admiration and respect for other people, a feeling of being 'below' others, of being looked down upon, of wanting to be like someone else rather than oneself, of being dominated by others, a lack of faith in oneself, and in one's abilities. He feels shy, inhibited, timid, unworthy, self-conscious and embarrassed. Generally, he cannot be said to be satisfied with himself." (14, p. 6-7)

"Dominance behavior may be defined as the behavior found in an individual who feels dominant and not found in low-dominance people. Of course, the behavior of individuals may depend somewhat on the specific social situation in which they are placed, but the general level of dominance behavior, as seen in a wide variety of situations, arises from the dominance feeling, so that a non-dominant employer may command an employee, but do so with a certain amount of apologizing. The dominant employee, for the sake of keeping his job, will obey, but he will not be embarrassed, shy, or blush in the presence of his employer." (14, p. 7)
If the hypothesis of these investigators is correct, dominance status should vary greatly from situation to situation while dominance feeling, being well generalized, should show more stability, and dominance behavior which arises from it should also be fairly stable.

Believing that there might be certain behavior acts characteristic of dominant and non-dominant individuals Eisenberg tried to differentiate such persons on the basis of their general behavior in a series of test situations and on certain expressive movements which he defined after Vernon and Allport as "adaptive acts, considered as dependent less upon external and temporary conditions than upon enduring qualities of personality." (14, p. 5)

Using the "Maslow Personality Inventory" (14, p. 9-16) and twice-administered self-ratings, he selected a group of subjects including fifteen dominant and eighteen non-dominant college men and twenty-four dominant and twenty-one non-dominant college women. These subjects were tested for various expressive movements including speed of handwriting, eye fixation, walking gait, estimation of distance, etc.
Their general behavior under test conditions was noted also. Some significant differences were found between the two types of subjects, leading the investigator to conclude that there was a syndrome of dominance and non-dominance behavior which paralleled the syndrome of dominance and non-dominance feeling described by Maslow.

Further studies (16, 17, 18) in which observers were asked to differentiate dominant and non-dominant persons from phonograph records of their voices, from moving pictures of their walking gait and from samples of their handwriting revealed that the correct judgments could be accounted for purely by chance. Eisenberg concluded that expressive movements were not highly correlated with dominance feeling and Maslow, in light of this evidence, revised his definition of dominance behavior as follows:

"Dominance behavior is sharply differentiated from dominance feeling since there is rarely a one-to-one relationship between them. Dominance feeling is only one of the determiners of dominance behavior. Other determiners are dominance status, compensatory efforts, specific training, the specific situation, and cultural pressures, both local and general. Diagnosis of dominance feeling from dominance behavior is apt to be inexact. Examples of dominance behavior are bursts of
temper, aggressive behavior, insistence on one's rights, free expression of resentment or hostility, openly over-riding rules or conventions, arguing freely, etc." (44, p. 4)

Nowhere within this theoretical structure is there any mention of the origin of dominance feeling. In his early work with apes Maslow commented, "The previous discussions would seem to indicate a preponderance of evidence for the hereditary influence in the determination of the dominance drive, but we do not feel at all certain of this." (45, p. 6) Later evidence reported by Eisenberg who worked with adult human subjects (15) showed that the factors which were closely related to dominance feeling were definitely social, being position in family, socio-economic status, height (really reaction to height) in men, and religious background. Such data point towards the influence of environment in determining, not only dominance behavior, which influence Maslow admitted, but also in determining dominance feeling, which he believed was not greatly influenced by culture. He expressed the latter opinion as follows: "Attitudes, feeling, affective states, dominant motivations and the like are, from all we know, formed and fixed at an early age. Some change undoubt-
edly occurs which must surely be largely assignable to social influences. Such change, however, slow as it is, cannot be compared with the determination of the appearance of social behavior in the immediate social field. We need not be surprised then if inner personality is stable and enduring." (44, p. 37-38) This statement again evades the issue of accounting for the existence of these attitudes at an early age. Is not their formation the result of cultural impact on the individual? And does not the theory then reduce to some such form as this: "Dominance feeling is based on a persistent attitude which the individual has towards himself and the world around him and which is formed as the result of that individual's cumulative experience in his social group." Then dominance feeling is not an attitude which, once formed, is inalterable but it is constantly changing with the continual interaction of the individual and his culture.

There is little if any direct evidence in the field of social behavior of young children to substantiate Maslow's theory of dominance feeling. Some indirect evidence such as that of Jack (31) and Page (47) who found correlations of .80 between the odd-even par-
tial scores in a series of ascendance pairings points to the possibility that there is some stable personality factor which runs throughout a series of situations that are not identical. The fact that these same investigators could increase ascendance by increasing a child's self-confidence in the use of certain play materials also suggests that there is an underlying attitude determining such behavior and that that attitude is one of self-confidence.

In the study of young children where behavior as such is the only really tangible datum available, the obtaining of direct empirical evidence for or against the existence of dominance feeling is next to impossible. However, with further refinement of projective methods it may become feasible to get an expression of such a feeling from young children. Fite's (21) method for getting children's attitudes towards physical aggression is an example of the use of projective methods which might provide a lead for anyone interested in obtaining information about dominance feeling.

Aggression as a Function of Motor Drive

From a clinical study of eighty-three extremely aggressive children Bender and Schilder (7) postulated
the close relationship between aggressive behavior and a general motor drive, thus implying that the most active child is likely to be the most aggressive one. They stated:

"This activity in aggressivity has a close relation to motor drive and instincts in general. It doubtless has its foundation in the organic structure, and its variations are in close relation to the constitution." (7, p. 520)

Some evidence by Caille (11) supported the theory of this close relationship between total activity and aggressiveness. When she found positive relationships between children's resistant, acquiescent, and aggressive behavior, she suggested that aggressiveness was a function of the number of social contacts made, that is of the child's total social activity.

Bender and Schilder (7) also offered another explanation for more specific aggressiveness. This theory is discussed later.

Aggression as the Result of Frustration

The influence of culturally imposed frustrations upon the aggressive behavior of children was stressed by a group of five Yale workers (13), who used as their basic postulate: "Aggression is always the
consequence of frustration." Since some understanding of their fundamental concepts and principles is necessary for an adequate discussion of their assumption, the following brief presentation of them is offered:

The moving forces of all behavior are included under the one term, *instigator*. This term refers to any antecedent condition, either observed or inferred, from which the response can be predicted, whether this condition be some physical stimulus, a verbally reported image, an idea, a motive or a state of deprivation.

The act which terminates a predicted behavior sequence is called the *goal response*. The goal response reduces the strength of the *instigator* to the point where it no longer has much of a tendency to produce the predicted behavior.

Any interference with the occurrence of an instigated goal response at its proper time in the behavior sequence constitutes frustration. In order to say that frustration exists, two things must be specified: (1) that the organism could have been expected to perform certain acts, and (2) that these acts were prevented from occurring.

*Aggression* is defined in two ways. Independently defined it is any sequence of behavior, the goal response to which is the injury of the person toward whom it is directed. Dependentely defined, it is the response which follows frustration.

The following principles were employed:

**Strength of aggression** is directly related to the strength of instigation to a frustrated response. It is also a function of the degree of interference with a frustrated response.

**The form of the aggression** is directly related to several factors. There are certain inhibitions which society places upon aggression. If these inhibitions
are disregarded, the person can expect to be punished. Consequently, the strength of the inhibition of any act of aggression varies positively with the amount of punishment anticipated. If great punishment is anticipated, the individual will inhibit his aggressive acts more rigidly and there will be very few overt signs of aggression. However, if the amount of frustration is great, the instigation to aggression may be stronger than the inhibitors imposed by the individual or society and aggression will occur. The authors state these principles as follows: (1) With strength of frustration held constant, the greater the anticipation of punishment for a given act of aggression, the less apt that overt act is to occur; and (2) With anticipation of punishment held constant, the greater the strength of frustration, the more likely the overt aggressive act is to occur.

The direction of aggression is usually towards the person or object which is perceived to be the source of frustration. When there are strong inhibitors to such aggressive acts, there will be more frequent less-direct acts of aggression, that is, aggression directed towards objects not responsible for the frustration. Aggression may be directed towards the self when the individual feels that he is responsible for the frustration or when all other forms of aggression are impossible or strongly inhibited.

The authors recognized the process of socialization as one of the most significant sources of frustration for young children. The child, entering into his culture, meets an organized way of life that has been set up by adults. He is constantly compelled to learn and practice solutions to problems that he has not yet even encountered.
The processes of learning to eat and of developing toilet habits were cited as excellent examples of frustrating experiences. An elaboration here of the former will serve to demonstrate the authors' viewpoint in regard to the frustrating effects of all culturally imposed regimens.

First of all, in the child's process of learning to eat, a rigid schedule is set up, one which may be quite artificial as far as the child's hunger responses are concerned. Then the process of weaning brings added frustration when we ask the child to give up the pleasurable sucking response in favor of chewing solid foods, a new and unknown process. We offer no substitute for the pleasure-giving lip-mouth response, in fact we even discourage it when he transfers it from food to thumb or clothing. Next we frustrate him by prohibiting certain much-desired foods and substituting less-desired ones. Add to all these frustrations those involved in learning "good table manners" and we see the eating process as a potential source of much aggressive behavior.

Not only does society impose situations and problems which are frustrating, therefore conducive to
aggressive behavior, but it takes steps to regulate and in some cases entirely prevent the aggressive behavior that is aroused. Threats of punishment or deprivation are used by parents with the result that much of the aggressive behavior which is inhibited appears in other forms and is directed towards other persons or objects from the ones responsible for frustration.

In this theory an attempt is made to explain all of aggressive behavior in terms of frustrations imposed by society. In this respect it resembles the psychoanalytic theory. However, where the latter emphasizes the influence of past frustrations on present behavior, the former implies that present aggressive behavior is a function of present frustration. It is difficult to define aggressive behavior according to this theory since all the behavior resulting from frustration has not the same observable characteristics.

Wright (51) who investigated the effect of frustration upon the social and emotional behavior of pairs of preschool children in a play situation found a decided increase in co-operation between the children during frustration. However, there was an increase in hostility towards the experimenter who was seen as the source of
the frustration. This latter result fits in well with the Yale hypothesis that aggressive behavior results from and is usually directed towards the source of frustration.

As for the increase in co-operative behavior between the two children, J. F. Brown (10) has stated that the attack by, or the existence of, an external enemy may increase the co-operation within a group. The rise in co-operation between the two children in Wright's experiment in the presence of the adult who had brought about the frustrating situation supported Brown's statement.

Sears and Sears (48) reported a study in which they attempted to test the Yale hypothesis that the strength of frustration varies directly with the strength of instigation to the frustrated response. Their subject, a twenty-three months old baby was frustrated by having his milk bottle removed from his mouth at various stages during the eating process. The interval between removal of the bottle and the resultant crying was used as the measure of strength of frustration. Since there was a direct relationship between the length of the pre-frustration eating period and the period be-
between removal of the bottle and crying, the investigators concluded that the hypothesis was correct.

Bender and Schilder (7) in speaking of more specific aggressiveness than they accounted for in their previously mentioned hypothesis stated:

"In general, it seems that the withdrawal of love increases aggressive tendencies in children. Psychoanalysts would speak about the diffusion of instincts, with destructive tendencies coming into the foreground. It is preferable to remain closer to the descriptive facts. The child who is deprived of love tries to get satisfaction from other sources and starts with his destructive search. He has learned, in addition, that deprivation which he may receive as punishment is not so severe as previously feared. He not only receives satisfaction by embarrassing the adult, but he receives more attention." (7, p. 511)

They claimed that the withdrawal of food may have the same influence.

Several studies support the hypothesis that aggressiveness is the result of frustration due to withdrawal of parental love. Hattwick (29) reported that children who received inadequate attention at home were likely to show aggressive behavior in the nursery school. This finding was corroborated by Fitz-Simons (22) in a clinical study and again by Grant (25) and Symond (49). The results of an in-
vestigation of jealousy by Foster (23) also bore out this relationship between parental rejection in favor of a sibling and aggressive behavior. Lippitt (41) found in one study of the effect of experimentally created "social climates" upon the behavior of ten-year-old boys that hostility was thirty times as frequent in the autocratic as in the democratic climate. Contrary to Wright's (51) results this hostility was not directed towards the autocratic leader but was directed towards two members of the group. It is probably safe to assume that there was some frustration in the autocratic group. In a second experiment (59) involving a greater number of groups only one of the autocracies produced similar results; the others produced extremely non-aggressive, apathetic behavior.

Until aggressive behavior can be reduced to less general terms than the Yale group has employed, it will be extremely difficult to put their hypothesis to a rigid test. Certainly, there is some evidence for its support in the literature.

The Lewinian Concept of the Origin of Social Behavior

For Lewin (38) all behavior is a function of the immediate situation which includes the individual
and the aspects of the environment influencing him "at the moment." His equation, B = f(P,E,) where B indicates behavior, P, the individual, and E, the environment expresses his concept of the origin of behavior. In this formulation (E) is the environment as it has significance for the individual (P), at a particular time. Environments, apparently the same, may produce very different behavior in the same individual at different times; likewise very different appearing environments may produce similar behavior in an individual at different times. Only by changing the present state of the individual or the environment can present behavior be modified. It is here that Lewin and the psychoanalysts disagree.

It is not within the scope of this brief review to consider Lewin's topological constructs. The point that the present investigator wishes to make is that Lewin would explain dominoative and co-operative assertive behavior as specific to the momentary situation in which they are observed. This theory does not deny the influence of past experience on present behavior; it merely stresses that only in so far as these past experiences have produced changes in the individual
which are operative at the present moment can they affect present behavior.

The entire research program headed by Lewin is based on this concept of the genesis of behavior. It involves the manipulation of independent variables which influence the intervening variables, P and E, and the measurement of the dependent variable, B. Typical of the research in this field is that of Lewin, Lippitt, and White (39), Wright (51) and Barker, Dembo, and Lewin (6). This approach to the study of social behavior has proven fruitful in determining some of the significant variables within the situation in which the behavior being studied is manifested.

The Theoretical Position of the Present Investigator

It is recognized that both dominative and cooperative behavior patterns are specific to a situation in which the momentary state of the child and the immediate environmental aspects are of prime importance.
However, it is the belief of the writer that increased knowledge of social situations and techniques can contribute greatly towards the formation of an objective attitude which, on subsequent occasions, can aid the individual in his choice of response. In Lewinian terms this would mean that it is possible to change the person (P) so that, in combination with a particular set of environmental conditions (E), a change in behavior (B) will result. Thus the specific behavior which occurs will be a function of the momentary situation but the objective attitude of the child will persist from situation to situation; he will have learned to respond on the basis of his evaluation of the situation and he will be a different person for having learned.

According to the "Yale hypothesis" an increase in knowledge and ability to analyze situations should result in a lessening of the frustrations imposed by society and a corresponding decrease in dominative behavior.

As for the theory that aggression is a function of activity, data are presented later which show that a decrease in dominative behavior is not necessarily accompanied by a decrease in the social activity of the child.
The present investigator made no use of the theories which postulate the existence of an inherent aggressive capacity or impulse.

There is no implication here that an increase in knowledge and ability to interpret social situations will effect a significant change in the assertive behavior of all children. The writer recognizes fully that there may be severe emotional tensions which will prevent a child from making a certain response even after he has chosen it as the best possible one to make. It is necessary that the reader keep in mind that the subjects of the present study were above average in intelligence and in socio-economic background, that none of them deviated beyond the normal range of emotional adjustment, and that all of them had a wealth of opportunity to make social contacts with persons their own age.

The Hypothesis Underlying the Present Investigation

From a preliminary study, the chief purpose of which was to devise a technique for measuring assertive behavior, results were obtained which seemed to corroborate the investigator's belief that co-operative behavior results from an evaluation of the specific
situation. Dominative assertiveness appeared more consistently throughout a series of pairings with five different companions than did co-operative behavior. This suggested that the former was less influenced by a change in companion than the latter; in other words, the child who used dominative techniques used them regardless of the identity of his companion; he did not evaluate the whole situation. On the contrary, the child who used co-operative techniques used them less consistently; he adapted his behavior to a change in the total situation.

From these findings the following working hypothesis was formulated: The amounts of dominative and co-operative assertiveness shown by an individual are functions of his ability to evaluate a social situation and to respond in terms of that evaluation. The implications are that by increasing an individual's ability to understand social situations, we should be able to increase his use of co-operative techniques and decrease his use of dominative ones. The aim of the study, from this point on, was to test this hypothesis.
Research on Behavior Related to Assertiveness

That the social interactions of early childhood have proved significant problems for investigation cannot be doubted when one examines the literature relating to them. No attempt is made here to review all the research concerning behavior similar to assertiveness. Only the studies which are most like the present study in method and in purpose are presented.

General Trends in Research on Social Behavior of Children of Preschool Age

Research in this field has revolved around three main points of emphasis. Early in the history of the study of social behavior of young children the chief stress was on the discovery of specific behavior responses, of their relationship to age, sex, and mental ability, and, to a relatively small extent, of the situational accompaniments of the behavior under consideration. Data consisted almost entirely of brief time samples of children's behavior recorded during free play or in the mental test situation. Much effort was expended on refining observational techniques.

In general, the results of these observational studies furnished a repertoire of the behavior reactions
manifested by young children in a play group. These
questions remained unanswered: (1) What conditions in the
social situation were conducive to the behavior that
was shown? (2) What does the occurrence of these particu-
lar reactions mean in regard to our increased knowledge
of child behavior?

