A STUDY OF THE DEVELOPMENTAL SEQUENCE OF THE PLAY BEHAVIOR OF CHILDREN AS REVEALED IN THE ANECDOTAL RECORDS OF TEACHERS

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CHAPTER I

THE PROBLEM

In the past twenty years educational research has concerned itself more and more with the study of children's groups. The accumulation of this research has contributed greatly to an understanding of the knowledges, values and skills that children derive through participation in group activity.

The study of children's group participation has indicated that if a child has membership in the peer society, he will have opportunities for learning such things as the restrictions which group life places upon people, the give-and-take of group experience, the "rules of the game", and many physical and social skills. Since a major portion of the child's interaction with his peers is in the play activities, whatever opportunities there are for achieving these very necessary learnings are, to a large degree, dependent upon his participation in the play groups. It is in this free play situation that the group members most nearly approach the status of equals, thus providing an emotional climate which is conducive to the kinds of learning described above. This play behavior, which varies from time to time because of many related factors, is the concern of this investigation.

Other attempts have been made to find out what the child's play life is like. There have been studies of individual play in controlled situations; studies of pre-school children's play through observation; of older children's play mainly through the use of questionnaires and inventories; of more or less isolated factors relating to play, as socio-economic level and emotional stability; and of certain isolated patterns, as doll play.

This research is designed to extend not only the findings of these earlier studies of play behavior but also the method of investigation, particularly in the kind of data used. Specifically, it is an investigation of the developmental sequence of play behavior from kindergarten through the eighth grade as these play behaviors are influenced by the factors of age, sex, and caste. The procedure involves an analysis of the play activities of 1669 school children as revealed in the anecdotal records prepared by teachers who were participating in an organized child study program, under the direction of the Institute for Child Study, University of Maryland. Included in the data were the records of both white and Negro boys and girls of second, fourth and eighth grades, and white boys and girls of kindergarten. The final analysis consists of a comparison of the play behavior of the Negro-white sub-groups within each grade and between the grades, and a comparison of the Negro and white sex groups within each grade and between the grades. Through this analysis can be seen the developmental changes in play behavior from kindergarten, through second, fourth and eighth grades, and also the differences between sex and caste groups within the grades.

HYPOTHESES ON WHICH RESEARCH IS BASED

The American culture is characterized by many diversities which reflect all of the beliefs, ideas, codes, attitudes, values and feelings of the people. Although there are certain universal similarities in this culture, such as those of language, dress and family structure, the conditions under which persons have access to their fundamental goals, and the controls by which they are forced into the prescribed ways of behaving are found to differ according to the part of the social structure in which they live. Continued research of biologists, anthropologists, and sociologists has made it clear that people behave differently, in part, because their

cultures are different. They are born into habitual ways of life which they must follow because they have no other choice.

In this society the child is born into a family which is a member of a particular cultural group. The child is compelled by his family, his family's social group, and his own peer group to take on the approved behaviors determined by the moral and social standards of these social groups. Through this process of socialization, characterized by a system of rewards and punishments, the child learns the problem solutions and goal responses of these intimate association groups.

One explanation[1] of this socialization process is that these social learnings result from a state of dilemma, where society punishes all of the person's attempts to follow any course of action except that prescribed by the social group, and rewards the learnings of the approved course of action. In the very beginning, the child is driven by simple biological tensions, such as hunger or pain, to learn the behavior responses which will relieve these tensions. The sequence of behavior patterns which the socialized human being learns is a modification of these biological responses in the direction of socially approved techniques of achieving the same biological goals, specifically, the relief of tensions. This learning of new behaviors after early infancy is a slow and difficult process of re-education. Punishment, with resulting anxiety, becomes a strong method for extinquishing the undesired behavior as it creates the dilemma which the child faces in his social learnings.

This social learning may take different forms.[2] For example, through the process of introjection the child may take into himself as a

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[1]Allison Davis and John Dollard, Children of Bondage (Washington: American Council on Education, 1940), pp. 3-20

[2]Kimball Young, Personality and Problems of Adjustment (New York: Appleton-Century Crafts, Inc., 1940), pp. 165-170

perception, and later as a memory image, not only his own acts but the reactions of others toward his acts. In this way the child takes up the expected role induced in him because of the images he receives of himself from others in his social environment.

Murphy and Newcomb[3] explain the socialization process in terms of such concepts as conditioning, canalization, and the integration of values. They do not believe that a child simply "absorbs" the culture, but rather that he takes it because he loves or fears the persons who carry it. This suggests that much social learning may occur with relatively little coercion through a positive response to the people whom the child loves. It also suggests that, with or without the benefit of identification, the parent and others help the child to structure his world in terms of certain values simply by pointing out the inherent goods and bads in the child's environment.

Whatever the nature of the learning process may be, the characteristic learning and developmental environments of the child include ethnic, rural, urban, caste and social-class cultures. Also, within each of these cultural groups, behavior differs according to both age and sex groups. In each of these groups a child learns different forms of behavior which range all the way from the control of the manner by which he eats his food to the control of his choice of playmates, the times and places for his play, and to a great extent,his choice of play activities.

These forms of behavior are learned primarily through social interaction. Since the childhood group represents one of the most important institutions through which the child learns the controls, a study of the activities of this group should reflect the progress of the learning which

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[3]Gardner Murphy, Lois Barclay Murphy, and Theodore M. Newcomb, Experimental Social Psychology (New York: Harper and Brothers Publishers, 1937), pp. 237-240

is taking place in the group. In the child's group, the patterns of behavior are seen to vary in terms of such factors as age, grade and caste.

Because of the recognition of the primary importance of group activity for children and of the variation of behavior within the groups, the following hypotheses were formulated:

1. The play behavior of children follows a developmental sequence paralleling age-grade levels.

It is believed that this age-grade factor makes possible certain behaviors, or because of cultural expectations and self-defined values and goals, renders them more appropriate at different times for different individuals. The sequential development of physical skills, growth in strength and muscle coordination, increasing cultural pressures, along with more complex intellectual development, support the hypothesis that play patterns of children also follow to some extent a developmental sequence.

2. The developmental sequence of play behavior varies with relation to sex groupings.

If children were given essentially the same environment and the same play materials, little difference would be expected in play patterns until around the "gang" age (defined by Breckenridge and Vincent as beginning around eight or ten years of age)[4], or until sex differences in strength, coordination, and endurance begin to appear. But inasmuch as there are different cultural emphases and different play materials, sex differences in play vary in terms of these factors even with young children.

3. The developmental sequence of play behavior varies with relation to caste groupings.

This hypothesis does not imply that the differences are necessarily

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[4]Marian E. Breckenridge and E. Lee Vincent, Child Development (Philadelphia; W. B. Saunders Company, 1950), pp. 465

racial, but suggests that there may be environmental factors, economic or otherwise, which serve to make some differences in play and recreational patterns of the two groups. Children from poorer economic and social environments may be expected to engage in fewer play activities than do children from better environments. This could be due, in part, to differences in health and physical stamina. It may be traced to the fact that children in poorer environments have fewer play materials, less play space, and in some cases less time than those who come from economically better environments. Whatever differences between white and Negro children are revealed in this study, they must be seen in relation to such factors which could not be controlled.

APPROACH TO THE STUDY

In contrast to previous studies of the play behavior of children this research attempts to draw its conclusions from the behavior, as seen by classroom teachers, of a large number of children of four grade levels in a school situation, through one school year of a child's life. In this study the play behavior is observed by the teacher in the setting of the school day as the child interacts with others of his group. It is seen as only one phase of his total experience during this period of observation.

It is this aspect which gives the study its uniqueness. The observational data, recorded by classroom teachers, were descriptions of children's play behavior in relatively free situations. For the most part, the situations were unstructured except for the structuring which the children themselves imposed through the rules of the game. Since there were many other types of behavior included in the records, there was the added advantage of information pertaining to the behavioral situation or the social interaction involved in the play behavior.

An earlier study which utilized this approach and the same type of data was that of Charles Caldwell[5] who investigated the forms of social behavior of boys and girls in kindergarten, second, fourth and eighth grades. The behavior studied included affiliation, aggression, nurturance, dominance, succorance, recognition, deference, autonomy and rejection, each being defined in terms of specific observable behavior.

The scope and design of this original study were so broad that it stimulated additional research projects. In one such project, Fred Thompson[6] investigated the relationship between the emotional climate in the home and the roles which children play in the peer groups.

The present research project, concerned with the play activities of children, is also a part of this larger unit. The study draws its information from some of the same data which were assembled from the anecdotal records of school children.

SPECIFIC PROBLEMS INVESTIGATED

This research, which has for its purpose an investigation of the developmental sequence of children's play behavior through the elementary school period, attempts to find out the relationships between the observed changes in play and the factors of age-grade, sex and caste. Specifically, the study will compare the play behavior of Negro-white groups and of sex groups within kindergarten, second, fourth, and eighth grades, and between these grade groups. The problem then breaks down into specific aspects, stated as follows in the form of questions.

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[5]Charles G. Caldwell, "The Social Behavior of Children Studied by Teachers in a Child Study Program", (Unpublished Doctor's dissertation, University of Chicago, 1951)

[6]Fred Thompson, "A Study of the Roles Children Play in Their Peer Groups as Related to Shifts or Breaks in Family Membership", (Unpublished Doctor's dissertation, University of Maryland, 1952)

1. What are the differences in play behavior between white boys and girls in each of the four grades, kindergarten, second, fourth and eighth?

2. What are the differences in play behavior between kindergarten and second, second and fourth, and fourth and eighth grade white boys?

3. What are the differences in play behavior between kindergarten and second, second and fourth, and fourth and eighth grade white girls?

4. What are the differences in play behavior between Negro boys and girls in each of the three grades, second, fourth, and eighth?

5. What are differences in play behavior between second and fourth, and fourth and eighth grade Negro boys?

6. What are the differences in play behavior between second and fourth, and fourth and eighth grade Negro girls?

7. What are the differences in play behavior between white and Negro boys in each of the grades, second, fourth, and eighth?

8. What are the differences in play behavior between white and Negro girls in each of the grades, second, fourth, and eighth?

9. What are the differences in play behavior between white and Negro groups (including both sexes) in each of the grades, second, fourth and eighth?

10. What are the differences in play behavior between kindergarten and second, second and fourth, and fourth and eighth grade white children?

11. What are the differences in play behavior between kindergarten and second, second and fourth, and fourth and eighth grade Negro children?

SIGNIFICANCE OF THE PROBLEM

This research is significant in that it deals with a phase of the child's life which holds many values for him. It also draws its conclusions from observational data, in which the child's play behavior is seen in a

relatively unstructured situation as a part of the total pattern of activity through a school year. The data include the anecdotal records of school children within an age range of five to fourteen years. This makes it possible to trace the developmental changes in play activities as they are influenced by age, sex, and caste.

In the first section of this chapter it was pointed out that today there is an increasing awareness on the part of educational leaders of the knowledge to be gained through a study of the interpersonal and group relationships in children's social groups. It was further suggested that there is similar concern for the knowledges, values, and skills which the child's peer group offers to its members through the medium of play.

Evidence obtained from such a study as this should prove to be of worth not only to educators but to others who are interested in child development. It should provide some very valuable information regarding the nature of these patterns of play and also the type of social interaction involved in the behavioral situation.

In the succeeding chapter several studies which bring to focus some of the major values of play and some of the factors which influence the patterns of play are summarized. Only those studies which seem to be most closely related to this research are reviewed.

Chapters III and IV of the dissertation will be a presentation of the design of the research and of the procedures used in carrying out the investigation. Chapters V, VI, and VII will present an analysis of the data in terms of the major hypotheses considered in the study. There will follow a final chapter which consists of a summary and general conclusions.

CHAPTER II

CONTRIBUTION OF RELATED STUDIES

Just as there have been changes in current thinking regarding human relationships, there have been changes in the nature of much of the research in this area. In addition to investigations of external factors influencing behavior, there have been attempts to gain insight into the more dynamic factors within the individual and within the behavioral environment. Some of these investigations have been directly concerned with the play behavior of children while others, not focusing specifically on play, have many implications for the present research project. A few selected studies and theories which seem to be most closely related will be summarized in this chapter.

The material presented here is divided into two units. The first is a review of the literature related to the values of play, while the second consists of studies dealing with certain factors influencing play.

The chapter concludes with a brief summary and implications suggested by the literature reviewed.

I SOME VALUES OF PLAY FOR CHILDREN

Play contributes to many aspects of the child's development. The conclusion that play contributes to the child's total development is based upon the findings of many specialists in the field of child development. This group, including psychologists, sociologists and educators, are in agreement on some basic generalizations related to this hypothesis. This agreement is found in the research reported by Arnold Gesell, Marion E. Breckenridge and E. Lee Vincent, Gardner Murphy, Lois Barclay Murphy, and Theodore M. Newcomb, Clara Lambert, Lawrence A. Averill, Freida Merry and Ralph V. Merry, Simon A. McNeely and Elsa Schneider, Willard C. Olson and others.*

To summarize, it is agreed that play contributes to the child's physical development in that it strengthens muscles and develops neuro-muscular coordination. Play contributes to the child's mental development as it provides opportunities for gaining many of the basic sense perceptions, and for the use of the perceptual and reasoning powers in the concentrated absorption in play activities. Play stimulates the child's imagination and provides an outlet for the expression of fantasy through which he explores many of the world's realities.

In the process of group interaction play becomes a significant socialization force. In the play group there are opportunities for many lessons in social adjustment and behavior. Play also offers an emotional release. Games and sports of all kinds provide a rich setting in which children may express their emotions. In view of the great amount of tension resulting from uncertainty and anxiety over world conditions, much

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*These references are shown in the selected bibliography following the last chapter of the dissertation.

of which is communicated to children, free play, with its opportunities for fun and for emotional release, assumes a great deal of significance.

This research is attempting to find out more about what opportunities the schools are offering to children for achieving some of these values. Also, the research endeavors to find out in what particular play behaviors the child, at different age-grade periods, seeks these values in his choice of activities.

The child utilizes his play in building a self. The role of play in the organization of a child's experience is best presented by George Herbert Mead.[7] This author bases his theory on the premise that at birth the self is not present, that the self develops in the process of social experience and activity. Mead discusses two sets of background factors in the genesis of self. One is that of communication, with much emphasis on communication through gestures, and the other is represented in the play activities of the child. It is this second factor that is directly related to this research.

According to this theory, in the child's early imaginary play, as he plays the roles of the people in his environment, he has in himself the stimuli which call out in himself a certain response, the same that they call out in others. In the child's play, he utilizes his own responses to these stimuli, organizes them into a unified whole thus building a self. Through these processes, the self emerges as a social structure providing for itself many of the social experiences in the child's world of play.

In this early stage of play the child passes easily from one role to another. But as he moves into the play group, he must take the attitudes

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[7]George Herbert Mead, Mind, Self and Society (Chicago: University of Chicago Press, 1934) pp. 135-226

of everyone else involved in the game and see these different roles in their relationship. Thus, Mead recognized two stages in the development of self. At the early stage, the self is constituted by an organization of the particular attitudes of other individuals toward himself and toward one another in the social situation. But at the second stage of development, the self is constituted not only by an organization of the individual attitudes, but also by an organization of the social attitudes of the group as a whole. It is at this second stage, in the play group, that the self reaches its full development.

It is clear that this theory of Mead attaches a great deal of significance to a child's social interaction in his play experience. This emphasis is related particularly to the phase of this research which deals with the type of social interaction involved in the play behavior.

Play contributes to the development of moral judgment. A very comprehensive study of the role of the child's play as it contributes to the development of moral judgment was that of Piaget[8] in which he analyzed the rules of the social game and children's reactions to them. This investigator began his analysis on the assumption that children's games constitute a very forceful social institution, and that an understanding of child morality may well be sought in the analysis of the interactions that take place in these games. A further assumption was that all morality consists of a system of rules and the essence of all morality is to be found in the respect which the individual acquires for the rules. The main purpose of Piaget's investigation was an attempt to explain how the child's mind comes to respect these rules.

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[8]Jean Piaget, The Moral Judgment of the Child (Glencoe, Illinois: The Free Press, 1948) pp. 1-103

The procedure which Piaget followed in this investigation included an analysis of two major phenomena: first, the practice of rules; and second, the consciousness of rules.

The results obtained from observing and questioning the group of children from the point of view of the application of rules revealed four successive stages in development. The first stage is that of a purely motor and individual character when the child follows the dictates of his own desires and motor habits. The game is incoherent and subject to the whim of the moment, with no rules in the true sense of the term.

The second stage was designated by Piaget as that of egocentrism. This stage begins when the child receives from the outside the example of codified rules, sometime between the ages of two and five. It is characterized mainly by its dual nature, for here the child combines imitation of others with an individual use of the examples received.

Around the age of seven or eight there appears the desire for the unification of the rules of the game. This felt need defines the third stage, which was given the name of "incipient cooperation".

The fourth stage appears some time around the age of eleven or twelve years. This stage is marked by a keen interest in the rules themselves. Not only is every detail of procedure fixed, but the system of rules to be observed is known by everyone.

The second phenomenon investigated as a part of this study was that of the development of a consciousness of rules. The bases used for conclusions here were the answers which children gave to three questions: (1) Can the rules by changed? (2) Have rules always been the same as they are now? (3) How did rules begin?

An analysis of these answers identified three successive stages in the consciousness of rules which overlap with the four stages in the

practice of rules. The first stage corresponds to the purely individualistic stage in practice. During this stage rules are not yet coercive in character. They are received at first unconsciously and as interesting examples to be imitated rather than obligatory realities.

During the second stage, beginning around the age of six years, rules are regarded as sacred, untouchable, and unchangeable, as something emanating from adults or perhaps from God, and lasting forever. The children in this second stage of consciousness are in the egocentric stage in practice. This means that much of the behavior is paradoxical in appearance. They are playing more or less as they choose, yet they harbour an almost mystical respect for rules.

After the age of ten the third stage in the consciousness of rules begins. There is a complete transformation. The rules of the game no longer appear to the child as sacred and eternal, they are now seen as the outcome of free decision and worthy of respect since they are based upon mutual consent.

Piaget explains this consciousness of rules during the last two periods in terms of constraint and cooperation. He believes that the paradoxical behavior which characterizes the second period goes hand in hand with adult constraint which is so much a part of the child's experience. It is not until the last period that the rule of cooperation replaces that of constraint and becomes an effective moral law.

The sequential nature of the development of moral judgment of the child through his play experience has some interesting implications for the present investigation. The changes which occur in the choice of play activities from one grade level to another may well be considered in relation to the child's consciousness of the rules and his ability to understand and practice them.

The child's play has therapeutic value. Therapists who have worked with children in clinics present evidence of a definite relationship between personality problems and both the content and form of children's play activities. They also present evidence that play has therapeutic value for many children.

In the following section, a few of the generalizations offered by these specialists are summarized.

Erik Homberger Erikson[9] believes that if a child's play succeeds, if it is not interrupted from within or without, that it has an effect on the child comparable to a few hours of good, long-needed sleep.

In summarizing the value of play to the anxious child, Erikson claims that "to play it out is the most natural autotherapeutic measure childhood affords."[10] He suggests that whatever other role play may have in the child's development, the child also uses it to make up for defeats, sufferings and frustrations, especially those resulting from a limited use of language.

Erikson concludes with the hopeful observation that if it is possible to establish the language of play with its various cultural and age dialects that it may provide an approach to the problem of why certain children live apparently undamaged through what seem to be neurotic episodes and how early disturbed children may indicate that they have reached a deadlock. This investigator looks upon childhood as the more economic time for correction of many of the disturbing factors. Peace found through play and through identification with an understanding adult

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[9]See Chapter XXIV. Roger G. Barker, Jacob S. Kounin, and Herbert F. Wright, Child Behavior and Development (New York: McGraw Hill Book Company, Inc., 1943) pp. 411-426

[10]Ibid., p. 426

can be transferred to the home and to the parents. Erikson stresses the importance of this during childhood, before the child's personality development is completed and before his chances have been exhausted for identifying thoroughly with parents who can provide the security which the child needs.

Play therapy from a client-centered point of view. Play therapy from a client-centered point of view is seen by Carl Rogers[11] and Elaine Dorfman to have some very definite values in alleviating children's anxieties, even when verbal exchange is lacking. To both of these therapists, the most significant factors involved in therapy are permissiveness and acceptance. Permissiveness in this sense does not mean absence of limits. It implies that here is a situation in which the child can be his real self, one in which he knows that both his need to be dependent and his need to be independent are respected.

The second factor, acceptance, implies a relationship of warmth and understanding in which the child feels safe enough to relax his defenses long enough to see how it feels to operate without them. The therapist accepts the child exactly as he is at the moment, hoping to heighten the child's awareness of what he is at the moment.

In this therapy hour which belongs to the child, he is offered an opportunity to use a particular time period in his own way, subject to a few broad limitations. He is provided with play materials which lend themselves as media for expression of his needs but he is not forced to use them. Rogers believes that a child's decision to do or not to do a particular thing is more beneficial than the actual performance of it. His opportunities for responsible self-direction are maximized.

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[11]Carl R. Rogers, Client-Centered Therapy (New York: Houghton Mifflin Company, 1951) pp. 11-277

Experiences with play therapy, not only in clinics but in schools and orphanages, have led to an increasing belief in the child's capacity for self-help even when the environmental situation remains unchanged. Children prove, under observation, that they are able not only to cope with their own inner conflicts but with the same environment which was originally traumatizing.

Virginia Axline,[12] author of Play Therpy, places major emphasis on the drive for self-realization. When the drive is blocked by excessive pressure, growth toward this objective does not stop but continues with increased momentum because of the tensions created by the frustration. Play therapy is described by Axline as an opportunity for the child to experience this growth under the most favorable conditions. She considers play as the child's natural medium of expression and play therapy as an opportunity for the child to play out his feelings of tension, bewilderment, frustration, aggression, or fear. By playing out these feelings, the child brings them to the surface, faces them, learns to control them or abandons them. When he has achieved emotional relaxation, he begins to realize the power within himself to be an individual, and by so doing, to realize self-hood.

What it means to a child to be able to express his feelings completely is illustrated in an excerpt from a case reported by Axline. In a group therapy session, Herby, still somewhat perplexed over the role of the therapist, asked if she had to do this or if she liked to do this. Then he said to the two other boys in the group, "I mean I wouldn't know how to do what she does. She doesn't seem to do anything. Only, all of a sudden I'm free. Inside me, I'm free." (He flings his arms around.)

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[12]Virginia Mae Axline, Play Therapy (New York: Houghton Mifflin Company, 1947) pp. 10-250.

"I'm Herb and Frankenstein and Tojo and a devil." (He laughs and pounds his chest.) "I'm a great giant and a hero. I'm wonderful and I'm terrible. I'm a dope and I'm so smart. I'm two, four, six, eight, ten people, and I fight and I kill."[13]

In commenting on this material, Axline expressed the belief that Herby suddenly realized that during this hour he could express all of the attitudes and feelings that were an expression of his personality.

The implications for this therapeutic approach in educational practices are significant. It is recognized that in the therapy situation the child is free to express his feelings completely. In schools there are of necessity limits placed upon complete expression of feelings. At the same time, teachers who recognize the value to mental health of a child's releasing his feelings, attempt to provide the media for some tangible expression of feelings, as painting, clay work, creative writing, music, rhythms, drama, and free play. It is with such media of expression, particularly that of free play, that this research is concerned.

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[13] Ibid., pp. 19-20.

II SOME FACTORS RELATED TO PLAY BEHAVIOR

Motivation a factor in play behavior. Research dealing with children's participation in physical activities has revealed changes which seem to be related to interest or motivation at different maturity levels. Lund,[14] in an illustrative study of the nature and extent of physical disabilities among 8200 junior and senior high school pupils in four Philadelphia schools, found a sharp increase in medical certificates during the adolescent period. This increase of almost 400 per cent from seventh through twelfth grade was confined almost entirely to girls.

In seeking to account for these findings, Lund offered three possible interpretations:[15]

1. The increase may be regarded as genuine, that is, as representing a true increase in actual physical incapacity to participate in the physical activities.

2. It may be attributed to increased consciousness of existing disabilities.

3. It may be a problem of motivation.

The investigator found that authorities in the field did not support the first two hypotheses. He therefore assumed that the third interpretation was more nearly correct. Lund's support for this interpretation he summarized as follows:[16]

1. The increase is confined to girls.

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[14] Frederick H. Lund, "Adolescent Motivation: Sex Differences", Journal of Genetic Psychology, 64:99-103, March, 1944.

[15] Ibid., p. 101

[16] Ibid., p. 102-103

2. The increase occurs during and following adolescence when the interests of girls are given strong social direction.

3. The reports of teachers in charge of gym classes are strikingly in accord on certain points. Teachers believed that the reasons for girls' seeking to be excused from gym were to be found in (a) physical disinclination, (b) concern over hair-do and make-up, (c) fear of developing big muscles, and (d) unwillingness to make the necessary changes in dress.

Lund's final conclusion was that the increase in medical excuses for girls could be attributed, not to change in susceptibility to disease, but to changes in interests and motives.

Physical abilities and physical functioning. Typical of the research which has attempted to discover the relationship between physical abilities and physical and social functioning is the California Growth Study.[17] This study revealed sex and age differences in physical development which offer a partial explanation of differences in motor performance as well as in the selection of physical activities.

The data consisted of the results of a battery of tests given to children from eleven and one-half to seventeen and one-half years of age. The purpose was to measure strength, motor ability, and general growth trends of physiological characteristics.

In the tests of strength, measured by a hand dynamometer, results showed that the growth curves for boys and girls up to the age of fourteen are very similar, but show a sharp separation after that. The period of

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[17] Harold E. Jones, "The Development of Physical Abilities", Forty-Third Yearbook of the National Society for the Study of Education, Part I, 1944, pp. 100-122

most rapid growth is between twelve and thirteen years for girls and between fifteen and sixteen for boys.

Jones, in reporting this study, points out that there may be inherent sex differences which influence the pattern of motor maturing, revealing themselves particularly in the strength of certain muscle groups for boys and girls.

Differences in "dynamic strength" were discovered as a part of this study through tests which involved such things as the vertical jump, the standing broad jump, chinning and push-ups. In dynamic strength gains, boys show marked increments in physical performance, on the average, after the age of fifteen years. After the age of thirteen years, girls manifest few changes in these functions which may be ascribed to age. According to this report[18] girls showed a loss in function rather than a gain.

Jones explains these differences between the sexes in terms of differences in muscular maturation, in the relation of muscles to body weight, and in the development of skeletal structures. At the same time, he presents a word of caution against accepting these biological differences as the whole explanation for differences between boys and girls in the selection of activities and in performance. He suggests that these differences are accentuated by differences in the cultural expectation, in motivation and in practice.

Physiological capacities and physical performance. Nathan W. Shock[19] discovered several sex and age differences in the functioning of the circulatory system, differences in pulse rate, blood pressure, and basal metabolic rate, which may offer further explanation of reduced physical activity for girls in adolescence.

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[18] Ibid., p. 113

[19] Nathan W. Shock, "Physiological Changes in Adolescence", Forty-Third Yearbook of the National Society for the Study of Education, Part I, 1944, pp. 56-79

This investigator approached the general problem of assessing the physiological maturity of fifty boys and fifty girls and of seeing this in relation to their physiological capacities. Conclusions were based on a series of tests given at intervals between the ages of eleven and one-half and seventeen and one-half years.

The record of the average pulse rate for this group showed an average decrease of eight to nine beats per minute for boys and girls over the adolescent period. At all ages the rate for girls was from two to six beats per minute faster than for boys, with the sex difference increasing considerably with age.

Systolic blood pressure of boys and girls does not differ significantly until the age of thirteen and a half, thereafter the pressure rises in boys at a more rapid rate than in girls.

In contrast to rising blood pressure, average basal metabolism decreases gradually throughout adolescence. For girls, the rate of fall has become very small by the age of seventeen years, whereas for boys the basal metabolism continues to decrease often beyond the age of eighteen.

Another part of this study was an attempt to measure physiological adjustment under conditions of stress. Shock assumed that physical exercise produces physiological stress which involves certain organ systems. To measure physiological capacity he obtained evidence pertaining to the individuals' reactions to physical stress.

The results of the comparisons showed that in general one effect of exercise is to increase respiratory volume and oxygen consumption to seven or eight times the basal requirements. During recovery for younger children, oxygen consumption reaches basal levels within twenty to forty-five minutes while some college students and adults require three hours to effect the same recovery.