This period of study was followed by one in
which the attempt to measure behavior experimentally
was foremost in importance. Here, methodology involving
the creation of situations designed to instigate the
behavior being studied became significant and hypothes-
ies as to the factors relevant to the behavior were
formulated and tested. This approach to the study of
social behavior has been more fruitful than the earlier
one in that it has made possible holding constant cer-
tain variables and manipulation of others in such a
way that those most closely related to the behavior in
question could be identified.

As an outgrowth of the work on the experi-
mental measurement of behavior special interest in
studying the structure of social behavior patterns
developed. The work in this specific field is rela-
tively young, necessarily depending heavily on the re-
suits of the studies mainly concerned with measurement. This study fits into the last two classifications.

Studies Closely Related to the Present Investigation

The series of investigations initiated by Jack's (31) work on the measurement and modification of ascendant behavior exemplifies the possibilities of starting with a broad concept of behavior and then observing more specific reactions which may be fitted into the broader concept, with the ultimate aim of deriving meaningful hypotheses which may be tested experimentally.

After expressing her concept of ascendance as (1) pursuing one's own desires against interference, (2) directing the behavior of one's companions, and (3) success in either or both of the above attempts, Jack devised an experimental technique for measuring such behavior. By pairing each of eighteen four-year-olds with ten different companions in a play situation where they used toys in a sand table she was able to get a reliable picture of each child's relative status in his social group. The technique enabled her to divide the group into non-ascendant, moderately ascendant, and ascendant sub-groups.
When observation of ascendant and non-ascendant children revealed a noticeable difference in the frequency of overt manifestations of self-confidence, Jack proceeded on the basis of the following hypothesis: The amount of ascendant behavior exhibited by a child in a particular situation is a function of the amount of self-confidence he feels. Taking the five children who were least ascendant, she trained them to use proficiently a story book, a picture puzzle, and a mosaic design. After such training these children were paired with four different companions with the training materials and again with ten different companions in the original ascendance experiment. When the mean final score of the trained subjects was compared with that of the rest of the preschool group, it was found to be higher. Four of the five trained subjects had increased markedly from initial to final test, this increase being largely in the attempts to direct the behavior of companions. Thus, Jack showed that by altering one variable, amount of self-confidence, she was able to alter the ascendance pattern of an individual.

Page (47) extended Jack's work by using the measuring technique successfully with 107 children of
different age, intelligence, and socio-economic levels. By shortening the number of experimental periods from ten to five she was able to get just as reliable a sample of ascendant behavior as Jack had obtained with the longer series. When she trained two ascendant, two moderately ascendant and two non-ascendant children, she found that four of the six increased in ascendance; one moderately ascendant and one ascendant child decreased. The seven least ascendant three-year-olds who were trained responded much as Jack's trained four-year-olds; they gained in ascendance to such an extent that they could be included in a group above the mean for the remainder of the group.

In an attempt to determine the relationship between ascendance in the experimental play situation and in the free play group Latherly (28) correlated the total scores obtained by thirty-eight preschool children during five experimental periods with those obtained during five five-minute observations in the free play group. Because this correlation was only .49 ± .02 she concluded that the score card was inadequate for measuring ascendance in an uncontrolled group situation. She also made an effort to discover some of the factors
which influenced the ascendant relationship of two individuals by analyzing the individual scores. Her results here indicated that (1) a child who made ascendant approaches to another child in a situation tended to discourage ascendant attempts in his companions, (2) there was no relation between attempts to gain ascendance and the percentage of failure or success experienced, (3) the children who were most often successful had the greater number of successes when paired with other children who were less often successful, and (4) the child's efforts to assume the ascendant role were neither encouraged nor discouraged by the fact that his partner showed resistance. Thus, the identity of the companion in the experimental play situation was an important factor in determining a child's ascendance score.

In a comparison of ascendant behavior of seventy-eight preschool and non-preschool children in an orphanage Fairlie (20) reported that preschool children showed a correlation of .626 between initial ascendance scores and scores obtained six months later. Her controls showed a lower degree of relationship over the same interval. When a change in the administrative policy of the orphanage, in the direction of more free-
dom for all the children, was made the non-preschool children almost doubled their scores. This finding tends to substantiate Jack's hypothesis that the amount of ascendance shown by a child is a function of his feeling of self-confidence in a situation.

Anderson (1, 2) used a modification of the Jack scale to measure dominative and integrative behavior as shown by 128 children of preschool age in an orphanage and in a college nursery school. Domination was defined as "rigid, fixed, static" while integration was characterized as "flexible, yielding, and spontaneous." His work grew out of his objection to Jack's including and giving equal weight to both of the above specific types of behavior in her concept of ascendance. Thus, an ascendant child might be highly dominant, achieving his status by use of force against his companions, or he might be equally ascendant by merely making a large number of requests or suggestions to his companions in the play situation. Anderson thought that the dynamics underlying these two kinds of behavior were too obviously different to allow for their inclusion in the same behavioral concept.
Examination of the concepts of the two investigators reveals that they are not in reality in conflict. For Jack, ascendance is merely effort and success of effort in achieving social status; she makes no analysis of the specific kinds of attempts. Anderson, emphasizing a broader concept of personality growth, is chiefly interested in how a child achieves his status, that is, in the maturity of his reactions.

From this study of domination and integration Anderson concluded that:

1. Domination in a child incites domi-

2. Integrative behavior in a child in-

3. Dominative behavior and integrative
behavior are not only different techniques
of responding to others, but in this experi-
mental situation are dynamically unrelated.

As has been stated earlier the present investi-
gation went beyond the theoretical stage represented by Anderson and attempted to devise a direct teaching meth-
method which would be effective in helping young children
develop skill in social response.
Chapter III

THE PRELIMINARY STUDY AND THE DEVELOPMENT OF
A MEASURE OF ASSERTIVENESS

A certain amount of preliminary exploration of assertive behavior was necessary before real progress towards fulfilling the aims of the present study could be made. Answers were sought to the following questions:

1. What specific kinds of behavior are noticeable in young children when asserting themselves in a group play situation?

2. Are there any fundamental characteristics of these kinds of behavior which differentiate them, that is, are there differences in kind and degree of assertiveness?

3. Can assertive behavior be measured reliably and validly in a controlled situation?

4. Is the domineering type of behavior typical enough and extreme enough in some young children to warrant a training program designed to modify it?

5. From a study involving the measurement of assertive behavior is it possible to get some clues as to methods that might be used in the modification procedure?

In an effort to answer these questions a study was made of the assertive and non-assertive behavior of seventeen children, ten boys and seven girls, who attended the preschool laboratories of the Iowa
Child Welfare Research Station during the summer of 1940. The subjects ranged in chronological age from 42 to 67 months with a mean of 52.76 months and in IQ from 117 to 145 with a mean of 131.60.¹

¹Because there was no mental testing program during the summer session, test scores were available for only the children who had attended the regular school year session as well as the summer session. Form L of the 1937 revision of the Stanford-Binet scale was used.

What specific kinds of behavior are noticeable in young children when asserting themselves in a group play situation?

Approximately ten hours of running accounts of the behavior of the children in the preschool laboratories were analyzed for the specific reactions which might be classified as assertive or non-assertive behavior. Seventeen items were listed and defined carefully.²

²The items are listed on p. 44. They and their definitions are also listed in the Appendix, p. 180. Some of these items are identical with those used by Jack (31) in measuring ascendance and by Anderson (1, 2) in his study of domination-integration.

Are there any fundamental characteristics of these kinds of behavior which differentiate them, that is, are there differences in kind and degree of assertiveness?
Further analysis of the items obtained from the running accounts revealed that there were marked differences in the kinds of behavior observed. First, the items were classifiable as assertive and non-assertive. Closer examination of the assertive items showed that in general there were two kinds: one, characterized by direct force applied to the other individual or his possessions; the other characterized by lack of direct force. The former were called dominative assertion and the latter co-operative assertion. The three categories, domination, co-operation, and non-assertion and the specific items included in them are given below:

**Domination**

1. Directs force against companion
2. Attempts to gain possession of toy by physical force
3. Defends forcefully
4. Threatens
5. Commands companion to give material
6. Directs companion's behavior
7. Criticizes companion
8. Refuses to follow companion's suggestions or commands

**Co-operation**

9. Asks for toy or for turn with toy
10. Suggests joint use of material
11. Suggests taking turns
12. Bargains
13. Reasons
14. Agrees to companion's suggestions to take turns or to use material together. Occurs only in response to a co-operative initiation on the part of the companion.

Non-Assertion

15. Makes no attempt to gain possession of toy
16. Withdraws from the situation
17. Gives up toy immediately when commanded to do so or follows directions of companion immediately. Occurs only in response to a dominative initiation on the part of the companion.

Can assertive behavior be measured reliably and validly in a controlled play situation?

Several investigators who have used controlled play situations in measuring behavior similar to assertiveness have obtained results indicative of the fairly high reliability and validity of their techniques: Jack (31) reported an observer reliability of .96; her reliability of data, expressed as the correlation between odd-even partial scores on the ten pairings in her test series, was .80; teachers' ratings, used as a criterion of validity, correlated .81 with experimental scores. Page (47), using the same measures of reliability and validity, found an agreement of .94 between two observers, a correlation of .80 between odd-even partial
scores in a series of five pairings, and a validity coefficient of .69. Observer agreements ranging from .82 to .88 were reported by Anderson (2) who also gave validity coefficients of .72 for domination and .49 for integration when teachers' ratings were used as the criteria. In view of these findings the writer chose a controlled play situation for use in measuring assertive behavior.

The Controlled Play Situation. - Before selecting the controlled play situation the present investigator set up a number of criteria which such a situation should meet: First, of course, it should call forth assertive behavior as defined in this study; second, it should be similar to situations that occurred in the preschool group; third, it should be relatively simple; and fourth, it should hold the interest of children between the ages of three and six years for a period of at least five minutes.

After several different kinds of play situations were tried out, the following one was selected as that most nearly meeting the criteria: Two children were taken to an experimental room which contained an attractive toy and were allowed to play with it for a five-
minute period. Each child was paired with five other children drawn at random from his preschool group and five five-minute pairings were tried because Page (47) had found this number satisfactory for measuring ascendance.

The table of random numbers presented by Lindquist (40, p. 263-265) was used.

with five different toys. Specifically, the procedure was as follows: The investigator asked two children to come out and play a game with a new toy. The element of suspense created by having the new and unknown toy each time kept interest in the situation at a rather high peak. She took the children to the room which contained the toy placed in the middle of the floor and, in one corner, a small chair for herself. Hesitating with the children just inside the door, their hands in hers, she said, "You have a good time with the (name of toy). I'm going to sit over here and work." She sat down on the small chair and recorded the behavior of both children for a five-minute

A sample of the experimental record blank with directions for its use is included in the Appendix (p. 184).
interval. Figures 1, 2, and 3 show two children in the controlled play situation.

The investigator terminated the play period by saying, "This is all the time we have today. You may come back another day and play with a different toy." Then she returned the children to their preschool group and filled in the remaining blanks at the top of the record sheet.

The toys used were chosen for their attractiveness to children between the ages of three and six years and for their value in instigating solitary rather than co-operative play. This latter characteristic was desirable because it aided in stimulating assertive behavior. The specific toys used in the preliminary study are shown in Figure 4. They included (1) a large metal truck, (2) a hurdy-gurdy, (3) a wooden locomotive that could be taken apart, (4) a singing top, and (5) a xylophone.

No child participated in the experimental situation more than once on the same day and both toy and companion differed in each of the five pairings. This changing of two variables, toy and companion, from pairing to pairing might be questioned in view of the
Figure 1. Two children in the Test Situation: An attempt to take the toy by force with defense on the part of the child using it.
Figure 2. Two children in the Test Situation: A continued attempt to take the toy by force with continued defense on the part of the child who first possessed it.
Figure 3. Two children in the Test Situation: Joint play
Figure 4. The Toys Used in the Preliminary Study
(1) truck (2) hurdy-gurdy (3) locomotive (4) singing
top (5) xylophone
fact that it was desirable to have the situation as well-controlled as possible. However, in a short trial series where the same toy was used in successive pairings, it was discovered that a child's interest in the toy lagged after one experience with it. Consequently, it was believed that interest in a new toy each time was the really important variable to control.

The mean number of days taken for the five pairings, inclusive of the days on which the first and fifth pairings were made, was 21.47 days.

Reliability of the Observer.- Two trained observers recorded simultaneously the behavior items which occurred during nineteen successive pairings, a total of 95 minutes of observation. The following percentage agreements were found by using the formula:

\[
\frac{2 \times \text{number of agreements}}{\text{Items checked by observer A} + \text{Items checked by observer B}}
\]
<table>
<thead>
<tr>
<th>Items</th>
<th>Per Cent Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (including possession)</td>
<td>93 ± .002</td>
</tr>
<tr>
<td>Total (excluding possession)</td>
<td>90 ± .01</td>
</tr>
<tr>
<td>Domination</td>
<td>90 ± .02</td>
</tr>
<tr>
<td>Initiations*</td>
<td>88 ± .02</td>
</tr>
<tr>
<td>Responses</td>
<td>93 ± .02</td>
</tr>
<tr>
<td>Co-operation</td>
<td>89 ± .02</td>
</tr>
<tr>
<td>Initiations</td>
<td>84 ± .06</td>
</tr>
<tr>
<td>Responses</td>
<td>100 ± .00</td>
</tr>
<tr>
<td>Non-Assertion</td>
<td>90 ± .01</td>
</tr>
<tr>
<td>Possession</td>
<td>98 ± .001</td>
</tr>
</tbody>
</table>

*Reliabilities were computed separately for initiations and responses for the reason that later, when training subjects were to be chosen, the criterion for their choice was to be their relative status to that of the rest of the group in initiations and responses on dominative and co-operative behavior.

These observer reliabilities, ranging from 84 on co-operative initiations to 100 on co-operative responses, compare favorably with the observer reliabilities of .96 reported by Jack (31), .94 given by Page (48), and a range of from .82 to .88 found by Anderson (2).

Reliability of the Data.- Since it was possible to obtain from the record a score for each minute spent in the controlled situation, the reliability of the data was determined by correlating the scores on odd minutes with those on even minutes. These corre-
lations are given in the following tabulation:

<table>
<thead>
<tr>
<th>Behavior Category</th>
<th>Children</th>
<th>Level of Significance</th>
<th>Spearman-Brown</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domination</td>
<td>17</td>
<td>.82</td>
<td>1%</td>
</tr>
<tr>
<td>Co-operation</td>
<td>17</td>
<td>.78</td>
<td>1%</td>
</tr>
<tr>
<td>Non-assertion</td>
<td>17</td>
<td>.93</td>
<td>1%</td>
</tr>
</tbody>
</table>

*These are Pearson product-moment coefficients of correlation.

When the data from the experimental records for the seventy-one subjects of the main study were analyzed to obtain additional information about the reliability of the method of measurement, the following results were obtained:

<table>
<thead>
<tr>
<th>Behavior Category</th>
<th>Children</th>
<th>Within Groups**</th>
<th>Level of Significance</th>
<th>Spearman-Brown</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domination</td>
<td>71</td>
<td>.66</td>
<td>1%</td>
<td>.80</td>
</tr>
<tr>
<td>Co-operation</td>
<td>71</td>
<td>.71</td>
<td>1%</td>
<td>.83</td>
</tr>
<tr>
<td>Submission*</td>
<td>71</td>
<td>.50</td>
<td>1%</td>
<td>.75</td>
</tr>
</tbody>
</table>

*The concept of non-assertion was not used in the main study. Instead, a submissive score was composed of the two items: (1) withdraws from the situation and (2) gives up toy immediately when commanded to do so, or follows companion's directions immediately.

**The correlation within groups was used as the measure of relationship. The assumption of homogeneous correlation within the three age groups underlies the test of significance used here. A more complete description of this method of correlating measures appears in Lindquist (40, p. 219-223).
The agreements between two observers and these correlations of odd-even minutes seemed high enough to indicate that: (1) the experimental technique and the score card offered a reliable means of measuring domination, co-operation, and non-assertion, and (2) five pairings gave a reliable picture of a child's assertive and non-assertive behavior. The low correlation between odd-even minutes for submissive behavior was due, partially at least, to the small number of such items observed during the twenty-five minutes. Apparently, a highly reliable sample of this behavior cannot be obtained during twenty-five minutes of the kind of activity which took place in the test situation. Because submission was not included in the concept of assertiveness, its rather low reliability here did not in any way influence the reliability of the measure of assertiveness being developed.

Validity of the Data. Previous investigators have reported correlations ranging from .49 (2) for integrative behavior to .31 (31) for ascendant behavior when teachers' ratings were used as the criterion with which experimental scores were correlated. Anderson (2) stated that teachers seemed better able to rate children
on domination than on integration, probably because domination was more noticeable and bothersome than integration. Because teachers' ratings have proved somewhat questionable in their use as a criterion of test validity, the present investigator decided to use two criteria, teachers' ratings, and observations of the children in the preschool group situation.

**Teachers' Ratings.**—Each head teacher and each assistant teacher of the preschool groups from which the subjects were drawn was asked to rate the children on a specially constructed five-point rating scale, a sample of which is included in the Appendix (p. 186). Since each assistant teacher was thoroughly familiar with half the members of a preschool group, she was asked to rate only those children. The following tabulation contains the correlation coefficients obtained when head teachers' and combined teachers' ratings were correlated with total experimental scores:
### Behavior Categories

<table>
<thead>
<tr>
<th>Rater</th>
<th>Children</th>
<th>Domination</th>
<th>Co-operation</th>
<th>Non-Assertion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Level of r Significance</td>
<td>Level of r Significance</td>
<td>Level of r Significance</td>
</tr>
<tr>
<td>Head Teachers</td>
<td>17</td>
<td>.77</td>
<td>.65</td>
<td>.18</td>
</tr>
<tr>
<td>Combined Teachers</td>
<td>11#</td>
<td>.64</td>
<td>.17</td>
<td>.65</td>
</tr>
</tbody>
</table>

*Because it was impossible to obtain the ratings from one assistant teacher, the tabulation shows the combined teachers' ratings for only eleven children.*

Additional data on the validity of the measure were obtained from the teachers' ratings and observations of the seventy-one subjects of the main study. The relationships between teachers' ratings and experimental scores are given in the tabulation below:

### Behavior Categories

<table>
<thead>
<tr>
<th>Rater</th>
<th>Children</th>
<th>Domination</th>
<th>Co-operation</th>
<th>Submission</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Within Groups Level of Significance</td>
<td>Within Groups Level of Significance</td>
<td>Within Groups Level of Significance</td>
</tr>
<tr>
<td>Head Teacher</td>
<td>71</td>
<td>.50</td>
<td>.24</td>
<td>-.03</td>
</tr>
<tr>
<td>Combined Teachers</td>
<td>71</td>
<td>.55</td>
<td>.19</td>
<td>.07</td>
</tr>
</tbody>
</table>
The measure is fairly valid for domination, less so for co-operation, and is entirely lacking in validity for submission when teachers' ratings are used as a criterion. The higher relationships between teachers' ratings and experimental scores on domination than on co-operation seems to corroborate Anderson's (2) statement that teachers are more aware of the former than of the latter type of behavior. Certainly the value of such ratings as criteria of the validity of a test of the social behavior of the children under a teacher's guidance would depend on such factors as: (1) her knowledge of each child as an individual, and (2) her ability to see objectively the behavior being rated. To the extent that teachers vary in these abilities, their ratings will vary in their dependability as criteria of validity.

Observations.- Six\(^6\) five-minute observations

\(^6\) The decision to make six observations was arbitrary in the beginning. The necessity for having more than six in order to have a reliable sample of behavior would be indicated by a low correlation between scores on odd-even minutes of the thirty minutes of observation.

of sixteen\(^7\) of the seventeen subjects were made by the

\(^7\) Absence from school of the seventeenth subject prevented the investigator from making the sixth observation of him.
investigator in the preschool play situation. As with the experimental records, the five-minute period was broken up into fifteen-second intervals and symbols were used to designate the behavior items. No child was observed more than once on the same day, more than once during the same five-minute interval of the day, or when there were fewer than two other children in the playroom or on the playground with him. A sample of the observation blank may be found in the Appendix (p. 189). The observation score on each category was made up of the total number of items within it that occurred during the thirty minutes of observation.

As a measure of the reliability of the sample of behavior observed during the six observation periods the odd scores were correlated with the even ones. These correlations, indicating that the sample was a fairly reliable one, appear in the following tabulation:

<table>
<thead>
<tr>
<th>Behavior Category</th>
<th>Children</th>
<th>r</th>
<th>Level of Significance</th>
<th>Spearman-Brown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domination</td>
<td>16</td>
<td>.88</td>
<td>1%</td>
<td>.94</td>
</tr>
<tr>
<td>Co-operation</td>
<td>16</td>
<td>.88</td>
<td>1%</td>
<td>.94</td>
</tr>
<tr>
<td>Non-Assertion</td>
<td>16</td>
<td>.66</td>
<td>1%</td>
<td>.80</td>
</tr>
</tbody>
</table>
When the observations were used as a criterion to determine the validity of the experimental scores, the following correlations were obtained:

<table>
<thead>
<tr>
<th>Behavior Category</th>
<th>Children</th>
<th>r</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domination</td>
<td>16</td>
<td>.81</td>
<td>1%</td>
</tr>
<tr>
<td>Co-operation</td>
<td>16</td>
<td>.68</td>
<td>1%</td>
</tr>
<tr>
<td>Non-Assertion</td>
<td>16</td>
<td>.10</td>
<td>Less than 5%</td>
</tr>
</tbody>
</table>

The correlations between observation and experimental scores of the subjects of the main study are given below as further evidence on the validity of the measure of assertiveness:

<table>
<thead>
<tr>
<th>Behavior Category</th>
<th>Children</th>
<th>Within Groups Correlation</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domination</td>
<td>71</td>
<td>.68</td>
<td>1%</td>
</tr>
<tr>
<td>Co-operation</td>
<td>71</td>
<td>.56</td>
<td>1%</td>
</tr>
<tr>
<td>Submission</td>
<td>71</td>
<td>.17</td>
<td>Less than 5%</td>
</tr>
</tbody>
</table>

These correlations for domination and co-operation are higher than that reported by Hatherly (28) who found a relationship of only .49 between the ascendance scores from five five-minute observations in the preschool situation and those from five experimental pairings. At first
sight the discrepancy between the findings of Hathery and the present writer is difficult to understand; the most probable explanation lies in the difference between the specific items observed by the two investigators. Hathery recorded all ascendant attempts and the number of successes experienced by the child, while the present writer recorded only the kinds of attempts used in self-assertion and the items listed as non-assertive ones. The above correlations enabled the writer to say that the technique was fairly valid for measuring domination and co-operation when observations in the preschool group were used as a criterion. The low correlation between experimental and observation scores for non-assertion and submission again may be accounted for partially by the small number of such items recorded during free play in the preschool situation.

Is domineative assertive behavior typical enough and extreme enough in some young children to warrant a training program designed to modify it?

The ranges and variabilities of the experimental scores on each of the behavior categories which are shown in the next tabulation indicated that there were children in this preliminary group who showed extreme amounts
of each of the behaviors:

<table>
<thead>
<tr>
<th>Behavior Category</th>
<th>Range</th>
<th>Mean</th>
<th>S.D.</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domination</td>
<td>3 to 38</td>
<td>17.94</td>
<td>10.43</td>
<td>17.00</td>
</tr>
<tr>
<td>Co-operation</td>
<td>0 to 32</td>
<td>12.88</td>
<td>8.98</td>
<td>7.00</td>
</tr>
<tr>
<td>Non-Assertion</td>
<td>0 to 94</td>
<td>32.47</td>
<td>24.56</td>
<td>22.00</td>
</tr>
</tbody>
</table>

Since the contemplated training program was to have as its major purposes the decreasing of domination and the increasing of co-operation, it was deemed advisable to examine the individual scores to determine whether there were cases in which a high domination score was combined with a low co-operation score. Such children would be considered eligible for training; their use of dominative techniques could be considered extreme in that they made many more of their contacts by their use than by using co-operative techniques. There were four children in this preliminary group in which this combination of high domination and low co-operation scores was found.

That the dominative behavior is fairly typical of some children is shown by an average intercorrelation\(^8\) of .69 between the five partial dominative scores.

\(^8\) The following formula was used in computing the average inter-correlation:

\[
\hat{r}_{ii} = \frac{\hat{r}_{n-1}}{\hat{r}_{n(n-1)}^2} \left[ \sum_{s=1}^{n} (r_{is} + r_{is} + \cdots + r_{ns}) - \sum_{s=1}^{n} (\sum_{t=1}^{n} r_{st}) \right]
\]
This formula is presented in Babitz and Keys (5, p. 283-288).

and the total score on all five pairings.

Do the data reveal any clues as to methods that might be used in the modification procedure?

In the belief that such clues might be found in the manner in which domination and co-operation varied with a change in companion throughout the five experimental pairings, the measure of internal consistency referred to in the preceding paragraph was employed. In the tabulation below are the correlations which express this consistency:

<table>
<thead>
<tr>
<th>Behavior Category</th>
<th>Average Inter-Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domination</td>
<td>.69</td>
</tr>
<tr>
<td>Co-operation</td>
<td>.43</td>
</tr>
</tbody>
</table>

The higher consistency of the domineering than of the co-operative scores indicated that a child’s use of domination was less influenced by the identity of his partner than was his use of co-operation. This finding led the investigator to formulate the hypothesis stated previously and to set up a training program for the purpose of helping children to learn to evaluate social situations and to respond in terms of that evaluation.
Chapter IV
THE USE OF THE MEASURE IN CHOOSING
THE TRAINING SUBJECTS

The next step towards fulfilling the aims of the study was to devise a method of training which would be effective in modifying assertive behavior. The hypothesis on which the training program was based was that the amounts of domineering and co-operative assertiveness shown by a child were functions of his ability to analyze social situations and to behave in light of this analysis. The first step in the test of this hypothesis was to use the test developed during the course of the preliminary study to measure the domineering and co-operative assertiveness of a group of young children between the ages of three and six years.

The Subjects of the Initial Training Program

Each of the seventy-one children in the three older groups at the preschool laboratories of the Iowa
Child Welfare Research Station during the school year of 1940 - 1941 was paired with five other children drawn at random from his preschool group. The test situation was identical with that described in the preliminary study. Two more toys were added to the total number to make possible the use of a different toy for each pairing for each child. All the toys used are shown in Figure 5.

The subjects were from three different preschool groups differentiated chiefly on the basis of chronological age; however, as the tabulation below shows, there was some overlapping of ages from group to group. The following tabulation presents the data on chronological ages and intelligence test scores of the seventy-one subjects tested:

<table>
<thead>
<tr>
<th>Preschool Group</th>
<th>Chronological Age, Months</th>
<th>IQ</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Range</td>
<td>Mean</td>
</tr>
<tr>
<td>Junior Primary (5-year-olds)</td>
<td>51 to 70</td>
<td>62.73</td>
</tr>
<tr>
<td>Group III (4-year-olds)</td>
<td>46 to 62</td>
<td>55.17</td>
</tr>
<tr>
<td>Group II (3-year-olds)</td>
<td>41 to 53</td>
<td>46.76</td>
</tr>
<tr>
<td>Total</td>
<td>41 to 70</td>
<td>55.59</td>
</tr>
</tbody>
</table>

*The chronological ages were computed to the date of the mid-test, that is, to the date of the third pairing in each child's series of five.*
Figure 5. The Toys Used in the Initial Measurement Program
(1) truck (2) hurdy-gurdy (3) airplane (4) bang-a-bell
(5) singing top (6) locomotive (7) xylophone.
The subjects represented a definite selection upward in intelligence as the mean IQ of 126.17 indicates.

The following tabulation in which is given the distribution of the subjects among the divisions on the Minnesota Classification of Occupational Status prepared by Goodenough (24), shows that the subjects also represented a selection upward in socio-economic status since 66.2 per cent of them fell into the first two classifications as compared to 7.2 per cent in the general population:

<table>
<thead>
<tr>
<th>Occupational Classification</th>
<th>Number</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>39</td>
<td>54.9</td>
</tr>
<tr>
<td>II</td>
<td>3</td>
<td>11.3</td>
</tr>
<tr>
<td>III</td>
<td>13</td>
<td>18.3</td>
</tr>
<tr>
<td>IV</td>
<td>3</td>
<td>4.2</td>
</tr>
<tr>
<td>V</td>
<td>8</td>
<td>11.3</td>
</tr>
<tr>
<td>VI</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

The Measurement Schedule

Because it was thought best to allow at least a two-weeks period of adjustment to school before the measurement program was started, pairings were begun in the five-year-old group on October 15, 1940. A part of
these children, who had attended preschool prior to this session so that attendance at school was not a new experience for them, were paired first. Measurements in this group were completed by November 26, 1940. The first pairings in the four-year-old group were made on October 21 and the last on February 13. Because of the Christmas holidays and absences from school the period of initial measurement in this group was longer than that in either of the other groups. In the three-year-old group measurements were started on December 12 and ended on March 18. The mean number of days between the first and fifth pairings in all groups was 36.17 days.

In each group the training program was started soon after the completion of the initial tests.

As in the preliminary study observations in the preschool group and teachers' ratings were obtained for each subject.

Selection of the Training and Control Subjects

Since the general aims of the training program were to bring about a decrease in dominative assertive-
ness and an increase in co-operative assertiveness, the
decision was made at this point to choose subjects for
training who were at the upper extreme of their social
group in domination and at the lower extreme in co-opera-
tion; it was thought that these should represent optimal
conditions for the effects of the training program to be
evidenced. By comparing these subjects with untrained
children representing the same extremes, it was thought
possible to make a fairly exact test of the hypothesis.
The ranges, means and standard deviations of the total
dominative and co-operative scores for the entire group
of subjects are given in the next tabulation:

<table>
<thead>
<tr>
<th>Preschool Group</th>
<th>Range</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Domination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior Primary (5-year-olds)</td>
<td>5 to 35</td>
<td>21.67</td>
<td>7.66</td>
</tr>
<tr>
<td>Group III (4-year-olds)</td>
<td>6 to 42</td>
<td>24.13</td>
<td>8.82</td>
</tr>
<tr>
<td>Group II (3-year-olds)</td>
<td>4 to 41</td>
<td>22.29</td>
<td>10.22</td>
</tr>
<tr>
<td>Co-operation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior Primary (5-year-olds)</td>
<td>2 to 31</td>
<td>11.00</td>
<td>6.71</td>
</tr>
<tr>
<td>Group III (4-year-olds)</td>
<td>4 to 19</td>
<td>10.67</td>
<td>4.23</td>
</tr>
<tr>
<td>Group II (3-year-olds)</td>
<td>2 to 45</td>
<td>12.71</td>
<td>11.07</td>
</tr>
</tbody>
</table>
When these total scores were examined in detail, some interesting combinations of domintative and co-operative behavior were revealed. For example, there was one child whose domintative score consisted almost solely of responses. His exclusive response to others was refusal to follow their directions, comply with their commands, or agree with their suggestions. Certainly his was extreme use of domintation. Yet his total score was no larger than that of another child who showed about equal numbers of domintative initiations and responses.

Similar patterns were found in the co-operative scores. A child with a fairly high total co-operative score might have made it simply by agreeing with others; he need not have made a single co-operative initiation. But, again his total score might have been as high as that of another subject whose score was nicely balanced with co-operative initiations and responses.

On the basis of these findings the concept of extreme behavior in either of the categories was not taken to mean merely the highest total scores on domination and the lowest total scores on co-operation, but
was defined in terms of high and low initiation and response scores in each of the categories.

The first step in determining which children could be considered extremes was to break down the total scores into the following sub-groups:

<table>
<thead>
<tr>
<th>Sub-Group</th>
<th>Items Within Sub-Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dominative</td>
<td>Commands companion to give material</td>
</tr>
<tr>
<td>Initiations</td>
<td>Attempts to gain possession by physical force</td>
</tr>
<tr>
<td></td>
<td>Directs force against companion</td>
</tr>
<tr>
<td></td>
<td>Directs behavior of companion verbally</td>
</tr>
<tr>
<td></td>
<td>Criticizes</td>
</tr>
<tr>
<td></td>
<td>Threatens</td>
</tr>
<tr>
<td>Dominative</td>
<td>Refuses to comply with companion's suggestion, command, or request</td>
</tr>
<tr>
<td>Responses</td>
<td>Defends forcefully material in his possession</td>
</tr>
<tr>
<td>Co-operative</td>
<td>Suggests taking turns</td>
</tr>
<tr>
<td>Initiations</td>
<td>Suggests co-operative use</td>
</tr>
<tr>
<td></td>
<td>Asks for toy or for turn with toy</td>
</tr>
<tr>
<td></td>
<td>Reasons</td>
</tr>
<tr>
<td></td>
<td>Bargains</td>
</tr>
<tr>
<td>Co-operative</td>
<td>Agrees to companion's suggestions and requests</td>
</tr>
</tbody>
</table>

The scores made by the individual subjects on each of these sub-groups were arranged in rank order from highest to lowest and then were divided into fifths. The highest and lowest fifths were considered extremes within the particular preschool group under consideration. Every child who was in the upper fifth in dominantative initiations or responses and in the lower
fifth in co-operative initiations or responses was included in the group of subjects which later was divided into the training and control groups. Following, is a tabulation showing the range of dominative initiation and response scores included within the upper fifth of each preschool group and the range of co-operative initiation and response scores within the lowest fifth of each preschool group:

<table>
<thead>
<tr>
<th>Preschool Group</th>
<th>Dominative Initiations</th>
<th>Responses</th>
<th>Total Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior-Primary Group III</td>
<td>19 to 25</td>
<td>13 to 31</td>
<td>28 to 42</td>
</tr>
<tr>
<td>Group II</td>
<td>22 to 27</td>
<td>13 to 17</td>
<td>32 to 41</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Co-operative Initiations</th>
<th>Responses</th>
<th>Total Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior-Primary Group III</td>
<td>1</td>
<td>1 to 2</td>
</tr>
<tr>
<td>Group II</td>
<td>0 to 2</td>
<td>0 to 1</td>
</tr>
</tbody>
</table>

For example, any Junior-Primary child who had a dominative initiation score of 20 or above combined with a co-operative initiation score of 1 was included in the extreme group; likewise, any Junior-Primary child with a dominative response score of 10 or above combined
with a co-operative initiation score of 1 was included. Every combination of high domination and low co-operation score was included in the group from which the training subjects were to be drawn.

As the training program was designed for the purpose of producing changes in behavior which might later be measured accurately, it was necessary to devise a plan of procedure from this point which would make possible the control of important environmental variables, other than the training itself, which might be influential in altering assertive behavior.