The increase in pulse rate after exercise for both sexes is less for the older children. This diminishing ability to raise pulse rate is reflected in a slower rate of recovery from exercise after age increases.

Exercise increases systolic but decreases diastolic levels of blood pressure. During recovery these trends are reversed. This rise in systolic pressure becomes greater with age in the case of boys and smaller with age in the case of girls. These three studies of motivation and of physiological capacities and functions can be seen in direct relationship to two aspects of this investigation of play behavior. They present information which may be used in interpreting some of the changes observed in the play activities from one grade level to another and also some of the sex differences, particularly, at the eighth grade level.

Emotional stability and play preferences. Boynton and Wang report two studies of children's play interests and their relationship to selected factors. The first of these was a study of the relationship between play interests and emotional stability.[20]

The data for this research consisted of the expressed play preferences and dislikes on a play inventory of 938 girls and 862 boys in fourth, fifth and sixth grades in Tennessee and Kentucky public schools, and the results of an emotionality test given to each child. The test of the relationship between play interests and emotionality was made in terms of the highest ten per cent, the lowest ten per cent, and the middle twenty per cent of the cases as determined by the emotionality test. Differences were analyzed in terms of progressive increases or decreases from the low to the high group, and vice versa.

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[20] Paul L. Boynton and James D. Wang, "Relationship Between Children's Play Interests and Their Emotional Stability", Journal of Genetic Psychology, 64: 119-126, March, 1944.

The investigators concluded that there was little, if any, relationship between children's expressed play interests and their tested emotional status. In a few isolated instances preferences or dislikes did appear to be associated with emotionality. But, compared with the 108 items of play behavior included in the list these instances were so few in number and had so little in common that the authors viewed them more as variations in the data than as manifestations of basic trends.

Economic status and play preferences. In a second study[21] involving 1800 children Boynton and Wang investigated play interests as related to economic status. The conclusion was drawn that there is little indication of economic status influencing children's play to any marked degree. Although there was a little evidence of economic status affecting play preferences in a few particular activities, there was more evidence that children of any economic status prefer play activities which demand a certain economic outlay. The authors further concluded that children from low economic levels are likely to have about as much breadth of interests in play activities as children from the higher level.

The research procedures followed were similar to those reported in the earlier study quoted in this section.

A study using a different type of procedure and with somewhat different findings is that which is now being conducted by Henry Maas[22] of the interpersonal patterns among ten to fifteen year old boys and girls in the lower-lower class and in a core culture group (upper-lower and lower-middle classes).

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[21]Paul L. Boynton and James D. Wang, "Relation of the Play Interests of Children to Their Economic Status", Journal of Genetic Psychology, 64: 129-138, March, 1944.

[22]Henry S. Maas, "Some Social Class Differences in the Family Systems and Group Relations of Pre- and Early Adolescents", Child Development, Vol. 22, No. 2, June, 1951, pp. 145-152.

Tentative findings from the data suggest, in the lower class, a psychologically closed hierarchy and quite rigid parental relationship with children. The world of the lower class pre- and early adolescents is, according to Maas, one of imperatives and absolutes, physical violence, and psychological distance from, if not actual rejection by, adults. The abrupt transition to physical and social freedom often fosters not only psychological distance from adults but excessively dependent relations with peers. Maas recognized two types of security-seeking relationships for the lower class child, one in which the child identifies with power and needs his peers to establish his high status; the other, a relationship in which he seems desperately dependent upon the physical presence of others for mutual succorance and direction.

The family systems of the core culture children, while permitting less physical and social exploration, are more open for psychological exploration. The channels of communication between parents and children are kept open. This greater psychological freedom provides the basis for a much less dependent relationship among siblings and peers than is found in the submissive-bullying hierarchies of the lower class children. This makes possible a wider range of peer relations among core culture children. Group relations for these children are characterized by individual competitive achievement and team play rather than bullying, self-exclusion rather than submission, and the absence of desperate dependence on peers.

SUMMARY

In summary, this review of literature makes it very clear that play is an area of the child's life which is of much significance to him because it contributes to so many aspects of his growth and development. This fact alone seems to justify more and different types of research in an effort to find out as much as possible about this area of the child's life.

The material presented in the latter half of the chapter has value for this research project in a number of ways. In the project many of the factors are of necessity uncontrolled. Consequently, the findings of other studies relating to these factors are of particular interest to this investigation. Some of the factors considered in this review will be of value in the interpretations that may be made from the findings in this research.

CHAPTER III

THE SOURCE AND GATHERING OF DATA

SOURCE OF DATA

The data for this investigation of the play patterns of children were gathered from the anecdotal records of 1669 children prepared by the same number of classroom teachers participating in the Child Study Program of the Institute for Child Study, University of Maryland. The teachers in the program observed, recorded, and analyzed the behavior of one child through a school year as a way of gaining a body of information for use in deepening their insight into the dynamics of individual and group behavior.

In order that an adequate body of facts might be gained about each child to permit a scientific analysis of his behavior, the teachers are encouraged to use as many sources of information as possible. They are directed to at least six primary sources.

1. Direct observation. In most records the bulk of the material consists of recorded observations of the child's behavior. Participants are encouraged to observe the child in many different situations and to record the behavior as completely, accurately, and objectively as possible.

2. School records. From the cumulative records which are available in practically every school, teachers may obtain information regarding the child's family and family membership, his health history, his school attendance record, and his school achievement record including different types of test data. In most schools there are copies of previous reports to parents including some type of subject matter evaluation and often personal comments of teachers and parents.

3. Home visits and parent contacts. This source provides a type of information which usually cannot be gained in any other way. For example,

the pattern of interpersonal relationships in the home, the way a child feels about his position in the family, methods of control and punishment, parents' ambitions for the child, consistent attitudes and values -- these things and many more may be revealed if teachers are sensitive to them.

4. Teachers or other adults in or out of the school situation. As the study group members come together and share the recorded material, former teachers of the child being studied, or some member of his family often have additional information to contribute. Those persons who have had an opportunity to know the child or his family can help to enrich the record which is being developed.

5. Creative expression. In the child's original stories, poems, compositions based on actual experiences, themes, or his autobiography, he is revealing himself to those who read them. Likewise, in his drawings, paintings, designing, as well as in his dramatic play, he is revealing himself. It is recognized that most teachers cannot make a detailed analysis of these materials, but even to the untrained teacher, they yield much information concerning the child's real interests and feelings.

6. Life space. From this source teachers may gain information concerning the physical-social environment in which the child lives and moves. An objective description of what this life space is like for a child provides information that is highly significant in understanding many of his attitudes, interests, needs, and motivations.

During each year of the child study program information drawn primarily from these sources is incorporated into the records of every member of the group. This recorded material is then analyzed by the group for objectivity, validity, descriptiveness and scope.

At the end of each year the records of all the participating teachers are filed at the University of Maryland and made available to the persons

interested in using them for research purposes. It was from this source that the data for this investigation of play behavior were drawn. The types of play activities and the amount of social interaction with different individuals and groups represent only a small part of the information included in each anecdotal record. These patterns of behavior were not isolated as in a controlled situation, but were observed within the setting of the child's school day throughout an entire school year.

VALIDITY OF THE DATA

One of the assumptions at the outset of this project was that the data used were sufficiently valid to warrant whatever conclusions that might result from the study. That these anecdotal records provide valid data for this research is supported by the following general beliefs:

1. The teachers who gathered this body of information about children were in the same program of in-service education. This means that each participant had essentially the same experiences for developing skills in this method of studying behavior.

2. In the selection of records for use in the study only those of teachers who were in the second and third years of the program were included. During the entire first year, and continuing in second and third years, attempts were made to develop skills in observing and recording behavior objectively.

3. The teachers in the program had many experiences in scientific reasoning in their analysis of the case material, giving particular attention to the accuracy, objectivity, and descriptiveness of the recorded material. These experiences served to reduce the subjective element to a minimum, thus enabling second and third year participants to record more valid information about the children they were studying.

4. Anecdotal material, although it has limitations, makes a unique contribution to the sources of information about children.

5. Part of the uniqueness of anecdotal material is in the wide variety and scope of the information included in the records. In this research 8527 anecdotal descriptions of play behaviors were analyzed, which represent only a small portion of the information recorded about each child.

6. For the most part, the behavior observed was in relatively free and unstructured situations, where the play activities could be seen in terms of the child's expression of his own interests and desires.

7. Anecdotal material contains behavior descriptions of situations which had meaning for the child. This is shown specifically in research projects as that of Piaget, reported in the second chapter of this dissertation.

8. These materials have the advantage of following a child's behavior through time, of revealing the unity or consistency of the behavior as the child is seen in the same group through time.

9. This source of data was accepted for doctoral theses by Madelaine Mershon, 1950, and by Charles Caldwell, 1951, at the University of Chicago. Anecdotal records were also accepted as a valid source of data for doctoral theses by John Greene, 1951, and for another which is now being completed by Fred Thompson, at the University of Maryland.

10. In current thinking the importance of studying behavior in context is recognized. Two expressions of this trend of thought are noted.

a. The Fact Finding Committee for the Midcentury White House Conference on Children and Youth[23] pointed out the value of anecdotal materials as a basis for appraisal of certain interpersonal and curriculum practices related to child development.

b. Snygg and Combs[24] give support to the idea of using data obtained through systematic observation for diagnosis and research. They see diagnosis of behavior as the observer's attempt to explore and define

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[23]The Committee on Fact Finding, "A Digest of the Fact Finding Report to the Midcentury White House Conference on Children and Youth", 1950. pp. 112-113.

[24]Donald Snygg and Arthur W. Combs, Individual Behavior (New York: Harper and Brothers Publishers, 1949), pp. 245-279

an individual's phenomenal field, and the techniques devised for diagnosis as the research devices by which behavior is explored in a phenomenological system. This approach goes far beyond merely observed facts and seeks its facts in the meaning which the situations have for the individual.

On the basis of these general beliefs, the use of anecdotal records as the source of data for this research in play behavior seems adequately justified.

SELECTION OF RECORDS

When the larger unit of research in social behavior was initiated by Caldwell, his first task was to select from approximately 10,000 records on file at the University of Maryland those needed for his particular project.[25] Several factors were considered in the choice of the records to be used. These factors are discussed in the following section.

Grade level. The anecdotal records of boys and girls from kindergarten, second, fourth, and eighth grades were chosen for the analysis. With the exception of the period between the fourth and eighth grades these selected groups represent alternate intervals in the child's elementary school education. The eighth grade rather than the sixth was chosen because, according to the investigator's report, this group includes children of the chronological ages of thirteen and fourteen, and represents the early adolescent phase of development. Records of white and Negro children were included, except at the kindergarten level for which no records of Negro children were available.

Age distribution. A second factor which influenced the selection of records was the chronological age of the children who were studied. It was assumed that the records of children who were accelerated or retarded several years in the school program would present a distorted picture of social behavior. Consequently, only two chronological ages were included within each grade group. All of the kindergarten records were of five year old children; the second grade included seven and eight year old children; the fourth grade records were of nine and ten year old children; and the

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[25] Charles G. Caldwell, "The Social Behavior of Children Studied by Teachers in a Child Study Program", (Unpublished Doctor's dissertation, University of Chicago, 1951). pp. 46-56

eighth grade records were of thirteen and fourteen year old boys and girls.

Year of Study. The findings from a pilot study[26] of two hundred records helped to determine what factors would influence the final selection. The records used for this purpose were chosen at random by selecting every fourth record from unidentified and shuffled records from the Institute for Child Study files. This preliminary investigation supported the assumption that the records of teachers in the second and third years of the program would be much more objective and broader in scope. As a result of these findings, only the records of teachers who had completed one year of child study were included.

Geographical origin. The geographical region which represents the origin of the records was another factor which was considered in the selection of data. Although this was not used as a criterion for including or rejecting records as were age, grade, and year of study, it was a factor which entered into the final random selection which is explained in the succeeding paragraphs.

After the records had been chosen in the manner described, they were filed according to the geographical center from which they originated, the grade of the child studied, the sex of the child, and the year of the program in which the teacher writing the record had participated. Beginning with the first in each group, every other record was selected to provide the data for Caldwell's analysis, a portion of which was used in the present investigation of the play patterns of children.

From the 4110 records analyzed by Caldwell a further selection and grouping was made, taking into consideration the additional factor of family membership. This was based upon whether or not the records contained evidence of a break in family membership, no break in family membership, or any evidence of harmony in the home. All of the tabulations from the records of children of the same grade, sex, and caste from all

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[26] Ibid., p. 27

geographical regions were arranged into groups using family membership as the basis for division, thus equating them in terms of this factor. From the total number available in each of these groups there was a selection of forty records, yielding a total of 120 for each sex, grade, and caste, the number which had been decided upon for this research.

For the final sampling the total number of tabulations in each of the groups (based on the divisions explained above) was noted. The first tabulation of each group was selected. Thereafter regular selections and rejections followed so that the desired forty tabulations were chosen by the time all of the group had been gone through. For example, the total number of tabulations for eighth grade Negro boys in one of these groups might have been 120; then, beginning with the first tabulation, every third tabulation would have been chosen, yielding a sample of forty tabulations for this group. The selection for all other groupings used in this research followed the same general procedure. In this sampling the tabulations were shuffled within the groups in an effort to establish a fairly even distribution with respect to geographical region in order to avoid any weighting which might result from this factor.

There were three exceptions to the general sampling procedure. Since Negro records were available from only two geographical regions, the selections had to be made from these groups. At the kindergarten level, only records of white children were included since no Negro records were available at this level. Also it was found that the tabulations contained too few records for fourth grade white girls to make possible the sampling procedure which had been adopted for the study. As a result only 109 tabulations were selected in this category.

As a result of the procedure described the tabulations used in this research consisted of 120 records for each sex and caste group for second,

fourth, and eighth grades (with the exception of fourth grade white girls), and of 120 records of white boys and girls at the kindergarten level. This method of sampling yielded a total of 1669 records which provided the basis for this investigation.

Table 1 shows the regional distribution of the records for all of the grade, sex, and caste groups.

TABLE 1

REGIONAL DISTRIBUTION OF RECORDS USED IN STUDY

	Texas	Louisiana	Maryland	Eastern Shore Maryland	Atlantic City	Washington, D.C.	Baltimore City	TOTAL
KINDERGARTEN								
White boys	25		14	15	21	24	21	120
White girls	23		29	17	22	19	10	120
Total	48		43	32	43	43	31	240
SECOND GRADE								
White boys	17		43	18	11	11	20	120
White girls	15		38	22	15	12	18	120
Negro boys		63	57					120
Negro girls		65	55					120
Total	32	128	193	40	26	23	38	480
FOURTH GRADE								
White boys	31		30	15	14	15	15	120
White girls	27		32	12	12	12	14	109
Negro boys		60	60					120
Negro girls		72	48					120
Total	58	132	170	27	26	27	29	469
EIGHTH GRADE								
White boys	24		36	21	12	12	15	120
White girls	24		36	21	12	12	15	120
Negro boys		66	54					120
Negro girls		66	54					120
Total	48	132	180	42	24	24	30	480
						GRAND TOTAL		1669

THE ORGANIZATIONAL FRAMEWORK FOR GATHERING AND ANALYZING THE DATA

This research, having for its main purpose a better understanding of the developmental sequence of children's play behavior was, as previously explained, at first included as one aspect of an investigation of the social behavior of children by Charles Caldwell. Not only, then, was the original record selection done by Caldwell, but also the categorizing and the identifying of the play behaviors in the records. The patterns of play activities with which this study was concerned resulted from a pilot study of two hundred of these anecdotal records and from a survey of the literature relating to children's social behavior.

The pilot study (see p. 35) had two major purposes at the outset: (1) To determine whether the records prepared by teachers in a child study program contained data on social interaction of children, and (2) to discover and define categories which could be included in an instrument for analyzing the data. In addition to these purposes, the pilot study suggested the need for analyzing the data in terms of the persons or groups with whom the child interacted. On the basis of these findings, Caldwell decided to include in the instrument for analyzing the records a list of persons or groups involved in the social behavior under consideration.

Although the pilot study proved very significant in helping to determine the factors to be considered in the selection of records, its primary advantage was that it served to suggest categories which might be used in the instrument for analyzing the records.[27] In addition, the classifications

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[27] Ibid., p. 27

of play behaviors presented by Murphy, Lambert, Hurlock,[28] and others, were adopted for use with some modification by the investigator.

Since most of the forms of play activities in which children engage are so familiar and are self-explanatory, Caldwell felt that little was needed in the way of definitions of these patterns. Most of them are quite obvious as the final classification will show. These categories of play behavior identified in the study were grouped in the manner explained in the following pages.

Play Patterns* -- Activity patterns which are voluntarily pursued because of the enjoyment of the activity rather than for some ulterior reason.

A. Dramatic Play - Play in which the child, through language and overt behavior, deals with situations, objects, and people as if they had attributes other than those they actually have. The unstructured, subjective playing of expressive roles is considered as dramatic play for the child.

1. Domestic and family patterns - playing house, cooking and eating,

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[28] Gardner Murphy, Lois Barclay Murphy, and Theodore M. Newcomb, Experimental Social Psychology (New York: Harper and Brothers Publishers, 1937) pp. 553-660.

Clara Lambert, Play a Child's Way of Growing Up (New York: Play Schools Association, Inc., 1947) pp. 1-36.

Elizabeth B. Hurlock, Child Development (New York: McGraw Hill Book Company, Inc., 1950) pp. 337-389.

* This framework as described here represents the actual form as it was received from Caldwell by the investigator.

taking care of babies, being mothers and fathers.

Illustration: Janet and Paula (kindergarten) started to play in the house corner. Paula was "mother" and Janet was her daughter. Also, one of the dolls was "baby sister". Paula said, "Janet, you have to wake up the baby so we can pack the suitcase." Janet replied, "All right, mother", and went and got the doll. Janet turned to Paula and said, "Where's her pants? I can't find them." Paula had put on a big black hat and had opened the suitcase. She said, "Open the drawer and look, like this." Janet opened the small drawer, held up a cap and said, "Mother can she wear this? But where's her pants?" At this time Paula's attention was drawn to another part of the room and she went hurrying off. Janet called to her, "Mother, come back."

2. Selling and buying

Illustration: Rita was selling train tickets to all the children in the yard. When they all had one, Linda and Rita ran into the house to wait for the train which, they had decided, was stuck in the mud some where and would be about an hour late. Rita changed from the role of ticket seller to a ticket man at the gate and refused to let one customer in when he did not have his ticket. Suddenly Linda decided that she wanted to play ticket man and tried to take the tickets from Rita. Here I intervened and told Linda to wait until Rita gave them to her. When Rita saw that she must share the tickets, she cried and walked away.

3. Transportation - riding in an automobile, tractor, train, boat, or airplane; servicing or repairing any of these.

Illustration: Warren and Jack are building a highway with the construction blocks. Warren places a long strip down, then goes to the shelf to get some more. He brings back a piece that goes around into a circle and then into two straight pieces that are connected at the far ends. He tells Jack to bring the cars.

Warren runs a little car around on the top edge. Jack and Warren continue taking the cars around and around. Warren gets up and goes to the shelf for more materials. Jack then goes over for more blocks and the two boys continue to add to the highway and play. (kindergarten)

4. Community roles -- playing the roles of community workers, as policeman, fireman, teacher, carpenter, postman, and the like.

Illustration: There were four boys in the far corner of the room building a house or store out of wooden blocks. Bobby seemed to be the boss. He was given the job of inspecting the work after it was done. I could not hear everything that was said but I could tell that they were acting out something that Bobby had seen in town the day before. Bobby kept telling the other boys to be careful and not to drop any of the hot steel on their feet, and to be careful not to "bang up" their fingers. When the building was done, the boys gathered around Bobby who told them that only club members would be allowed to get in. Then he said that they had better finish the roof of the building to keep the rain out. Bobby went around and inspected the work done by the others, fixing a block here and there. He now called all of the boys into the house to wait until the storm was over. (Second grade)

5. Killing and dying -- including war, shooting and dying; killing murderers and bandits; caring for the injured.

Illustration: Joe was milling around at the lunch hour and after awhile he took a piece of unlined paper from the cupboard and said, "I'm going to find out who did it. I'll see who the murderer is. Here Philip you put your foot on this piece of paper and see if you are the one." Philip said, "I'm no murderer; you'd better try somebody else." Joe walked a little farther, saying, "All right, Shirley, you put your foot on the paper." Shirley followed his direction and then he raised the paper,

looked at it, and exclaimed, "Yep, you're the one who robbed the bank and killed the banker." Joe now went to his seat and started to draw a picture. (Second grade)

6. Legendary persons-- playing the part of legendary persons and story book characters, as Santa Claus, Cinderella, King Arthur, Robin Hood.

7. Animal play -- imitating sounds and actions of familiar animals.

Illustration: It was raining today at recess and the children could not go outside. C. had been reading a book about a donkey. He came to me and said, "Do you know what this word is?" I told him the word was hee-haw, and asked him to say it. He went from one group of children to another, saying aloud, "Hee-haw, hee-haw, I'm a donkey. That's what the donkey says." (Second grade)

8. Planned "Play" -- dramatization "thought-out" in advance, usually presented with properties and costumes before an audience, and under adult direction.

Illustration: The children had planned to have a Thanksgiving play in the afternoon during social studies period. Four of the girls and two of the boys had been responsible for writing the play which was supposed to last about thirty minutes. Marcia had been chosen as director, after which she appointed chairmen of the various committees, costume, properties, stage, make-up, etc.

When the time came for the play several of the mothers, including Marcia's mother, were there to see it. Since Marcia was not in the play, she sat by her mother and whispered to her several times during the performance apparently explaining some parts of it. When the play was over the mother told me that she had enjoyed it, and that she was pleased to have had this opportunity to visit the school. She and Marcia then went out together. (Fourth grade)

B. Ritual games -- undefined group activities in which any number of children can participate. The grouping for these games is more or less semi-organized, loosely structured and fluid.

1. Singing games -- Ring games and action songs.

Illustration: Recently John has been showing Mary a lot of attention. He wants to sit by her in the classroom and to be near her on the playground. This morning he chose her for his partner when they were playing "Go in and out the Window", a singing game. When her turn came to choose a child, she in turn chose John. (Second grade)

2. Jumping-skipping -- Hop Scotch; jumping rope.

Illustration: We were on the playground at recess. Claire asked me if she could jump rope instead of playing "Farmer in the Dell" with another group. After I gave my consent she asked me to watch her jump. She was unable to do this the first of the year, but now she went through the line every time, not missing at all. Two or three times she asked me how I liked the way she jumped. (Second grade)

3. Hiding-seeking -- Hide and Seek; Run, Sheep, Run.

4. Chasing-fleeing-Tag; Puss-in-Corner; Steal the Stick; Relay races.

Illustration: Sue played Flag Relay this afternoon and her team won second place. When the children came in, Sue said, "If it hadn't been for Eloise with her proud, slow self we would have won. Just wait until after school. I'm certainly going to tell her about it." (Fourth grade)

5. Catching-throwing; catch; dodge ball.

6. Seesawing-swinging.

Illustration: Today John told me that it always makes him sick to go up high in a swing. At recess the children were swinging and when it was John's turn, the boy who was pushing, pushed him too high and I had to

stop the swing and help John out. He was pale when he came in and I let him lie down on the cot until he felt better. (Fourth grade)

C. Team Games and Sports -- Activities involving a defined group; players with individual functions that have to be coordinated to construct a game; well organized; competition regulated by strict rules; high expenditure of energy.

1. Baseball

Illustration: Today Cricket was one of the choosers for the baseball game. She quickly got her side lined up and ready to play. She played as pitcher. Some of the boys yelled at her so much during the game that the other girls said she could not play as well. Cricket had little to say but gave the boys several "blank looks". She seemed to have trouble getting the ball over the plate. (Eighth grade)

2. Football

Illustration: The boys are now playing football during their play period. Jack is the quarterback and the captain of his team.

On the opening kick-off of the game, Jack got caught behind the goal line for a safety. After he had been tagged and realized his error, he threw the ball "with all his might" into the center of the field. Before the game was over Jack succeeded in blocking the ball carrier on the opposing team, scored a touchdown, and also kicked the extra point. He left the field smiling broadly. (Eighth grade)

3. Basketball

4. Volley-ball

5. Tennis

6. Gymnastics

Illustration: Last week we got a new health ladder. The fathers put it up over the week-end. While a group of children were doing some tricks

C.S. was watching them. I showed them how to chin and they started now taking turns. When C.S.'s turn came she climbed up the ladder and said, "That's easy. My father and I do that." She tried to chin but could not pull herself up once. She laughed and said, "It looks easy." (Fourth grade)

D. Individual Competitive Games -- activity involving limited participation, usually pairs or double pairs; competitive, requiring complex physical skill and motor coordination; regulated by well-defined rules.

1. Chicken fights; wrestling

Illustration: This morning at recess Susan said to me, "Mrs. L., yesterday afternoon three of the girls were playing with three of the boys in the other fourth grade, and they were wrestling with them." I told her that it was all right for girls to play with boys but that they shouldn't wrestle with them, that boys were too rough. While I was on the playground I had seen Jimmy and Mike, and two other boys wrestling but I had not seen the girls. (Fourth grade)

2. Horse shoes

3. Spinning tops

4. Marbles

Illustration: Sam and Jerry have been playing marbles every day for several days. Sam told me "we have a lot of fun but Jerry always makes a great big circle for our game. He can really hit the marbles. He has some aim." He told me this after recess. (Fourth grade)

5. Darts

E. Games of Intellect -- Highly organized activities, regulated by strict rules, but requiring little expenditure of physical energy.

1. Puzzles and Guessing games

2. Card games

3. Games of chance; checkers; Chinese checkers.

Illustration: It was too cold to go outside for play se we stayed in the room. Bob and George rushed for the checker board and checkers as soon as they were free to begin. They sat in the corner of the room and played for about fifteen minutes. Suddenly, Bob rose from his seat, upsetting the board and spilling about half of the checkers. He "stalked" over to the board where two other boys were working on a mural. After awhile he said, "George won't play fair; I'm not going to play with him any more." In the meantime, George had put the checkers away and sat down near a group of girls who were finger painting. (Fourth grade)

F. Social games -- Activities carried on in a social setting, involving heterosexual interaction, frequently under adult supervision.

1. Folk dancing

Illustration: We were preparing for a program for Fathers' Night at P.T.A. Sue said, "Mrs. J., may I be in the folk dances." I replied, "Yes, Sue, but you'll have to come to school more regularly." Sue came everyday until after the program. The children did "The Swedish Masquerade" and all of them said they enjoyed that most of all. (Eighth grade)

2. Ballroom dancing

3. Kissing games

Illustration: Today at lunch time, Dick, a mischievous boy, was chasing Ann across the playground. When he caught her and kissed her, she in turn started chasing him. Somehow or other she managed to turn quickly and trip him, causing him to fall flat on the ground. The other boys and girls laughed. Some one in the group said, "He deserved it." I asked Dick if he was hurt. He slowly got to his feet, flushed, laughed and answered, "I don't think so." (Eighth grade)

4. Car riding

5. Conversation

G. Collecting -- activity of collecting and storing objects of interest.

1. Match Covers

2. Playing cards

3. Coupons

4. Funny books

Illustration: Ben told me this morning that his mother had threatened to destroy hisfunny books unless he started doing better work in school. I asked him how many he had and he said about a hundred or more, that he had been saving them for about a year and a half. He then said,"I don't see what that's got to do with school." (Fourth grade)

5. Marbles

6. Autographs

7. Stamps

Illustration: Nevils is an enthusiastic collector of stamps. It began when his father was in the army and was transferred from one place to another. Today we were talking about hobbies and someone mentioned several different kinds of collections that people make. Nevils said he had four pages in a scrapbook filled with stamps and that he wanted to get as many others as possible. He told me that when I visited his home he would show them to me. (Fourth grade)

8. Box tops

H. Passive participation -- that form of play or recreation in which the individual is a passive participant and derives enjoyment as a spectator, from observing the activities of others.

1. Radio and television

Illustration: After the Army-Notre Dame football game L. seemed quite excited. He told me he listened to part of the game on the radio and that his uncle went to the game and brought him a big balloon as a souvenir.