Undoubtedly, two of the variables most likely to affect assertiveness were membership in the preschool group and teacher guidance. Consequently, it was decided to hold these variables as constant as possible by dividing the children who were included in the "extreme" group into two randomly selected sub-groups,

10The table of random numbers found in Lindquist (40, p. 262-264) was used.

one to be trained, the other to serve as a control. Also, an effort was made to keep the teachers uninformed as to which children were training subjects and which were controls. This was done by taking control subjects
out of the preschool group occasionally. As the method of analysis of covariance was used in comparing the

The method of analysis of covariance makes possible the estimation of the true regression of final on initial measures, the use of this regression coefficient to adjust the final means so as to allow for differences in the initial measures, and the testing of the significance of the differences remaining in the adjusted means. For a more thorough discussion of the assumptions underlying the technique and the computational procedures the reader may consult Lindquist (40, p. 180-208).

initial and final test scores of the trained and control children, it was not necessary to match the groups on initial scores. Hence, the control group was made up of children showing the same general patterns of behavior as the training group, in the same preschool environment, under the same teacher guidance (within each preschool group). Hence, it was believed that the training itself constituted the chief differential variable.

The training and control subjects are described in Table 1 in terms of sex, age, IQ, and rankings in domination and co-operation. Although, in not every case, was the child who ranked in the upper fifth of his group in dominative initiations or responses and
in the lower fifth in co-operative initiations and responses also in the upper fifth in total domination and in the lower fifth in total co-operation, he never ranked lower than the upper two-fifths of his group in domination or above the lower two-fifths in co-operation. In general the training and control subjects were the children with the highest total domination scores and the lowest total co-operation scores.

A Subjective Description of the Behavior of the Training and Control Subjects

In the preceding section the statement was made that the training and control subjects showed the same general patterns of assertive behavior. This statement is true when quantity is the chief criterion on which those general patterns are based. Qualitatively, as the reader must have surmised before this, the behavior patterns of individual children differed widely. It is mainly for the purpose of making clear the variety of specific assertive behavior patterns which were included in this group of subjects that the writer undertakes this brief subjective description of the more specific examples of dominative assertiveness.
Hanfmann (27) found, in a study of dominance patterns of ten five-year-old boys as evidenced in a controlled play situation, that there were at least five different individual patterns of behavior used in attaining dominant status. Her classifications of these patterns were as follows: (1) the child who isolated himself and his property and opposed any attempt on the part of his companion to bring about joint play, (2) the objective leader who had definite plans for play, led and directed joint play successfully, never used violence, and settled all conflicts by compromising, (3) the social leader who tried to induce and maintain joint play and who would waive his own rights rather than sacrifice play with his companion, (4) the gangster leader who dominated by force and criticism, and (5) the destructive leader who destroyed all attempts by his partner to use the play material, laughed at his protests, and then initiated an activity in which he could take the lead.

With the exception of her social leader, these same patterns, with some very slight variations, were found in the group of children which included both the training subjects and the controls. Hanfmann's
social leader did not meet the criteria of high dominative and low co-operative scores which the children in this study met; such a child would have had a high co-operative score.

With these classifications as a background, an attempt is made here to give illustrations of them and of one other pattern that was present in this group of subjects.

"The Isolationist"

This was the child with the high dominative response score. Louis was the best example. His ob-

12 All the children's names used in this study are fictitious.

servation record revealed that he spent much of his time in solitary play. The few assertive items recorded for him were almost solely refusals to play with other children who suggested that he join them. His experimental record showed thirty responses out of a total dominative score of thirty-five. In the test situations his typical mode of behavior was to take possession of the toy initially and then to defend it, using both ver-
bal and physical means of preventing his companion from coming in contact with it.

"The Gangster Leader"

Paul was by far the outstanding example of this type of dominator. A few examples taken from running accounts of his behavior in the preschool are given as concrete evidence of his leadership by force:

May 6

Paul and three girls are in the playhouse. Paul says, "I'll be the father."
Selma objects, saying that she wants Dean for the father. Paul threatens to hit her with upraised fist and shouts, "I will be the father, see. Say 'Yes' or I'll hit you." Selma says, "Yes."

May 7

Tess is sweeping the playhouse floor. Paul comes in and grabs the broom, saying, "Here, give it to me; that isn't the way to sweep." Tess cries. Paul says, "Ha, ha, I sure fixed you."

May 26

Paul comes onto the playground with a rope in his hand. "Who'll be my horse? I need a horse." No-one volunteers. "I'll make somebody be my horse 'cause I need one bad." He tries to lasso Joan who is tripped by the rope, falls to the ground and cries. Paul runs away.

The twenty-six dominate initiations made by Paul in the initial test situations were chiefly of
the verbal type backed up by a threat or by physical force. Paul was a successful leader if success be judged on the basis of lack of resistance of others to his force. Alice, who is described next as an example of an objective leader, was the only child in the pre-
school group who stood up to Paul in the face of his threats and force.

"The Objective Leader"

Alice met all the qualifications of Hanfmann's objective leader except that she did not always settle her conflicts by compromise. She usually was successful in protecting her own rights in situations by means of reasoning. However, if reasoning failed, she used force. The next two illustrations of her preschool behavior typify her kind of leadership:

April 6

Alice is mother to a family of three children. Ellen offers to join the family as the fourth child. Alice says, "Well, Ellen, we don't have a single bit of room for another child, but if anyone leaves, I'll call you." Ellen leaves.

May 5

Paul grabs the lines with which Alice is driving her "horse." Paul says, "Give me those lines. You don't know how to drive a
horse." He threatens to hit her. Alice grits her teeth and says, "Just hit away; you can't hurt me, and I'll never give you these lines." They pull back and forth. Alice reasons, "I had this rope first and I'm going to keep it. Get out of here." Paul pulls a minute longer, then says, "I'm going in the house and get another rope and you can't play with it either." He stalks into the house.

Alice had good ideas for play and was able to impose them on other children in such a way that satisfaction resulted in most cases. This somewhat mature type of leadership was rare in this group of subjects, there being only one other child who evidenced it.

"The Destructive Leader"

Dean fit this description except that he rarely terminated his siege of destruction with the initiation of another activity in which he could take the lead. His use of force was unpredictable; for no apparent reason he exerted force against another child or his possessions to the extent of doing actual physical harm. Samples of his behavior are given below:

May 6

Dean is building a block house with Darrell. They are both putting blocks on carefully. Darrell goes to the cupboard for more blocks. While he is gone, Dean kicks
down the building, shouting, "Fire, fire, the house burned down." Then he runs off. Darrell
starts to replace the blocks.

May 7
Dean and Paul are on top of a packing box. Jean starts climbing up. Dean pushes her backward off the ladder and she falls hard. He laughs and says to Paul, "I hurt her, didn't I?"

There was one more domineering pattern present in this group of children. This was illustrated by John, a child who made all of his initiations forcefully and almost always was repulsed by those he attempted to contact. He was singularly unsuccessful in making social advances and as a result of his many failures, he did a good deal of crying and seeking adult help. Since examples of his behavior appear in Chapter VI in relation to a discussion of the results of the training program, they are not duplicated here.

These types of behavior patterns were the most clear-cut in the group of nineteen subjects. It is evident that, although a quantitative description indicated that the subjects of this study were similar, a qualitative description revealed great individual differences. These were the children from whom the ten training subjects were chosen.
Chapter V
THE TRAINING PROGRAM

In order to test the hypothesis on which it was based the training program was designed to help the children in the training group see and analyze certain social situations objectively and choose their responses in these situations on the basis of the analysis.

Criteria for the Training Program

It has been the observation of the investigator in the course of her work with young children that many of the attempts of parents and teachers of young children to change forceful assertiveness into more socially desirable, less forceful types of behavior are ineffective because the children are in a state unfavorable to learning at the time that such teaching is done. For example, a child hits another child in the preschool play group; he is led aside for a talk with the teacher who attempts to help him see how he might have solved his problem in a better way. However, it is doubtful if, at such a time, the child is able to
see the teacher's point of view. He may be upset emotionally; certainly he has just behaved in a way that seemed justifiable to him at the time and he may not be ready to listen to suggestions for behaving differently. Perhaps, most important of all is the fact that there is no way to demonstrate to him concretely just what might have happened had he reacted in a different manner.

In the attempt to overcome some of the shortcomings of these most generally used teaching methods, the investigator set up the following criteria for the training program:

1. The situations must be concrete. The child must be able to see the results of the use of different types of assertive behavior; he must have opportunities and guidance in comparing these results objectively.

2. The situations must be of such a nature that the child does not become involved emotionally in them, that is, he must be able to assume the role of an impartial observer.

3. The situations must be real to him in that they are similar to those he experiences in a preschool group.

4. The situations must interest him to the extent that he will take a real part in them.
The Use of the Play Technique

The Technique Used in This Study

The investigator selected a play technique as the kind of situation most likely to meet the above criteria. In each play period two dolls, playing the roles of preschool children, were faced with the problem of finding a way to play successfully with only one toy. During the training series the child and the adult together worked out solutions to the problems with which the dolls were confronted; in a series of test situations the child made the decision as to what social responses were most appropriate and then actually worked them out with the dolls.

Techniques Used by Other Investigators

Within the last ten years great emphasis has been put upon the use of various kinds of play materials in studying children's behavior and personality. As early as 1925 Marston (42) used toy situations in measuring introversion-extroversion, and since that time there have been numerous investigations which have made use of similar materials in the experimental study of personality and social behavior. Among these are Berne's
(9) study of social behavior patterns; a comparison of types of behavior with different play materials by Updegraff and Herbst (50); the studies of ascendance by Jack (31), Page (47), Hatherly (28), and Fairlie (20); the studies of integration-domination by Anderson (1, 2, 3); investigations of competition and rivalry by Leuba (34) and Greenberg (26); a study of sympathy by Murphy (46); an investigation of children's responses to failure by Keister (32) and studies in frustration by Barker, Dembo and Lewin (6) and Wright (51). And these represent only a sampling of the entire number of such investigations.

Play techniques have been used successfully as therapeutic measures also. Levy (35, 36, 37) in his series of studies of sibling rivalry claimed that children showing serious behavior difficulties based on jealousy of a sibling could be benefited by being allowed to direct these rivalry feelings toward dolls representing various family members. Bender and Woltermann (8) reported the use of hand-puppet shows as a psychotherapeutic aid in dealing with children's behavior problems; Klein (33), Erikson (19) and Conn (12) are other clinicians who have made use of such techniques.
A third use of play situations has been in the study of children's attitudes. In this field Fite (21) and Murphy (46) have made representative studies.

The success of the play technique as a therapeutic aid and as a means of studying children's attitudes is based on the child's identification with the materials or parts of them and, as such, has been given the name "projective method." In the present investigation it was hoped that a situation might be developed into which the child being trained would "project" himself to the extent of seeing the problem involved and wanting to solve it. There was no effort made to have him identify himself with one of the dolls.

**The Aims of the Training Program**

The general aim of the training program has been stated as that of helping young children analyze social situations objectively and respond in light of that analysis.

The situation chosen as the basic one for the training program was that in which two children, wanting the same toy at the same time, were faced with the problem of somehow working out a solution which would
allow both of them to maintain their status in the situation.

As necessary steps in the fulfillment of the general aim the following more specific aims were stated:

1. To teach the child to discriminate between situations in which two children reached a satisfactory agreement concerning the use of play materials and those in which no satisfactory agreement was reached.

2. To make the child aware of the following ways of working out situations in which he and another child desired and had equal rights to a toy:

   a. Taking turns with play materials. - One child has the toy; the other child has no actual contact with it until it is his turn to use it. For example: A telephones his mother while B waits; then B telephones his mother.

   b. Common use of play materials. - Both children actually use the material at the same time, but do not play together. They divide the material or share it so that they both use some of it at the same time. For example: A and B divide the blocks and each build a house.

   c. Co-operative use of play materials. - Both children play with the materials at the same time and play together. In some cases one child may actually have possession of the toy while the other child plays with him but not directly with the toy. For example: There is just one doll. A plays mother and has the doll in his possession while B plays father.
3. To make the child aware of the following methods of approaching the other child which are likely to accomplish the above results:

   a. Suggestion to take turns, share materials or play co-operatively with them.

   b. Request to take turns, share materials or play co-operatively with them.

   c. Explanation of why the request to take turns, share materials or use them together was made.

A General Description of the Training and Test Situations

The emphasis in the training program was on showing the child concretely the results of using certain social techniques. Consequently, in each training period he saw the dolls use certain techniques which resulted in their having a good time; and he also saw the results of their failure to use these techniques.

The following outline shows the sequence and content of the training and test situations. The child's criterion for judging whether the outcome of each "play" was satisfactory or unsatisfactory was whether the dolls had a "good time" or a "bad time."
1. A preliminary situation in which the child was acquainted with the dolls and the other play materials used in the training program.

2. The first discrimination situation in which the child saw both satisfactory and unsatisfactory solutions to the problems confronting the dolls. Two problems arose; the first was solved unsatisfactorily (it ended in a fight), the other was solved satisfactorily (the dolls took turns with the toy).

3. The second discrimination situation in which the dolls were again confronted with two different problems. This time the first one ended with both dolls playing happily (they shared the toy) and the second ended in a quarrel.

4. The third discrimination situation in which the first problem which confronted the dolls was solved unsatisfactorily and the second was solved satisfactorily (they used the toy together).

5. The test of discrimination in which the child judged what solutions to the problems confronting the dolls resulted in the dolls' having a "good time" and which ones did not. Three problems arose, two of which ended in quarrels, the other of which was solved satisfactorily.

6. The taking turns situation in which the child was presented with three "plays" which ended as follows:

   a. The dolls took turns.
   b. The dolls did not take turns; a quarrel arose.
   c. The dolls took turns.

7. The test on taking turns in which the dolls were faced with three separate problems in the use of a toy and the child was expected to help them solve the problems by telling them and showing them how to take turns.

8. The sharing situation in which the child was presented with four "plays" which ended as follows:
a. The dolls took turns.
b. The dolls shared the play materials.
c. The dolls did not share the materials; a quarrel resulted.
d. The dolls shared the play materials.

9. The test on sharing where the dolls were confronted with three separate problems and the child was expected to help them solve the problems by telling them and showing them how to share the play materials.

10. The playing together situation in which the child saw four "plays" which ended as follows:

   a. The dolls shared the materials.
   b. The dolls played together with the toys.
   c. The dolls did not play together; a quarrel resulted.
   d. The dolls play together with the toys.

11. The test on playing together in which the dolls were confronted with three separate problems and the child was expected to help them solve the problems by telling them and showing them how to play together.

The Training Situation

Two conditions, necessary for creating the kind of problem situation desired in the training periods, were set up:

1. The children must have equal rights to the play materials. It was felt that such equal rights situations were fairly typical of those arising in the preschool where the toys are used by all the children. Also, they were simpler and called for the making of less difficult decisions by the child being trained than those in which one doll or the other had definite recognized rights. The emphasis in this training program was not,
"Who has a right to this toy?" but was, "We both have a right to it; what are the best ways of using it so that together, we can have a good time?"

2. The toy presented to the children must be one which could not be used by two children until they had worked out a satisfactory method of taking turns, sharing, or playing together with it.

In each training period the child watched and discussed one or more short "plays" the characters of which were two eight-inch dolls dressed like preschool children. An effort was made to have these dolls look, talk, and behave as much like children as possible. Their actions and voices were furnished by the investigator.

The stage setting, shown in Figure 6, was that of the inside of a preschool playroom (with one exception, when it was the playground). The house fronts represented the homes of the dolls to which they were taken at the end of each training and test period. Figures 7 and 8 show a child in the training situation.

**The Test Situations**

The only difference between the training and test situations was in the amount of adult participation. During the latter periods there was no discus-
Figure 6. The Training Materials.
Figure 7. The Training Situation: "They both want the airplane; it looks as though they will have a quarrel."
Figure 8. The Training Situation: "They had a fight; poor Sandy, poor Mandy."
sion of the dolls and their social problems; the child was presented with a play in which the dolls were unable to solve their problem and he was asked to offer a solution. The child was expected to give the correct solution to all tests, either verbally or by means of manipulating the dolls. If he failed any of the tests, the training just prior to that test period was repeated on the following day and the test was given again on the day after the re-training. Figure 9 shows a child in the test situation before she reached a solution and Figures 10 and 11 show her solutions to the problem.

The Content of the Training Program

The following series of "plays" constituted the training series:

1. Preliminary Situation

The stage is set with the dolls standing in opposite corners at the back. The doll house fronts are in place.

\(E^{13}\) enters the room with \(C\) and goes to the

\(E^{13}\) refers to the experimenter and \(C\) to the child.

E refers to the experimenter and C to the child.
Figure 9. A Test Situation: "What Can They Do?"
Figure 10. A Test Situation: "Sandy and Mandy can both ride on the truck."
Figure 11. A Test Situation: "Sandy holds the wheelbarrow while Mandy loads some blocks."
E: "This is your chair and this is my chair. Let's sit down." Both sit at table. E: "This is Mandy and this is Sandy (pointing to each doll). Sandy and Mandy go to school just like you do. This is their playroom at school. Let's find some things in it that are like the things in your preschool playroom." They find the telephone, blocks, cars, etc. E leads C to the doll houses in the corners of the room. E: "Now, over here is Sandy's house and over here is Mandy's. They stay in their houses when they are not at school." E leads C back to table. E: "Now, let's watch Sandy and Mandy play. We will come in here every day for a while to watch them play. Let's watch them build with the blocks." (to dolls) "Here are your blocks Sandy and here are some for you, Mandy." E gives some blocks to each doll and both C and E help them build.

E: "Sandy and Mandy will talk to each other too; of course they can't really talk so I will have to talk for them. When Sandy talks his head will shake up and down like this and when Mandy talks her head will shake up and down like this." (E demonstrates by putting her forefingers at the back of the dolls' heads and wiggling them to make the heads nod.) "We'll have to watch very carefully to see which one is talking. You see if you can tell me which one is talking now." (E talks for the dolls while nodding their heads; E indicates which one is talking and calls the doll by name.) This procedure is continued until the child is certain which doll is talking and can name the doll without making an error.

E: "Now I think that Sandy and Mandy will have to go home for a while. Would you like to take Sandy home while I take Mandy?" E and C take the dolls to their houses. E: "We'll see them again tomorrow."

2. First Discrimination Situation

The stage is set as for the preliminary situation. A wagon is in the center.

Both dolls run toward the wagon and reach it at the same time.
S: "It's mine." (hits M.)

M: "No, it's mine." (hits S.)

S: "I'll hit you so hard." (pounds other child and blows are returned.) The wagon is overturned in the struggle and a wheel comes off. Both children cry.

E: (to C) "Are these children having a good time? What's the matter?" E picks up one doll at a time and brushes them off. "Poor Mandy; poor Sandy. They certainly don't look happy, do they? And the wagon is broken too. Isn't it too bad that they had a fight? They could have had such a good time with the new wagon."

E: (to C) "Now Sandy and Mandy are going home. Would you like to take Sandy home while I take Mandy?" They put the dolls in their respective houses.

E: "While we are waiting for Sandy and Mandy to come back to school, you may play with this boat and I'll sit over here and see what I can do about this broken wagon."

The child is given the toy to use for a few minutes. E: "Sandy and Mandy are ready to come back now. Let's get them and watch them play again."

The setting and properties are the same as before. Again the dolls run toward the wagon and reach it at the same time.

S: "It's mine."

M: "No, it's mine."

S: "Well, if we fight about it we won't have any fun at all."

M: "Let's use it together then; you pull me across the room and then I'll pull you across."
S: "All right. Climb in." M climbs in the wagon and S pulls her across the room and back. Then M pulls S.

M: "Now we are having fun, aren't we?"

S: "Uh-huh" (with expression)

E: (to C) "What do you think? Are they having a good time? They didn't fight this time, did they? Which way do you like to see them play?" E and C discuss the situation in this manner for about a minute.

E: "Now let's take Sandy and Mandy home." (to dolls) "Goodbye Sandy; goodbye Mandy."

3. Second Discrimination Situation

The setting is the same; the properties are blocks and an airplane.

Sandy and Mandy are sitting on the floor rolling the airplane back and forth to each other.

M: (getting up and going over to blocks) "I'm going to build a hangar for this plane."

S: "If you take the plane, I won't have anything to play with."

M: "That's right. Well, why don't you come and help me build a hangar?"

S: "All right, let's start now. We have a lot of blocks to use."

E: (to C) "I'll bet they will build a fine hangar. They found a way to use the blocks together. Now they are having a good time. I think they would like to have us help them build. Shall we?" E and C help build the hangar.
E: (to dolls) "All right, Sandy and Mandy, it is time for you to go home now. Here are your caps and coats." (to C) "We can help them put them on. Then we'll take them home." E and C take the dolls home.

E: (to C) "While I pick up these blocks and straighten up the playroom, you may play with this truck. Sandy and Mandy will be coming back to school soon and we'll watch them play again." The child plays with the truck for a few minutes.

E: (to C) "Now it's time for them to come back to school. Here they come. Let's help them take off their wraps."

Sandy and Mandy again start rolling the airplane back and forth. M: (taking the plane to other side of room) "I don't want to play with you any more. I'm going to keep this plane and build a hangar for it."

S: "No sir, it's my plane too; I'll show you who's boss around here." (hits)

M: (hitting back) "Don't you hit me. I guess this is too my plane."

E: (to C) "Oh, too bad that Sandy and Mandy didn't find a way to use the plane together like they did before. Do you think that they like to fight? I don't. Which way do you like to see them play with the airplane?" Again E and C discuss the problem.

E: (to C) "Now we'll take them home and come back to see them tomorrow."

4. Third Discrimination Situation

The setting remains the same. Properties are blocks and a small picture book.
Sandy is looking at a book in one corner of the room; Mandy is playing with blocks in another corner. E puts a red truck down in the center of the playroom.

S: "I'm going to get it."

M: "No, I am because I'm closer than you."

Both children run over and grab the truck. Sandy cries; Mandy takes the truck.

E: (to C) "What a time! They might have hurt each other. Do you think that that is the way to have a good time? I believe they could find a way to use the truck so that both of them could have a good time if they really tried."

E: (to dolls) "It's time to play outdoors now Sandy and Mandy. You won't need your wraps because it is warm enough without them." (to C) "Would you like to take them to play outdoors? You may if you want to or you may play with this boat again."

E: (to C) "Sandy and Mandy are coming in now. Let's see what they do with this ball." Sandy picks up the ball.

M: "May I play with the ball too?"

S: "Well, I want to play with it."

M: "Couldn't we roll it on the floor?"

S: "That would be fun, wouldn't it?" They sit down facing each other and roll the ball back and forth.

S: "I'm going to be a good basketball player when I get big."

M: "So am I; then people will come to see us play, won't they?"

S: "Yes, say aren't we having a lot of fun though?"

M: "I'll say we are."
E: (to C) "I think they are having a good time, don't you? They found a way to use the ball together. Do you think they had a better time with the ball than they had with the truck before they went outdoors to play?" (More discussion if suitable.)

E: "We'll go now and see them again tomorrow."

5. Test on Discrimination

Part I.— The scene is the preschool playroom. In the middle of the floor is a small red fire truck. Sandy and Mandy enter the playroom at the same time.

S: "I'm going to have the fire-truck." (sing-song)

M: "You aren't either; I'm going to have it myself."

S: "I'll hit you if you try to take it. Don't you dare do it." M cries.

E: (to C) What kind of time did the children have, a bad time or a good time?

E: "Let's watch them play some more."

Part II.— The scene is the same. Both dolls are building with blocks at opposite sides of the room. Each has a small building complete except for a chimney. A long narrow block lies half way between them.

S: "I'm going to have that block for my chimney."

M: "I seem to need it for my chimney too; I'll tell you what we could do though. Let's build a house together and use that block for our chimney."

S: "Or we could use some of those littler blocks for chimneys. There are enough for both of us to have one."
M: "That's a good idea." They go back to their houses and put little blocks on for chimneys.

S: "Mine's finished now; isn't it nice?"

M: "Yes, and do you like mine?"

S: "Yes, I do."

E: (to C) "What kind of time did these children have, a bad one or a good one?"

E: "We'll watch them once more."

Part III.— The setting remains the same. A small racing car is on the floor.

M: "Wheeeeee a new racer. I'm going to have it."

S: "Then I won't have anything to play with."

M: "I don't care. Ha, ha, ha I have a nice new racer."

S: "I want the racer too."

M: "Well, you can't have it, see?"

E: (to C) "What kind of time did these children have, a good time or a bad one?"

6. Taking Turns Situation

Part I.— On the table in the preschool playroom is a small telephone. The dolls enter from opposite sides of the room and go toward the telephone.

M: "Oh, look, a new telephone."

S: "Oh, boy I'm going to play with it."

M: "No, I want it first."
E: (to C) "It looks as if they are going to have trouble, but maybe they won't."

S: "Well, I'll tell you what let's do; let's take turns."

M: "How?"

S: "I can talk to my mama, then you can talk to yours."

M: "All right, let's take turns." Sandy talks while Mandy waits her turn.

S: "Now Mandy it is your turn to talk to your mama."

M: "All right." Mandy talks.

E: (to C) "That's a good way to do when there is just one telephone. They decided to take turns, didn't they? Taking turns is fun because then everybody has a good time." (to dolls) "You surely did find a good way to play with the telephone. You took turns."

Part II.—A doll carriage containing a doll stands in the middle of the preschool playroom floor. Both dolls run over to it from opposite corners of the room.

S: "I'm going to take the doll for a ride."

M: "No, you aren't either. She's my baby."

Both pull on the doll carriage and the doll falls out.

S: "Now look what you did; you hurt the baby."

M: "I didn't either; you did."

S: "Give it to me or I'll hit you good."

M: "Just hit away; I'm not going to let you have it." They hit each other and both cry.
E: (to C) "Do you think they had a good time with the doll? It's too bad that they didn't try to find a way to take turns. Before when they took turns they had a good time, didn't they?"

**Part III.**—On the table in the middle of the preschool playroom are two small pans and one spoon. The dolls enter and go to the table.

M: "I'm going to make a cake today because we are having company." (takes spoon)

S: "Well, I need a spoon, too."

M: "I have it and I'm going to keep it to stir my cake."

S: "May I have a turn too? You see I'm going to make some pancakes for breakfast."

M: "I guess we can take turns. I'll stir around two times; then you can stir around two times."

S: "All right. I'll just wait until you are through with your two stirs, then I'll take my turn."

M: (stirring) "One-two, now it's your turn."

They take several turns apiece.

E: (to C) "One spoon is enough when you take turns. Mandy could stir her cake and Sandy could stir his pancakes when they took turns with the spoon. Then both of them had a good time."

7. **Test on Taking Turns**

**Part I.**—A small tin tub of water and a paper boat are in the middle of the preschool playroom floor. Both dolls run to the tub.

S: "Oh, goody, today we can play sailing boats."

M: "Only there is just one boat for two people."
S: "Well, I'm going to have it."

M: "You aren't either; I am."

E: (to C) "They need help. What can they do about the tub and the boat? Show them what to do."

Part II.- A small locomotive stands on the floor in the middle of the room. Both dolls go over to it.

M: "I want it."

S: "No, I want it."

M: "But you just can't have it, because I want it."

E: (to C) "They aren't getting anywhere this way, are they? Maybe you can help them out. Tell them what they can do. Show them, too."

Part III.- A small milk truck with bottles in it stands in the middle of the floor. Sandy and Mandy run toward it.

S: "I'm going to haul some milk." (chants)

M: "That's just what I want to do."

S: "That's too bad; I'm going to have the truck."

M: "We'll see about that; get away from here."

(hits)

S: "Well, if you want to fight, I'll fight."

(hits)

E: (to C) "Whew, what a fight. Tell them what to do the next time they have trouble about the truck. Show them what they could do."
8. Sharing Situation

Part I.- The doll and carriage are in the middle of the preschool playroom. Both dolls enter and run toward them.

M: "I want it."
S: "No, I want it."
M: "But you can't have it, because I want it."
E: (to C) "They had trouble like this before, didn't they? What can they do about it?"
C: "They can take turns."
E: "There is something else that they could do, too. They could share them. One could push the carriage while the other one carried the baby. They could all go for a walk together. Children can have fun when they divide toys and share them."

Part II.- The blocks are piled in the middle of the playroom floor. Sandy and Mandy enter and go toward them.

M: "There are lots of blocks today."
S: "Yes, and I need a lot. I know what I'm going to do and I need all of them."
M: "But you can't have all of them because I want them for what I'm going to make. I'm going to make a train."
E: (to C) "I wonder if they can get this straightened out."
S: "Well, I have an idea; let's both use the blocks. You can make a train with part of them and I will build a house with the rest."
M: "All right, let's both use them. Let's divide them."
E: "There were plenty of blocks for both children. It was fun to use the blocks when they shared them so that they could both use them."

Part III.— The dishes are on top of the toy cupboard at the right of the room. Sandy and Mandy enter at the left at the same time and go to the dishes.

S: "Aren't they cute? Just the right size for our table. I'm going to have a dinner."

M: "I'm planning to use them for my dinner."

S: "No, I want them."

M: "But I am going to have them."

S: "You go away, there are lots of other things for you to do."

M: "No, sir, I want these dishes."

There is a fight and the shelf is overturned.

E: "Well, I'm glad that the dishes didn't break. Sandy and Mandy didn't have much fun with them, did they? Don't you suppose that they could have each had some of the dishes so they could both use them? I think they could have found a way."

Part IV.— The blocks and a set of small farm animals are on the floor in the middle of the room.

M: "I'm going to make a pen for the animals."

S: "I want to."

M: "My pen will be big enough for all the animals, every one of them and I want them all."

S: "You can't have them."

M: "Couldn't we divide them and each take some? Then we could both use them."
S: "Yes, I'll take the dog and the cow and you can have the horse and the sheep. We'll both build pens."

M: "All right, let's get busy."

E: "They are both having fun now. When they found a way to both use the animals and blocks, they had a good time." (to dolls) "We like the way you both used the animals when you shared them."

9. Test on Sharing Materials

Part I.- A group of small cars is on the floor of the playroom. Sandy and Mandy run toward them.

M: "I'm going to sell cars; I need all of them."

S: "Well, I need them for the garage that I'm going to have."

M: "I want them."

S: (threatening to hit) "Look out, I'll hit you if you don't go away. I tell you, I do need them."

E: (to C) "What would you do?" "Show them what to do."

Part II.- A pan of marbles is on the floor of the playroom. The dolls enter and arrive at it at the same time.

S: "See the pretty marbles. I want them."

M: "I want them because I have a way to use them."

S: "I do too, you go away."

M: "I won't go away; I want those marbles."

E: (to C) "What could they do?" "Show them."
Part III.- The doll bed with two dolls in it stands in the middle of the floor. Sandy and Mandy come toward it.

S: "My babies."

M: "No, they are mine; they are my twins."

S: "But I said they are mine."

M: "Well, they just aren't yours because they are mine."

E: (to C) "Help them out. What can they do? Show them."

10. Playing Together Situation

Part I.- The dishes are on the toy shelf. Both dolls go to them.

S: "I'm going to set the table."

M: "I'm planning to use the dishes for my dinner."

S: "No, I want them."

E: (to C) "What could they do about the dishes?"

C: "Take turns. Each take some."

E: "Yes, but they could do something else with them, too. They could play together. They could play house together and both play with the dishes. Sandy could be the daddy and Mandy could be the mother and they could play together with them."

Part II.- The telephone is on the table in the middle of the room. Both dolls come toward it.

S: "It's mine today."

M: "No, it's mine because you had it last time."
S: "But I want it now, I need it."

M: "Well, why don't you talk to me over the phone? Let's play together."

S: "All right, you get over there and pretend that you have a phone, and I'll stand here and talk to you. We'll play together."

M: "All right." They talk.

M: "Now you pretend and I'll have the phone."

E: "They are playing together with the telephone. It's fun to do that. (to dolls) "Sandy and Mandy you did a good job of finding a way to play together with the phone."

Part III.- The pan of marbles is on the floor. Sandy and Mandy both run toward it.

M: "I need all these marbles."

S: "No you don't, I want them, all of them."

M: "Well just you try and get them. I won't let you."

S: "You had better let me have them or I'll hit you."

M: "I'll throw a marble at you and hit you if you don't let me have them."

S: "I won't let you, so there." (hits)

M: (crying) "You hurt me."

E: "Oh, I'm sorry that they didn't find a way to use the marbles to they could have a good time. I think they could have found a way to play with the marbles. It's fun to roll them back and forth. They would have had more fun if they had played together with them."
Part IV.- The doll is in the doll bed in the middle of the floor. Sandy and Sandy enter and arrive at the bed at the same time.

M: "My baby is asleep."

S: "May I play with the baby, too?"

M: "Well, I am the mother so I guess you can't have her today."

S: "But I do need a baby too."

M: "We could play together with her. You be the father and I'll be the mother. Then we can take the baby out for a ride while I get dinner. We'll play together."

E: "They found a good way to play together, didn't they? They will have a good time with the baby now. Playing together is fun."

II. Test on Playing Together

Part I.- A wheelbarrow with blocks loaded on it is in the middle of the floor. Sandy and Mandy see it at the same time.

M: "I'm going to haul blocks in the wheelbarrow."

S: "I need to haul my blocks, Mandy."

M: "You just said that because I said it first. I'm going to use the wheelbarrow now."

S: "You just think you are; I really am."

M: "No."

S: "Yes."

E: "What can they do?" "Show them."
Part II.- A truck is on the floor. Both dolls come over to it.

S: "I'm going to Des Moines in my truck today."

M: "But I want the truck."

S: "Well, this truck is mine. Good-bye."

M: (stands in front of truck) "You aren't going to have it, see?"

S: "Look out, I'll run right over you."

M: "I won't move."

E: "What can they do? Show them, too."

Part III.- The blocks are piled in the middle of the floor. Both dolls come over to them.

M: "I'll move them over in the corner and use them."

S: "I need them; don't take them away."

M: "Yes, I'm going to. I want to build a house that will take every one of them. It's going to be a big one."

S: "Well, I want to build a big house, too, and I want the blocks."

E: "What can they do? Show them."

The Training Schedule

Each of the eleven situations included in the training series was approximately fifteen minutes in length. Therefore, the training subjects who failed
none of the tests were trained and tested for about 165 minutes. When it was possible, the training took place on consecutive school days but, due to the limitations imposed by the preschool schedule, the investigator's schedule and absences from school the following training record shows lapses of more than a day between successive training periods.