He said that he did not want to blow the balloon up because it might burst, and that he wanted to keep it so that he would always have a reminder of the game. (Second grade)

2. Movies

3. Reading

Illustration: Ann has been completely absorbed in "Little Women". Every spare minute she is reading it. I asked her if she liked it. She answered, "Oh, yes, this is the second time I've read it. I just love Jo. Did you like her, Mrs. C.?" (Eighth grade)

These categories of the play patterns of children of four grade levels represent the kinds of play which were identified in the anecdotal records used in this study. Of the forty-four items in the list, illustrations from the case material were given for approximately half of them. At the beginning of this section (See page 39) it was stated that, for the most part, these play activities were so familiar or so obvious that little was needed in the way of definition or illustration. Also, it was pointed out that in many of the anecdotes the teacher was attempting to describe the nature or quality of the experience in the play situation in terms of its meaning to the child being studied. This seems to be evident in many of the illustrations cited, as for example, Sue blames Eloise for losing the flag relay, (See page 43); Bob refuses to play checkers when he thinks George is not being fair, (See page 46); Claire asks for the teacher's approval when she jumps the rope successfully, (See page 43); John becomes ill from swinging too high, (See page 43). But whatever purpose the teacher might have had in each recording, reading these behavior descriptions leaves little doubt as to the play activity in which the child was participating at the moment. Thus the selected descriptions from the records of these children, cited above, seemed adequate to the writer to illustrate the

patterns of play in which children engage and also the nature of the anecdotal materials in which they were identified for this study.

SUMMARY

The data for this investigation of the play patterns of children were gathered from the anecdotal records of 1669 children prepared by classroom teachers who were participating in an organized child study program. These records were obtained through a random sampling from the total number of records on file at the Institute for Child Study, University of Maryland.

The patterns of play behavior analyzed in this research were identified in the anecdotal records through the use of an organizational framework which evolved from a pilot study of 200 records. This framework consisted of eight major categories of play behavior including forty-four separate items of play activity.

The succeeding chapter will present the specific design of the study, including the instrument for gathering the data and the methods of treating the data.

CHAPTER IV

DESIGN OF THE STUDY

In order to analyze the data in terms of the play patterns described in the preceding chapter, it was necessary for the investigator to have some means of tabulating the information found in the case records. Since the task was that of identifying in the records all of the evidences of play activities which had been categorized under eight major types, some kind of check list including these categories was needed.

INSTRUMENT USED FOR RECORDING DATA

To facilitate the task of analyzing the records a check sheet was devised[29], including these types of play activities which had been accepted as an organizing framework on the basis of the pilot study and a survey of the literature (See Chapter III, page 39). Also, since the pilot study suggested to the investigator the need for analyzing the records in terms of the persons involved in the behavioral situation observed, the check list provided categories for this type of analysis.

When the final form of the instrument was completed, one check sheet was prepared for each record to be analyzed. It was from these check sheets that the tabulations of play activities were obtained for this study. The instrument is included here in its final form.

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[29]Caldwell, op. cit., p. 57

Case No. _____

Card No. _____

1. Sex: (1) Male; (2) Female 1. ___

2. Grade: (1) K; (2) 2; (3) 4; (4) 8 2. ___

3. Age: (1) Younger; (2) Older 3. ___

4. Region: (1) Texas; (2) Louisiana; (3) Maryland; (4) East. Shore, Md.: (5) Atlantic City; (6) Wash., D.C. 4. ___

5. Caste: (1) Negro; (2) White 5. ___

6. Class: (1) Upper Middle; (2) Lower Middle; (3) Lower 6. ___

7. School Organization: (1) One grade per room; (2) Two or more grades per room 7. ___

8. Visible Physical Disability: (1) none or no information; (2) slight; (3) severe 8. ___

9. No. of older siblings in home: (1) none or no information; (2) one; (3) two or more 9. ___

10. Sex of next older sib.: (1) none of no information; (2) Male; (3) Female 10. ___

11. No. of younger siblings in home: (1) none or no information; (2) one; (3) two or more 11. ___

12. Sex of next younger sib.: (1) none or no information; (2) Male; (3) Female 12. ___

13. Shifts or breaks in family membership: (1) none or no information; (2) death of mother; (3) death of father; (4) mother absent from home; (5) father absent from home; (6) child living with relatives or in institution 13. ___

14. Strength of affection between parents, and, or harmony in home; (1) no information; (2) practically none; (3) some; (4) considerable 14. ___

15. Possession of Pets: (1) none or no information; (2) one, (3) two or more 15. ___

	Y NoInf	X Alone	0 Sib	1 YC	2 OC	3 P-SS	4 P-OS	5 SG	6 HxG	7 HgG	8 Prnt	9 Tchr	
I Dramatic Play													
1.Domestic													1.
2.Selling-Buying													2.
3.Transportation													3.
4.Community Roles													4.
5.Killing-Dying													5.
6.Legendary													6.
7.Animal Play													7.
8.Planned "Play"													8.
II Ritual Games													
9.Singing Games													9.
10.Jumping-Skipping													10.
11.Hiding-Seeking													11.
12.Chasing-Fleeing													12.
13.Catching-Throwing													13.
14.Seesawing-Swinging													14.
III Team Games and Sports													
15.Baseball													15.
16.Football													16.
17.Basketball													17.
18.Volleyball													18.
19.Tennis													19.
20.Gymnastics													20.
IV Individual Competitive Games													
21.Chicken Fights													21.
22.Horseshoes													22.
23.Spinning Tops													23.
24.Marbles													24.
25.Darts													25.
V.Games of Intellect													
26.Puzzles													26.
27.Card Games													27.
28.Games of Chance													28.
VI Social Games													
29.Folk Dancing													29.
30.Ballroom Dancing													30.
31.Kissing Games													31.
32.Car Riding													32.
33.Conversation													33.

	Y	X	0	1	2	3	4	5	6	7	8	9	
	NoInf	Alone	Sib	YC	OC	P-SS	P-OS	SG	HxG	HgG	Prnt	Tchr	
VII Collecting													
34. Match Covers													34.
35. Playing Cards													35.
36. Coupons													36.
37. Funny Books													37.
38. Marbles													38.
39. Autographs													39.
40. Stamps													40.
41. Boxtops													41.
VIII Passive Participation													
42. Radio													42.
43. Movies													43.
44. Reading													44.

The first page of the instrument contains data regarding each of the children whose record was being analyzed. Out of these fifteen items, those of age, grade, sex, and caste were selected as the factors to be used for making the comparisons in this study.

The second and third pages of the instrument contain the check list of play behaviors explained in the section above. In the vertical column on the left are listed the forty-four forms of play behavior which represent the sub-categories under the eight major groups of play patterns considered in this research. These are numbered from one to forty-four inclusive, with the corresponding numbers on the opposite side of the page followed by a space for checking the items. On the horizontal axis are listed the persons or groups with whom the child might interact in the behavioral situation observed. The persons or groups of persons listed on the horizontal axis of the instrument are sibling (Sib), younger child (YC), older child (OC), peer of the same sex (P-SS), peer of the opposite sex (P-OS), heterosexual group (HxG), heterogeneous group (HgG), parent (Prnt), and teacher (Tchr). The designation "No Info" under the symbol "Y" in the first column means no information. These designations were assigned the symbol or number sequence, Y, X, 0, 1 through 9, as the instrument shows.

As each record was analyzed, the presence or absence of a certain play activity was designated in the vertical column on the right. This was done by writing in the numbered space corresponding to a certain item a "Y" to indicate no evidence in the record of this activity, or the symbol which would indicate the presence of the activity with a particular person or group. For example, the symbol "0" after number twenty-four in the right hand column would indicate that the child whose behavior was being analyzed was playing marbles with a sibling. Neither the number of times these play activities appeared in the record, nor the number of manifestations

of individual or group interaction was considered in the final analysis of the data. If, however, the same record contained evidences of a certain pattern of play with two or more different persons or groups, the interaction which occurred most frequently was marked in the right hand column for the final tabulation of data.

OBJECTIVITY OF THE INSTRUMENT

In order to test the objectivity of the instrument Caldwell was assisted by three graduate students of the University of Maryland who served as judges in codifying a sampling of data.[30] All of the judges had had experience in coordinating child study programs. They were familiar with the operation and with the anecdotal materials submitted by the teachers in the program.

According to the investigator's explanation of the procedure, the group spent five two-hour sessions in preparation for the test analysis. The investigator explained to the judges the purpose of the research, the methods used, and the instrument designed for classifying the data. The judges also had written descriptions of the various categories before them at all sessions, including the final one which was used as a basis of the reliability test.

Records for analysis were chosen at random for the four grade groups included in the research project. After each practice session, the categorizations of judges and investigator were compared and further questions were clarified.

Essentially the same procedure was used during the test run as for the practice sessions. Duplicate copies of records from each of the four grades were analyzed independently by the judges and by Caldwell.

The mean percentage of agreement of the three judges and the investigator for all categories was as follows:

Judge A - 80%

Judge B - 89%

Judge C - 84%

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[30] Caldwell, op. cit., pp. 59-60.

From this range of percentage agreement, eighty to eighty-nine per cent, a grand mean percentage of agreement between judges and the investigator for all categories was found to be eighty-four per cent.

A further measure of the objectivity of the instrument was obtained by a comparison of the investigator's first and second categorizations of four randomly selected records with an interval of two months between the two analyses. For these two categoriazations, the grand mean percentage of agreement for all items was eighty-eight per cent.

Perhaps it should be recalled here that this initial work of Caldwell incorporated a much broader scope of investigation than his completed dissertation indicates. The investigation of the social roles that children play as related to the emotional climate of the home, by Fred Thompson (See page 7), and the investigation of play activities which is the object of the present study were originally a part of this larger unit initiated by Caldwell. Consequently, in the test of objectivity of the instrument, the investigator and judges were concerned with the complete instrument which consisted of the three parts used for categorizing data for the three research projects referred to above.

TREATMENT OF THE DATA

As stated in Chapter III, the data used for analysis in this study consisted of the tabulations of the play patterns of children as revealed in 1669 anecdotal records prepared by teachers in a child study program. These evidences of play behavior, tabulated on the instrument described in the previous section, were tallied and categorized according to the factors or problems to be considered in this investigation. Thus, the patterns of play behavior were tallied for the different sex and caste groups for each of the four grade levels, kindergarten, second, fourth and eighth. These frequencies were then retallied in various other ways in order to facilitate comparison.

More specifically, the frequencies of the separate items of play behavior for each grade, sex, and caste group were converted into percentages and comparisons were made using these percentages as the basis for determining the differences. Also, the instances of play activities of these same groupings were arranged in the order of descending frequency so that by inspection some comparison of rank order could be made. Furthermore, the tabulations of play patterns were grouped into eight categories, each including several of the more closely related items. These eight categories were: (1) Dramatic play, (2) Ritual games, (3) Team games and sports, (4) Individual competitive games, (5) Games of intellect, (6) Social games, (7) Collecting, and (8) Passive participation.

The major comparisons made in the investigation were in consideration of these eight larger categories of play behavior as they were revealed by the different sub-groupings of children. The significance of the observed differences was tested through the application of the chi-square

technique,[31] using the formula, $X^2 = \sum \frac{(f_o - f_e)^2}{f_e}$.

It was assumed that all of the children included in this investigation were selected from the same population and that no differences could be expected in the play patterns which they exhibited. This null hypothesis was systematically tested for every set of tabulations through the use of the chi-square technique. In addition, some attempt was made to find an explanation for the significant differences through a comparison of the percentage frequencies of the separate items of play behavior, and of the rank order of the different items.

A further method of comparison was a consideration of the type of social interaction involved in each of the play situations. This analysis was made on the basis of the tabulations of the persons or groups with whom the play activity occurred. From these data an attempt was made to discover the patterns of change in the type of social interaction.

In the succeeding chapters, results of the analysis of the data are presented. Further necessary explanation of procedure will be included along with the presentation of the analysis.

Henry E. Garrett, Statistics in Psychology and Education (New York: Green and Company, 1947), pp. 241-250.

[31] Henry E. Garrett, Statistics in Psychology and Education (New York: Longmans, Green and Company, 1947), pp. 241-250.

CHAPTER V

ANALYSIS OF DATA

DEVELOPMENTAL SEQUENCE OF PLAY BEHAVIOR AS SHOWN BY GRADE COMPARISONS

In Chapter III of this dissertation the types of play behavior investigated in this study were listed and in most instances defined or illustrated. In Chapter IV an explanation was given of the general procedure used in gathering and in analyzing the data. The final analysis of data consisted of three general comparisons: (1) Comparisons of grade groups, including white and Negro, and Negro-white sex groups of the different grade levels; (2) Comparisons of sex groups within each grade; and (3) Comparisons of Negro-white groups within the grades.

Table 1 (page 37) showed the grade, sex and caste distribution of the records analyzed in this research. Of the 1669 records analyzed there were 120 records for white boys and 120 for white girls at the kindergarten level, and 120 records for each of the white and Negro boys' and girls' sub-groups in second, fourth, and eighth grades. The one exception is for white girls at the fourth grade level, where only 109 records were available. In this chapter the changes in the patterns of play behavior, as observed in the records from kindergarten through the eighth grade will be reported.

It is recalled that the data obtained from the record analysis were recorded in tables representing the different groups to be compared in this investigation. In the contingency tables the data are listed according to the eight major categories of play behavior and in actual frequencies. The value of chi-square with the corresponding level of significance is shown for each set of data being compared. To permit a more detailed analysis of the data the percentage frequency distribution and the rank order of the

separate items of play behavior, and the type of social interaction involved, are reported in tables designed for that purpose. All of the comparisons are based upon the information contained in these tables.

GRADE COMPARISONS OF THE PLAY BEHAVIOR OF WHITE BOYS AND GIRLS

The comparisons made for white boys and girls between the different grade levels are based upon the findings revealed in the Contingency Tables 2 and 3, the Percentage Frequency Table 4, the Rank Order Table 4A and the Social Interaction Tables 5, 5A, 5B, and 5C, all of which follow immediately.

Table 2

AGE-GRADE COMPARISONS OF THE PLAY BEHAVIOR OF WHITE BOYS

WHITE BOYS	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
Kindergarten	363 191.8	323 198.6	0 121.6	1 22.8	58 40.0	3 27.3	76 94.3	44 161.6	858
Second Grade	182 153.6	260 159.0	13 97.3	28 18.3	28 32.0	5 21.8	68 75.5	103 129.4	687
Fourth Grade	93 153.8	85 159.3	180 97.5	47 18.3	24 32.1	24 21.9	67 75.6	168 129.6	688
Eighth Grade	19 147.8	2 153.0	217 93.6	1 17.6	25 30.8	60 21.0	107 72.6	230 124.5	661
	647	670	410	77	135	92	318	545	2894

Chi Square = 1385.95

Chi Square Value at .05 = 32.671
" " " " .01 = 38.932
(d.f. = 21)

TABLE 3

AGE-GRADE COMPARISONS OF THE PLAY BEHAVIOR OF WHITE GIRLS

WHITE GIRLS	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
Kindergarten	285 160.1	312 207.9	0 59.6	0 1.4	64 43.3	1 34.0	30 60.5	37 162.3	729
Second Grade	184 150.7	294 195.6	0 56.1	1 1.3	26 40.8	9 31.9	49 56.9	123 152.7	686
Fourth Grade	85 129.4	142 167.9	61 48.2	4 1.1	46 35.0	31 27.4	75 48.8	145 131.1	589
Eighth Grade	26 139.9	5 181.6	155 52.1	0 1.2	21 37.9	82 29.7	65 52.8	283 141.8	637
	580	753	216	5	157	123	219	588	2641

Chi Square = 1263.94

Chi Square Value at .05 = 32.671
" " " " .01 = 38.932
(d.f. = 21)

TABLE 4

A COMPARISON OF THE PERCENTAGE FREQUENCIES OF THE PLAY BEHAVIOR OF WHITE BOYS AND GIRLS IN FOUR GRADES

Play Patterns	Kindergarten		Second Grade		Fourth Grade		Eighth Grade	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Dramatic Play								
Domestic Roles	5.94	13.72	0.37	9.33	--	4.92	--	--
Selling-Buying	2.21	1.23	0.87	1.60	--	--	--	--
Transportation	9.56	4.39	6.11	0.44	0.29	--	--	--
Community Roles	3.96	7.13	0.73	5.25	0.15	1.87	--	--
Killing-Dying	8.97	1.92	8.59	0.87	7.56	0.51	--	--
Legendary	2.45	6.17	0.29	0.15	--	--	--	--
Animal Play	7.23	3.43	1.16	0.15	--	0.17	--	--
Planned Play	0.82	1.10	7.86	9.04	5.52	6.96	2.87	4.08
Ritual Games								
Singing Games	9.56	12.07	6.55	10.50	0.87	0.34	--	--
Jumping-Skipping	7.81	10.70	4.37	9.91	1.16	7.47	--	--
Hiding-Seeking	0.82	0.27	1.31	1.60	1.45	2.21	--	--
Chasing-Fleeing	10.02	8.50	11.21	9.48	6.10	3.40	--	--
Catching-Throwing	1.63	0.14	10.63	4.37	2.18	3.74	0.30	0.78
Seesawing-Swinging	7.81	11.11	3.78	7.00	0.58	6.96	--	--
Team Games and Sports								
Baseball	--	--	0.15	--	13.08	1.70	12.86	4.40
Football	--	--	1.75	--	3.92	--	3.93	--
Basketball	--	--	--	--	2.18	0.34	10.14	8.95
Volleyball	--	--	--	--	3.49	6.96	2.72	9.58
Tennis	--	--	--	--	--	0.17	0.76	1.41
Gymnastics	--	--	--	--	3.49	1.19	2.42	--
Individual Competitive Games								
Chicken Fights	--	--	--	--	--	--	--	--
Horseshoes	--	--	--	--	0.29	--	--	--
Spinning Tops	--	--	0.73	--	0.44	--	--	--
Marbles	0.12	--	3.35	0.15	5.81	0.51	0.15	--
Darts	--	--	--	--	0.29	0.17	--	--
Games of Intellect								
Puzzles	6.76	8.78	2.18	1.17	1.16	1.53	0.30	--
Card Games	--	--	--	0.44	0.44	3.57	0.30	2.51
Games of Chance	--	--	1.89	2.19	1.89	2.72	3.18	0.78
Social Games								
Folk Dancing	0.35	0.14	0.73	1.31	3.49	5.26	0.15	0.63
Ballroom Dancing	--	--	--	--	--	--	3.93	7.38
Kissing Games	--	--	--	--	--	--	1.66	1.57
Car Riding	--	--	--	--	--	--	2.12	1.26
Conversation	--	--	--	--	--	--	1.21	2.04

TABLE 4 (Cont.)

A COMPARISON OF THE PERCENTAGE FREQUENCIES OF THE PLAY BEHAVIOR OF WHITE BOYS AND GIRLS IN FOUR GRADES

Play Patterns	Kindergarten		Second Grade		Fourth Grade		Eighth Grade	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Collecting								
Match Covers	--	--	--	--	0.58	0.85	--	1.10
Playing Cards	0.15	--	0.15	2.04	0.68	1.87	--	--
Coupons	0.35	0.14	--	0.15	0.15	--	0.76	--
Funny Books	4.90	1.37	8.30	4.81	6.10	8.49	12.86	4.55
Marbles	0.23	--	--	--	0.29	--	0.45	--
Autographs	--	--	--	--	--	1.02	--	4.08
Stamps	--	--	--	--	1.02	0.34	2.12	0.47
Box Tops	3.38	1.10	1.46	0.15	1.02	0.17	--	--
Passive Participation								
Radio	4.43	4.80	8.73	8.75	8.58	10.53	14.83	17.27
Movies	0.70	0.27	6.11	8.45	14.39	11.71	17.10	18.21
Reading	--	--	0.15	0.73	1.45	2.38	2.87	8.95

TABLE 4A

A COMPARISON OF THE RANK ORDER OF THE
PLAY BEHAVIOR OF WHITE BOYS AND GIRLS IN FOUR GRADES

Play Patterns	Kindergarten		Second Grade		Fourth Grade		Eighth Grade	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Dramatic Play								
Domestic Roles	9	1	19.5	4	--	9	--	--
Selling-Buying	15	15	19.5	14.5	--	--	--	--
Transportation	2.5	10	8.5	20.5	29.5	--	--	--
Community Roles	12	7	22	9	32.5	16.5	--	--
Killing-Dying	4	12	4	18	4	23.5	--	--
Legendary	14	8	24	24	--	--	--	--
Animal Play	7	11	18	24	--	29.5	--	--
Planned Play	17.5	16.5	6	5	8	6	9.5	9.5
Ritual Games								
Singing Games	2.5	2	7	1	22	26	--	--
Jumping-Skipping	5.5	4	10	2	18.5	4	--	--
Hiding-Seeking	17.5	18.5	17	14.5	16.5	15	--	--
Chasing-Fleeing	1	6	1	3	5.5	12	--	--
Catching-Throwing	16	21	2	11	13.5	10	21	17.5
Seesawing-Swinging	5.5	3	11	8	24	6	--	--
Team Games and Sports								
Baseball	--	--	26	--	2	18	3.5	8
Football	--	--	15	--	9	--	6.5	--
Basketball	--	--	--	--	13.5	26	4	4.5
Volleyball	--	--	--	--	9	6	11	3
Tennis	--	--	--	--	--	29.5	17.5	14
Gymnastics	--	--	--	--	11	20	12	--
Individual Competitive Games								
Chicken Fights	--	--	--	--	--	--	--	--
Horseshoes	--	--	--	--	29.5	--	--	--
Spinning Tops	--	--	22	--	26.5	--	--	--
Marbles	23	--	12	24	7	23.5	23.5	--
Darts	--	--	--	--	29.5	29.5	--	--
Games of Intellect								
Puzzles	8	5	13	17	18.5	19	21	--
Card Games	--	--	--	20.5	26.5	11	21	11
Games of Chance	--	--	14	12	15	13	8	17.5
Social Games								
Folk Dancing	20.5	21	22	16	11	8	23.5	19
Ballroom Dancing	--	--	--	--	--	--	6.5	6
Kissing Games	--	--	--	--	--	--	15	13
Car Riding	--	--	--	--	--	--	13.5	15
Conversation	--	--	--	--	--	--	16	12

TABLE 4A (Cont.)

A COMPARISON OF THE RANK ORDER OF THE
PLAY BEHAVIOR OF WHITE BOYS AND GIRLS IN FOUR GRADES

Play Patterns	Kindergarten		Second Grade		Fourth Grade		Eighth Grade	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Collecting								
Match Covers	--	--	--	--	24	22	--	16
Playing Cards	--	13	26	13	24	16.5	--	--
Coupons	20.5	21	--	24	32.5	--	17.5	--
Funny Books	10	14	6	10	5.5	3	3.5	7
Marbles	22	--	--	--	29.5	--	19	--
Autographs	--	--	--	--	--	21	--	9.5
Stamps	--	--	--	--	20.5	26	13.5	20
Boxtops	13	16.5	16	24	20.5	29.5	--	--
Passive Participation								
Radio	11	9	3	6	3	2	2	2
Movies	19	18.5	8.5	7	1	1	1	1
Reading	--	--	26	19	16.5	14	9.5	4.5

TABLE 5

SOCIAL INTERACTION OF KINDERGARTEN
WHITE BOYS AND GIRLS IN TERMS OF PERCENTAGE FREQUENCIES

	X Alone	0 Sib	1 YC	2 OC	3 PSS	4 POS	5 SG	6 HxG	7 HgG	8 Prnt	9 Tchr*
Kindergarten White Boys											
Dramatic Play	25.50	0.57	0.85		28.61	2.27	1.42	1.42	39.38		
Ritual Games	10.84				18.58	7.43	1.55		60.99	0.62	
Team Sports											
Individual Competitive Games					100.00						
Games of Intellect	48.28				36.21	15.52					
Social Games									100.00		
Collecting	80.26				19.74						
Passive Participation	84.09	11.36	2.27		2.27						
Kindergarten White Girls											
Dramatic Play	20.00				21.75	12.63	0.35		45.26		
Ritual Games	12.82				20.19	5.77		0.32	60.90		
Team Sports											
Individual Competitive Games											
Games of Intellect	48.44	1.56			37.50	12.50					
Social Games									100.00		
Collecting	66.67				33.33						
Passive Participation	83.78	16.22									

*The smybols in the sequence 0 to 9 are used to indicate the following individuals or groups: Sib, sibling; YC, younger child; OC, older child; PSS, peer of the same sex; POS, peer of the opposite sex; SG, own sex group; HxG, heterosexual group; HgG, Heterogeneous group; Prnt, parent; Tchr, teacher.

TABLE 5A

SOCIAL INTERACTION OF SECOND GRADE
WHITE BOYS AND GIRLS IN TERMS OF PERCENTAGE FREQUENCIES

	X Alone	0 Sib	1 YC	2 OC	3 PSS	4 POS	5 SG	6 HxG	7 HgG	8 Prnt	9 Tchr*
Second Grade White Boys											
Dramatic Play	14.84				14.84	1.10	27.47	4.95	36.81		
Ritual Games	6.92		0.38		6.92	2.69	23.85	1.92	57.31		
Team Sports					30.78		69.23				
Individual Competitive Games					39.29		60.71				
Games of Intellect	32.14				67.86						
Social Games									100.00		
Collecting	73.53				26.47						
Passive Participation	49.51	25.24			9.71					15.53	
Second Grade White Girls											
Dramatic Play	8.15		1.09		8.70	5.43	22.28	2.72	51.63		
Ritual Games	3.74		0.68		15.99	1.36	19.39	2.72	56.12		
Team Sports											
Individual Competitive Games								100.00			
Games of Intellect	11.54				65.38	19.23			3.85		
Social Games									100.00		
Collecting	73.47				26.53						
Passive Participation	39.02	30.08			4.88					26.02	

*The symbol in the sequence 0 to 9 are used to indicate the following individuals or groups: Sib, sibling; YC, younger child; OC, older child; PSS, peer of the same sex; POS, peer of the opposite sex; SG, own sex group; HxG, heterosexual group; HgG, heterogeneous group; Prnt, parent; Tchr, teacher.

TABLE 5B

SOCIAL INTERACTION OF FOURTH GRADE
WHITE BOYS AND GIRLS IN TERMS OF PERCENTAGE FREQUENCIES

	X Alone	0 Sib	1 YC	2 OC	3 PSS	4 POS	5 SG	6 HxG	7 HgG	8 Prnt	9 Tchr*
Fourth Grade White Boys											
Dramatic Play	3.23				8.60		46.24		41.94		
Ritual Games	3.53				10.59	4.71	17.65	15.29	48.24		
Team Sports	1.11				5.00		87.78	1.11	5.00		
Individual Competitive Games					6.38		93.62				
Games of Intellect	20.83				29.17	4.17	16.67		29.17		
Social Games					16.67	4.17			79.17		
Collecting	100.00										
Passive Participation	63.10	16.67			15.48					4.76	
Fourth Grade White Girls											
Dramatic Play	4.71				18.82		22.35	3.53	50.59		
Ritual Games	4.93				26.76		41.55	3.52	23.24		
Team Sports	1.64				8.20		63.93	1.64	24.59		
Individual Competitive Games								100.00			
Games of Intellect	13.04				41.30	10.87	32.61	2.17			
Social Games							6.45	93.55			
Collecting	92.00				5.33				2.67		
Passive Participation	48.28	38.62			11.72				1.38		

*The symbol in the sequence 0 to 9 are used to indicate the following individual or groups: Sib, sibling; YC, younger child; OC, older child; PSS, peer of the same sex; POS, peer of the opposite sex; SG, own sex group; HxG, heterosexual group; HgG, heterogeneous group; Prnt, parent; Tchr, teacher.

TABLE 5C

SOCIAL INTERACTION OF EIGHTH GRADE
WHITE BOYS AND GIRLS IN TERMS OF PERCENTAGE FREQUENCIES

	X Alone	0 Sib	1 YC	2 OC	3 PSS	4 POS	5 SG	6 HxG	7 HgG	8 Prnt	9 Tchr*
Eighth Grade White Boys											
Dramatic Play									100.00		
Ritual Games					100.00						
Team Sports					2.30		97.70				
Individual Competitive Games							100.00				
Games of Intellect					92.00		8.00				
Social Games							11.67	1.67	86.67		
Collecting	100.00										
Passive Participation	40.87	2.61			30.00	12.17	8.26		6.09		
Eighth Grade White Girls											
Dramatic Play									100.00		
Ritual Games							100.00				
Team Sports					1.29		98.71				
Individual Competitive Games											
Games of Intellect					23.81	14.29	52.38		9.52		
Social Games							8.54		91.46		
Collecting	100.00										
Passive Participation	53.71	6.01			18.37	9.89	5.30		4.24	2.47	

*The symbols in the sequence 0 to 9 are used to indicate the following individuals or groups: Sib, sibling; YC, younger child; OC, older child; PSS, peer of the same sex; POS, peer of the opposite sex; SG, own sex group; HxG, heterosexual group; HgG, heterogeneous group; Prnt, parent; Tchr, teacher.