<table>
<thead>
<tr>
<th>Child</th>
<th>Distribution of Training Periods</th>
<th>Total Time, Range</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Minutes / Days</td>
</tr>
<tr>
<td>1340</td>
<td>Jan. 7,8,9,10,13,20,21,22,23,24,27</td>
<td>165 / 20</td>
</tr>
<tr>
<td>1516</td>
<td>Jan. 7,8,9,10,13,20,21,22,23,24,27</td>
<td>165 / 20</td>
</tr>
<tr>
<td>1406</td>
<td>Jan. 24,27,28,29,30, Feb. 3,4,5,6,10,11</td>
<td>165 / 13</td>
</tr>
<tr>
<td>1449</td>
<td>Mar. 7,10,11,12,14,17,18,24,26,27,31</td>
<td>165 / 24</td>
</tr>
<tr>
<td>1500</td>
<td>Mar. 7,10,11,12,14,17,18,20,21,24,26,27,31</td>
<td>195 / 24</td>
</tr>
<tr>
<td>1333</td>
<td>Mar. 13,17,18,20,21,24,26,27,31</td>
<td>165 / 18</td>
</tr>
<tr>
<td>1401</td>
<td>Mar. 7,10,11,12,17,20,21,24,26,27,31</td>
<td>165 / 24</td>
</tr>
<tr>
<td>1402</td>
<td>Mar. 28,31, Apr. 1,5,17,18,24,25, May 2,4,6,7</td>
<td>180 / 39</td>
</tr>
<tr>
<td>1518</td>
<td>Mar. 31, Apr. 1,2,3,17,18,21,24,25,26,28</td>
<td>165 / 29</td>
</tr>
<tr>
<td>1445</td>
<td>Mar. 28, Apr. 1,3,5,24,26,28,29, May 2,4,6,7</td>
<td>195 / 39</td>
</tr>
</tbody>
</table>

Three subjects (1445, 1500, 1402) failed the test on taking turns so they had to be re-trained and re-tested on this one technique. In the case of 1402, who was in
the training and test situations for 180 minutes, one of the discrimination situations was omitted because he was able to pass the test after two such training periods.

As a somewhat crude test of the trained children's ability to make use of the social techniques taught during the training program, each of them was paired in the experimental test situation with one or two other trained children within three days after he had completed the training program. No use was made of the scores on these tests beyond that of getting from them some indication of a trained child's ability to analyze social situations in which he was involved and to respond accordingly.

The Subjects' Reactions to the Training

The training subjects were enthusiastic about going with the investigator to "see Sandy and Mandy." Such comments as: "Is it my turn to see Sandy and Mandy today?" "Did Sandy and Mandy have a nice vacation?" "I love Sandy and Mandy," "I'm ready to go see Sandy and Mandy now," "I'm going to take my new umbrella in to show Sandy and Mandy," demonstrated that the children were not only eager to enter the training
situations, but that they regarded Sandy and Mandy as children like themselves.

Often the investigator was met at the preschool door by volunteers. Since only a few children in each group were trained, they counted it a real privilege to be participating in this activity which was closed to most of their contemporaries. After the training series was completed there were continued requests to play with Sandy and Mandy.

Both the attitudes of the children and their progress during the course of the training program were indicative of the appeal and interest which the play technique held for them.

The Progress of Individual Children During Training

Perhaps the most effective description of the training program can be given by tracing the progress of individual children through it. In the following tabulation is shown the progress of each training child through the sequence of the training and tests situations. It is evident that the last situation, that of playing together, was more difficult to learn than the others, since three children failed it and had to be re-trained and re-tested:
Sequence of Training and Test Situations*

<table>
<thead>
<tr>
<th>Child</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5(T)</th>
<th>6</th>
<th>7(T)</th>
<th>8</th>
<th>9(T)</th>
<th>10</th>
<th>11(T)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1402**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>x</td>
</tr>
<tr>
<td>1401</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
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<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>1500**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>x</td>
</tr>
<tr>
<td>1340</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>1516</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
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</tr>
<tr>
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<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>1449</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>1445**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>x</td>
</tr>
</tbody>
</table>

*(T) indicates a test situation; x indicates a failure; + indicates a pass on a test.

**These children were retrained on the last situation (Situation 11), then passed the test the following day.

In an attempt to describe more completely the behavior of some of the training subjects in the training situations the writer presents the following brief records of the progress of three children throughout the training program. Because complete verbatim records of the behavior of the children were not made these descriptions are somewhat sketchy. The records of verbal comments that appear in them were made by the investigator at the end of the training periods in which they occurred:

Child 1445 (Chronological age, 41 months; IQ 121).- Darrell's initial test scores indicated that he was in the upper fifth of his social group in dom-
inative responses, in the middle three-fifths in dominative initiations and in the lower fifth in both cooperative initiations and responses.

His interest in "Sandy and Mandy" was caught in the preliminary situation where he asked numerous questions about the dolls, among which were these: "Do they have a daddy and a mother? Do they like to go to preschool? When can I come and see them again?" This interest in the dolls as children like himself continued throughout the training period.

Darrell became quite concerned each time that the dolls quarreled. His concern was evidenced by such a plea as this made to the investigator when she asked him to go with her to see the dolls: "Well, let's don't have them fight; I don't like to have them bump their faces together, that hurts. Let's don't see them fight." He was reminded that Sandy and Mandy were really dolls and that "bumping their faces together" didn't hurt them. The concern continued, however, and after the situation in which the dolls learned to take turns Darrell changed his plea to: "Let's have them take turns; then they won't fight. Let them ask Darrell what to do." "Ask me, Sandy and Mandy, I'll tell you
to take turns; then you won't have a fight."

Darrell's verbal response to the taking turns situation was favorable immediately. This method of solving social conflicts (at least the verbalization of it) was easily learned by him. That his complete understanding of the meaning of taking turns did not exist at the same time that he learned to say the phrase was indicated by his rather promiscuous use of this verbal solution accompanied by inability to actually show the investigator how the dolls would take turns.

The following record gives Darrell's solution to one problem of finding a way to use the marbles presented to the dolls in the test on sharing materials: "There's lots of marbles. Here Sandy, here's one for you. And here's one for Mandy." (he divides the marbles) "This one is for Darrell" (he puts the extra marble in his pocket).

The playing together situation was more difficult for Darrell to understand than were the others. It was necessary to re-train and re-test him on this technique.

While Darrell had a total co-operative score of only 4 on the initial test which covered a total
period of twenty-five minutes, he had a co-operative score of 5 in the ten minutes spent in the test situations with other trained children. Darrell's co-operative score on the re-test series, when his partners were untrained children, dropped to 3 points.

Darrell's decrease of 16 points in domination was in line with his reactions to the training. He did not like to see the dolls fight. Apparently it was this element of the training program that influenced him most.

Child 1518 (Chronological age, 52 months; IQ 155).- Alice, described elsewhere as an "objective leader" who showed tact in directing the behavior of others, ranked high in dominative responses and low in co-operative initiations on the initial test. Her responses in the preliminary training situation were of the following nature: "Well, they can't really talk, can they? How do they get to preschool? If I pinched them, would they cry? Let's see them play with that ball." All these verbalizations indicate her attempt to establish the exact status of the dolls. That she soon gained an understanding of the relationship between the dolls and the investigator was indicated in the second discrimination situation when she said,
"You can make 'em fight or have a good time, can't you?"

Alice's responses in all the test situations were satisfactory. She had no difficulty either in telling or showing the dolls the correct solution to their problems. Her solution to the playing together test situation was this: "I have a good idea; that truck is big enough for two children. They can both go to Des Moines." (She put both dolls on the truck.)

The next account was taken from a record made by the observer in one of Alice's two five-minute tests just after training:

May 9

Dean and Alice both run for the bang-a-bell. Dean grabs for it but Alice runs into the corner with it. She offers him a turn when she is through. He agrees to wait. He waits 15 seconds then grabs for it. She defends it, saying, "My turn hasn't been yet." Again he waits 15 seconds. Then he grabs again, saying, "Give it to me now." She refuses, saying, "Maybe someday when I'm not at school you can use it. Because I used some toys one day when you weren't here." Dean shouts for a turn and grabs again. He gets the hammer with which the bell is pounded. They pull and kick at each other. Alice says, "Well, it won't do you any good to have the hammer because I'll never give you the bell." Then, suddenly she says to Dean, "Well, Dean, when Sandy and Handy sometimes got in a fight they found a way to use it. Let's take turns." Dean agrees and they do take turns. Alice bangs the bell, then Dean has a turn. This kind of play continues for the rest of the period.
At the end of the period Alice says to the nursery school cook as she passes through the kitchen on her way back to the preschool group, "Boy, Mrs. Brown, we had a real fight, at first, but we found a way to take turns; then we had a good time."

Although this episode showed that Alice did understand methods of solving social conflicts we find that her final domineering score was only one point less than her initial score and her final co-operative score was only one point higher than her initial one. In view of her successful use of domineering assertion before training, the ineffectiveness of the training program in producing a change in her behavior is to some degree understandable.

Child 1516 (Chronological age, 59 months; IQ 135).- Connie was included in the training group on the basis of her initial high rank in domineering initiations and her low rank in co-operative initiations.

Her response in the preliminary situation gave little indication of much interest in the dolls. "They are cute" was her one comment. However, during the first discrimination situation she began calling them by their names and requested that she be allowed to put on their wraps before she took them out to play.
From that time on she spoke of them as children.

Her responses in the test situation on discrimination were: "That wasn't a good time they had. Sometimes my sister and I have times like that; I wish she wasn't bigger than me."

That Connie saw a relationship between the dolls' behavior and her own was shown by this statement made as she came into the experimental room for the test on playing together: "I just love to play with children. We are playing with the blocks this morning. Did you see us?" On that particular morning almost every member of the five-year-old group was helping to build a big "war camp."

She felt a real responsibility for helping the dolls. These verbalizations indicate such a feeling: "At least they didn't have any trouble this morning, did they?" (just after a test situation) and "I helped them from having trouble today, every time, didn't I?"

Connie's responses on all the tests were favorable and in the pairing made with a trained child in her group she made 5 co-operative initiations in five
minutes as compared with 7 such items during the twenty-five minutes of the initial test series. Her final cooperative score was 20 as compared with an initial score of 7; her final dominative score was 18, her initial score, 30.
Chapter VI

CHANGES IN ASSERTIVE BEHAVIOR OF TRAINED AND CONTROL SUBJECTS FROM INITIAL TO FINAL MEASURES

Two general approaches were used to study the changes in behavior from initial to final measures. First, comparisons were made of initial and final assertive scores to discover any changes that might have occurred; second, comparisons were made of initial and final measures of behavior other than assertiveness which might have shown some fluctuation.

Analysis of the Results Showing Group Changes in Assertiveness

In order to discover how the two groups changed in assertiveness from initial to final tests, two methods of comparison were employed: (1) a comparison of initial and final test scores of the trained and control children and (2) a comparison of the observation scores of the trained children before and after training.
Analysis of the Results of a Comparison of Initial and Final Test Scores of the Trained and Control Children

Since the results of the preliminary study indicated that a child's assertive behavior, particularly his co-operativeness, depended upon the identity of his partner in the test situation, a decision was made to pair the trained and control children, as nearly as possible, with the same companions that they had in the initial test series. However, because the trained children had participated in a program designed to change their behavior since the initial test, it seemed advisable to eliminate them as re-test companions for the controls. Consequently, untrained children, in some cases members of the control group, whose initial domination and co-operation scores matched approximately the scores of these trained children who had been paired with controls in the initial test, were substituted for the trained children in the final test. Some of these untrained children were the ones whose total domination scores were high and whose total co-operation scores were low, but whose initiations and responses were so distributed that they did not rank extreme enough to be included in the training and control groups.
The final test consisted of five pairings with a different companion and a different toy each time. The toys used in the final test series are shown in Figure 12. None of the final pairings were made in less than a week after the end of the training program and in all but two instances the interval between the end of training and beginning of the re-test series was longer than a week. So that the behavior of the trained children in the re-tests should not be influenced by the presence of the person who had trained them, their re-tests were given by an assistant who had established reliability with the investigator. This same assistant re-tested the five-year-old controls; the writer re-tested the remainder of the control group. The agreements of the two observers expressed in terms of per cent appear in the following tabulation:

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Per Cent Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domination</td>
<td>91.9 ± .01</td>
</tr>
<tr>
<td>Initiations</td>
<td>90.0 ± .02</td>
</tr>
<tr>
<td>Responses</td>
<td>89.5 ± .03</td>
</tr>
<tr>
<td>Co-operation</td>
<td>92.8 ± .02</td>
</tr>
<tr>
<td>Initiations</td>
<td>92.5 ± .02</td>
</tr>
<tr>
<td>Responses</td>
<td>90.5 ± .03</td>
</tr>
<tr>
<td>Non-assertion</td>
<td>91.3 ± .02</td>
</tr>
</tbody>
</table>
Figure 12. The Toys Used in the Re-tests
(1) locomotive (2) airplane (3) piano (4) drum
(5) telephone (6) fire engine
The initial and final test scores for domination and co-operation of the trained and control children appear in the tabulation below:

<table>
<thead>
<tr>
<th>Trained Children</th>
<th>Control Children</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Child</strong></td>
<td><strong>Initial Score</strong></td>
</tr>
<tr>
<td>----------------</td>
<td>------------------</td>
</tr>
<tr>
<td>1340</td>
<td>30</td>
</tr>
<tr>
<td>1516</td>
<td>30</td>
</tr>
<tr>
<td>1406</td>
<td>26</td>
</tr>
<tr>
<td>1401</td>
<td>37</td>
</tr>
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<td>1449</td>
<td>37</td>
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<td>1500</td>
<td>27</td>
</tr>
<tr>
<td>1533</td>
<td>42</td>
</tr>
<tr>
<td>1402</td>
<td>24</td>
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<tr>
<td>1518</td>
<td>32</td>
</tr>
<tr>
<td>1445</td>
<td>32</td>
</tr>
</tbody>
</table>

**Domination Scores**

<table>
<thead>
<tr>
<th><strong>Child</strong></th>
<th><strong>Initial Score</strong></th>
<th><strong>Final Score</strong></th>
<th><strong>Child</strong></th>
<th><strong>Initial Score</strong></th>
<th><strong>Final Score</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1340</td>
<td>6</td>
<td>12</td>
<td>1403</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>1516</td>
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<td>20</td>
<td>1511</td>
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<td>4</td>
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<td>4</td>
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<td>1445</td>
<td>4</td>
<td>3</td>
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</tr>
</tbody>
</table>

**Co-operation Scores**

**The Method of Analysis.**—The information desired from a comparison of the initial and final scores of the trained and control subjects was this: Is the difference in final mean scores a dependable difference, that is, is it too large to be accounted for by the op-
eration of chance factors alone? The method of analysis of covariance was used to test the hypothesis that any differences in the final mean scores of the two groups, after allowances were made for chance differences in initial mean scores, were due entirely to fluctuations in random sampling.

The Results of the Analysis.- In the tabulation below are the results of the analysis of the covariance of the initial and final dominative and co-operative scores of the trained and control subjects:

<table>
<thead>
<tr>
<th>Group</th>
<th>Children</th>
<th>Initial Mean</th>
<th>Final Mean</th>
<th>F</th>
<th>Level of Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Unadjusted</td>
<td>Adjusted</td>
<td></td>
</tr>
<tr>
<td>Domination</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trained</td>
<td>10</td>
<td>31.70</td>
<td>22.50</td>
<td>22.34</td>
<td>20.05</td>
</tr>
<tr>
<td>Control</td>
<td>9</td>
<td>31.00</td>
<td>33.89</td>
<td>33.71</td>
<td></td>
</tr>
<tr>
<td>Co-operation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trained</td>
<td>10</td>
<td>7.00</td>
<td>11.10</td>
<td>10.72</td>
<td>3.14</td>
</tr>
<tr>
<td>Control</td>
<td>9</td>
<td>6.22</td>
<td>7.00</td>
<td>7.01</td>
<td></td>
</tr>
</tbody>
</table>

The difference between the final adjusted means for domination of the two groups was large enough to warrant the statement that the absolute value of F obtained would be exceeded 1 per cent of the time in samples the size of those used in this study; in other words, it was possible to reject the hypothesis that the differ-
ifferences in the final means of the two groups could be accounted for by chance fluctuations of random sampling. In this study there was no instance of an interaction variance so that \( F \) is the variance between groups divided by the variance within groups. Since the 5 percent level of confidence was accepted as indicative of a dependable difference between groups in this study, it was possible to say that the trained group decreased significantly in dominative behavior.

The adjusted final means for co-operation did not differ by an amount larger than could be attributed to chance since an \( F \)-value of 4.49 was necessary to indicate a dependable difference. The results did show a trend towards a greater increase in co-operation in the trained than in the control group.

**Analysis of the Results of a Comparison of Observation Scores of the Trained Subjects Before and After Training**

Observations of the trained subjects were made in the preschool group (1) before the training program started, (2) immediately (within two weeks) after the program ended, and (3) approximately one month later. The second series of observations was made for the purpose of determining whether any changes in co-
operative behavior could be detected in the preschool situation; the purpose of the last series was to check on the permanency of these changes.

The Method of Analysis.— The hypothesis to be tested here was that the observation scores obtained at the three different times were random samples from the same population of such scores. The method of analysis of variance⁴ was used in testing this hypothesis.

⁴The variance of the observation scores was analyzed into four components as described in Lindquist (40, p. 114-127).

The Results of the Analysis.— The F-values resulting from this analysis, as shown in the following tabulation, indicate that the hypothesis was false and that the differences in the three means were not due to chance alone:

<table>
<thead>
<tr>
<th>Children</th>
<th>Initial Mean</th>
<th>Mean From Second</th>
<th>Mean From Third</th>
<th>Level of Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Observation</td>
<td>Observation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Domination</td>
<td>Co-operation</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>16.50</td>
<td>7.70</td>
<td>9.00</td>
<td>18.91</td>
</tr>
<tr>
<td>10</td>
<td>3.30</td>
<td>8.40</td>
<td>6.30</td>
<td>4.68</td>
</tr>
</tbody>
</table>
The next step in the analysis was to determine whether the differences between initial and second mean and between initial and third mean were large enough to be dependable. Student's t-test\textsuperscript{15} gave the results shown below:

<table>
<thead>
<tr>
<th>Score</th>
<th>Mean</th>
<th>Difference</th>
<th>t</th>
<th>Level of Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dominating</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial</td>
<td>16.50</td>
<td>8.30*</td>
<td>5.70</td>
<td>1%</td>
</tr>
<tr>
<td>Second</td>
<td>7.70</td>
<td>7.50**</td>
<td>4.36</td>
<td>1%</td>
</tr>
<tr>
<td>Third</td>
<td>9.00</td>
<td>8.40*</td>
<td>1.79</td>
<td>Less than 5%</td>
</tr>
<tr>
<td>Co-operation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial</td>
<td>3.30</td>
<td>5.10*</td>
<td>3.04</td>
<td>1%</td>
</tr>
<tr>
<td>Second</td>
<td>8.40</td>
<td>3.00**</td>
<td>1.79</td>
<td>Less than 5%</td>
</tr>
<tr>
<td>Third</td>
<td>6.30</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*This is the difference between the initial and second means.
**This is the difference between the initial and third means.

The t-values for domination were sufficiently large to show that the decreases in dominative score from initial to second observations and from initial to third observations were too large to attribute to chance fac-
tors alone. It was possible to say then, that the trained subjects decreased significantly in domination and that this decrease was maintained for at least one month after training. The trained subjects showed a significant increase in co-operative behavior from initial to second observation, but this increase was not maintained after one month. Nevertheless, there was a trend toward an increase in co-operation from the first to the third observation.

Because observations under the same conditions were not made for the control subjects, it was not possible to determine whether the increases in co-operation and decreases in domination of the trained subjects were due solely to the training they received. In view of the gains in co-operation made by the controls in the test situation, it seems probable that the increase in co-operation of the trained subjects in the preschool situation was a result of a combination of factors, important among which were the experimental training, attendance at preschool, and possible statistical regression. It does seem possible to say, however, that in light of the increases in domination of the controls in the test situation the changes in the opposite dir-
section shown by the training subjects in the preschool situation were brought about chiefly by the training.

**Analysis of the Results Showing Individual Changes in Assertiveness**

In any study of the social behavior of young children the investigator's interest goes beyond that in group trends; he wants some knowledge of individual variations.

**A Comparison of Changes in the Assertive Behavior Scores on an Individual Basis**

Figure 13 presents graphically the increases and decreases in domination of the trained and control subjects. It is evident that, during the period of study, a greater number of control subjects than of trained subjects became more domineering; in every instance the increases of the controls were larger. (There was only one increase on the part of a trained subject). There were nine examples of decrease in domination for trained children and only two for controls; the amount of change made by the two controls was smaller than that made by five of the trained children.
Figure 13. Changes in Total Domination Scores From Initial to Final Test. (Child 1444 does not appear on graph because he made no change from initial to final test.)
As the statistical analyses of the scores indicated, changes in co-operative behavior were less pronounced than those in domination. Figure 14, which presents these changes graphically, shows that of the twelve children who increased in co-operation, seven were trained subjects and five were controls. The three largest gains were made by trained children. Only five children, two trained and three control, decreased in co-operation and four of them lost the same number of points. These results indicate that in this particular group of nineteen children (including both controls and trained subjects) co-operation tended to increase rather than decrease.

Although the group studied was small the results suggest the possible interpretation that attendance at preschool tended to increase both co-operative and domimative assertiveness. Co-incidentally it may have been possible that the training program used in this study was effective mainly in preventing the increase in domination, at the same time allowing and stimulating the increase in co-operation.
Figure 14. Changes in Total Co-operation Scores From Initial to Final Test. (Children 1449 and 1503 do not appear on graph because they made no change from initial to final test.)
A Comparison of Initial and Final Initiation and Response Scores of Individual Trained Subjects

It will be remembered that the training subjects were children who fell in the upper fifth of their preschool groups in dominative initiations or responses. Consequently, it was possible to discover whether the training program had exerted its effects on the specific behavior which, in the case of each child, was extreme. Figures 15 and 16 respectively show the changes in dominative initiation and response scores of the trained children who ranked as extreme on dominative initiations and in dominative responses. Of the six children who formerly made most of their social contacts dominatively, four made fewer such contacts, one made the same number, and one made more after training. All of the six children who originally responded to others chiefly by refusing or defending showed less of this behavior after training.

In Figures 17 and 18 are the changes in the scores of the children who ranked lowest in their social groups in co-operative initiations and co-operative responses. The five children who before training ranked in the lowest fifth of their groups in co-oper-
Figure 15. Initial and Final Dominative Initiation Scores of Trained Children in the Upper Fifth of Their Social Groups in Dominative Initiations.

Figure 16. Initial and Final Dominative Response Scores of Trained Children in the Upper Fifth of Their Social Groups in Dominative Responses.
Figure 17. Initial and Final Co-operative Initiation Scores of Trained Subjects in the Lowest Fifth of Their Social Groups in Co-operative Initiations.

Figure 18. Initial and Final Co-operative Response Scores of Trained Subjects in the Lowest Fifth of Their Social Groups in Co-operative Responses.
ative initiations all made more of them on the re-test after training. Five of the seven children who ranked in the lowest fifth of their groups in co-operative responses made no change with training, one made more co-operative responses after training and one made less.

Apparently the training program was least effective in teaching children to respond co-operatively to the advances of others. This result may be a clue as to necessary revisions in the training program. Perhaps more emphasis should be placed on this type of behavior. In general, it is possible to say that most of the individual changes in assertiveness occurred in the specific behavior in which the child had been ranked as extreme.

Analysis of the Results Showing Group Status in Behavior
Other Than Assertiveness Which Might Have Changed
From Initial to Final Test

Since the results of the analysis of group changes in assertiveness showed a decrease in domination, but not a corresponding increase in co-operation, an answer was sought to the following questions:
Has the training resulted in a decrease in the child's general social activity? By inhibiting his use of domination has it contributed toward making him shrink from social contact?

Social activity was defined as the amount of time spent in making contacts with, responding to, and playing with another child. Two measures of social activity were available: (1) the number of minutes spent in making dominative and co-operative initiations and responses plus the number of minutes spent in joint play with the companion in the test situation and (2) the amount of time spent with other children in the preschool situation as observed by the investigator.

Since a record was kept of the type of play engaged in during each fifteen-second interval that the child was observed in free play, the latter measure of social activity was available.

A social activity score was computed from the test records of each child by counting the number of fifteen-second intervals (or portions of such intervals) spent in co-operative and dominative assertion and in joint play with the companion. These totals

\[\text{Social activity score} = \text{dominative and co-operative initiations and responses} + \text{joint play with companion} + \text{time spent with other children in preschool situation} \]
were then converted into minutes. This score lacked accuracy to the extent that it did not include other social activity such as a simple relating of one's experiences to another or an exchange of ideas in relation to something other than the play material in the test situation. However, it was the best estimate of social activity available from the test records and the writer can state with assurance that there was little social activity not included in the score.

Examination of the following tabulation of the social activity scores of the trained subjects before and after training shows that there was little change from initial to final test in the number of minutes spent in contact with the other child in the test situation:

<table>
<thead>
<tr>
<th>Child</th>
<th>Before Training</th>
<th>After Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>1500</td>
<td>9.208</td>
<td>11.042</td>
</tr>
<tr>
<td>1449</td>
<td>10.408</td>
<td>9.475</td>
</tr>
<tr>
<td>1333</td>
<td>13.875</td>
<td>12.459</td>
</tr>
<tr>
<td>1401</td>
<td>10.093</td>
<td>14.834</td>
</tr>
<tr>
<td>1402</td>
<td>8.584</td>
<td>8.275</td>
</tr>
<tr>
<td>1518</td>
<td>3.167</td>
<td>10.375</td>
</tr>
<tr>
<td>1445</td>
<td>12.667</td>
<td>11.125</td>
</tr>
<tr>
<td>1516</td>
<td>16.125</td>
<td>16.375</td>
</tr>
<tr>
<td>1340</td>
<td>10.375</td>
<td>17.459</td>
</tr>
<tr>
<td>1406</td>
<td>12.125</td>
<td>19.250</td>
</tr>
</tbody>
</table>
The results of the t-test of the significance of the difference between the mean scores before and after training show that there was no significant change in amount of social activity but that there was a trend toward increase in co-operation from initial to final test.

<table>
<thead>
<tr>
<th>Score</th>
<th>Mean</th>
<th>Difference</th>
<th>t</th>
<th>Level of Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before training</td>
<td>11.21</td>
<td>-1.86</td>
<td>2.24</td>
<td>Less than 5%</td>
</tr>
<tr>
<td>After training</td>
<td>13.07</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It seems safe to say here that in so far as the social activity score was valid, the large decrease in dominative behavior and the concomitant small increase in co-operative behavior of the trained subjects did not result in a decrease in their social activity.

The social activity score derived from the records of the trained children's behavior in the preschool play group consisted of the number of minutes spent in play with other children, that is, the two types of activity not included in the score were watching and playing alone. When the variance of the scores derived in this way was analyzed into four components, these results were obtained:
The $F$-value indicates that the difference between the means could be accounted for by chance fluctuations in random sampling and that the social activity scores did not differ significantly throughout the three observations. The trend toward increase in social activity from initial to final measures is evident here also.

**Interpretation of Findings on Social Activity.**- The writer is fully aware that the statement that total activity did not decrease when domination decreased by a large amount and co-operation increased by a small amount sounds paradoxical. However, the following tentative explanation may be offered: the social interchange resulting from a co-operative initiation or response is likely to be longer in duration than that resulting from a dominative initiation or response. In other words, relatively few co-operative attempts are needed to produce a given amount of social activity; while a relatively greater number of dominative attempts, few of which result in joint play, are needed to produce a similar amount. Consequently, a few co-operative items

<table>
<thead>
<tr>
<th>Children</th>
<th>Initial Mean</th>
<th>Second Mean</th>
<th>Third Mean</th>
<th>$F$</th>
<th>Level of Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>17.55</td>
<td>19.43</td>
<td>19.68</td>
<td>.60</td>
<td>Less than 5%</td>
</tr>
</tbody>
</table>
plus the social interaction which results from them may produce a social activity score comparable to one produced by a much larger number of domative items.

As an outgrowth of the finding that social activity did not decrease from initial to final test this question arose?

Is it possible that the trained child maintains his level of social activity by submitting to others? Has the inhibition of the domative assertiveness resulted in increased submissiveness?

In order to answer this question a submissive score made up of the two items: (1) Gives up toy immediately when commanded to do so or follows directions of companion immediately, and (2) withdraws from the situation, was computed from the test and re-test records of the trained subjects. The t-test applied to the mean scores produced the following results which show that there was no significant difference between the submissive scores before and after training:

---

17 This score, it will be remembered, did not prove highly reliable or valid according to the reliability and validity criteria used in this study. The writer uses it here with full knowledge of its limitations.
The trained subjects were not more submissive after training than they were before. In fact, the trend, although not statistically significant, was towards a decrease in submissiveness from initial to final test score. In this particular group of subjects inhibition of dominative behavior did not result in increased submissiveness as measured by the test.

A Theoretical Interpretation of the Results

It may be interesting at this point to interpret the results obtained in this study in terms of some of the theoretical explanations of behavior which were discussed in a previous chapter. It should be understood by the reader that these interpretations are made in light of the writer's understanding of the theories and as such may be open to question.

"The Yale Hypothesis"

This hypothesis that "aggression is the result of frustration" would imply that a decrease in aggressive
behavior could come only with a decrease in frustration. Has there been a decrease in frustration of the trained subjects? Only a tentative answer can be given.

Some children who use dominative methods of contacting others almost to the exclusion of co-operative methods are frustrated frequently as was John who found it especially difficult to fit himself into the four-year-old group, usually meeting with resistance from those he attempted to contact. The following excerpts taken from running accounts of John's behavior show his methods of approaching other children and the results of his use of these methods:

April 1

John pushes Egan who is riding a tricycle. Egan gets off the tricycle and runs after John threatening to hit him when he catches him. John gets into a box and Egan follows and hits him. "Get out, get out. I don't want you in here. You're naughty." John kicks Egan.

March 29

Marvin and John are walking up an incline that the teacher has just arranged for them. John turns around and pushes Marvin. "I don't want you playing on this any more. You get away from here." He hits Marvin. Marvin returns the blow. John cries and runs to the teacher. The teacher explains that the board can be used by two children. "I don't want him there." John stands near teacher, yelling and crying.
April 23

John goes to the horizontal bar where Darlene is chinning herself. "Give me a place Darlene." Darlene moves over. "That's not the way. You're supposed to watch me." Darlene goes right on playing. John hits her. "Watch me." She refuses. He cries and runs to the teacher, yelling "She won't watch me."

That these frequent frustrations had their effect on John's wanting to make contacts is indicated below:

March 29

John is telling the teacher that he wants to play with a group of children on the jungle gym. The teacher is urging him to ask them if he may play with them. John, (whining) "You go tell them. I don't want to tell them. I'm afraid those kids'll hit me." The teacher encourages him to go. Finally he does and this is his approach: "I'll get something to poke out your eyes, something with points on if you don't let me play with you." He throws some nails at Susan who has forbidden him to come closer. He goes back to teacher, saying, "They won't let me play with them."

This incident suggests that John lacks a knowledge of the social techniques which are likely to result in acquiescence of the child he approaches.

One of the aims of the training program was to equip the children with these social techniques. Certainly, if John possessed such knowledge and used it, he would meet with less frustration in the preschool
group than he did on the above occasions. In this somewhat indirect manner the training program probably was effective in reducing frustration and its accompaniment, aggression.

But, what of the child whose frustration is based on other factors, the child whose home life is full of frustrating experiences, who lives in a state of doubt as to how the persons around him will react from time to time? Can this training program reduce such frustration? Among the training subjects was one child whose home seemed to be a potential source of frustration. The following description of Dean's home life was obtained from his preschool teacher:

Dean has had a particularly disturbed home life during the past year. The family, composed (until shortly before Christmas) of father, mother, and Dean lived with the grandmother while a new home was made ready for occupancy. The mother was pregnant and ill at the beginning of the school year, with the result that she was tense and irritable much of the time. Dean has been under the supervision of a succession of maids, each of whom has despaired of "getting along" with the boy. His mother also had a feeling of inadequacy in regard to her son. This statement, made to the nursery school teacher, is indicative of her lack of confidence in her ability to guide her child: "Here he is. I do hope that you can do more with him than I can." For a time Dean was intensely jealous of his father. With the advent of the new baby and
his having to be in the company of his father
during the mother's stay in the hospital, he
has seemed to develop more affection for him.

This home undoubtedly offered endless frustration to a
vigorous, active three-year-old boy.

Dean's behavior at school was unpredictable
and almost violent at time as is shown in the follow-
ing examples:

April 16
Rob falls to floor when he stumbles over
a block. He cries. Dean runs over and kicks
him on the face and head. When the teacher
asks him why he kicked Rob, he replies, "Be-
cause I didn't like to hear him cry."

April 17
Dean and Peter come out of house onto
playground. Nan rides by on her tricycle.
Dean runs after her and pushes her off the
tricycle so that she falls on the sidewalk.
Nan cries. Dean runs away as a teacher ap-
proaches.

April 17
Jo is sitting on a bench with Nan. Dean
walks up and hits her with a stick that he is
carrying. Jo cries.

April 24
Dean walks into cloakroom. He hits Jo
as he walks past her, then goes up to Lon and
pokes his fist in his eye.

That Dean knew what social techniques would
be accepted by other children was evidenced by his
training record. His ideas for working out the solutions to problem situations in which the dolls became involved were superior to those of the other subjects his age. His enjoyment of the training was shown in such spontaneous remarks as: "I love Sandy and Mandy," and "I'll go with you today to see Sandy and Mandy. Let's do go, huh?"

But the results of the training in terms of changes in his own behavior were not in correspondence with his ability to think through and solve situations successfully. His decrease in domination amounted to only three points; his increase in co-operation was six points.

Where aggressive behavior results from such frustration as that experienced by Dean, it is doubtful whether the training program would be effective. Certainly, it would need to be accompanied by expert guidance of the parents as well as the child. In this study no attempt was made to work with parents.

The writer would recommend the method of teaching used in this training program for use with children who have few severe emotional difficulties, or, if it is used with the latter type of child, that its use be
supplemented with attempts to alleviate these emotional difficulties.

The Lewinian Interpretation

The theory and its application to the present study have been discussed earlier. According to it, the training resulted in a change in the individual in the forms of increased knowledge and ability to interpret social situations. Such a change, which was a somewhat permanent one, resulted in a change in behavior in subsequent situations in which other variables were held fairly constant. Thus, if John had been taught social techniques and had been helped to judge when to use them, he would have responded in later situations as a person with such knowledge would be able to respond.

An Evaluation of the Measure of Assertive Behavior

The test which was devised in this investigation proved to be reliable and valid method for measuring the domineering and co-operative assertiveness of the eighty-eight subjects included in the preliminary and the main studies. As the result of having used
the test with these subjects the writer has a suggestion to make in regard to the method of scoring.

The Assertive Index

In the present study two scores, a dominative score and a co-operative score, obtained from the test record of each child were used to describe his assertive behavior. In the belief that a more meaningful description might be presented in the form of a score which expressed the relationship between his dominative and co-operative behavior, the writer suggests the use of a "domination-co-operation index" computed as follows:

\[
\text{Total Domination Score} / \text{Total Co-operation Score} \times 10
\]

A large index value indicates a large dominative score in relation to the co-operative score; an index value of 10 indicates equal domination and co-operation scores and a value of less than 10 indicates a large co-operative score in relation to the dominative score.