GRADE COMPARISONS OF WHITE BOYS

Dramatic Play. Grade comparisons of the dramatic play of white boys between kindergarten and second, second and fourth, and fourth and eighth grades reveal differences at the one per cent level of significance in each case, as tested by the application of chi-square. Table 2 indicates that the pattern of change for dramatic play is that of a progressive decrease from kindergarten through the eighth grade. Table 4 shows that with the exception of planned play this decrease is consistent for all of the separate items, to the extent that they do not appear in eighth grade. Planned play increases from kindergarten to second grade, declines in fourth and in eighth grade. Killing-dying maintains its relative importance through fourth grade but disappears in eighth grade.

Ritual Games. Table 2 indicates that the developmental sequence for ritual games for white boys is that of a progressive decrease in participation from kindergarten through eighth grade, with differences significant at the one per cent level between the grade groups according to the test of chi-square. Table 4 shows that singing games, jumping-skipping, and seesawing-swinging show a progressive decrease in participation through fourth grade and disappear in eighth grade. Chasing-fleeing, first in rank for kindergarten and second grade (Table 4A), shows a small increment in second grade, decreases in fourth and does not appear in eighth grade. Catching-throwing shows a striking increase from kindergarten to second grade, decreases in fourth and in eighth grades. Hiding-seeking shows a small increase from kindergarten through fourth grade but disappears in eighth.

Team Sports. Table 2 shows that the pattern of development in team sports is one of a progressive increase throughout the elementary school period. Observation of Table 4 reveals that team sports, not appearing in

kindergarten, show a significant difference at the one per cent level between kindergarten and second, second and fourth, and fourth and eighth grades. Baseball, appearing in second grade, shows a striking increase in fourth grade (shifts from twenty-sixth place to second, Table 4A), and a slight decrease in eighth grade. Football appears in second grade, increases in fourth and again slightly in eighth grade. Basketball appears in fourth grade, and shows a striking increase in eighth grade. Both volleyball and gymnastics appear in similar frequencies in fourth grade and decrease in eighth. Tennis appears only in eighth grade in a frequency of less than one per cent.

Individual Competitive Games. As Table 2 indicates, individual competitive games show an increase in participation from kindergarten to second and from second to fourth grade, but a decrease in eighth grade. The application of chi-square shows all of these differences to be significant at the one per cent level. Marbles, the most popular activity in this group (Table 4), follow the same sequence as that of the entire category. Horseshoes and darts appear only in the fourth grade, and spinning tops appears in second and fourth grades.

Games of Intellect. According to information in Table 2, games of intellect show a decrease in participation from kindergarten to second grade which is significant at the one per cent level. From second to fourth grade there is a slight decrease, and from fourth to eighth, a slight increase, neither of which is significant. As revealed in Table 4, puzzles, the most important single item, appears in kindergarten and decreases progressively through the eighth grade. Games of chance appear in second and fourth grades in equal percentage frequencies but increase in the eighth grade. Card games appear in fourth and eighth grades but in frequencies of less than one-half per cent.

Social Games. Table 2 indicates that social games increase progressively from kindergarten through eighth grade with differences between the grades significant at the one per cent level as tested by chi-square. Folk dancing shows an increase from kindergarten through fourth grade and decreases in eighth grade. Ballroom dancing, car riding, kissing games, and conversation appear in the eighth grade in percentage frequencies ranging from one to four per cent, as Table 4 indicates.

Collecting. The developmental sequence in collecting in terms of the total pattern is that of a decrease from kindergarten to second grade (significant at the five per cent level), almost equal participation by second and fourth grades (difference of one in actual frequencies), and an increase from fourth to eighth grade which is significant at the one per cent level (Table 2). Observation of the Percentage Frequency Table 4 reveals different patterns for the separate items. Funny books, the most important single item, increases from kindergarten to second grade, decreases in fourth, and increases to the highest level of participation in eighth grade. Boxtops show a progressive decrease through fourth grade and disappear in eighth grade. Stamps appear first in fourth grade and increase in eighth, while match covers appear only in fourth grade. Playing cards, coupons, and marbles show no consistent pattern through the grades; they either do not appear or they appear in frequencies of less than one per cent.

Passive Participation. Table 2 indicates, for passive participation, a progressive increase from kindergarten through eighth grade with a difference at the one per cent level of significance between the grade groups. Movies show this increase consistently through the grades, moving from a rank order of 19 in kindergarten to first place for fourth and eighth grades (Table 4A). Radio, beginning with a greater frequency than movies

in kindergarten, increases in second, shows almost no change in fourth, and increases again in eighth grade. Reading appears first in second grade (less than one per cent)and shows a gradual increase through fourth and eighth grades.

In the type of social interaction there were a few general trends, as shown by the Tables 5, 5A, 5B, and 5C. Kindergarten boys consistently showed more participation alone than did any of the other grade groups, with the exception of collecting. Interaction with a peer of the same sex, a peer of the opposite sex, and with heterogeneous groups seemed to vary more in terms of the activity than in total participation. Second and fourth grade boys showed more interaction with siblings, parents and heterosexual groups than did kindergarten or eighth grade boys. Participation with own sex groups showed a marked increase from kindergarten through fourth grade, decreasing slightly in eighth grade. At the eighth grade level interaction was confined to fewer groups than in the other grades.

GRADE COMPARISONS OF WHITE GIRLS

Dramatic Play. A comparison of the dramatic play of white girls between kindergarten and second, second and fourth, and fourth and eighth grades reveals differences at the one per cent level in each case. Table 3 indicates that there is a progressive decrease in dramatic play from kindergarten through the eighth grade. Most of the items in this category show a similar pattern as shown by Table 4. Domestic roles, community roles, and killing-dying decrease in frequency through the fourth grade and disappear in eighth grade. Transportation and legendary play decline markedly from kindergarten to second grade and do not appear in fourth or eighth grades. Selling-buying occurs in a small frequency in kindergarten (Table 4), increases slightly in second grade and then disappears, while animal play decreases to less than one-half per cent in second and fourth grades and does not appear in eighth. Planned play shows a marked increase from kindergarten to second grade, declines in fourth and again in eighth grades.

Ritual Games. As indicated by Table 3, ritual games show a progressive decrease in participation from kindergarten through eighth grade, with differences at the one per cent level of significance between the grade groups. Singing games, jumping-skipping, and seesawing-swinging show a progressive decrease in frequency from kindergarten through fourth grade and disappear in eighth. That these differences between kindergarten and second grade are small for singing games and jumping-skipping is shown by the rank order of these activities (Table 4A). Singing games occupy first place for second grade and second for kindergarten, while jumping-skipping, second in rank for second grade is in fourth place for kindergarten. Chasing-fleeing increases in second grade (moves from sixth place to third), declines in fourth and does not appear in eighth grade, while catching-throwing increases in second grade, declines in fourth and in eighth grades. Hiding-

seeking appears in small frequency in kindergarten, increases gradually in second and in fourth grades and then disappears.

Team Sports. Table 3 shows that team sports did not appear in the kindergarten or second grade white girls' groups but appeared in fourth and eighth grades with differences between second and fourth, and fourth and eighth grades significant at the one per cent level. Baseball, basketball, volleyball and tennis increased in frequency from fourth grade to eighth grade, placing volleyball in third place and basketball as number 4.5 in the eighth grade. Gymnastics appeared only in the fourth grade, while football did not occur in either group (Tables 4 and 4A).

Individual Competitive Games. Table 3 indicates that individual competitive games did not occur in kindergarten, showed a frequency of one in second grade, four in fourth grade and did not appear in eighth grade. The test of chi-square reveals no significant difference between kindergarten and second grade, but a difference significant at the five per cent level between second and fourth grades, and at the two per cent level between fourth and eighth grades. In this category, marbles appear in second grade (0.15 per cent), increase slightly in fourth grade, and darts appear only in the fourth grade (0.17 per cent).

Games of Intellect. Grade comparisons for white girls, shown in Table 3, indicate for games of intellect a decrease from kindergarten to second grade, an increase from second to fourth grade, and a decrease again in the eighth grade, with differences significant at the one per cent level. Puzzles, which account for all of the participation in this category in kindergarten, follow the same pattern -- decreasing markedly in second grade, increasing in fourth and disappearing in eighth grade. Card games and games of chance appear first in second grade, increase in fourth and decline in the eighth grade, as revealed in Table 4.

Social Games. Social games show a progressive increase from kindergarten through eighth grade with the differences between the grades significant at the one per cent level, according to the chi-square test shown in Table 3. The Percentage Frequency Table 4 shows that folk dancing, the only item appearing before the eighth grade, increases from kindergarten through the fourth grade and decreases in the eighth grade. Ballroom dancing is the most popular item in this category for eighth grade. Conversation, kissing games, and car riding occur in eighth grade in frequencies ranging from one to approximately two per cent.

Collecting. Table 3 shows that the developmental sequence in collecting for white girls is that of an increase in participation from kindergarten through the fourth grade, and a decline in the eighth grade. Differences between the grades in each case are significant at the one per cent level. As Table 4 indicates, funny books, the most important single item, follow the same sequential pattern as that of the total group. Boxtops decrease from kindergarten to less than one-half per cent in second and fourth grades and do not appear in eighth grade. Coupons show frequencies of less than one-half per cent in kindergarten and second grades, while playing cards appear first in second grade, decrease in fourth, and disappear in eighth grade. Match covers, autographs, and stamps occur first in fourth grade and increase in eighth grade.

Passive Participation. Observation of Table 3 shows for passive participation a progressive increase from kindergarten through eighth grade. The test of chi-square reveals differences at the one per cent level of significance between the grade groups. As revealed in Table 4, movies and radio show this progressive increase consistently through the grades, while reading, appearing first in the second grade, increases through fourth and eighth grades. Movies shift from a rank order of 18.5 in

kindergarten to first place in eighth grade, and radio moves up from ninth place in kindergarten to second place in eighth grade. Reading reaches a rank of 4.5 in eighth grade (Table 4A).

The Social Interaction Tables 5, 5A, 5B, 5C, show that participation varied with the separate activities as well as in total interaction. With the exception of collecting, kindergarten girls consistently showed more participation alone than did any of the other grades. The second grade showed more interaction with parents (passive participation), and the second and fourth grades showed more with siblings and with a peer of the same sex than did either kindergarten or eighth grade. The fourth grade showed less activity with a peer of the opposite sex, but wider participation with heterosexual groups than did any of the other grades. Interaction with own sex groups increased progressively from kindergarten through eighth grade. All grades participated with heterogeneous groups but with no striking differences.

GRADE COMPARISONS OF THE PLAY BEHAVIOR OF NEGRO BOYS AND GIRLS

The comparisons made for Negro boys and girls between the different grade groups are based upon the material reported in Tables 6, 6A, 7 and 7A, and 8, 8A, and 8B.

TABLE 6

AGE-GRADE COMPARISONS OF THE PLAY BEHAVIOR OF NEGRO BOYS

NEGRO BOYS	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
Second Grade	58 45.5	112 77.2	78 124.4	61 48.6	14 18.7	0 1.8	84 87.4	116 119.5	523
Fourth Grade	52 39.1	83 66.4	107 107.0	64 41.8	15 16.1	0 1.5	68 75.2	61 102.8	450
Eighth Grade	19 44.4	24 75.4	168 121.6	13 47.5	24 18.3	5 1.7	96 85.4	162 116.7	511
	129	219	353	138	53	5	248	339	1484

Chi-Square = 198.21

Chi-Square values at .05 = 23.685
" " " " .01 = 29.141
(d.f. = 14)

TABLE 6A

AGE-GRADE COMPARISONS OF THE PLAY BEHAVIOR OF NEGRO GIRLS

NEGRO GIRLS	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
Second Grade	84	211	36	2	18	1	40	112	504
	76.5	124.3	77.2	1.3	27.4	27.1	36.4	133.7	
Fourth Grade	111	153	60	2	32	6	39	95	498
	75.6	122.8	76.3	1.3	27.1	26.7	36.0	132.1	
Eighth Grade	34	8	135	0	32	74	30	193	506
	76.8	124.8	77.5	1.3	27.5	27.2	36.6	134.2	
	229	372	231	4	82	81	109	400	1508

Chi-Square = 155.12

Chi-Square values at .05 = 23.685
" " " " .01 = 29.141
(d.f. = 14)

TABLE 7

A COMPARISON OF THE PERCENTAGE FREQUENCIES OF THE PLAY BEHAVIOR OF NEGRO BOYS AND GIRLS IN THREE GRADES

Play Patterns	Second Grade		Fourth Grade		Eighth Grade	
	Boys	Girls	Boys	Girls	Boys	Girls
Dramatic Play						
Domestic Roles	0.38	3.17	--	4.62	--	--
Selling-Buying	--	--	--	--	--	--
Transportation	1.91	2.18	--	--	--	--
Community Roles	1.91	8.73	--	9.24	--	--
Killing-Dying	4.21	0.20	6.67	--	--	--
Legendary	--	--	0.44	--	--	--
Animal Play	--	--	--	--	--	--
Planned Play	2.68	2.38	4.44	8.23	3.72	6.72
Ritual Games						
Singing Games	2.49	7.34	--	3.63	--	--
Jumping-skipping	1.72	11.31	--	6.83	--	0.40
Hiding-Seeking	0.57	1.98	3.78	2.81	0.39	--
Chasing-Fleeing	11.09	9.13	8.67	7.83	3.33	0.99
Catching-Throwing	5.16	7.74	5.78	6.02	0.98	0.20
Seesawing-Swinging	0.38	4.37	0.22	3.61	--	--
Team Games and Sports						
Baseball	11.09	2.18	16.44	5.02	15.66	2.96
Football	--	--	4.00	--	7.24	--
Basketball	0.19	--	1.78	1.41	6.07	10.87
Volleyball	3.63	4.96	1.56	5.42	3.91	12.85
Tennis	--	--	--	0.20	--	--
Gymnastics	--	--	--	--	--	--
Individual Competitive Games						
Chicken Fights	0.38	--	0.22	--	--	--
Horseshoes	1.34	--	1.11	--	0.98	--
Spinning tops	1.53	--	1.78	--	0.59	--
Marbles	8.41	0.40	11.11	0.40	0.98	--
Darts	--	--	--	--	--	--
Games of Intellect						
Puzzles	--	0.40	1.11	0.20	--	--
Card Games	0.76	0.60	--	--	0.98	2.77
Games of Chance	1.91	2.58	2.22	6.22	3.72	3.56
Social Games						
Folk Dancing	--	0.20	--	1.20	--	--
Ballroom Dancing	--	--	--	--	0.98	8.89
Kissing Games	--	--	--	--	--	--
Car Riding	--	--	--	--	--	--
Conversation	--	--	--	--	--	5.73

TABLE 7 (Cont.)

A COMPARISON OF THE PERCENTAGE FREQUENCIES OF THE PLAY BEHAVIOR OF NEGRO BOYS AND GIRLS IN THREE GRADES

Play Patterns	Second Grade		Fourth Grade		Eighth Grade	
	Boys	Girls	Boys	Girls	Boys	Girls
Collecting						
Match Covers	--	--	--	--	--	--
Playing Cards	--	--	--	--	--	--
Coupons	0.57	--	--	--	0.39	0.40
Funny Books	14.91	7.94	13.33	5.02	16.83	2.37
Marbles	--	--	--	0.40	--	--
Autographs	--	--	--	--	0.59	2.17
Stamps	--	--	1.33	0.20	0.98	0.99
Boxtops	0.57	--	0.44	2.21	--	--
Passive Participation						
Radio	11.85	14.48	7.33	9.24	15.07	16.80
Movies	10.33	7.74	6.22	9.84	14.68	13.24
Reading	--	--	--	--	1.96	7.71

TABLE 7A

A COMPARISON OF THE RANK ORDER OF THE
PLAY BEHAVIOR OF NEGRO BOYS AND GIRLS IN THREE GRADES

Play Patterns	Second Grade		Fourth Grade		Eighth Grade	
	Boys	Girls	Boys	Girls	Boys	Girls
Dramatic Play						
Domestic Roles	23	11	--	12	--	--
Selling-Buying	--	--	--	--	--	--
Transportation	13	14.5	--	--	--	--
Community Roles	13	4	--	2.5	--	--
Killing-Dying	8	20.5	6	--	--	--
Legendary	--	--	19.5	--	--	--
Animal Play	--	--	--	--	--	--
Planned Play	10	13	9	4	8.5	7
Ritual Games						
Singing Games	11	8	--	13.5	--	--
Jumping-Skipping	15	2	--	6	--	16.5
Hiding-Seeking	20	16	11	15	20.5	--
Chasing-Fleeing	3.5	3	4	5	10	14.5
Catching-Throwing	7	6.5	8	8	14.5	18
Seesawing-Swinging	23	10	21.5	13.5	--	--
Team Games and Sports						
Baseball	3.5	14.5	1	10.5	2	10
Football	--	--	10	--	5	--
Basketball	25	--	13.5	17	6	4
Volleyball	9	9	15	9	7	3
Tennis	--	--	--	22	--	--
Gymnastics	--	--	--	--	--	--
Individual Competitive Games						
Chicken Fights	23	--	21.5	--	--	--
Horseshoes	17	--	17.5	--	14.5	--
Spinning Tops	16	--	13.5	--	18.5	--
Marbles	6	18.5	3	19.5	14.5	--
Darts	--	--	--	--	--	--
Games of Intellect						
Puzzles	--	18.5	17.5	22	--	--
Card Games	18	17	--	--	14.5	11
Games of Chance	13	12	12	7	8.5	9
Social Games						
Folk Dancing	--	20.5	--	18	--	--
Ballroom Dancing	--	--	--	--	14.5	5
Kissing Games	--	--	--	--	--	--
Car Riding	--	--	--	--	--	--
Conversation	--	--	--	--	--	8

TABLE 7A (Cont.)

A COMPARISON OF THE RANK ORDER OF THE
PLAY BEHAVIOR OF NEGRO BOYS AND GIRLS IN THREE GRADES

Play Patterns	Second Grade		Fourth Grade		Eighth Grade	
	Boys	Girls	Boys	Girls	Boys	Girls
Collecting						
Match Covers	--	--	--	--	--	--
Playing Cards	--	--	--	--	--	--
Coupons	20	--	--	--	13	16.5
Funny Books	1	5	2	10.5	1	12
Marbles	--	--	--	19.5	--	--
Autographs	--	--	--	--	18.5	13
Stamps	--	--	16	22	14.5	14.5
Boxtops	2 0	--	19.5	16	--	--
Passive Participation						
Radio	2	1	5	2.5	3	1
Movies	5	6.5	7	1	4	2
Reading	--	--	--	--	11	6

TABLE 8

SOCIAL INTERACTION OF SECOND GRADE
NEGRO BOYS AND GIRLS IN TERMS OF PERCENTAGE FREQUENCIES

	X Alone	0 Sib	1 YC	2 OC	3 PSS	4 POS	5 SG	6 HxG	7 HgG	8 Prnt	9 Tchr*
Second Grade Negro Boys											
Dramatic Play	10.34				5.17		31.03		53.45		
Ritual Games					0.89		42.86	0.89	55.36		
Team Sports							75.64		24.36		
Individual Competitive Games					3.28		90.16		1.64	4.92	
Games of Intellect	14.29				21.43	14.29	28.57	21.43			
Social Games											
Collecting	98.81									1.19	
Passive Participation	45.69	50.00			4.31						
Second Grade Negro Girls											
Dramatic Play			1.19		1.19		28.57	1.19	67.86		
Ritual Games					0.47		54.98	3.32	41.23		
Team Sports							55.56	16.67	27.78		
Individual Competitive Games								100.00			
Games of Intellect	5.56				22.22		72.22				
Social Games							100.00				
Collecting	100.00										
Passive Participation	20.54	45.54								33.93	

*The symbols in the sequence 0 to 9 are used to indicate the following individuals or groups: Sib, sibling; YC, younger child; OC, older child; PSS, peer of the same sex; POS, peer of the opposite sex; SG, own sex group; HxG, heterosexual group; HgG, heterogeneous group; Prnt, parent; Tchr, teacher.

TABLE 8A

SOCIAL INTERACTION OF FOURTH GRADE
NEGRO BOYS AND GIRLS IN TERMS OF PERCENTAGE FREQUENCIES

	X Alone	0 Sib	1 YC	2 OC	3 PSS	4 POS	5 SG	6 HxG	7 HgG	8 Prnt	9 Tchr*
Fourth Grade Negro Boys											
Dramatic Play					9.62		51.92		38.46		
Ritual Games							42.17	9.64	48.19		
Team Sports							93.46	2.80	3.74		
Individual Competitive Games					35.94		64.06				
Games of Intellect					53.33		33.33		13.33		
Social Games											
Collecting	100.00										
Passive Participation	21.31	63.93			9.84					4.92	
Fourth Grade Negro Girls											
Dramatic Play					10.81		37.84	1.80	49.55		
Ritual Games					9.15		64.71	5.88	20.26		
Team Sports							46.67	3.33	50.00		
Individual Competitive Games								100.00			
Games of Intellect					56.25		34.38		9.38		
Social Games									100.00		
Collecting	97.44								2.56		
Passive Participation	20.00	37.89			4.21					37.89	

*The symbols in the sequence 0 to 9 are used to indicate the following individuals or groups: Sib, sibling; YC, younger child; OC, older child; PSS, peer of the same sex; POS, peer of the opposite sex; SG, own sex group; HxG, heterosexual group; HgG, heterogeneous group; Prnt, parent; Tchr, teacher.

TABLE 8B

SOCIAL INTERACTION OF EIGHTH GRADE
NEGRO BOYS AND GIRLS IN TERMS OF PERCENTAGE FREQUENCIES

	X Alone	0 Sib	1 YC	2 OC	3 PSS	4 POS	5 SG	6 HxG	7 HgG	8 Prnt	9 Tchr*
Eighth Grade Negro Boys											
Dramatic Play									100.00		
Ritual Games					12.50	4.17	12.50	50.00	20.83		
Team Sports							95.24		4.76		
Individual Competitive Games					30.77		69.23				
Games of Intellect					58.33	8.33	29.17		4.17		
Social Games									100.00		
Collecting	100.00										
Passive Participation	58.02	19.75		1.23	17.28	1.23			2.47		
Eighth Grade Negro Girls											
Dramatic Play									100.00		
Ritual Games			12.50				87.50				
Team Sports							91.11		8.89		
Individual Competitive Games											
Games of Intellect					31.25	9.38	59.38				
Social Games							2.70		97.30		
Collecting	100.00										
Passive Participation	45.08	21.24			23.83	2.07			2.59	5.18	

*The symbols in the sequence 0 to 9 are used to indicate the following individuals or groups: Sib, sibling; YC, younger child; OC, older child; PSS, peer of the same sex; POS, peer of the opposite sex; SG, own sex group; HxG, heterosexual group; HgG, heterogeneous group; Prnt, parent; Tchr, teacher.

GRADE COMPARISONS OF NEGRO BOYS

Dramatic Play. A comparison of the dramatic play of Negro boys between second and fourth, and fourth and eighth grades reveals differences at the one per cent level of significance in each case. Table 6 shows that there is a progressive decrease in dramatic roles from second grade through the eighth, with the difference becoming greater between fourth and eighth grades. As shown in Table 7, domestic roles, transportation, and community roles appear only in the second grade, and legendary play appears only in fourth grade, all of these in small frequencies. Killing-dying increases from second to fourth grade and disappears in eighth, while planned play increases from second to fourth grade and decreases in eighth grade. Selling-buying and animal play do not appear for Negro boys.

Ritual Games. Table 6 shows that the developmental sequence for ritual games is that of a progressive decrease from second through the eighth grade. The application of chi-square shows the grade differences to be significant at the one per cent level. Chasing-fleeing, the most popular item, follows the same pattern of progressive decrease as that of the total category, as shown by the rank order of 3.5 for second grade, 4 for fourth grade, and 10 for eighth grade (Table 7A). Although catching-throwing shows a slight increase in percentage frequency (approximately one-half per cent) in the fourth grade, the rank order of this item, 7 in second grade, 8 in fourth, and 14.5 in eighth, shows essentially the same pattern of development. Hiding-seeking shows an increase in participation from second to fourth grade and decreases again in the eighth grade. Singing games and jumping-skipping appear in small frequencies in the second grade, while seesawing-swinging appears in second and fourth grades in frequencies of less than one-half per cent, as indicated in Table 7.

Team Sports. In contrast to dramatic play and ritual games the direction of change in participation in team sports is that of a progressive increase from second through the eighth grade, with differences at the one per cent level of significance between the grade groups, as tested by the technique of chi-square. Baseball, the most important item in this category, increases from second to fourth grade and shows a slight decrease in the eighth grade. In rank order this item is 3.5 in second grade, in first place in fourth grade and second in eighth grade. Football appears in tenth place in fourth grade and increases to number 5 in eighth grade. Basketball appears in second grade, and shows a progressive increase through fourth and eighth grades. Volleyball decreases from second to fourth grade and increases again in the eighth grade. Tennis and gymnastics do not occur in either grade group (Tables 7 and 7A).

Individual Competitive Games. Table 6 indicates that participation in individual competitive games increases from second to fourth grade and decreases from fourth to eighth, with differences significant at the one per cent level in each case. Observation of Table 7 reveals that marbles, the most important activity, and spinning tops show the same pattern of increase in fourth and decrease in eighth grade. Horseshoes appear in small frequency in second grade and decrease progressively through fourth and eighth grades. Chicken fights appear in second and fourth grades in frequencies of less than one-half per cent, while darts do not appear for either group.

Games of Intellect. Games of intellect show a slight increase in frequency from second through fourth and eighth grades, although the test of chi-square indicates that none of the differences are significant (Table 6). It is shown in Table 7 that games of chance, the most important item in this category, follow this same pattern of increase through the

grades. Puzzles appear only in fourth grade, and card games only in second and eighth grades. All of these frequencies are small.

Social Games. Table 6 indicates that social games do not occur in second and fourth grades for Negro boys, but that they occur in eighth grade in small frequency. Through the application of chi-square, the difference between fourth and eighth grades in these activities was found to be significant at the five per cent level. This is accounted for by the eighth grade boys' participation in ballroom dancing, the only item to appear in this category, as Table 7 indicates.

Collecting. Table 6 shows for collecting activities for Negro boys a slight decrease from second to fourth grade and an increase from fourth to eighth grade, but none of the differences are significant. Funny books, which show the same pattern as that of the whole category according to the information presented in Table 7, account for the major proportion of activity in this group. The other items to appear show no consistency of pattern, and have percentage frequencies ranging from less than one-half to approximately one per cent. In rank order, funny books are in first place for second grade, second place for fourth grade, and in first place for eighth grade (Table 7A).

Passive Participation. As indicated in Table 6, passive participation shows a marked decrease from second to fourth grade, and an increase from fourth to eighth grade, with differences in each case showing a one per cent level of significance as determined by the use of chi-square. Radio and movies, popular in all grades, show this same developmental sequence. This is shown by the rank order (Table 7A) of radio, which is in second place in second grade, fifth place in fourth grade, and third in eighth grade. Movies are in fifth place for second grade, are number 7 for fourth grade and 4 for eighth grade. Reading appears in small frequency only in the eighth grade.

The information presented in Table 8, 8A and 8B show that in the behavioral situation, the second grade engaged in dramatic play, games of intellect, collecting and passive participation alone, while the fourth and eighth grades participated alone only in collecting and passive participation. The fourth and eighth grades showed much more interaction with a peer of the same sex than did second grade, and the eighth grade showed more with heterogeneous groups and with heterosexual groups than either second or fourth grades. All of the grades showed similar interaction with own sex groups, with a little less in the eighth grade than in second and fourth. The second and eighth grades showed a small proportion of participation with a peer of the opposite sex. Interaction with siblings was confined to passive participation, and with this group the fourth grade showed more interaction than did second, and the eighth grade showed least. The second and fourth grades showed a small proportion of interaction with parents, but none of this occurred in the eighth grade.

GRADE COMPARISONS OF NEGRO GIRLS

Dramatic Play. Table 6A shows that dramatic play for Negro girls increases from second to fourth grade and decreases from fourth to eighth grade, with differences in each case significant at the one per cent level, determined through the use of chi-square. In terms of the separate items, Table 7 indicates that planned play follows this sequence, and is the only activity in this category which does not disappear in the eighth grade. Domestic roles and community roles increase from second to fourth grade but do not appear in eighth. Transportation and killing-dying appear in small frequencies only in second grade, and legendary and animal play fail to appear at all.

Ritual Games. The data presented in Table 6A reveal for ritual games a decrease from second through the eighth grade, with differences between the grades significant at the one per cent level. Table 7 shows that chasing-fleeing, jumping-skipping, and catching-throwing follow this pattern of progressive decrease. Singing games and seesawing-swinging decrease in fourth and disappear entirely in the eighth grade. Hiding-seeking appears in second and fourth grades in very small frequencies.

The progressive decrease is apparent in the rank order shifts of some of the items, Table 7A. Jumping-skipping, with a rank order of 2 in second grade, is number 6 in fourth, and 16.5 in eighth grade. Chasing-fleeing is in third place for second grade, fifth for fourth, and falls to 14.5 in eighth grade.

Team Sports. Table 6A indicates that team sports increase progressively from second through eighth grade for Negro girls, with differences at the one per cent level of significance between the grades compared. Of the separate items, volleyball is the activity which follows this pattern of progressive increase from second to eighth grade. Basketball

appears first in the fourth grade and shows a marked increase in eighth grade, and baseball appears in small frequency in second grade, increases in fourth, but decreases again in eighth grade. Tennis appears in small frequency only in fourth grade (Table 7). Volleyball has a rank order of 9 for second and fourth grades, and reaches third place in the eighth grade, while basketball with a rank order of 17 in fourth grade reaches fourth place in eighth grade, as shown in Table 7A.

Individual Competitive Games. Table 6A shows that individual competitive games occur with an actual frequency of two in second and fourth grades and do not appear in eighth grade. The test of chi-square revealed no significant difference between any of the grade groups. The only item to appear in this category is marbles, which show a percentage frequency of less than one-half in both second and fourth grades (Table 7).

Games of Intellect. The data reported in Table 6A indicate that participation of Negro girls in games of intellect show differences between second and fourth grades which are significant at the five per cent level, but no significant difference between fourth and eighth grades. Table 7 shows that games of chance, the most important item, increases from second to fourth grade, but decreases in eighth, while card games appear in very small frequency in second grade, disappear in fourth, but occur in eighth grade with increased frequency. Puzzles appear in second and fourth grades with frequencies of less than one-half per cent.

Social Games. Table 6A shows for social games for Negro girls a progressive increase from second through fourth and eighth grades, with significant differences at the one per cent level between the grades in each case. As Table 7 further reveals, ballroom dancing and conversation appear only in the eighth grade. Folk dancing appears in second grade, increases in fourth and disappears in eighth grade.

Collecting. As indicated by Table 6A, collecting shows a slight decrease from second through fourth and eighth grades, but none of the differences are significant. Table 7 shows that funny books, the most important single item, follow this pattern of progressive decrease from second through eighth grade. Marbles and boxtops appear only in fourth grade, coupons and autographs only in eighth, and stamps appear in fourth and eighth grades. With the exception of funny books the frequencies of all the other items range from less than one-half to approximately two per cent.

Passive Participation. Table 6A reveals that in passive participation the developmental sequence for Negro girls is that of a decrease from second to fourth to eighth grade, with differences at the one per cent level of significance between the grade groups. As shown by the data in Table 7, radio has this same pattern of participation, while movies show an increase in frequency in fourth and in eighth grades. In rank order radio is in first place for second grade, is number 2.5 in fourth grade, and again reaches first place in eighth grade. Movies have a rank order of 6.5 in second grade, are in first place for fourth grade, and although the percentage frequency increases from fourth to eighth grade, they are in second place in eighth grade. Reading appears only in the eighth grade (Table 7A).

In the behavioral environment indicated in Tables 8, 8A, and 8B, the proportion of activity which occurred alone was very similar for all grades, and with the exception of games of intellect for second grade, was confined to collecting and passive participation. All of the grades showed wide participation with own sex groups, with the proportion gradually increasing from second through eighth grade. Likewise, all groups showed wide participation with heterogeneous groups, with second grade showing less of this interaction than the other groups. The second grade interacted

to a greater extent than did fourth grade with heterosexual groups, while none of this interaction occurred in the eighth grade. Interaction with a peer of the same sex was greatest at the fourth grade level and least at the second grade level, but no interaction occurred in these grades with a peer of the opposite sex. Second and fourth grade children showed more participation than did eighth grade with siblings and parents, all of which was confined to passive participation

GRADE COMPARISONS OF THE PLAY BEHAVIOR OF BOYS AND GIRLS (including white and Negro)

Changes observed in play behavior of boys and girls from one grade level to another are reported in Tables 9 and 9A, 10 and 10A, and 11, 11A, and 11B. Comparisons are based upon the information contained in these tables.

TABLE 9

AGE-GRADE COMPARISONS OF THE PLAY BEHAVIOR OF BOYS
(White and Negro)

TOTAL BOYS	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
Second Grade	240 145.4	372 194.6	91 270.8	89 73.6	42 44.7	5 32.3	152 168.4	219 288.8	1210
Fourth Grade	145 136.8	168 183.0	287 246.7	111 69.2	39 42.0	24 30.4	135 158.4	229 271.6	1138
Eighth Grade	38 140.8	26 188.6	385 254.0	14 71.3	49 43.3	65 31.3	203 163.1	392 279.7	1172
	423	566	763	214	130	94	490	840	3520

Chi-Square = 874.38

Chi-Square values at .05 = 23.685
" " " " .01 = 29.141
(d.f. = 14)

TABLE 9A

AGE-GRADE COMPARISONS OF THE PLAY BEHAVIOR OF GIRLS
(White and Negro)

TOTAL GIRLS	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
Second Grade	268	505	36	3	44	10	89	235	1190
	182.3	282.9	155.5	3.1	60.9	70.6	103.7	330.9	
Fourth Grade	196	295	121	6	78	37	114	240	1087
	166.5	258.4	142.1	2.9	55.6	64.5	94.7	302.3	
Eighth Grade	60	13	290	0	53	156	95	476	1143
	175.1	271.7	149.4	3.0	58.5	67.8	99.6	317.8	
	524	813	447	9	175	203	298	951	3420

Chi-Square = 1097.10

Chi-Square Values at .05 = 23.685
" " " " .01 = 29.141
(d.f. = 14)

TABLE 10

A COMPARISON OF THE PERCENTAGE FREQUENCIES OF THE PLAY BEHAVIOR OF BOYS AND GIRLS IN THREE GRADES

Play Patterns	Second Grade		Fourth Grade		Eighth Grade	
	Boys	Girls	Boys	Girls	Boys	Girls
Dramatic Play						
Domestic Roles	0.66	6.72	--	4.88	--	--
Selling-Buying	0.50	0.92	--	--	--	--
Transportation	4.30	1.18	0.18	--	--	--
Community Roles	1.24	6.72	0.09	5.24	--	--
Killing-Dying	6.69	0.59	7.21	0.28	--	--
Legendary	0.17	0.08	0.18	--	--	--
Animal Play	0.66	0.08	--	0.09	--	--
Planned Play	5.62	6.22	5.10	7.54	3.24	5.25
Ritual Games						
Singing Games	4.79	9.16	0.53	1.84	--	--
Jumping-Skipping	3.22	10.50	0.70	7.18	--	0.09
Hiding-Seeking	0.99	1.76	2.37	2.48	0.17	--
Chasing-Fleeing	11.16	9.33	7.12	5.43	1.45	0.44
Catching-Throwing	8.26	5.80	3.60	4.78	0.60	0.52
Seesawing-Swinging	2.31	5.88	0.44	5.43	--	--
Team Sports						
Baseball	4.88	0.92	14.41	3.22	14.08	3.76
Football	0.99	--	3.95	--	5.38	--
Basketball	0.08	--	2.02	0.83	8.36	9.80
Volleyball	1.57	2.10	2.72	6.26	3.24	11.02
Tennis	--	--	--	0.18	0.43	0.79
Gymnastics	--	--	2.11	0.64	1.37	--
Individual Competitive Games						
Chicken Fights	0.17	--	0.09	--	--	--
Horseshoes	0.58	--	0.62	--	0.43	--
Spinning Tops	1.07	--	0.97	--	0.26	--
Marbles	5.54	0.25	7.91	0.46	0.51	--
Darts	--	--	0.18	0.09	--	--
Games of Intellect						
Puzzles	1.24	0.84	1.14	0.92	0.17	0.15
Card Games	0.33	0.50	0.26	1.93	0.63	2.62
Games of Chance	1.90	2.35	2.02	4.32	3.41	2.01
Social Games						
Folk Dancing	0.41	0.84	2.11	3.40	0.09	0.35
Ballroom Dancing	--	--	--	--	2.65	8.05
Kissing Games	--	--	--	--	0.94	0.87
Car Riding	--	--	--	--	1.19	0.70
Conversation	--	--	--	--	0.68	3.67

TABLE 10 (Cont.)
A COMPARISON OF THE PERCENTAGE FREQUENCIES OF THE PLAY BEHAVIOR OF BOYS AND GIRLS IN THREE GRADES

Play Patterns	Second Grade		Fourth Grade		Eighth Grade	
	Boys	Girls	Boys	Girls	Boys	Girls
Collecting						
Match Covers	--	--	0.35	0.46	--	0.61
Playing Cards	0.08	1.18	0.35	1.01	--	--
Coupons	0.25	0.08	0.09	--	0.60	0.17
Funny Books	11.16	6.13	8.96	6.90	14.59	3.59
Marbles	--	--	0.18	0.18	0.26	--
Autographs	--	--	--	0.55	0.26	3.24
Stamps	--	--	1.14	0.28	1.62	0.70
Boxtops	1.07	0.08	0.79	1.10	--	--
Passive Participation						
Radio	10.08	11.18	8.08	9.94	14.93	17.06
Movies	7.93	8.15	11.16	10.86	16.04	16.19
Reading	0.08	0.42	0.88	1.29	2.47	8.40

TABLE 10A

A COMPARISON OF THE RANK ORDER OF THE
PLAY BEHAVIOR OF BOYS AND GIRLS IN THREE GRADES

Play Patterns	Second Grade		Fourth Grade		Eighth Grade	
	Boys	Girls	Boys	Girls	Boys	Girls
Dramatic Play						
Domestic Roles	22.5	6.5	--	10	--	--
Selling-Buying	25	17.5	--	--	--	--
Transportation	11	15.5	30.5	--	--	--
Community Roles	16.5	6.5	34	9	--	--
Killing-Dying	6	21	6	27.5	--	--
Legendary	29.5	26.5	30.5	--	--	--
Animal Play	22.5	26.5	--	31.5	--	--
Planned Play	7	8	8	3	8.5	7
Ritual Games						
Singing Games	10	4	24	17	--	--
Jumping-Skipping	12	2	22	4	--	22.5
Hiding-Seeking	20.5	14	12	15	27.5	--
Chasing-Fleeing	1.5	3	7	7.5	13	20
Catching-Throwing	4	11	10	11	19	19
Seesawing-Swinging	13	10	25	7.5	--	--
Team Sports						
Baseball	9	17.5	1	14	4	8
Football	20.5	--	9	--	6	--
Basketball	32	--	15.5	22	5	4
Volleyball	15	13	11	6	8.5	3
Tennis	--	--	--	29.5	22.5	15
Gymnastics	--	--	13.5	23	14	--
Individual Competitive Games						
Chicken Fights	29.5	--	34	--	--	--
Horseshoes	24	--	23	--	22.5	--
Spinning Tops	18.5	--	19	--	25	--
Marbles	8	24	5	25.5	21	--
Darts	--	--	30.5	31.5	--	--
Games of Intellect						
Puzzles	16.5	19.5	17.5	21	27.5	--
Card Games	27	22	28	16	19	12
Games of Chance	14	12	15.5	12	7	13
Social Games						
Folk Dancing	26	19.5	13.5	13	29	21
Ballroom Dancing	--	--	--	--	10	6
Kissing Games	--	--	--	--	16	14
Car Riding	--	--	--	--	15	16.5
Conversation	--	--	--	--	17	9

TABLE 10A (Cont.)

A COMPARISON OF THE RANK ORDER OF THE
PLAY BEHAVIOR OF BOYS AND GIRLS IN THREE GRADES

Play Patterns	Second Grade		Fourth Grade		Eighth Grade	
	Boys	Girls	Boys	Girls	Boys	Girls
Collecting						
Match Covers	--	--	26.5	25.5	--	18
Playing Cards	32	15.5	26.5	20	--	--
Coupons	28	26.5	34	--	19	22.5
Funny Books	1.5	9	3	5	3	10
Marbles	--	--	30.5	29.5	25	--
Autographs	--	--	--	24	25	11
Stamps	--	--	17.5	27.5	12	16.5
Boxtops	18.5	26.5	21	19	--	--
Passive Participation						
Radio	3	1	4	2	2	1
Movies	5	5	2	1	1	2
Reading	32	23	20	18	11	5

TABLE 11

SOCIAL INTERACTION OF SECOND GRADE
BOYS AND GIRLS IN TERMS OF PERCENTAGE FREQUENCIES

	X Alone	0 Sib	1 YC	2 OC	3 PSS	4 POS	5 SG	6 HxG	7 HgG	8 Prnt	9 Tchr*
Second Grade Boys											
Dramatic Play	13.75				12.50	0.83	28.33	3.75	40.83		
Ritual Games	4.84		0.27		5.11	1.88	29.57	1.61	56.72		
Team Sports					4.40		74.73		20.88		
Individual Competitive Games					14.61		80.90		1.12	3.37	
Games of Intellect	26.19				52.38	4.76	9.52	7.14			
Social Games									100.00		
Collecting	87.50				11.84					0.66	
Passive Participation	47.49	38.36			6.85					7.31	
Second Grade Girls											
Dramatic Play	5.60		1.12		6.34	3.73	24.25	2.24	56.72		
Ritual Games	2.18		0.40		9.50	0.79	34.26	2.97	49.90		
Team Sports							55.56	16.67	27.76		
Individual Competitive Games								100.00			
Games of Intellect	9.09				47.73	11.36	29.55		2.27		
Social Games									100.00		
Collecting	85.39				14.61						
Passive Participation	30.21	37.45			2.55					29.79	

*The symbols in the sequence 0 to 9 are used to indicate the following individuals or groups: Sib, sibling; YC, younger child; OC, older child; PSS, peer of the same sex; POS, peer of the opposite sex; SG, own sex group; HxG, heterosexual group; HgG, heterogeneous group; Prnt, parent; Tchr, teacher.

TABLE 11A

SOCIAL INTERACTION OF FOURTH GRADE
BOYS AND GIRLS IN TERMS OF PERCENTAGE FREQUENCIES

	X Alone	0 Sib	1 YC	2 OC	3 PSS	4 POS	5 SG	6 HxG	7 HgG	8 Prnt	9 Tchr*
Fourth Grade Boys											
Dramatic Play	2.07				8.97		48.28		40.69		
Ritual Games	1.79				5.36	2.38	29.76	12.50	48.21		
Team Sports	0.70				3.14		89.90	1.74	4.53		
Individual Competitive Games					23.42		76.58				
Games of Intellect	12.82				38.46	2.56	23.08		23.08		
Social Games					16.67	4.17			79.17		
Collecting	100.00										
Passive Participation	51.97	29.26			13.97					4.80	
Fourth Grade Girls											
Dramatic Play	2.04				14.29		31.12	2.55	50.00		
Ritual Games	2.37				17.63		53.56	4.75	21.69		
Team Sports	0.83				4.13		55.37	2.48	37.19		
Individual Competitive Games								100.00			
Games of Intellect	7.69				47.44	6.41	33.33	1.28	3.85		
Social Games							5.41	78.38	16.22		
Collecting	93.86				3.51				2.63		
Passive Participation	37.08	38.33			8.75					15.83	

*The symbols in the sequence 0 to 9 are used to indicate the following individuals or groups: Sib, sibling; YC, younger child; OC, older child; PSS, peer of the same sex; POS, peer of the opposite sex; SG, own sex group; HxG, heterosexual group; HgG, heterogeneous group; Prnt, parent; Tchr, teacher.

TABLE 11B

SOCIAL INTERACTION OF EIGHTH GRADE
BOYS AND GIRLS IN TERMS OF PERCENTAGE FREQUENCIES

	X Alone	0 Sib	1 YC	2 OC	3 PSS	4 POS	5 SG	6 HxG	7 HgG	8 Prnt	9 Tchr*
Eighth Grade Boys											
Dramatic Play									100.00		
Ritual Games					19.23	3.85	11.54	46.15	19.23		
Team Sports					1.30		96.62		2.08		
Individual Competitive Games					28.57		71.43				
Games of Intellect					75.51	4.08	18.37		2.04		
Social Games							10.77	1.54	87.69		
Collecting	100.00										
Passive Participation	47.96	9.69		0.51	24.74	7.65	4.85		4.59		
Eighth Grade Girls											
Dramatic Play									100.00		
Ritual Games			7.69				92.31				
Team Sports					0.69		95.17		4.14		
Individual Competitive Games											
Games of Intellect					28.30	11.32	56.60		3.77		
Social Games							5.77		94.23		
Collecting	100.00										
Passive Participation	50.21	12.18			20.59	6.72	3.15		3.57	3.57	

*The symbols in the sequence 0 to 9 are used to indicate the following individuals or groups: Sib, sibling; YC, younger child; OC, older child; PSS, peer of the same sex; POS, peer of the opposite sex; SG, own sex group; HxG, heterosexual group; HgG, heterogeneous group; Prnt, parent, Tchr, teacher.

GRADE COMPARISONS OF BOYS (including white and Negro)

Dramatic Play. A comparison of the dramatic play of boys between second and fourth, and fourth and eighth grades reveals differences at the one per cent level of significance in each case. Table 9 shows that there is a progressive decrease in dramatic play from second through eighth grade. Planned play shows this progressive decrease from second through eighth grade, while transportation and community roles show a marked decrease in fourth grade and disappear in eighth. Killing-dying increases slightly in fourth but disappears in eighth grade. Legendary play shows small and almost equal frequencies in second and fourth grades and does not appear in eighth. Domestic roles, selling-buying and animal play appear only in the second grade, as shown in Table 10.

Ritual Games. The data presented in Table 9 reveals that ritual games decrease progressively for boys from second through fourth and eighth grades, with differences at the one per cent level of significance between the grade groups. Table 10 shows that chasing-fleeing and catching-throwing, two of the most important items, follow this sequence of progressive decrease through the grades, while singing games, jumping-skipping, and seesawing-swinging decrease from second to fourth grade and disappear in eighth. Hiding-seeking shows a slight increase in fourth and declines in eighth grade. Chasing-fleeing shows a rank of 1.5 in second grade, 7 in fourth and 13 in eighth. Catching-throwing shifts from fourth place in second grade, to tenth place in fourth grade, and to number 19 in eighth grade (Table 10A).

Team Sports. Table 9 shows for team sports a progressive increase for boys from second through fourth and eighth grades, with significant differences at the one per cent level between the grade groups. Of the separate items, football, basketball and volleyball show this pattern of

progressive increase through the grades (Table 10). Baseball, an important item, shows an increase in fourth grade but decreases slightly in eighth grade. Gymnastics appear in fourth grade and decrease in eighth, and tennis appears only in the eighth grade. Football is number 20.5 in second grade, 9 in fourth, and reaches sixth place in eighth grade. Basketball, number 32 in second grade, is 15.5 in fourth grade, and reaches fifth place in eighth grade. Baseball appears in ninth place in second grade, first place in fourth grade, but falls to fourth place in eighth grade, as Table 10A shows.

Individual Competitive Games. Table 9 indicates that individual competitive games increase in participation from second to fourth grade and decrease from fourth to eighth grade, with differences at the one per cent level of significance in each case. Marbles, the most important item, and horseshoes show this pattern of increase in fourth and decrease in eighth grade. Spinning tops show a decrease in fourth and eighth, while chicken fights decrease from second to fourth grade and disappear in eighth. Darts appear only in fourth grade (Table 10).

Games of Intellect. Differences between second and fourth, and between fourth and eighth grade boys in games of intellect show no significance when tested by the use of chi-square, as shown by the data in Table 9. Table 10 indicates that, of the separate items, games of chance increase progressively through the grades, and puzzles decrease progressively through the grades. Card games appear in each of the grades in frequencies of less than one per cent.

Social Games. Participation in social games shows a progressive increase for boys through fourth and eighth grades with differences between the grades significant at the one per cent level, according to information shown in Table 9. Folk dancing appears in second grade, increases in fourth, and declines in eighth grade. All of the other items in this category (Table 10) appear only in the eighth grade.

Collecting. Participation in collecting shows a decrease between second and fourth grade (Table 9) with a difference at the five per cent level of significance, and an increase between fourth and eighth grades with a difference at the one per cent level of significance as tested by chi-square. Table 10 shows for funny books and for coupons a pattern of decrease in fourth grade and an increase in eighth. Playing cards show a slight increase in fourth grade, and boxtops a slight decrease, both items disappearing in eighth grade. Marbles and stamps appear in fourth grade and show a small increase in eighth grade. Match covers appear only in fourth, and autographs only in eighth grade. With the exception of funny books, all of these frequencies are small.

Passive Participation. Table 9 reveals for passive participation a progressive increase for boys from second through fourth and eighth grades, with differences between the grade groups significant at the one per cent level. Movies and reading show the sequence of progressive increase from second through the eighth grade, while radio decreases slightly from second to fourth, and increases in the eighth grade, as shown in Table 10. Radio appears in third place in rank for second grade, is fourth for fourth grade, and second for eighth grade. Movies are in fifth place in second grade, second place for fourth grade, and first for eighth grade. Reading shows a rank of 32 for second, 20 for fourth, and 11 for eighth grade (Table 10A).

In the behavioral situation, reported in Tables 11, 11A, and 11B, all of the groups showed wide participation with a peer of the same sex (greatest proportion at the eighth grade level), with own sex groups (greatest proportion at fourth grade level), and with heterogeneous groups. Second and fourth grade boys showed participation in more of the activities alone than did eighth grade boys. Although the frequencies were relatively

small, there was a progressive decrease in participation with parents and siblings from second through eighth grade, and a progressive increase in interaction with heterosexual groups and with a peer of the opposite sex.

GRADE COMPARISONS OF GIRLS (including white and Negro)

Dramatic Play. The data presented in Table 9A indicate that participation in dramatic play decreases progressively from second through the eighth grade, with differences significant at the one per cent level as tested by the chi-square technique. Table 10 shows that domestic roles, community roles, and killing-dying decrease from second to fourth grade and do not appear in eighth. Animal play shows small but almost equal frequencies in second and fourth grades, and disappears in eighth, while selling-buying, transportation, and legendary play appear only in second grade. Planned play shows an increase from second to fourth grade, but declines in eighth grade.

Ritual Games. Table 9A shows for ritual games a progressive decrease for girls from second through the eighth grade, with differences between the grades significant at the one per cent level. Table 10 indicates that chasing-fleeing, jumping-skipping, and catching-throwing follow this sequence of progressive decrease through the grades, while singing games and seesawing-swinging show a marked decrease from second to fourth grade and disappear in eighth. Hiding-seeking shows a small increase in fourth grade but declines in eighth grade. The rank order of jumping-skipping, Table 10A, is that of second place for second grade, fourth place for fourth grade, and number 22.5 in eighth grade, while chasing-fleeing is number 3 for second, 7.5 for fourth, and 20 for eighth grade.

Team Sports. As indicated in Table 9A, participation in team sports shows a progressive increase from second through eighth grade. Through the application of chi-square, the differences between each of the grade groups are found to be significant at the one per cent level. Baseball and volleyball increase progressively, as shown in Table 10, from second through eighth grade, while basketball and tennis appear first in fourth

grade but increase in eighth. Gymnastics appear in small frequency only in the fourth grade.

Individual Competitive Games. The data presented in Table 9A show that individual competitive games appear in second grade, increase, but not significantly in fourth grade, and do not appear in eighth grade. According to the chi-square test, the difference between fourth and eighth grades is significant at the five per cent level. Table 10 shows that this significant difference can be accounted for by marbles which appear with small frequency in second grade, increase slightly in fourth and disappear in eighth, and by darts which appear in small frequency only in the fourth grade.

Games of Intellect. Application of the chi-square technique shows that the grade differences for girls in games of intellect are significant at the one per cent level (Table 9A). The pattern of change is that of an increase from second to fourth grade, and a decrease from fourth to eighth grade. Table 10 indicates that games of chance and puzzles follow the same pattern as that of the whole category, while card games appear with small frequency in second grade and increase in fourth and eighth grades. No rank order shifts are striking, as is evidenced by the data in Table 10A.

Social Games. As shown by Table 9A, girls' participation in social games follows a sequence of progressive increase from second through fourth and eighth grades, with differences at the one per cent level of significance between the grade groups. Folk dancing appears in small frequency in second grade, increases in fourth and decreases in eighth grade (Table 10). All of the other items in this category appear only in the eighth grade.

Collecting. Table 9A shows for girls an increase in collecting from second to fourth grade with a difference which is significant at the two per cent level, and a decrease from fourth to eighth grade with a difference

at the five per cent level of significance. As indicated by Table 10, funny books, the most important item, show the same pattern as that of the whole category. Boxtops show a slight increase in fourth grade, and playing cards a slight decrease in fourth grade, both items disappearing in eighth grade. Match covers, autographs, and stamps appear first in fourth grade and show a small increase in eighth grade. Coupons appear in second and eighth, and marbles only in fourth grade, both of these in frequencies of less than one-half per cent. Funny books have a rank of 9 for second grade, 5 for fourth, and 10 for eighth grade (Table 10A).

Passive Participation. Table 9A indicates that in passive participation girls show a pattern of progressive increase from second through eighth grade, with differences at the one per cent level of significance between second and fourth, and between fourth and eighth grades. Movies and reading (Table 10) show this pattern of progressive increase through the grades, while radio shows a slight decrease in frequency in fourth grade and increases again in eighth grade. In rank order radio is in first place in second grade, second in fourth grade, and first in eighth, and movies are in fifth place in second grade, first in fourth grade, and second in eighth grade. Reading is number 23 for second grade, 18 for fourth and 5 for eighth grade (Table 10A).

In the behavioral situation, presented in Table 11, 11A and 11B, both second and fourth grade girls showed greater participation than did eighth grade girls alone, with siblings and parents, with a peer of the same sex and with heterosexual groups (greatest participation at the fourth grade level). Interaction with own sex groups showed a gradual increase through the grades. All groups showed wide participation with heterogeneous group, the variation being more in terms of activity than in total participation.

GRADE COMPARISONS OF THE PLAY BEHAVIOR OF WHITE AND NEGRO CHILDREN

The comparisons made for white and Negro children between the grade groups are based upon the data reported in Tables 12 and 12A, 13 and 13A, and 14, 14A and 14B.