Application of the Index to Some Data of the Present Study

When the dominative and co-operative scores of the seventy-one subjects of the main study were converted into assertive indices, the following ranges,
means and standard deviations resulted:

<table>
<thead>
<tr>
<th>Preschool Group</th>
<th>Range</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior-Primary (5-year-olds)</td>
<td>4 to 175</td>
<td>35.5</td>
<td>31.9</td>
</tr>
<tr>
<td>Group III (4-year-olds)</td>
<td>4 to 105</td>
<td>29.1</td>
<td>22.8</td>
</tr>
<tr>
<td>Group II (3-year-olds)</td>
<td>5 to 120</td>
<td>32.4</td>
<td>30.8</td>
</tr>
<tr>
<td>Total</td>
<td>4 to 175</td>
<td>33.0</td>
<td>28.8</td>
</tr>
</tbody>
</table>

The ranges and standard deviations indicate that the individual differences within this group of subjects were marked. In this particular group of children there was no consistent change in the index with increasing chronological age.

The following tabulation shows the assertive indices for the trained and control subjects before and after the training period:

<table>
<thead>
<tr>
<th>Group</th>
<th>Initial Index</th>
<th>Final Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trained</td>
<td>55.4</td>
<td>25.5</td>
</tr>
<tr>
<td>Control</td>
<td>62.2</td>
<td>84.8</td>
</tr>
</tbody>
</table>

When the method of analysis of covariance was used in comparing the initial and final indices of the trained and control subjects the results showed that the mean index of the trained children had decreased significantly (significant at the 5 per cent level of confidence) dur-
ing the period of training. It seems possible to say that the training was effective in decreasing the ratio between domination and co-operation in the particular group of subjects used in this study. As previous results have shown, this decrease in the ratio was due chiefly to a decrease in domination.

An Evaluation of the Training Program

In regard to the results of the training administered in this investigation the following statements can be made: (1) A selected group of highly assertive children of preschool age showed a significant decrease in domactive behavior after training; their increase in co-operation was not statistically significant when their scores were compared with those of the controls although there was a trend toward such an increase. (2) The trained children were significantly more co-operative in the preschool situation as was indicated by a comparison of their observation scores before and immediately after training; although this increase was not maintained over a period of a month, there was a tendency toward an increase in co-operation.
over this period. (3) The decrease in dominative behavior was not accompanied by a decrease in social activity or an increase in submissiveness, as measured in this study.

As the results indicated, the training seemed to be more effective in teaching children to inhibit social techniques which would not result in satisfactory solutions to social conflicts than in teaching them the techniques which would bring satisfactory results. The writer can offer no explanation for these findings. It may be that a longer period of training would have produced a greater increase in co-operation; perhaps learning a new social response is a longer process than dropping out one that has been learned. It is possible that the training "plays" which ended unsatisfactorily for both dolls were more dramatic, hence more impressive to the children than those which ended happily. The ineffectiveness of the training in increasing co-operative responses may be accounted for by the lack of emphasis put upon this kind of acceptance of the initiations of other children. Additional training situations with the teaching of co-operative response as their aim might result in a greater increase in this type of behavior.
Suggested Improvements in the Content and Administration of the Training Program

The investigator's experience in the use of the training method devised in this study has resulted in the following suggestions for changes in its content and administration:

1. The addition of training situations in which co-operative responses are emphasized. In its present form the program puts no special stress on them.

2. A longer training program. This change might result in a greater increase in co-operation than was shown in the present study.

3. The taking of running accounts of the behavior and verbalizations of the children during training. The present investigator felt the need of these data in studying individual children.

Some Suggestions for Further Research

It must be kept in mind that the training subjects in this study represented a selection upward in socio-economic status and intelligence, that they represented extremes in their use of domination and co-operation, and that they were within the normal range of emotional adjustment. Whether the technique would be effective with children who differed from these training subjects in the above respects cannot
be determined from the data of this study. Further re-
search is necessary to obtain such information. The
writer suggests the following problems as illustrations
of the kind of research that might well follow the pres-
ent investigation:

1. A comparison of trained and untrained
children who do not represent the extremes of
their social groups.

2. A comparison of trained and untrained
children who represent a lower socio-economic
level than the subjects of the present study.

3. Use of the training method with chil-
dren who are highly submissive.
Chapter VII

SUMMARY

The general aim of the study was to devise a method of teaching young children to understand and to interpret social situations and to respond in these situations on the basis of their interpretations. As a means of orienting the problem various theoretical interpretations of the origin of social behavior patterns were discussed and research related to them was reviewed.

Assertiveness, defined as (1) any overt attempt to influence the behavior of another and (2) any overt response to the above behavior so long as the child responding maintained his status in the situation, was the behavioral concept with which the present study was chiefly concerned. Non-assertiveness was defined as (1) no attempt to influence the behavior of another and (2) immediate compliance with another's efforts to influence one's behavior with loss of status of the one complying.

Two types of assertiveness, domination and co-operation were differentiated in running accounts of the behavior of a group of preschool children. Dom-
In assertiveness was characterized by (1) direct force applied against another individual or his possessions and (2) lack of consideration for the status of that individual. Co-operation, on the other hand, was characterized by (1) indirect, non-forceful attempts to influence the behavior of another and (2) obvious consideration of that person's status in the situation.

In a preliminary study, the subjects of which were seventeen preschool children, a measure of assertiveness was developed. This measure consisted of a series of five five-minute play situations involving two children and one toy. Because the toy was of such a nature that the two children could not play with it easily at the same time, the subjects were confronted with a problem in regard to its use. Each child was paired with five different children drawn at random from his preschool group, and with five different toys. A record was made of the behavior initiations and the responses to these initiations that occurred in each fifteen-second interval of the experimental period.

Agreements of two observers, based on simultaneous observations of ninety-five minutes of play in the test situation, ranged from 34 per cent to 100 per
Correlations ranging from .75 to .96 on the scores of the odd-even minutes of the test indicated the high reliability of the data. Validity coefficients between experimental scores and teachers' ratings showed that such ratings varied greatly in their dependability as criteria for determining the validity of the data derived from the experimental records in the present study. A suggestion was made that any investigator who plans to use teachers' ratings as validity criteria will profit by first checking the teachers on (1) their knowledge of each child as an individual and (2) their ability to see objectively the behavior under consideration. Correlations between scores on observations in the free play situation and experimental scores were high enough to indicate that the test was fairly valid for measuring domination and co-operation.

When a measure of internal consistency was applied to the five partial scores on domination and co-operation, the results showed a higher intercorrelation for domination than for co-operation. This finding led the investigator to formulate the hypothesis that, since dominative behavior appeared to be more consistent throughout a series of five pairings than
co-operative behavior, the child showing it must have made little adjustment in his behavior to the change of companion from test to test. On the other hand the co-operative child must have adapted his behavior to a greater extent to the change in the situation.

The test of this hypothesis involved the discovery of whether helping a dominative child to understand social situations and ways of responding to them would result in his becoming less dominative and more co-operative. A decision was made to use highly dominative children as subjects for testing the hypothesis. Seventy-one preschool children ranging in chronological age from forty-one months to seventy months were tested. Nineteen of these seventy-one children were found to be in the upper extreme of their preschool groups in dominative initiations or responses and in the lower extreme in co-operative initiations or responses. These children were divided at random into two sub-groups, a control group of nine children and an experimental group of ten.

The training program consisted of a series of eleven fifteen-minute play periods during which the child witnessed short "plays" where dolls, in the roles
of preschool children participated in social situations similar to those in which the child himself frequently experienced difficulty. During the training series the adult and child together analyzed the social situations and together reached a decision as to which of the social responses made by the dolls were most appropriate. In the test situations, which were interspersed among the training situations, the child was asked to work out without aid from the adult a solution to the problem confronting the dolls. Throughout the training program there was emphasis on teaching the child certain social techniques also.

Two measures of the effectiveness of the training program were employed: (1) a comparison by the method of analysis of covariance of the scores of the trained and control children made on the initial test with those made on a re-test given at the completion of the training period, and (2) a comparison by means of the method of analysis of variance of the domination and co-operation scores from observations of the trained children in the preschool play group prior to and at two different times after training.
The results of the analysis of covariance showed that the trained children were less domineering than the controls after training; this difference was statistically significant. Although the increase in co-operation for the trained children was not great enough to be statistically significant, there was a definite trend towards a difference.

When the variance of the observations scores was analyzed, it was found that the trained children were significantly less domineering and significantly more co-operative immediately after training; the evidence of the decrease in domination was still present a month later, while evidence of the increase in co-operation, although present in some degree, was not statistically significant. Because observations of the control subjects had not been made in the preschool situation after the period covered by the training program, it was not possible to say that the increase in co-operation and the decrease in domination of the trained children in the preschool situation were due chiefly to the training.

A comparison of the general social activity of the trained children before and after training, as
measured by the test records and observations in the preschool, showed that although the increase in co-operative assertiveness had not been as large as the decrease in domative assertiveness, total social activity had not decreased.

When submissive scores, derived from the initial and final test records, were compared, evidence was obtained to show that the decrease in domination was not accompanied by an increase in submissiveness.

Examination of the initial and final test scores of the individual trained children disclosed that, except for a failure to increase the co-operative response scores of children who ranked low in them initially, the training had been generally effective in changing the behavior in which the children were considered extreme.

The results were discussed in light of two theoretical explanations of the origin of social behavior patterns, namely, the "Yale Hypothesis" that aggression is the result of frustration, and the Lewinian interpretation that behavior is a function of the immediate situation.
A method of computing a domination-co-operation index was suggested using the following formula:

\[
\frac{\text{Total domination score}}{\text{Total co-operation score}} \times 10.
\]

Some of the data of the present study were converted into this index form. A statistical analysis of the initial and final test scores expressed as indices, which showed that the trained children's indices had decreased significantly, indicated that total amount of domination in relation to total amount of co-operation had decreased.

The training program was evaluated in terms of its results and suggestions were made for improving its content and administration.

It was possible to say that, within the limits of this investigation, a training program designed to help children understand social situations similar to those they experienced and to teach them social techniques to use in such situations, was effective in bringing about the following changes: (1) a significant decrease in the domimative behavior of a group of highly domimative children of preschool age and (2) a trend toward a dependable increase in the co-operative behavior of these same children.
REFERENCES


APPENDIX
DEFINITIONS OF ITEMS ON SCORE CARD

Domination

F  Directs force against companion
   Includes all behavior such as hitting, kicking, pinching, etc. Also includes all overt, non-verbal threats to use such behavior, e.g., the child may raise his hand in preparation for striking his companion.

G  Attempts to gain possession forcefully
   Includes all attempts to take the toy from the other child by use of physical force.

D  Defends forcefully
   Includes all physical attempts to keep toy in his possession. He may hold firmly to the toy while his companion is trying to take it; he may grab it from the other child who is succeeding in taking it. When such defense is accompanied by verbal refusal, both items are recorded.

T  Threatens
   Includes all verbal threats to use physical force against companion or toy. Examples are: "I'll hit you." "If you don't let me have a turn, I'll smash the box." Also includes threats to tell teacher or some other person in authority.

C  Commands companion to give material
   Includes all imperative statements used in direct verbal attempt to obtain toy. Examples are: "I want it now, give it to me." "Give it to me now." When accompanied by grabbing for the toy, both items are recorded.

O  Directs companion's behavior
   Includes all commands which tell companion what to do, with the exception of commands to give up the toy. Examples are: "That goes there; put it on now." "Look at this picture."
X Criticizes companion
Includes all statements which belittle companion.
Examples are: "That isn't the way to do it."
"I'm bigger than you."

R Refuses to follow companion's commands or suggestions
Includes all statements indicating flat refusal.
Examples are: "No, I won't do it." "Not now, I won't." Also includes ignoring companion's suggestions and criticisms for at least fifteen seconds.

Co-operation

P Asks for toy or turn to use toy
Includes all requests addressed to companion for possession or use of toy. Examples are: "Will you give it to me now?" "Is my turn coming pretty soon?"

Co Suggests joint use of toy
Includes all statements which imply a willingness to use the toy with the other child. Examples are: "Let's both turn the crank." "I'll be looking at the pictures while you play it."

TT Suggests taking turns
Includes all statements which imply a willingness to share possession of the toy. Examples are: "You have a turn, then I will." "As soon as I play the tune once, it is your turn." Also includes giving the toy to the other child without verbal accompaniment.

B Bargains
Includes all attempts to gain possession or keep possession of the toy by making promises to companion. Examples are: "If you let me have it now, I'll play it just once and then I'll give it back to you." "If you let me put the wheel on, I won't take away the wrench again."
Th Reasons

Includes all statements containing a "because-therefore" relationship when such statements pertain to possession of the toy. Examples are: "It is mine because I didn't have a turn before." "I can have it because there is only one toy and I want it."

A Agrees to companion's suggestion to take turns or to use toy jointly

Includes verbal agreements such as: "All right." "O.K." Also includes all examples of actual following of suggestions made by companion even though they are not accompanied by verbal agreement, if made within fifteen seconds after the suggestion was made. This response is recorded only after a co-operative initiation has been made by the companion.

Non-Assertion

No Makes no attempt to gain possession of toy

This item is recorded in every fifteen-second interval during which the child gives no overt sign that he wants the toy. He may just watch the other child use it or he may have his hand on the toy without making an attempt to actually gain possession of it.

W Withdraws from situation

Includes all instances where the child leaves the immediate environment of the other child and the toy. He may walk over to a window, attempt to leave the room, or merely turn his back on his companion. This item is recorded in each fifteen-second interval in which it occurs.

Y Gives up toy immediately when commanded to do so or follows directions of companion immediately

This item is recorded when the child behaves as his companion has directed him to behave within fifteen seconds after the command was given. Is
also recorded when he gives up toy within fifteen seconds after partner grabs for it or commands him to give it. This response is recorded only after a dominative initiation has been made by the companion.

Possession

Possession of toy
This item is recorded during every fifteen-second interval. If the toy is being used jointly possession is recorded for both children.
**EXPERIMENTAL RECORD**

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<thead>
<tr>
<th>Group</th>
<th>Date</th>
<th>Recorder</th>
<th>Toy</th>
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<th>15 sec. Interval</th>
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DIRECTIONS FOR USE OF EXPERIMENTAL RECORD

Directions for Recording

1. Record the names of the children in the spaces marked A and B.
2. Record by means of a check mark (\(\checkmark\)) the child who first puts his hand on the toy. If both children touch it at the same time, place check marks opposite A and B in the upper left-hand corner of the score sheet.
3. Start the stop-watch.
4. Using the symbols given with the behavior items and their definitions (Appendix, p. 180) record the assertive and non-assertive behavior of both children during each fifteen-second interval. If more than one item appears in a fifteen-second interval, record the one which comes nearest the mid-point.*

*Because it was felt that some items were missed this way, every item which occurred was recorded in the main study.

5. Record possession of the toy by means of a check mark (\(\checkmark\)) in each fifteen-second interval. If the children are using the toy together, give each one a check mark.
6. After the play period has ended finish recording in the blanks at the top of the score sheet.

Directions for Scoring

1. A child's score on each of the behavior categories consists of the total number of such items shown by him throughout the five pairings.
RATING SCALE

Rater _______________________________ Date ___________

Child's Name ________________________

Encircle the number on the scale that indicates the frequency with which the behavior items (one or several or all) in the six categories are shown by the child whose name appears at the top of the sheet. Please rate each child separately, i.e., do not compare him with other children. We are interested in finding out in what proportions these behavior items appear in each child's behavior repertoire, not in how he rates in relation to other children.

Category A1 1 2 3 4 5
Category A2 1 2 3 4 5
Category B1 1 2 3 4 5
Category B2 1 2 3 4 5
Category C 1 2 3 4 5
Category D 1 2 3 4 5
DIRECTIONS FOR USE OF RATING SCALE

Will you please rate each child whose name appears at the top of one of the attached sheets on the frequency with which he shows the following general categories of behavior in free play situations where he contacts another child in regard to personal or property rights. Examples of such situations are: (1) there is just one tricycle and two children wish to use it, (2) several children are using the slide at the same time and must go up the steps in single file, (3) one child builds his block road across the space being used by another child.

Category A1: This category includes the following types of behavior when they are used in initiating social contacts: verbal behavior such as commanding, giving directions, and threatening; physical behavior such as grabbing toys, hitting, kicking, pushing, and threatening by gesture.

Category A2: This category includes the following types of behavior when used in response to another child’s initiation of a social contact: refusing to follow commands, directions, and suggestions; defending property forcefully, kicking, hitting, and pushing.

Category B1: In this category are included suggestions for the joint use of material, suggestions for taking turns, bargaining, reasoning, and asking another child for a toy.

Category B2: This category includes agreements to take turns and to use material jointly and the actual carrying out of such agreements.

Category C: This category includes withdrawing from a difficult situation, giving up a material or privilege without defending it and making no attempt to assert one’s self in a social situation.

Category D: This category includes success in acquiring property or upholding a personal right that is achieved by any one or a combination of several
of the more specific behavior items listed above.

Place each child on a five-point scale, the points of which are defined as follows:

1. Almost never shows the behavior
2. Shows less of this behavior than of other kinds
3. Is as likely to show this behavior as any other
4. Is more likely to show this behavior than any other
5. Almost always shows this behavior
<table>
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<th>15 Sec. Interval</th>
<th>Minutes</th>
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DIRECTIONS FOR USE OF OBSERVATION RECORD

Directions for Recording

1. Fill in blanks at top of sheet
2. Start stop watch
3. Record one of the following symbols in each fifteen-second interval to indicate the type of play in which the subject is engaged:
   - O Watching
   - 申报 Playing alone with toy
   - / Playing with one other child
   - △ Playing in a group of two or more children
4. Record each assertive initiation or response in the appropriate fifteen-second interval, using the same symbols as were used on the experimental record.

Directions for Scoring

A child's score on each of the behavior categories consists of the total number of such items shown by him throughout the six five-minute observations.