TABLE 12

AGE-GRADE COMPARISONS OF THE PLAY BEHAVIOR OF WHITE CHILDREN

TOTAL WHITE	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
Kindergarten	638 351.8	635 408.0	0 179.5	1 23.5	122 83.7	4 61.6	106 154.0	81 324.9	1587
Second Grade	366 304.4	554 353.0	13 155.3	29 20.3	54 72.4	14 53.3	117 133.2	226 281.0	1373
Fourth Grade	178 283.1	227 328.3	241 144.4	51 18.9	70 67.4	55 49.6	142 123.9	313 261.4	1277
Eighth Grade	45 287.7	7 333.7	372 146.8	1 19.2	46 68.5	142 50.4	172 125.9	513 265.7	1298
	1227	1423	626	82	292	215	537	1133	5535

Chi-Square = 2409.77

Chi-Square values at .05 = 32.671
" " " " .01 = 38.932
(d.f. = 21)

TABLE 12A

AGE-GRADE COMPARISONS OF THE PLAY BEHAVIOR OF NEGRO CHILDREN

TOTAL NEGRO	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
Second Grade	142 122.9	323 202.9	114 200.5	63 48.7	32 46.3	1 29.5	124 122.5	228 253.7	1027
Fourth Grade	163 113.4	236 187.3	167 185.0	66 45.0	47 42.8	6 27.2	107 113.1	156 234.1	948
Eighth Grade	53 121.7	32 200.9	303 198.5	13 48.3	56 45.9	79 29.2	126 121.3	355 251.2	1017
	358	591	584	142	135	86	357	739	2992

Chi-Square = 633.76

Chi-Square values at .05 = 23.685
" " " " .01 = 29.141
(d.f. = 14)

TABLE 13

A COMPARISON OF THE PERCENTAGE FREQUENCIES OF THE PLAY BEHAVIOR OF NEGRO-WHITE GROUPS IN THREE GRADES AND WHITE GROUP IN KINDERGARTEN

Play Patterns	Kindergarten		Second Grade		Fourth Grade		Eighth Grade	
	White	Negro	White	Negro	White	Negro	White	Negro
Dramatic Play								
Domestic Roles	9.51		5.10	1.75	2.27	2.53	--	--
Selling-Buying	1.76		1.24	--	--	--	--	--
Transportation	7.18		3.28	2.04	0.16	--	--	--
Community Roles	5.42		2.99	5.26	0.94	4.85	--	--
Killing-Dying	5.73		4.73	2.24	4.31	3.16	--	--
Legendary	4.16		0.22	--	--	0.21	--	--
Animal Play	5.48		0.66	--	0.08	--	--	--
Planned Play	0.95		8.45	2.53	6.19	6.43	3.47	5.21
Ritual Games								
Singing Games	10.71		8.52	4.87	0.63	1.90	--	--
Jumping-Skipping	9.14		7.14	6.43	4.07	3.59	--	0.20
Hiding-Seeking	0.57		1.46	1.27	1.80	3.27	--	0.20
Chasing-Fleeing	9.33		10.34	10.13	4.86	8.23	--	2.16
Catching-Throwing	0.95		7.50	6.43	2.90	5.91	0.54	0.59
Seesawing-Swinging	9.33		5.39	2.34	3.53	2.00	--	--
Team Games and Sports								
Baseball	--		0.07	6.72	7.83	10.44	8.71	9.34
Football	--		0.87	--	2.11	1.90	2.00	3.64
Basketball	--		--	0.10	1.33	1.58	9.55	8.46
Volleyball	--		- -	4.28	5.09	3.59	6.09	8.36
Tennis	--		--	--	0.08	0.11	1.08	--
Gymnastics	--		--	--	2.43	--	1.23	--
Individual Competitive Games								
Chicken Fights	--		--	0.19	--	0.11	--	--
Horseshoes	--		--	0.68	0.16	0.53	--	0.49
Spinning Tops	--		0.36	0.78	0.23	0.84	--	0.29
Marbles	0.06		1.75	4.48	3.37	5.49	0.08	0.49
Darts	--		--	--	0.23	--	--	--
Games of Intellect								
Puzzles	7.69		1.68	0.19	1.33	0.63	0.15	--
Card Games	--		0.22	0.68	1.88	--	1.39	1.87
Games of Chance	--		2.04	2.24	2.27	4.32	2.00	3.64
Social Games								
Folk Dancing	0.25		1.02	0.10	4.31	0.63	0.39	--
Ballroom Dancing	--		--	--	--	--	5.62	4.92
Kissing Games	--		--	--	--	--	1.62	--
Car Riding	--		--	--	--	--	1.69	--
Conversation	--		--	--	--	--	1.62	2.85

TABLE 13 (Cont.)

A COMPARISON OF THE PERCENTAGE FREQUENCIES OF THE PLAY BEHAVIOR OF NEGRO-WHITE GROUPS IN THREE GRADES AND WHITE GROUP IN KINDERGARTEN

Play Patterns	Kindergarten		Second Grade		Fourth Grade		Eighth Grade	
	White	Negro	White	Negro	White	Negro	White	Negro
Collecting								
Match Covers	--		--	--	0.70	--	0.54	--
Playing Cards	0.69		1.09	--	1.17	--	--	--
Coupons	0.25		0.07	0.29	0.08	--	0.39	0.39
Funny Books	3.12		6.55	11.49	7.20	8.97	8.78	9.64
Marbles	0.13		--	--	0.16	0.21	0.23	--
Autographs	--		--	--	0.47	--	2.00	1.38
Stamps	--		--	--	0.70	0.74	1.31	0.98
Boxtops	2.33		0.80	0.29	0.63	1.37	--	--
Passive Participation								
Radio	4.60		8.74	13.15	9.48	8.33	16.02	15.93
Movies	0.50		7.28	9.06	13.16	8.12	17.64	14.16
Reading	--		0.44	--	1.88	--	5.86	4.82

TABLE 13A

A COMPARISON OF THE RANK ORDER OF THE PLAY BEHAVIOR OF NEGRO-WHITE GROUPS IN THREE GRADES AND WHITE GROUP IN KINDERGARTEN

Play Patterns	Kindergarten White	Kindergarten Negro	Second Grade White	Second Grade Negro	Fourth Grade White	Fourth Grade Negro	Eighth Grade White	Eighth Grade Negro
Dramatic Play								
Domestic Roles	2	10	17	15.5	15	--	--	
Selling-Buying	15	18	--	--	--	--	--	
Transportation	7	12	16	33	--	--	--	
Community Roles	10	13	8	24	9	--	--	
Killing-Dying	8	11	14.5	8	14	--	--	
Legendary	12	26.5	--	--	26.5	--	--	
Animal Play	9	23	--	35	--	--	--	
Planned Play	16.5	4	12	5	6	9	7	
Ritual Games								
Singing Games	1	3	9	27.5	16.5	--	--	
Jumping-Skipping	5	7	6.5	10	11.5	--	22.5	
Hiding-Seeking	19.5	17	18	20	13	--	22.5	
Chasing-Fleeing	3.5	1	3	7	4	--	13	
Catching-Throwing	16.5	5	6.5	13	7	20.5	17	
Seesawing-Swinging	3.5	9	13	11	10	--	--	
Team Games and Sports								
Baseball	--	28.5	5	3	1	5	4	
Football	--	21	--	17	17.5	11	10.5	
Basketball	--	--	26.5	21.5	19	3	5	
Volleyball	--	--	11	6	11.5	6	6	
Tennis	--	--	--	35	28.5	19	--	
Gymnastics	--	--	--	14	--	18	--	
Individual Competitive Games								
Chicken Fights	--	--	24.5	--	28.5	--	--	
Horseshoes	--	--	20.5	33	25	--	18.5	
Spinning Tops	--	25	19	30.5	21	--	21	
Marbles	24	15	10	12	8	26	18.5	
Darts	--	--	--	30.5	--	--	--	
Games of Intellect								
Puzzles	6	16	24.5	21.5	23.5	25	--	
Card Games	--	26.5	20.5	18.5	--	16	14	
Games of Chance	--	14	14.5	15.5	10	11	10.5	
Social Games								
Folk Dancing	21.5	20	26.5	8	23.5	22.5	--	
Ballroom Dancing	--	--	--	--	--	8	8	
Kissing Games	--	--	--	--	--	14.5	--	
Car Riding	--	--	--	--	--	13	--	
Conversation	--	--	--	--	--	14.5	12	

TABLE 13A (Cont.)

A COMPARISON OF THE RANK ORDER OF THE PLAY BEHAVIOR OF NEGRO-WHITE GROUPS IN THREE GRADES AND WHITE GROUP IN KINDERGARTEN

Play Patterns	Kindergarten		Second Grade		Fourth Grade		Eighth Grade	
	White	Negro	White	Negro	White	Negro	White	Negro
Collecting								
Match Covers	--		--	--	25.5	--	20.5	--
Playing Cards	18		19	--	23	--	--	--
Coupons	21.5		28.5	22.5	35	--	22.5	20
Funny Books	13		8	2	4	2	4	3
Marbles	23		--	--	33	26.5	24	--
Autographs	--		--	--	29	--	11	15
Stamps	--		--	--	25.5	22	17	16
Boxtops	14		22	22.5	27.5	20	--	--
Passive Participation								
Radio	11		2	1	2	3	2	1
Movies	19.5		6	4	1	5	1	2
Reading	--		24	--	18.5	--	7	9

TABLE 14

SOCIAL INTERACTION OF SECOND GRADE WHITE AND NEGRO CHILDREN IN TERMS OF PERCENTAGE FREQUENCIES

	X Alone	0 Sib	1 YC	2 OC	3 PSS	4 POS	5 SG	6 HxG	7 HgG	8 Prnt	9 Tchr*
Second Grade White Children											
Dramatic Play	11.48		0.55		11.75	3.28	24.86	3.83	44.26		
Ritual Games	5.23		0.54		11.73	1.99	21.48	2.35	56.68		
Team Sports					30.77		69.23				
Individual Competitive Games					37.93		58.62	3.45			
Games of Intellect	22.22				66.67	9.26			1.85		
Social Games									100.00		
Collecting	73.50				26.50						
Passive Participation	43.81	27.88			7.08					21.24	
Second Grade Negro Children											
Dramatic Play	4.23		0.70		2.82		29.58	0.70	61.97		
Ritual Games					0.62		50.77	2.48	46.13		
Team Sports							69.30	5.26	25.44		
Individual Competitive Games					3.17		87.30	3.17	1.59	4.76	
Games of Intellect	9.38				21.88	6.25	53.13	9.38			
Social Games							100.00				
Collecting	99.19									0.81	
Passive Participation	33.33	47.81			2.19					16.67	

*The symbols in the sequence 0 to 9 are used to indicate the following individuals or groups: Sib, sibling; YC, younger child; OC, older child; PSS, peer of the same sex; POS, peer of the opposite sex; SG, own sex group; HxG, heterosexual group; HgG, heterogeneous group; Prnt, parent; Tchr, teacher.

TABLE 14A

SOCIAL INTERACTION OF FOURTH GRADE WHITE AND NEGRO CHILDREN IN TERMS OF PERCENTAGE FREQUENCIES

	X Alone	0 Sib	1 YC	2 OC	3 PSS	4 POS	5 SG	6 HxG	7 HgG	8 Prnt	9 Tchr*
Fourth Grade White Children											
Dramatic Play	3.93				13.48		34.83	1.69	46.07		
Ritual Games	4.41				20.70	1.76	32.60	7.93	32.60		
Team Sports	1.24				5.81		81.74	1.24	9.96		
Individual Competitive Games					5.88		86.27	7.84			
Games of Intellect	15.71				37.14	8.57	27.14	1.43	10.00		
Social Games					7.27	1.82	3.64	52.73	34.55		
Collecting	95.77				2.82				1.41		
Passive Participation	56.23	26.84			13.74					3.19	
Fourth Grade Negro Children											
Dramatic Play					10.43		42.53	1.23	46.01		
Ritual Games					5.93		56.78	7.20	30.08		
Team Sports							76.65	2.99	20.36		
Individual Competitive Games					34.85		62.12	3.03			
Games of Intellect					55.32		34.04		10.64		
Social Games									100.00		
Collecting	99.07								0.93		
Passive Participation	20.51	48.08			6.41					25.00	

*The symbols in the sequence 0 to 9 are used to indicate the follcwing individuals or groups: Sib, sibling; YC, younger child; OC, older child; PSS, peer of the same sex; POS, peer of the opposite sex; SG, own sex group; HxG, heterosexual group; HgG, heterogeneous group; Prnt, parent; Tchr, teacher.

TABLE 14B

SOCIAL INTERACTION OF EIGHTH GRADE WHITE AND NEGRO CHILDREN IN TERMS OF PERCENTAGE FREQUENCIES

	X Alone	0 Sib	1 YC	2 OC	3 PSS	4 POS	5 SG	6 HxG	7 HgG	8 Prnt	9 Tchr*
Eighth Grade White Children											
Dramatic Play									100.00		
Ritual Games					28.57		71.43				
Team Sports					1.88		98.12				
Individual Competitive Games							100.00				
Games of Intellect					60.87	6.52	28.26		4.35		
Social Games							9.86	0.70	89.44		
Collecting	100.00										
Passive Participation	47.95	4.48			23.59	10.92	6.63		5.07	1.36	
Eighth Grade Negro Children											
Dramatic Play									100.00		
Ritual Games			3.13		9.38	3.13	31.25	37.50	15.63		
Team Sports							93.40		6.60		
Individual Competitive Games					30.77		69.23				
Games of Intellect					42.86	8.93	46.43		1.79		
Social Games							2.53		97.47		
Collecting	100.00										
Passive Participation	50.99	20.56		0.56	20.85	1.69			2.54	2.82	

*The symbols in the sequence 0 to 9 are used to indicate the following individuals or groups: Sib, sibling; YC, younger child; OC, older child; PSS, peer of the same sex; POS, peer of the opposite sex; SG, own sex group; HxG, heterosexual group; HgG, heterogeneous group; Prnt, parent; Tchr, teacher.

GRADE COMPARISONS OF WHITE CHILDREN

Dramatic Play. Grade comparisons of the dramatic play of white children between kindergarten, second, fourth and eighth grades, reveal differences at the one per cent level of significance between all of the grade groups. Table 12 shows that there is a progressive decrease in dramatic roles from kindergarten through eighth grade. As Table 13 indicates, domestic roles, transportation, community roles, killing-dying, and animal play show this progressive decrease through fourth grade and disappear in eighth grade. Selling-buying and legendary play decrease from kindergarten to second grade and do not appear in fourth or eighth grade. Planned play shows an increase from kindergarten to second grade, declines in fourth and in eighth grades. The rank order shifts of the different items show the same trends. For example, Table 13A shows that domestic roles appear in second place for kindergarten, tenth place in second grade, and shift to 15.5 in fourth grade.

Ritual Games. Table 12 shows for ritual games a pattern of progressive decrease in frequency from kindergarten through the eighth grade. The application of chi-square reveals no significant difference between kindergarten and second grade, but between second and fourth, and between fourth and eighth grades, the differences show a one per cent level of significance. As indicated in Table 13, singing games, jumping-skipping, and seesawing-swinging show this progressive decrease from kindergarten through fourth grade and disappear in eighth grade. Chasing-fleeing increases from kindergarten to second grade, decreases in fourth and disappears in eighth, while catching-throwing increases in second, decreases in fourth and in eighth grade, the only item to appear in eighth grade. Hiding-seeking begins with small frequency in kindergarten and increases gradually through fourth grade, but disappears in eighth grade. Table 13A shows that singing

games rank first in importance in kindergarten, third in second grade and shift to 15.5 in fourth grade. Chasing-fleeing appears in kindergarten with a rank of 3.5, reaches first place in second grade, and is in seventh place in fourth grade (Table 13A).

Team Sports. Team sports, as indicated by Table 12, show a progressive increase from second grade through the eighth. Differences at the one per cent level of significance are found between all grade groups. Baseball appears in second grade and shows an increase in fourth and eighth grades (Table 13). Football shows a small increase from second to fourth grade, and a decline in eighth grade. Basketball, volleyball, and tennis appear first in fourth grade and show an increase in eighth, while gymnastics appear in fourth grade but decline in eighth grade. Baseball shows a rank order of 28.5 in second grade, reaches third place in fourth grade, and is number 5 in eighth grade, as shown by Table 13A.

Individual Competitive Games. Table 12 shows that the developmental sequence for individual competitive games is that of an increase from kindergarten through second and fourth grades and a sharp decline in eighth grade. All of the differences between the grades are at the one per cent level of significance. As the data in Table 13 show, marbles appear in greatest frequencies and show the same pattern as that of the total category. Spinning tops appear in second grade, decrease in fourth and disappear in eighth, and horseshoes and darts appear only in the fourth grade. With the exception of marbles, all of these frequencies are less than one per cent.

Games of Intellect. As Table 12 indicates, participation of white children in games of intellect shows a decline from kindergarten to second grade, increases in fourth grade and decreases in eighth grade. Differences between kindergarten and second grade are significant at the one per cent level, between second and fourth grade significant at the five per cent

level, and between fourth and eighth grade, differences are significant at the one per cent level. Table 13 shows that puzzles appear in kindergarten, show a sharp decline in second grade, and a gradual decline in fourth and eighth grades. Card games and games of chance appear in second grade, show an increase in fourth grade and decrease in eighth grade.

Social Games. Table 12 reveals for social games a progressive increase for white children from kindergarten through eighth grade, with differences at the one per cent level of significance between all of the grade groups. Folk dancing appears with a very small frequency in kindergarten, increases through second and fourth grades, and declines in eighth grade. Ballroom dancing, kissing games, car riding, and conversation are observed only in the eighth grade (Table 13).

Collecting. Table 12 shows for collecting behavior a pattern of progressive increase from kindergarten through the eighth grade. Differences between kindergarten and second grade are significant at the one per cent level, between second and fourth grades differences are significant at the five per cent level, and between fourth and eighth grades they are significant at the one per cent level. Funny books, the most important item in this category for all grades (Table 13), show this sequence of progressive increase. Playing cards appear in kindergarten, increase in second and fourth grades and disappear in eighth, while boxtops appear in kindergarten, decrease in second and fourth, and disappear in eighth grade. Match covers appear first in fourth grade and decrease in eighth, and autographs and stamps appear in fourth and show a small increase in eighth grade. Coupons appear in all grades and marbles in kindergarten, fourth and eighth grades in frequencies of less than one-half per cent. Since all of the other frequencies are small compared with funny books, it is this item which has greatest weight in determining the pattern of the whole category.

Passive Participation. Table 12 reveals for passive participation a pattern of progressive increase from kindergarten through eighth grade, with all of the grade differences at the one per cent level of significance. Radio and movies (Table 13) appear in kindergarten and increase progressively through the grades. Reading appears in second grade and increases through eighth grade but never attains the position of the other items. In rank order radio is in eleventh place in kindergarten and second place in second, fourth and eighth grades. Movies appear as number 19.5 in kindergarten, number 6 in second grade, and reach first place in fourth grade. Reading is number 24 in second grade, 18.5 in fourth grade, and 7 in eighth grade, as shown by Table 13A.

In the behavioral situation, Tables 14, 14A and 14B, participation alone varied somewhat in terms of the activity, with kindergarten, second and fourth grades showing a wider variety of this participation than did the eighth grade. Interaction with own sex groups showed a progressive increase from second through eighth grade. The fourth grade showed wider participation with heterogeneous groups and with heterosexual groups than did kindergarten and eighth grade. The second and fourth grades showed more interaction with a peer of the same sex and with siblings (passive participation). Greatest participation with parents was shown by second grade (passive participation). Participation with a peer of the opposite sex varied more in terms of the activity than in total proportion of interaction.

GRADE COMPARISONS OF NEGRO CHILDREN

Dramatic Play. The data presented in Table 12A show that participation in dramatic play for Negro children increases from second to fourth grade, but decreases from fourth to eighth grade. Differences in each case are significant at the one per cent level, as shown by the application of chi-square. Table 13 shows that domestic roles and killing-dying appear in second grade, increase in fourth and disappear in eighth grade, while community roles show a decrease from second to fourth grade and do not appear in eighth. Planned play shows an increase from second to fourth grade, declines in eighth grade, the only item to continue through eighth grade. Transportation appears only in second grade, and legendary play only in fourth grade.

Ritual Games. Ritual games show a progressive decrease in participation (Table 12A) for Negro children from second through eighth grade, with differences at the one per cent level of significance between the grade groups, revealed by the test of chi-square. Table 13 indicates that chasing-fleeing, catching-throwing, and jumping-skipping follow this sequence of progressive decrease from second through the eighth grade. Singing games and seesawing-swinging decrease in fourth and disappear in eighth grade. Hiding-seeking increases slightly in fourth grade and declines in eighth grade. Chasing-fleeing, the most popular item, has a rank order of 3 in second grade, 4 in fourth grade, and 13 in eighth grade (Table 13A).

Team Sports. Table 12A indicates that the developmental sequence of team sports is that of a progressive increase from second through fourth and eighth grades, with differences at the one per cent level of significance between the grade groups. As revealed in Table 13 basketball follows this pattern of increase from second to eighth grade, while football appears first in fourth grade and increases in eighth grade. Baseball increases

from second to fourth grade and declines in eighth, and volleyball shows a decrease in fourth grade with a marked increase in eighth grade. Tennis appears with small frequency only in the fourth grade. Basketball shows a rank order (Table 13A) of 26.5 in second grade, 19 in fourth grade, and reaches fifth place in eighth grade. Baseball is number 5 in second grade, is in first place in fourth grade, and fourth place in eighth grade.

Individual Competitive Games. Table 12A shows for individual competitive games an increase from second to fourth grade and a decrease from fourth to eighth grade, with differences at the one per cent level of significance in each case. Table 13 shows that marbles and spinning tops follow this pattern of increase from second to fourth and a decrease in eighth grade. Horseshoes show a progressive decrease from second through eighth grade, and chicken fights appear in second and fourth grades, but all of these frequencies are less than one per cent.

Games of Intellect. The data reported in Table 12A show for games of intellect an increase in frequency from second through the eighth grade for Negro children. As determined by the application of chi-square, differences between second and fourth grades are significant at the five per cent level, while differences between fourth and eighth grades show no significance. As indicated by Table 13, games of chance show an increase in frequency from second to fourth grades, and a slight decrease from fourth to eighth grade. Card games appear in small frequencies in second and in eighth grades. Puzzles show a slight increase from second to fourth grade and disappear in eighth grade.

Social Games. Participation in social games for Negro children shows a progressive increase from second through fourth and eighth grades with differences at the one per cent level of significance in each case, as shown in Table 12A. The Percentage Frequency Table 13 indicates that folk

dancing appears in small frequency in second grade, increases in fourth, and disappears in eighth grade. Ballroom dancing and conversation are observed only in the eighth grade.

Collecting. The application of the chi-square technique reveals no significant grade differences for Negro children in collecting, as indicated by Table 12A. The general pattern of change is that of a slight decrease from second to fourth grade and a slight increase from fourth to eighth grade. Funny books, the most important item, show the same pattern as that of the total category. None of the other items show any consistency of pattern. They appear in frequencies ranging from less than one-half to one and one-half per cent, and with negligible differences (Table 13).

Passive Participation. Table 12A shows for passive participation for Negro children a decrease in frequency from second to fourth grade, and an increase from fourth to eighth grade, with differences at the one per cent level of significance in each case, as determined by the test of chi-square. Table 13 shows that radio and movies follow the same pattern as that of the total category, while reading does not appear until the eighth grade. Radio has a rank order (Table 13A) of number 1 in second grade, 3 in fourth grade, and again reaches first place in eighth grade. Movies show a rank of 4 in second grade, 5 in fourth grade, and 2 in eighth grade. Reading is in ninth place for eighth grade.

In social interaction, indicated in Table 14, 14A, and 14B, the second grade showed some participation alone in four of the eight categories, while in fourth and eighth grades this behavior was confined to collecting and passive participation. The fourth and eighth grade children showed a greater proportion of interaction with a peer of the same sex and with heterogeneous groups than did second grade and the eighth grade showed a little more with a peer of the opposite sex than either of the other groups.

Second and fourth grade Negro children participated more widely with heterosexual groups than did eighth grade children, while all of the groups showed wide participation with own sex groups. The eighth grade showed least interaction with siblings and parents, all of which was confined to passive participation for fourth and eighth grades.

SUMMARY AND CONCLUSIONS

The grade comparisons of play behavior reported in this chapter contain many evidences of a sequential pattern of the play behavior of children. It is recalled that for some categories, dramatic play and ritual games, the sequential pattern is that of a progressive decrease from kindergarten or second grade (in the case of Negro children) through the eighth grade. For other categories, social games, team sports and passive participation, the general pattern is a progressive increase through the grades. The exception to this latter pattern is for passive participation, where Negro children show a slight decrease in participation from second to fourth grade. Individual competitive games show a general sequence of increase through the fourth grade, and a decline in eighth grade. Collecting shows for boys a pattern of decrease in participation from kindergarten through fourth grade and an increase in eighth grade, and for white girls a pattern of increase through fourth grade and a decrease in eighth grade. Games of intellect show no consistent pattern.

Although this part of the data analysis was made in terms of age-grade comparisons and no attempt was made to assess physical or social maturity of the children included in the study, the observed changes in play behavior from one grade level to another necessarily have a direct relationship to changes resulting from physical maturation and the development of social consciousness. This implies that the observed trends in play behavior reported in this chapter can be seen in relation to well-established principles of child growth and development, thus lending added support to the findings of other research. For example, the greater frequency of participation in dramatic play for kindergarten and second grade children

may be seen in relation to what is known about the young child's attempts to explore his world through role playing, his attempts to clarify his concept of self as he plays the roles of the various people in his environment (See Chapter II, p. 12). Also, these are the kinds of activities which do not call for strong group organization and may be enjoyed in small shifting groups or alone, at the time before strong group loyalties develop.

Some of these same explanations may be offered for the wider participation of younger children in ritual games. As in dramatic play, these activities call for very little organization. For the most part, they provide opportunities for large muscle refinement, opportunities for children to find delight in the use of their bodies in such activities as jumping-skipping and chasing-fleeing. For the kindergarten or second grade child who has not yet learned how to obey the rules consistently, these play behaviors may be expected to show greater frequency of participation.

With greater physical and social maturity, with changing interests, and with improved muscle coordination and greater capacity for understanding and observing the rules of the game, is seen an increase in participation in team sports, individual competitive games (replaced by more group activities in eighth grade), and social games. Also there is an increase in passive participation, evident in older children's preference for radio and movies, and to a less extent, reading. All of these changes find at least a partial explanation in, and lend further support to, earlier research such as that of Jones, Shook, Piaget, Mead, and Lund, reported in the second chapter of this dissertation.

On the basis of these age-grade differences revealed in the study, most of which were found to be statistically significant, the hypothesis that the play behavior of children follows a developmental sequence paralleling age-grade levels, is further supported. Thus the null hypothesis

(See Chapter IV, p. 59) that all of the children included in the study come from the same population and that no differences in play behavior can be expected, is refuted.

In the succeeding chapter, an analysis of the data in terms of sex differences is presented.

CHAPTER VI

ANALYSIS OF DATA -- SEX DIFFERENCES IN PLAY BEHAVIOR

In this chapter an analysis is made of the play patterns of white boys and girls in kindergarten, second, fourth, and eighth grades, and of Negro boys and girls in second, fourth and eighth grades. A further analysis is made of the play activities of total boys' and girls' groups at each grade level.

COMPARISONS OF THE PLAY BEHAVIOR OF WHITE BOYS AND GIRLS

For comparisons made of the play activities between white boys and girls at the different grade levels, reference is made to Tables 15, 15A, 15B and 15C, 4 and 4A, 5, 5A, 5B and 5C (Chapter V, pp. 65-72).

Table 15

A COMPARISON OF THE PLAY BEHAVIOR OF KINDERGARTEN WHITE BOYS AND GIRLS

KINDERGARTEN	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
White Boys	353 344.9	323 343.3	0 0	1 0.5	58 66.0	3 2.2	76 57.3	44 43.8	858
White Girls	285 293.1	312 291.7	0 0	0 0.5	64 56.0	1 1.8	30 48.7	37 37.2	729
	638	635	0	1	122	4	106	81	1587

Chi Square = 18.62

Chi Square Values at .05 = 14.067
" " " " .01 = 18.475
(d.f. = 7)

Table 15 A

A COMPARISON OF THE PLAY BEHAVIOR OF SECOND GRADE WHITE BOYS AND GIRLS

SECOND GRADE	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
White Boys	182 183.1	260 277.2	13 6.5	28 14.5 27	28 27.0	5 7.0	68 58.5	103 113.1	687
White Girls	184 182.9	294 276.8	0 6.5	1 14.5	26 27.0	9 7.0	49 58.5	123 112.9	686
	366	554	13	29	54	14	117	226	1373

Chi Square = 34.70

Chi Square Values at .05 = 14.067
" " " " .01 = 18.475
(d.f. = 7)

Table 15 B

A COMPARISON OF THE PLAY BEHAVIOR OF FOURTH GRADE WHITE BOYS AND GIRLS

	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
White Boys	93 95.9	85 121.5	180 129.8	47 27.5	24 37.7	24 29.6	67 76.5	168 168.6	688
White Girls	85 82.1	142 105.5	61 111.2	4 23.5	46 32.3	31 25.4	75 65.5	145 144.4	589
	178	227	241	51	70	55	142	313	1277

Chi Square = 110.81

Chi-Square Values at .05 = 14.067
" " " " .01 = 18.475
(d.f. = 7)

Table 15 C

A COMPARISON OF THE PLAY BEHAVIOR OF EIGHTH GRADE WHITE BOYS AND GIRLS

EIGHTH GRADE	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
White Boys	19 22.9	2 3.6	217 189.4	1 .5	25 23.4	60 72.3	107 87.6	230 261.2	661
White Girls	26 22.1	5 3.4	155 182.6	0 .5	21 22.6	82 69.7	65 84.4	283 251.8	637
	45	7	372	1	46	142	172	513	1298

Chi Square = 29.98

Chi Square Values at .05 = 14.067
" " " " .01 = 18.475
(d.f. = 7)

KINDERGARTEN WHITE BOYS AND WHITE GIRLS

Table 15 indicates that the play behavior of kindergarten white boys and girls, compared for all eight categories as a whole, shows a difference significant at the one per cent level, with greater participation by boys. None of the separate categories show this significant difference.

Dramatic Play. As Table 15 indicates, dramatic play for kindergarten white boys and girls reveals no significant differences between the sex groups, although there are sex preferences for the separate items of play. Table 4 shows that transportation (9.56 per cent for boys, 4.39 for girls), killing-dying (8.97 for boys, 1.92 for girls), and animal play (7.23 for boys, 3.43 for girls) are favored by boys. Three activities, domestic roles (13.72 for girls, 3.96 for boys), legendary play (6.17 for girls, 2.45 for boys), and community roles (7.13 for girls, 3.96 for boys) appear with greater frequencies for girls.

Table 4A shows that the rank order of transportation is 2.5 for boys and 10 for girls; killing-dying is number 4 for boys and 12 for girls. Domestic roles are in first place for girls and in ninth place for boys; community roles are number 7 for girls and 12 for boys.

In the behavioral situation, indicated in Table 5, kindergarten boys, to a greater extent than did girls, participated in dramatic play alone (25.50 for boys, 20.00 for girls) and with a peer of the same sex (28.61 for boys, 21.75 for girls). Girls showed more interaction with heterogeneous groups (45.26 for girls, 39.38 for boys), and with a peer of the opposite sex (12.63 for girls, 2.27 for boys).

Ritual Games. Table 15 indicates that there is no significant difference between kindergarten white boys and girls in ritual games, as determined by the chi-square technique. Table 4 shows that all of the separate items were engaged in by both boys and girls, but the sex differences

were negligible. Chasing-fleeing, the most popular item, appears with a frequency of 10.02 for boys and 8.50 for girls.

Table 5 reveals a striking similarity in the type of social interaction for boys and girls. None of the differences are greater than two per cent.

Team Sports. Table 15 shows that team sports do not appear at the kindergarten level for boys or for girls.

Individual Competitive Games. Table 15 reveals no significant difference between kindergarten boys and girls in individual competitive games. As indicated in Tables 4 and 5, only one instance of marbles occurred, and this with a peer of the same sex.

Games of Intellect. The application of chi-square reveals no significant differences between kindergarten boys and girls in games of intellect. Table 4 shows that the only item to appear in this category is that of puzzles, with a frequency of 8.78 for girls and 6.76 for boys.

In the behavioral situation, reported in Table 5, both groups showed some participation alone (approx. 48 per cent), with a peer of the same sex (37 per cent), and with a peer of the opposite sex (12 to 15 per cent).

Social Games. The application of chi-square reveals no significant difference between kindergarten boys and girls in social games, as indicated in Table 15. Furthermore, Table 4 shows that only folk dancing appears for boys and girls in frequencies of less than one-half per cent. For both groups the interaction was with heterogeneous groups (Table 5).

Collecting. Table 15 indicates no significant differences between kindergarten boys and girls in collecting. The two most important items, according to the data presented in Table 4, are funny books (4.90 per cent for boys, 1.37 for girls) and boxtops (3.38 for boys, 1.10 for girls). As Table 4A shows, no rank order differences are striking.

For both groups, as indicated in Table 5, the collecting was done alone (80.26 for boys, 66.67 for girls) or with a peer of the same sex (33.33 for girls, 19.74 for boys).

Passive Participation. The application of chi-square reveals no significant differences between kindergarten white boys and girls in passive participation, as shown in Table 15. Table 4 shows that radio and movies appear in both groups but with differences of less than one-half per cent.

In the behavioral situation, indicated in Table 5, most of the participation occurred alone (84.09 for boys, 83.78 for girls) and with siblings (16.22 for girls, 11.36 for boys). Boys showed a little interaction with younger children (2.27 per cent) and with a peer of the same sex (2.27).

In summary, comparison of the total pattern of play behavior for kindergarten white boys and girls revealed differences in participation at the one per cent level of significance in favor of boys. None of the separate categories showed these significant differences.

In the dramatic play category, transportation, killing-dying, and animal play were favored by boys, while domestic roles, community roles, and legendary play were favored by girls. Chasing-fleeing, most important of the ritual games, showed slightly greater frequency for boys. Team sports did not appear for kindergarten children, and individual competitive games and social games appeared with too small frequencies to have significance. Puzzles appeared with slightly greater frequency for girls. Funny books and boxtops, the most important items of collecting, showed slightly greater frequencies for boys. Radio and movies appeared for both groups, but with very small sex differences.

In social interaction, the pattern of participation was very similar for boys and girls.

SECOND GRADE WHITE BOYS AND WHITE GIRLS

Comparison of the play behavior of second grade white boys and girls, through the use of the chi-square technique, reveals differences at the one per cent level of significance when all categories are considered as a whole (Table 15A). Of the separate items, team sports and individual competitive games show this level of significance, with greater participation by boys.

Dramatic Play. The data presented in Table 15A reveal no significant differences between second grade white boys and girls, as shown by the application of chi-square. As indicated in Table 4, the most striking sex differences in favor of boys are for transportation (6.11 for boys, 0.44 for girls), and killing-dying (8.59 for boys, 0.87 for girls). Domestic roles (9.33 for girls, 0.87 for boys), community roles (5.25 for girls, 0.73 for boys), and planned play (9.04 for girls, 7.86 for boys) are favored by girls. The rank order of these items, shown in Table 4A, also shows the same sex differences.

In social interaction, reported in Table 5A, boys showed greater participation than did girls alone (14.84 for boys, 8.15 for girls), with a peer of the same sex (14.84 for boys, 8.70 for girls) and with own sex groups (27.47 for boys, 22.28 for girls). Girls showed more interaction with heterogeneous groups (51.63 for girls, 36.81 for boys) and with a peer of the opposite sex (5.43 for girls, 1.10 for boys). Both groups showed a small proportion of activity with heterosexual groups (4.95 for boys, 2.72 for girls).

Ritual Games. Table 15A shows that in ritual games there is no significant difference between second grade white boys and girls, as tested by chi-square. Table 4 indicates some preference on the part of boys for chasing-fleeing (11.21 for boys, 9.48 for girls) and catching-throwing (10.63

for boys, 4.37 for girls). Girls show preference for singing games (10.50 for girls, 6.55 for boys), jumping-skipping (9.91 for girls, 4.37 for boys), and seesawing-swinging (7.00 for girls, 3.78 for boys). The rank order of these items, presented in Table 4A, shows these same sex preferences.

In the behavioral situation, indicated in Table 5A, boys showed a greater proportion of these activities alone (6.92 for boys, 3.74 for girls), with heterogeneous groups (57.31 for boys, 56.12 for girls), and with own sex groups (23.85 for boys, 19.39 for girls). Girls showed greater interaction than did boys with a peer of the same sex (15.99 for girls, 6.92 for boys).

Team Sports. Table 15A shows that the differences between second grade white boys and girls in team sports are significant at the one per cent level, as determined by the chi-square technique. Table 4 indicates that both football (1.75) and baseball (0.15) appear for boys, while neither activity occurs in the girls' group.

Team sports for boys occurred with own sex groups (69.23) and with a peer of the same sex (30.78), as indicated in Table 5A.

Individual Competitive Games. Table 15A reveals differences between second grade white boys and girls in individual competitive games that are significant at the one per cent level, as determined through the use of chi-square. Inspection of Table 4 shows that only marbles (3.35 for boys, 0.15 for girls) and spinning tops (0.73 for boys, none for girls) appear in this category.

For boys, participation in these activities, shown in Table 5A, occurred with own sex groups (60.71) and with a peer of the same sex (39.29). The one instance of this behavior for girls occurred with a heterosexual group.

Games of Intellect. As table 15A shows, no significant difference was found between second grade white boys and girls in games of intellect. Table 4 indicates that puzzles, card games and games of chance appear for both groups (except card games for boys), but with frequencies of less than 3 per cent.

Table 5A shows for boys a greater proportion of these activities alone (32.14 for boys, 11.54 for girls), and with a peer of the same sex (67.86 for boys, 65.38 for girls). Girls showed more interaction than did boys with a peer of the opposite sex (19.23 for girls) and with heterogeneous groups (3.85 for girls).

Social Games. Table 15A reveals no significant difference between second grade boys and girls in social games. Folk dancing is the only activity which appears and that with a frequency of less than one per cent for both groups (Table 4).

As shown in Table 5A, this behavior for boys and girls occurred with heterogeneous groups.

Collecting. The application of chi-square revealed no significant differences in collecting between second grade white boys and girls, as shown in Table 15A. Funny books, the most important item (Table 4), show a frequency of 8.30 for boys and 4.81 for girls. Playing cards, coupons and boxtops appear, but with negligible differences.

As indicated in Table 5A, most of the collecting for both groups was done alone (approx. 73 per cent), with only a peer of the same sex sharing in this behavior for both groups (approx. 27 per cent).

Passive Participation. Table 15A shows that the application of chi-square revealed no significant differences in passive participation between second grade white boys and girls. As Table 4 indicates, radio shows almost equal frequency in both groups, while movies and reading show slightly greater frequencies for girls.

In social interaction, presented in Table 5A, boys showed greater participation than did girls alone (49.51 for boys, 39.02 for girls) and with a peer of the same sex (9.71 for boys, 4.88 for girls). Girls showed more interaction with siblings (30.08 for girls, 25.24 for boys), and with parents (26.02 for girls, 15.53 for boys).

In summary, comparison of the play behavior of second grade white boys and girls, in terms of the total pattern, showed differences significant at the one per cent level of probability. Of the separate categories, differences in team sports and individual competitive games showed this level of significance, with greater participation by boys.

In dramatic play and ritual games the greatest sex differences were in transportation, killing-dying, chasing-fleeing, and catching-throwing, which were favored by boys, and in domestic roles, community roles, planned play, singing games, jumping-skipping, and seesawing-swinging, favored by girls. Team sports, appearing in small frequency, did not appear in the girls' group. In individual competitive games, marbles, favored by boys, appeared in both groups, and spinning tops only in the boys' group. Puzzles, card games, and games of chance appeared in both groups, with the exception of card games for boys. Folk dancing showed a very small frequency in both groups. In collecting, the most important item was funny books, which were favored by boys. Both movies and radio were more popular with boys and girls than was reading. The greatest sex difference was for movies which were favored by girls.

In the social situation, second grade boys showed greater participation alone, with a peer of the same sex, and with own sex groups, while the girls showed more interaction than did boys with a peer of the opposite sex, with siblings, and with parents.

FOURTH GRADE WHITE BOYS AND WHITE GIRLS

Comparison of the eight categories of play behavior for fourth grade white boys and girls through the use of chi-square reveals differences at the one per cent level of significance, as Table 15B shows. Of the separate categories, ritual games and games of intellect show differences at the one per cent level of significance, with greater participation by girls. Team sports and individual competitive games show significant differences in favor of boys.

Dramatic Play. Table 15B reveals no significant differences between fourth grade boys and girls in dramatic play. As indicated in Table 4, the activities which occur in greatest frequencies are planned play (6.96 for girls, 5.52 for boys), killing-dying (7.56 for boys, 0.51 for girls), and domestic roles (4.92 for girls, none for boys).

In the behavioral situation, reported in Table 5B, boys showed greater participation than did girls with own sex groups (46.24 for boys, 22.35 for girls). In contrast, girls showed greater interaction with heterogeneous groups (50.59 for girls, 41.94 for boys), with a peer of the same sex (18.82 for girls, 8.60 for boys), and with heterosexual groups (3.53 for girls, none for boys).

Ritual Games. Table 15B reveals differences between fourth grade white boys and girls in ritual games that are significant at the one per cent level, as determined by chi-square. As Table 4 indicates, the items which show the greatest sex differences are jumping-skipping (7.47 for girls, 1.16 for boys) and seesawing-swinging (6.96 for girls, and 0.58 for boys). Table 4A shows that jumping-skipping has a rank order of 4 for girls and 13.5 for boys, and seesawing-swinging is number 6 for girls and 24 for boys.

In social interaction, indicated in Table 5B, boys showed greater participation with heterogeneous groups (46.24 for boys, 23.24 for girls)

and with heterosexual groups (15.29 for boys, 3.52 for girls). Girls interacted to a greater extent with own sex groups (41.55 for girls, 17.65 for boys) and with a peer of the same sex (26.76 for girls, 10.59 for boys). Boys showed 4.71 per cent of participation with a peer of the opposite sex.

Team Sports. Table 15B shows differences between fourth grade white boys and girls in team sports at the one per cent level of significance, as tested by chi-square. Table 4 shows that baseball (13.08 for boys, 1.70 for girls), football (3.92 for boys), basketball (2.18 for boys, 0.34 for girls) and gymnastics (3.49 for boys, 1.19 for girls) are favored by boys, while only volleyball (6.96 for girls, 3.49 for boys) shows a noticeable difference in favor of girls. The rank order of baseball is number 2 for boys and 18 for girls, while football is number 9 for boys and does not appear for girls (Table 4A).

As indicated in Table 5B, the greatest sex differences in social interaction occurred with own sex groups (87.76 for boys, 63.93 for girls) and with heterogeneous groups (24.59 for girls, 5.00 for boys).

Individual Competitive Games. Table 15B shows for individual competitive games differences between fourth grade white boys and girls that are significant at the one per cent level. According to information in Table 4, this significance is due to sex differences in marbles (5.81 for boys, 0.51 for girls). No other activity occurs with a frequency as great as one per cent. Table 4A shows for marbles a rank order of 7 for boys and 23.5 for girls.

In social interaction, presented in Table 5B, girls' participation occurred with heterosexual groups, while boys played with own sex groups (93.62) and with a peer of the same sex (6.38).

Games of Intellect. As Table 15B indicates, differences between fourth grade white boys and girls in games of intellect are significant at

the one per cent level, as tested by chi-square. Table 4 shows for card games a frequency of 3.57 for girls and 0.44 for boys, while puzzles and games of chance, slightly favored by girls, show sex differences of less than one per cent. The rank order of card games, shown in Table 4A, is 11 for girls and 26.5 for boys.

In social interaction, reported in Table 5B, boys showed a greater proportion of these activities alone (20.83 for boys, 13.04 for girls) and with heterogeneous groups (29.17 for boys, none for girls) than did girls, while girls showed more interaction with a peer of the same sex (41.30 for girls, 29.17 for boys), a peer of the opposite sex (10.87 for girls, 4.17 for boys), with own sex groups (32.61 for girls, 16.67 for boys) and with heterosexual groups (2.17 for girls).

Social Games. The application of chi-square reveals no significant differences between fourth grade boys and girls in social games, as Table 15B shows. Table 4 indicates that only folk dancing appears in both groups with percentage frequencies of 5.26 for girls and 3.49 for boys.

As indicated in Table 5B, this activity occurred for boys with heterogeneous groups (79.17 per cent), with a peer of the same sex (16.67), and with a peer of the opposite sex (4.16). With girls, the participation was with heterosexual groups (93.55) and with own sex groups (6.45).

Collecting. Table 15B shows no significant difference between fourth grade white boys and girls in collecting. Table 4 shows that with the exception of funny books, all of the activities in this category appear for one or both sexes in frequencies ranging from less than one-half to two per cent. Funny books appear with a frequency of 8.49 for girls and 6.10 for boys.

Table 5B shows that all of the boys' collecting was done alone, while for girls 92 per cent was alone, with the remainder shared with a peer of the same sex and with heterogeneous groups.

Passive Participation. Table 15B reveals no significant differences in passive participation for fourth grade white boys and girls. The percentage frequencies, Table 4, show small sex differences in favor of girls for movies (11.71 for girls, 14.39 for boys), radio (10.53 for girls, 8.58 for boys) and for reading (2.38 for girls, 1.45 for boys). The rank order of these items, shown in Table 4A, further reveals their relative importance. Movies appear in first place for boys and girls, and radio is second for girls and third for boys.

In the behavioral situation, indicated in Table 5B, boys showed more participation alone (63.10 for boys, 48.28 for girls), with a peer of the same sex (15.48 for boys, 11.72 for girls), and with parents (4.76 for boys). Girls interacted to a greater extent with siblings (38.62 for girls, 16.67 for boys) than did boys.

In summary, the play behavior of fourth grade white boys and girls, compared in terms of total pattern, showed differences at the one per cent level of significance, as determined by the chi-square technique. Analyzed more specifically, four of the separate categories revealed differences at the same level of significance. These were ritual games and games of intellect, favored by girls, and team sports and individual competitive games, preferred by boys.

In the dramatic play and ritual games categories, domestic roles, jumping-skipping, and seesawing-swinging, favored by girls, and killing-dying and chasing-fleeing favored by boys, showed the most striking sex differences. In team sports, sex differences for baseball, football, and basketball in favor of boys had greatest weight in determining the significant difference. Marbles, with a greater frequency for boys, had greatest weight in individual competitive games. In games of intellect, social games, and collecting, one activity in each category appeared with greater frequency

and greater rank order differences than any of the others. These were for the three groups, respectively, card games, folk dancing and funny books, all of which were favored by girls. In passive participation, movies, radio and reading were all slightly favored by girls, but movies and radio were among the most popular of all items for both groups.

For boys and girls the greatest proportion of participation occurred alone, with a peer of the same sex, own sex groups, heterosexual and heterogeneous groups. The most striking sex difference was in social games where 93.55 per cent of girls' participation was with heterosexual groups and for the same activities 93.62 per cent of the boys' interaction was with own sex groups.

EIGHTH GRADE WHITE BOYS AND WHITE GIRLS

Comparison of the total pattern of play behavior of eighth grade white boys and white girls reveals differences which are significant at the one per cent level, as Table 15C shows. Team sports and collecting show sex differences in favor of boys which are at the one per cent level of significance, while passive participation (.02 level) and social games (.05 level) show significant differences with greater participation by girls.

Dramatic Play. Table 15C shows no significant differences between eighth grade white boys and girls in dramatic play. Table 4 indicates that only planned play appears with a frequency of 4.08 for girls and 2.87 for boys.

For both groups this activity occurred with heterogeneous groups, as Table 5C shows.

Ritual Games. The application of the chi-square technique reveals no significant differences between eighth grade white boys and girls in ritual games, as indicated in Table 15C. Observation of Table 4 reveals that only catching-throwing appears in this category, with less than one per cent frequency for both groups.

All of this activity for girls occurred with own sex groups, while for boys it occurred with a peer of the same sex (Table 5C).

Team Sports. Table 15C indicates that in team sports, differences between eighth grade boys and girls are significant at the one per cent level, as determined by chi-square. Table 4 shows that this difference is evident in baseball (12.86 for boys, 4.40 for girls), football (3.93 for boys), basketball (10.14 for boys, 8.95 for girls) and gymnastics (2.42 for boys, none for girls). Volleyball shows a frequency of 9.58 for girls and 2.72 for boys.

Table 5C shows that for boys and girls approximately 98 per cent of all participation in team sports was with own sex groups.

Individual Competitive Games. The application of chi-square reveals no significant differences between eighth grade white boys and girls in individual competitive games, as shown in Table 15C. Of the separate items, Table 4 shows that the only instance of this behavior was in the game of marbles which occurred in the boys' own sex group (Table 5C).

Games of Intellect. Table 15C shows no significant difference between eighth grade boys and girls in games of intellect. As indicated in Table 4, puzzles, card games, and games of chance appear in one or both groups but the sex differences are approximately two per cent in each case.

In social interaction, indicated in Table 5C, boys showed greater participation in these activities with a peer of the same sex (92.00 for boys, 23.81 for girls). In contrast girls showed more interaction with own sex groups (52.38 for girls, 8.00 for boys), with a peer of the opposite sex (14.29 for girls), and with heterogeneous groups (9.52 for girls).

Social Games. Table 15C indicates that the difference between eighth grade white boys and girls in social games is significant at the five per cent level, as determined by chi-square. According to the data in Table 4, ballroom dancing shows a frequency of 7.38 for girls and 3.93 for boys. All of the other items appear for both groups, but with sex differences of less than one per cent.

Table 5C shows that for both sexes, most of the participation in these activities occurred with heterogeneous groups (91.46 for girls, 86.67 for boys).

Collecting. Table 15C indicates a significant difference at the one per cent level for eighth grade white boys and girls in collecting. Table 4 shows that funny books (12.86 for boys, 4.55 for girls) and stamps (2.12 for boys, 0.47 for girls) appear with greater frequencies for boys, while autographs (4.08) and playing cards (1.10) appear only for girls. Coupons

and marbles appear for boys in frequencies of less than one-half per cent.

With both sexes all of the collecting was done alone (Table 5C).

Passive Participation. The application of chi-square reveals differences between eighth grade boys and girls in passive participation which are significant at the two per cent level, as Table 15C indicates. Table 4 shows that radio (17.27 for girls, 14.83 for boys), movies (18.21 for girls, 17.10 for boys), and reading (8.95 for girls, 2.87 for boys) appear in greater frequencies for girls, thus accounting for the significant difference.

In the behavioral situation, indicated in Table 5C, both groups showed the greater proportion of these activities alone (53.71 for girls, 40.87 for boys), with a peer of the same sex (30.00 for boys, 18.37 for girls), and with a peer of the opposite sex (12.17 for boys, 9.89 for girls).

In summary, the play behavior of eighth grade white boys and girls, when compared for all eight categories, showed sex differences significant at the one per cent level of probability. Of the separate categories team sports and collecting showed sex differences in favor of boys which were significant at the one per cent level, while passive participation (.02 level) and social games (.05 level) showed significant differences in favor of girls.

In dramatic roles, only planned play, and in ritual games, only catching-throwing appeared. The frequencies for these items were small and the differences showed no significance. Team sports, second in preference to passive participation, included baseball, football, basketball and gymnastics, favored by boys, and volleyball and tennis, favored by girls. Individual competitive games and games of intellect showed no significant sex differences. In social games, ballroom dancing showed greatest popularity and the greatest sex difference. Funny book collecting for boys and autographs for girls had the greatest weight in determining the significance of the findings in this category. Movies and radio were the most

popular activities in passive participation, with reading occurring with less frequency but with greater sex difference in favor of girls.

In the type of social interaction for all of the categories, boys showed a greater proportion of activity with a peer of the same sex, whereas girls were involved more with siblings, with a peer of the opposite sex, with heterogeneous groups, and with parents.

COMPARISONS OF THE PLAY BEHAVIOR OF NEGRO BOYS AND GIRLS

Analysis of the play behavior of Negro boys and girls is based upon the information contained in the Tables 16, 16A and 16B, 7 and 7A, 8, 8A, and 8B (Chapter V, pp. 83-89).

Table 16

A COMPARISON OF THE PLAY BEHAVIOR OF SECOND GRADE NEGRO BOYS AND GIRLS

SECOND GRADE	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
Negro Boys	58 72.3	112 164.5	78 58.1	61 32.1	14 16.3	0 0.5	84 63.1	116 116.1	523
Negro Girls	84 69.7	211 158.5	36 55.9	2 30.9	18 15.7	1 0.5	40 60.9	112 111.9	504
	142	323	114	63	32	1	124	228	1027

Chi Square = 121.46

Chi Square Values at .05 = 14.067
" " " " .01 = 18.475
(d.f. = 7)

Table 16 A

A COMPARISON OF THE PLAY BEHAVIOR OF FOURTH GRADE NEGRO BOYS AND GIRLS

FOURTH GRADE	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
Negro Boys	52 77.4	83 112.0	107 79.3	64 31.3	15 22.3	0 2.8	68 50.8	61 74.1	450
Negro Girls	111 85.6	153 124.0	60 87.7	2 34.7	32 24.7	6 3.2	39 56.2	95 81.9	498
	163	236	167	66	47	6	107	156	948

Chi Square = 137.17

Chi Square Values at .05 = 14.067
" " " " .01 = 18.475
(d.f. = 7)

Table 16 B

A COMPARISON OF THE PLAY BEHAVIOR OF EIGHTH GRADE NEGRO BOYS AND GIRLS

EIGHTH GRADE	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
Negro Boys	19 26.6	24 16.1	168 152.2	13 6.5	24 28.1	5 39.7	96 63.3	162 178.4	511
Negro Girls	34 26.4	8 15.9	135 150.8	0 6.5	32 27.9	74 39.3	30 62.7	193 176.6	506
	53	32	303	13	56	79	126	355	1017

Chi Square = 115.91

Chi Square Values at .05 = 14.067
" " " " .01 = 18.475
(d.f. = 7)

SECOND GRADE NEGRO BOYS AND GIRLS

Table 16 reveals that the play behavior of second grade Negro boys and girls, when compared in terms of total pattern, shows differences at the one per cent level of significance. These significant differences, at the one per cent level of probability, are evident in ritual games, which show greater participation by girls, and in team sports, individual competitive games, and collecting which are favored by boys. Differences in dramatic play are significant at the two per cent level, with greater participation by girls.

Dramatic Play. Table 16 shows for dramatic play differences between second grade Negro boys and girls which are significant at the two per cent level. As shown in Table 7, this significance is determined by differences in favor of girls in domestic roles (3.17 for girls, 0.38 for boys) and community roles (8.73 for girls, 1.91 for boys). Killing-dying shows a percentage frequency of 4.21 for boys and 0.20 for girls. For all other items sex differences are less than one-half per cent.

In the behavioral situation, indicated in Table 8, Negro boys showed greater participation alone (10.34 for boys), with a peer of the same sex (5.17 for boys, 1.19 for girls), and with own sex groups (31.03 for boys, 28.57 for girls), while girls showed greater interaction than did boys with heterogeneous groups (67.86 for girls, 53.45 for boys).

Ritual Games. The application of chi-square reveals differences between second grade Negro boys and girls in ritual games that are significant at the one per cent level in favor of girls (Table 16). As shown in Table 7, jumping-skipping (11.31 for girls, 1.72 for boys), catching-throwing (7.74 for girls, 5.16 for boys), singing games (7.34 for girls, 0.38 for boys), and seesawing-swinging (4.37 for girls, 0.38 for boys)

show noticeable differences in favor of girls. Chasing-fleeing (11.09 for boys, 9.13 for girls) was favored by boys. The most striking rank order difference is for jumping-skipping which is in second place for girls and fifteenth for boys (Table 7A).

Table 8 shows that the greatest proportion of interaction in ritual games for boys was with heterogeneous groups (55.36 for boys, 41.23 for girls), and with girls, the greatest participation was with own sex groups (54.98 for girls, 42.86 for boys). Girls interacted with heterosexual groups in 3.32 per cent of the cases, as compared with 0.89 per cent for boys.

Team Sports. The application of chi-square reveals differences at the one per cent level of significance between second grade Negro boys and girls in team sports (Table 16). This difference was in favor of boys. Table 7 shows that baseball (11.09 for boys, 2.18 for girls) has the greatest weight in determining this significance. Volley ball, slightly favored by girls, has a percentage frequency of 4.96 for girls and 3.63 for boys.

Table 8 shows that most of the interaction for boys and girls occurred with own sex groups (75.64 for boys, 55.56 for girls) and with heterogeneous groups (27.78 for girls, 24.36 for boys). Girls interacted with heterosexual groups in 16.67 per cent of the cases.

Individual Competitive Games. Table 16 shows that the differences between second grade Negro boys and girls in individual competitive games are significant at the one per cent level, with greater participation among boys. As indicated in Table 7, marbles (8.41 for boys, 0.40 for girls) have greatest weight in determining this significance. Spinning toys (1.53), horseshoes (1.34) and chicken fights (0.38) appear only in the boys group. Marbles have a rank order of 6 for boys and 18.5 for girls (Table 7A).

As Table 8 shows, the few instances of this behavior for girls occurred with own sex groups, while 90 per cent of the boys' participation was with these groups. Boys showed a small proportion of interaction with parents, a peer of the same sex, and with heterogeneous groups.

Games of Intellect. The application of chi-square reveals no significant differences in games of intellect for second grade Negro boys and girls, as indicated in Table 16. Of the separate items, Table 7 shows that all of them appear in one or both groups in frequencies of less than 3 per cent.

Table 8 shows for boys a greater proportion of these activities alone (14.29 for boys, 5.56 for girls), with a peer of the opposite sex (14.29 for boys, none for girls) and with heterosexual groups (21.43 for boys, none for girls). Girls participated to a greater extent than did boys with own sex groups (72.22 for girls, 28.57 for boys).

Social Games. Table 16 shows no significant difference between second grade Negro boys and girls in social games. These activities did not appear for boys, and the one instance for girls was folkdancing which occurred with own sex groups. (Tables 7 and 8).

Collecting. The application of chi-square revealed differences in collecting for second grade Negro boys and girls which are significant at one per cent level in favor of boys (Table 16). Table 7 shows that funny books, with a frequency of 14.91 for boys and 7.94 for girls, have greatest weight in determining the significance. Coupons and boxtops appear for boys with frequencies of less than one per cent. In rank order, Table 7A, funny books are in first place for boys and fifth place for girls. For both boys and girls more than 98 per cent of the collecting was done alone, as shown in Table 8.

Passive Participation. Table 16 shows that for passive participation differences between Negro boys and girls of the second grade have no significance. Table 7 indicates that radio is slightly favored by girls (14.48 for girls, 11.85 for boys), while movies (10.33 for boys, 7.74 for girls) show slightly greater frequency for boys. Reading was not observed in either group. In rank order radio is in first place for girls and second for boys, and movies are number 5 for boys and 6.5 for girls (Table 7A).

In the behavioral situation, boys showed greater participation alone (45.69 for boys, 20.54 for girls), and with siblings (50.00 for boys, 45.54 for girls) than did girls. In contrast, girls showed 33.93 per cent of interaction with parents (Table 8).

In summary, comparison of the play behavior of second grade negro boys and girls, in terms of the eight major categories, revealed differences at the one per cent level of significance. These significant differences (.01 level) were evident in ritual games, which showed greater frequency in the girls' group, and in team sports, individual competitive games, and collecting, favored by boys. Differences in dramatic play showed significance at the two per cent level with greater participation by girls. In the category of dramatic play, domestic roles and community roles favored by girls, and killing-dying, favored by boys appeared in the greatest frequencies. Greater participation by girls in ritual games was observed in jumping-skipping, catching-throwing, singing games, seesawing-swinging, and hiding-seeking. Chasing-fleeing was more popular with boys. Baseball appeared with much greater frequency for boys, while volley ball was slightly favored by girls. In individual competitive games, marbles, more popular with boys, was the most important activity. Differences between boys and girls for all of the games of intellect were small (less than one per

cent), although all of the items appeared. In the category of social games only one instance of folkdancing occurred in the girls' group. In collecting funny books, favored by boys, was the item of greatest significance. Radio was slightly favored by girls, and movies by boys, but these differences were not significant.

In the behavioral situation boys showed more participation alone than did girls and slightly more with siblings (passive participation), a peer of the same sex, and a peer of the opposite sex. In contrast, girls showed more interaction than did boys with heterosexual groups and with parents. The two groups were very similar in the proportion of participation with one sex groups and with heterogeneous groups.

FOURTH GRADE NEGRO BOYS AND GIRLS

Comparison of the play behavior of fourth grade Negro boys and girls in terms of the total pattern reveals differences at the one per cent level of significance. Table 16A indicates that dramatic play and ritual games show sex differences in favor of girls at this level of significance, and team sports, individual competitive games, and collecting show such differences in favor of boys. Sex differences for games of intellect and for passive participation are significant at the five per cent level, with greater participation by girls.

Dramatic Play. Table 16A shows for dramatic play sex differences for fourth grade Negro children which are significant at the one per cent level in favor of girls. Table 7 indicates that community roles (9.24 for girls, none for boys), domestic roles (4.82 for girls, none for boys), and planned play (8.23 for girls, 4.44 for boys) determine this level of significance. Killing-dying shows a frequency of 6.67 in the boys' group. As Table 7A shows, community roles with a rank order of 2.5 for girls, is the most important item in this category.

In social interaction, Table 8A, both groups showed the greatest participation with own sex groups (51.92 for boys, 37.84 for girls), and with heterogeneous groups (49.55 for girls, 38.46 for boys).

Ritual Games. The application of chi-square, shown in Table 16A, reveals differences at the one per cent level of significance for fourth grade Negro boys and girls in ritual games. Table 7 shows that, of the separate items, jumping-skipping (6.83 for girls), singing games (3.63 for girls), catching-throwing (6.02 for girls, 5.78 for boys), and see-sawing-swinging (3.61 for girls, 10.22 for boys) are favored by girls. Chasing-fleeing (8.67 for boys, 7.83 for girls) and hiding-seeking (3.78 for boys, 2.81 for girls) are slightly favored by boys.

In social interaction, indicated in Table 8A, boys showed greater participation than did girls with heterogeneous groups (48.19 for boys, 20.26 for girls) and with heterosexual groups (9.64 for boys, 5.88 for girls). Girls showed more interaction with own sex groups (64.71 for girls, 42.17 for boys) and with a peer of the same sex (9.15 for girls).

Team Sports. As Table 16A shows, differences between fourth grade Negro boys and girls in team sports are at the one per cent level of significance in favor of boys. Table 7 indicates that baseball (16.44 for boys, 5.02 for girls) and football (4.00 for boys) have the greatest weight in determining this significance, Volley ball, favored by girls, shows frequency of 5.42 for girls and 1.56 for boys. Baseball ranks first in importance for boys and is number 10.5 for girls, while football is number 10 for boys (Table 7A).

Table 8A shows that for boys, 93.46 per cent of the team sports occurred with own sex groups, as compared with 46.67 per cent for girls. Girls showed more interaction with heterogeneous groups (50.00 for girls, 3.74 for boys).

Individual Competitive Games. Table 16A indicates that differences between fourth grade Negro boys and girls in individual competitive games are significant at the one per cent level, as determined by chi-square. As Table 7 shows, this significance is determined mainly by sex differences in marbles (11.11 for boys, 0.40 for girls). Frequencies for all other items are less than 2 per cent.

Table 8A shows that this behavior occurred for girls with heterosexual groups, while for boys the interaction was with own sex groups (64.06) and with a peer of the same sex (35.94).

Games of Intellect. Table 16A shows that sex differences between fourth grade Negro children in games of intellect are significant at the

five per cent level in favor of girls. Table 7 indicates that games of chance (6.22 for girls, 2.22 for boys) determine this level of significance. Puzzles appear with a frequency of 1.11 for boys, and 0.20 for girls.

In social interaction, Table 8A, both groups showed the greater proportion of activity with a peer of the same sex (56.25 for girls, 53.33 for boys) and with own sex groups (34.38 for girls, 33.33 for boys).

Social Games. Table 16A shows no significant difference in social games for fourth grade Negro boys and girls. Only folkdancing appears in the girls' group with a frequency of 1.20 (Table 7).

Collecting. The application of chi-square reveals differences at the one per cent level of significance for fourth grade Negro boys and girls in collecting. Table 7 shows that funny books, the most important activity, appear with a percentage frequency of 13.33 for boys, and 5.02 for girls. No other item shows sex differences greater than 2 per cent. In rank order (Table 7A) funny books shift from second place for boys to 10.5 for girls.

Passive Participation. Differences in passive participation between fourth grade Negro boys and girls are significant at the one per cent level in favor of girls (Table 16A). Table 7 shows that both radio (9.24 for girls, 7.33 for boys) and movies (9.84 for girls, 6.22 for boys) appear with greater frequencies for girls. Reading does not appear in either group.

Table 8A indicates that for boys and girls approximately 20 per cent of this participation was done alone. Boys, to a greater extent than did girls, interacted with siblings (63.93 for boys, 37.89 for girls), and with a peer of the same sex (9.84 for boys, 4.21 for girls). Greater participation with parents (37.89 for girls, 4.92 for boys) was shown by girls.

In summary, the play behavior of fourth grade Negro boys and girls, compared for all eight categories, showed differences at the one per cent level of significance. Of the separate categories, dramatic play and ritual games showed sex differences in favor of girls at this level of significance, and team sports, individual competitive games, and collecting showed significant differences at the one per cent level, with greater participation by boys. Sex differences for games of intellect and for passive participation showed significance at the five per cent level, with greater participation by girls.

Community roles, domestic roles, and planned play weighted the level of significance in favor of girls for dramatic play. Killing-dying was more popular with boys. Jumping-skipping, singing games, catching-throwing and seesawing-swinging showed greater frequencies for girls, while chasing-fleeing and hiding-seeking appeared with greater frequencies for boys. Baseball and football were for boys the favored team sports, while girls showed some preference for volley ball. Marbles appeared as the most popular of the individual competitive games. Girls' preference for games of chance accounted for the significant difference in games of intellect. Social games appeared relatively unimportant at this level as indicated by the little participation in folkdancing for this category. Funny books, favored by boys, determined the significant difference found in collecting behavior. Radio and movies, popular with both groups, were favored by girls. Reading did not appear.

In the behavioral situation, boys and girls were very similar in the proportion of participation which occurred alone. Boys showed more participation than did girls with siblings (passive participation), with own sex groups, and with a peer of the same sex. Girls interacted to a greater extent with heterosexual groups and with heterogeneous groups.

EIGHTH GRADE NEGRO BOYS AND GIRLS

Table 16B shows that the differences between eighth grade Negro boys and girls in the total pattern of play behavior are significant at the one per cent level. Ritual games, individual competitive games, and collecting show sex differences at this level of significance with greater participation by boys. Differences for social games are significant at the one per cent level, and for dramatic play at the five per cent level, with greater participation by girls.

Dramatic Play. Table 16B reveals differences in dramatic play between eighth grade Negro boys and girls which are significant at the five per cent level. As Table 7 indicates, this difference is determined by planned play, with a frequency of 6.72 for girls and 3.72 for boys.

For both boys and girls all of the dramatic play occurred with heterogeneous groups (Table 8B).

Ritual Games. Table 16B shows that in ritual games the difference between eighth grade Negro boys and girls is significant at the one per cent level in favor of boys. As indicated by Table 7, this significant difference is determined by small sex differences in favor of boys for chasing-fleeing (3.33 for boys, 0.99 for girls), catching-throwing, and hiding-seeking.

Participation in ritual games occurred for eighth grade Negro girls with own sex groups (87.50) and with younger children (12.50), while for boys interaction was with heterosexual groups (50.00), heterogeneous groups (20.83), own sex groups (12.50), a peer of the same sex (12.50), and a peer of the opposite sex (4.17)

Team Sports. The application of chi-square reveals no significant differences between eighth grade Negro boys and girls in team sports.

Table 7 shows that for the separate items, striking sex differences appear in baseball (15.66 for boys, 2.96 for girls) and football (7.24 for boys, none for girls), which were favored by boys, and in volley ball (12.85 for girls, 3.91 for boys) and basketball (10.87 for girls, 6.07 for boys), favored by girls. The rank order shifts for these items show the same sex differences, as shown in Table 7A.

Table 8B shows that for both groups more than 90 per cent of the interaction was with own sex groups.

Individual Competitive Games. As indicated in Table 16B, the difference between eighth grade Negro boys and girls in individual competitive games shows a one per cent level of significance. Table 7 shows that this significant difference is determined by the appearance in the boys' group of horseshoes (0.98), marbles (0.98), and spinning tops (0.59). These items do not appear in the girls' group.

Table 8B shows that these activities occurred for boys with own sex groups (69.23) and with a peer of the same sex (30.77).

Games of Intellect. The application of chi-square reveals no significant difference between eighth grade Negro boys and girls in games of intellect, as Table 16B indicates. Table 7 shows that games of chance appear with almost equal frequencies for boys (3.72) and for girls (3.56), while card games show a frequency of 2.77 for girls and 0.98 for boys.

As indicated in Table 8B, both boys and girls showed the greater proportion of these activities with a peer of the same sex (58.33) for boys, 31.25 for girls) and with own sex groups (59.38 for girls, 29.17 for boys). Participation with a peer of the opposite sex was similar for boys (8.33) and girls (9.38).

Social Games. Table 16B shows for social games differences between eighth grade Negro boys and girls that are significant at the one per cent level. As indicated in Table 7, this significance is determined by sex differences in ballroom dancing (8.89 for girls, 0.98 for boys) and conversation (5.73 for girls, none for boys). In rank order ballroom dancing is number 5 for girls and 14.5 for boys, and conversation is number 8 for girls and does not appear for boys.

For boys, all of this activity occurred with heterogeneous groups, and for girls 97.30 per cent was with these groups.

Collecting. Table 16B shows that in collecting, the differences between eighth grade Negro boys and girls are significant at the one per cent level, as determined by chi-square. According to the information in Table 7, funny books, with a frequency of 16.83 for boys and 2.37 for girls, is the activity which determines this level of significance in favor of boys. All other frequencies are small and the differences negligible, with the possible exception of autographs which are slightly favored by girls. As shown in Table 7A, funny books are first in rank for boys and are in twelfth place for girls.

With both groups, all of the collecting was done alone (Table 8A).

Passive Participation. The test of chi-square reveals no significant differences in passive participation for eighth grade Negro boys and girls. Table 7 shows that radio (16.80 for girls, 15.07 for boys) and movies (14.68 for boys, 13.24 for girls) are popular with both groups, but the sex differences are small. Reading shows a frequency of 7.71 for girls and 1.96 for boys. Radio ranks first in importance for girls and third for boys, and movies are second for girls and fourth for boys. Reading falls to sixth place for girls and eleventh for boys.

In summary, a comparison of the play behavior of Negro boys and girls of the eighth grade revealed differences at the one per cent level of significance, when all categories were compared as a whole. Ritual games, individual competitive games, and collecting showed significant differences (.01 level) with greater participation by boys, while social games (.01 level) and dramatic play showed significant differences (.05 level) in favor of girls.

In the dramatic play category, only planned play favored by girls, occurred for both groups. Chasing-fleeing, most important of the ritual games, showed greater frequency for boys. Football did not appear for girls, while baseball, although more popular with boys, showed a small frequency in the girls' group. Volley ball and basket ball were favored by girls. Of the individual competitive games only marbles, spinning tops and horseshoes appeared for boys. Games of chance appeared with almost equal frequencies for boys and girls, while card games were slightly favored by girls. Ballroom dancing and conversation showed greater frequencies in the girls' group. Funny books, favored by boys, determined the significant sex difference in collecting activities. Coupons and stamps appeared in small and almost equal frequencies for both groups. Radio and movies were popular with both groups but the sex differences were negligible. Reading, much less popular, showed a greater frequency for girls.

In the behavioral situation, eighth grade Negro boys and girls showed very similar patterns of participation alone, with siblings, and with a peer of the opposite sex. The greatest sex difference was in the interaction with a peer of the same sex, with boys showing more of this interaction. Boys interacted to a greater extent than did girls with heterosexual groups (in ritual games), and with heterogeneous groups, while girls showed slightly greater interaction with younger children and with own sex groups.

[illegible]

[illegible] : [illegible]

The comparisons made in [illegible] group, [illegible] of boys' and girls' groups which are placed are based upon the data contained in the tables 17, 17a, and 17b; 18 and 18a; 11, 11a, and 11b. (See ch., pp. 101-107)

Table 17

A COMPARISON OF THE PLAY BEHAVIOR OF SECOND GRADE BOYS AND GIRLS (WHITE AND NEGRO)

SECOND GRADE	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
Boys	240 256.1	372 442.2	91 64.3	89 46.40	42 43.40	5 7.6	152 121.5	219 228.9	1210
Girls	268 251.9	505 434.8	36 62.7	3 45.6	44 42.6	10 7.4	89 119.5	235 225.1	1190
	508	877	127	92	86	15	241	454	2400

Chi Square = 144.60

Chi Square Values at .05 = 14.067
" " " " .01 = 18.475
(d.f. = 7)

Table 17 A

A COMPARISON OF THE PLAY BEHAVIOR OF FOURTH GRADE BOYS AND GIRLS (WHITE AND NEGRO

FOURTH GRADE	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
Boys	145 174.4	168 236.8	287 208.7	111 59.8	39 59.8	24 31.2	135 127.4	229 239.9	1138
Girls	196 166.6	295 226.2	121 199.3	6 57.2	78 57.2	37 29.8	114 121.6	240 229.1	1087
	341	463	408	117	117	61	249	469	2225

Chi Square = 221.98

Chi Square Values at .05 = 14.067
" " " " .01 = 18.475
(d.f. = 7)

Table 17 B

A COMPARISON OF THE PLAY BEHAVIOR OF EIGHTH GRADE BOYS AND GIRLS (WHITE AND NEGRO)

EIGHTH GRADE	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
Boys	38 49.6	26 19.7	385 341.7	14 7.1	49 51.6	65 111.9	203 150.9	392 439.4	1172
Girls	60 48.4	13 19.3	290 333.3	0 69.	53 50.4	156 109.1	95 147.1	476 428.6	1143
	98	39	675	14	102	221	298	868	2315

Chi Square = 121.16

Chi Square Values at .05 = 14.067
" " " " .01 = 18.475
(d.f. = 7)

SECOND GRADE BOYS AND GIRLS

Comparison of the total pattern of play behavior for second grade boys and girls, reported in Table 17, reveals differences at the one per cent level of significance. These significant differences, at the one per cent level, are evident in ritual games which show greater participation by girls, and in team sports, individual competitive games, and collecting, which show greater participation by boys.

Dramatic Play. The application of chi-square reveals no significant difference between second grade boys and girls in dramatic play. Table 10 indicates that in terms of separate items, transportation (4.30 for boys, 1.18 for girls) and killing-dying (6.69 for boys, 0.59 for girls) show noticeable differences in favor of boys, while domestic roles (6.72 for girls, 0.66 for boys), community roles (6.72 for girls, 1.24 for boys) and planned play (6.22 for girls, 5.62 for boys) show differences in favor of girls. Selling-buying, legendary play, and animal play appear in both groups in frequencies of less than one per cent. The rank order of these items, Table 10A, show the same sex preferences.

In the behavioral situation, indicated in Table 11, boys showed greater participation alone, (13.75 for boys, 5.60 for girls), with a peer of the same sex (12.50 for boys, 6.34 for girls) and with own sex groups (28.33 for boys, 24.25 for girls) than did girls. Girls interacted to a greater extent with heterogeneous groups (51.72 for girls, 40.83 for boys) and with a peer of the opposite sex (3.73 for girls, 0.83 for boys).

Ritual Games. Table 17 shows for ritual games differences between second grade boys and girls which are significant at the one per cent level, with greater participation by the girls. Table 10 shows that of the separate items, singing games (9.16 for girls, 4.79 for boys), jumping-skipping (10.50 for girls, 3.22 for boys), seesawing-swinging (5.88 for girls, 2.31 for boys)

and hiding-seeking (1.76 for girls, 0.99 for boys) appear with greater frequencies in the girls' group, while chasing-fleeing (11.16 for boys, 9.33 for girls) and catching-throwing (8.26 for boys, 5.80 for girls) are favored by boys. The greatest rank order shift is jumping-skipping which appears in second place for girls and twelfth for boys (Table 10A).

In social interaction, indicated in Table 11, boys showed a greater proportion of this behavior with heterogeneous groups (56.72 for boys, 49.90 for girls). Girls interacted to a greater extent than did boys with own sex groups (34.26 for girls, 29.57 for boys)and with a peer of the same sex (9.50 for girls, 5.11 for boys); other sex differencies were negligible.

Team Sports. Table 17 indicates that the difference between second grade boys and girls in team sports is at the one per cent level of significance in favor of boys. Table 10 shows that this difference is accounted for by the small frequencies in favor of boys for baseball (4.88 for boys, 0.92 for girls), football (0.99 for boys) and basketball (0.08 for boys). Volley ball (2.10 for girls, 1.57 for boys) is slightly favored by girls.

As indicated in Table 11, boys showed greater participation in team sports with own sex groups (74.73 for boys, 55.56 for girls) and with a peer of the same sex (4.40 for boys). Girls showed more interaction than did boys with heterogeneous groups (27.78 for girls, 20.88 for boys) and with heterosexual groups (16.67 for girls, none for boys).

Individual Competitive Games. Table 17 shows for individual competitive games differences between second grade boys and girls which are significant at the one per cent level, as determined by chi-square. Table 10 shows that, of the separate items, marbles appear in both groups with frequencies of 5.54 for boys and 0.25 for girls, while spinning tops (1.07),

horseshoes (0.58) and chicken fights (0.17) appear only for boys. Marbles have a rank order of 8 for boys and 24 for girls (Table 10A).

As shown in Table 11, these activities occurred for girls only with heterosexual groups, while for boys the interaction was with own sex groups (80.90), a peer of the same sex (16.61), parents (3.37), and with heterogeneous groups (1.12).

Games of Intellect. The application of chi-square reveals no significant difference between second grade boys and girls in games of intellect. As indicated in Table 10, games of chance and card games appear with slightly greater frequencies for girls, and puzzles for boys, but the differences are too small to be significant.

In the behavioral situation, Table 11, boys showed greater participation alone (29.19 for boys, 9.09 for girls), with a peer of the same sex (52.38 for boys, 47.73 for girls), and with heterosexual groups (7.14 for boys). In contrast, girls showed greater interaction with own sex groups (29.55 for girls, 9.52 for boys), with a peer of the opposite sex (11.36 for girls, 4.76 for boys), and with heterogeneous groups (2.27 for girls).

Social Games. The application of chi-square reveals no significant difference between second grade boys and girls in social games, as Table 17 shows. Only folkdancing appears in this category with frequencies of less than one per cent for both groups (Table 10).

Table 11 shows that for boys and girls all of this behavior occurred with heterogeneous groups.

Collecting. Table 17 indicates that the differences between second grade boys and girls in collecting are significant at the one per cent level, with greater participation by the boys. Funny books, the most important item, show a frequency of 11.16 for boys and 6.13 for girls. Playing

cards appear with slightly greater frequency for girls, and boxtops and coupons for boys, but these frequencies range from less than one-half to approximately one per cent. Funny books show a rank order of 1.5 for boys and 9 for girls (Table 10A).

For both groups collecting behavior occurred alone (85 to 88 per cent) and with a peer of the same sex (12 to 15 per cent), as indicated in Table 11.

Passive Participation. Table 17 shows that in passive participation differences between second grade boys and girls have no significance. Radio (11.10 for girls, 10.00 for boys) and movies (8.15 for girls, 7.93 for boys) show very small percentage differences in favor of girls. Reading appears in both groups in frequencies of less than one-half per cent. Radio is first in rank for girls, and third for boys, while movies are in fifth place for both groups (Tables10 and 10A).

Boys showed a greater proportion of passive participation alone (47.49 for boys, 30.21 for girls), and with a peer of the same sex (6.85 for boys, 2.59 for girls). Girls showed greater interaction than did boys with parents (29.79 for girls, 7.31 for boys). For both groups approximately 38 per cent of the activity was with siblings, as indicated in Table 11.

In summary, comparison of the play behavior of second grade boys and girls revealed differences at the one per cent level of significance. Ritual games showed differences in favor of girls at this level of significance, and team sports, individual competitive games, and collecting showed significant differences in favor of boys.

In the category of dramatic play, transportation and killing-dying showed noticeable differences in favor of boys, and domestic roles, community roles, and planned play were favored by girls. The significant difference in favor of girls for ritual games was due to sex differences in sing-

ing games, jumping-skipping, seesawing-swinging, and hiding-seeking. Chasing-fleeing and catching-throwing were favored by boys. In team sports, baseball was the item which had greatest weight in determining the significant difference. Marbles, favored by boys was the most important activity in individual competitive games. Games of chance, card games, and puzzles appeared for both groups but the sex differences were negligible. Folk-dancing appeared in the category of social games but the sex differences were not significant. Funny books, favored by boys, determined the significant difference in collecting. Radio and movies, popular in both groups, showed only slightly greater frequencies in the girls' group. Reading appeared in frequencies of less than one-half per cent.

In the behavioral situation, second grade boys and girls showed a very similar pattern of social interaction when considered in terms of all categories of play behavior. Boys showed slightly greater participation alone, with a peer of the same sex, and with own sex groups. Girls, a little more than boys, interacted with a peer of the opposite sex, hetero-sexual groups, with heterogeneous groups, and with parents. The proportion of interaction with siblings was almost equal for the two groups.

FOURTH GRADE BOYS AND GIRLS

Comparison of the play behavior of fourth grade boys and girls in terms of the total pattern reveals differences significant at the one per cent level, as determined by chi-square. As indicated in Table 17A, these significant differences are evident in dramatic play, ritual games, and games of intellect, which show greater participation by girls, and in team sports and individual competitive games, which show greater frequencies of participation for boys.

Dramatic Play. The application of chi-square reveals a difference between fourth grade boys and girls in dramatic play that is significant at the one per cent level. Table 10 shows that this difference in favor of girls is determined by the larger frequencies for girls for domestic roles (4.38 for girls, none for boys), community roles (5.24 for girls, 0.09 for boys), and for planned play (7.54 for girls, 5.10 for boys). Killing-dying shows a noticeable difference in favor of boys. Frequencies for all other items are less than one-half per cent.

Table 11A indicates that for boys the greater proportion of this behavior occurred with own sex groups (48.2[illegible] for boys, 31.12 for girls). In contrast, girls showed more interaction with heterogeneous groups (50.00 for girls, 40.69 for boys), with a peer of the same sex (14.29 for girls, 8.97 for boys), and with heterosexual groups (2.55 for girls).

Ritual Games. Table 17A shows that in ritual games differences between fourth grade boys and girls are at the one per cent level of significance, in favor of girls. As indicated in Table 10, these differences are accounted for by sex differences in jumping-skipping (7.10 for girls, 0.70 for boys), seesawing-swinging (3.43 for girls, 0.44 for boys), and to a less extent, catching-throwing (4.78 for girls, 3.60 for boys), singing

games (1.84 for girls, 0.53 for boys), and hiding-seeking (2.48 for girls, 2.37 for boys). Chasing-fleeing (7.12 for boys, 5.43 for girls) is favored by boys. The greatest rank order differences are in jumping-skipping which is number 4 for girls, and 22 for boys, and in seesawing-swinging, number 7.5 for girls and 25 for boys (Table 10A).

Table 11A shows that for boys the greater proportion of these activities occurred with heterogeneous groups (48.21 for boys, 21.69 for girls), and with heterosexual groups (12.50 for boys, 4.75 for girls). Girls showed greater interaction than did boys with own sex groups (53.56 for girls, 29.76 for boys), and with a peer of the same sex (17.63 for girls, 5.36 for boys).

Team Sports. The application of chi-square reveals differences between fourth grade boys and girls in team sports that are significant at the one per cent level in favor of boys. As indicated in Table 10, this difference is evident in baseball (14.41 for boys, 3.22 for girls), football (3.95 for boys), basketball (2.02 for boys, 0.83 for girls), and gymnastics (2.11 for boys, 0.64 for girls). Volley ball (6.26 for girls, 2.72 for boys) is favored by girls, and tennis (0.18) appears only in the girls' group. Table 10 shows that baseball, the most important item, is first in rank for boys and fourteenth for girls.

As shown in Table 11A, the greater proportion of these activities for boys and girls was with own sex groups (89.90 for boys, 55.37 for girls). Girls interacted to a greater extent than did boys with heterogeneous groups (37.19 for girls, 4.53 for boys). All other sex differences are negligible.

Individual Competitive Games. The application of chi-square reveals differences between fourth grade boys and girls in individual competitive games that are significant at the one per cent level in favor of boys. As indicated in Table 10, marbles, the most important item, appear with a fre-

quency of 7.91 for boys and 0.46 for girls. Darts (0.18 for boys, 0.09 for girls) appear for both groups, while spinning tops (0.97), horseshoes (0.62), and chicken fights (0.09) appear only for boys. Marbles show a rank order of 5 for boys and 25.5 for girls (Table 10A).

Table 11A shows that for girls all of this behavior occurred with heterosexual groups, and for boys the interaction was with own sex groups (76.58) and with a peer of the same sex (23.42).

Games of Intellect. Table 17A shows the differences between fourth grade boys and girls in games of intellect are at the one per cent level of significance in favor of girls. Table 10 indicates that this difference is accounted for by sex differences in games of chance (4.32 for girls, 2.02 for boys) and card games (1.93 for girls, 0.26 for boys). Puzzles (1.14 for boys, 0.92 for girls) are slightly favored by boys.

As shown in Table 11, boys engaged in these activities more than did girls alone (12.62 for boys, 7.69 for girls) and with heterogeneous groups (23.08 for boys, 3.85 for girls). In contrast, girls showed greater interaction with a peer of the same sex (47.44 for girls, 38.46 for boys), with own sex groups (33.33 for girls, 23.08 for boys), and with a peer of the opposite sex (6.41 for girls, 2.56 for boys).

Social Games. Table 17A shows no significant difference between fourth grade boys and girls in social games, as determined by chi-square. Table 10 shows that the only item to appear in this category is folkdancing (3.40 for girls, 2.11 for boys), which is slightly favored by girls.

As Table 11A indicates, participation in social games for boys was with heterogeneous groups (79.17), with a peer of the same sex (16.67) and with a peer of the opposite sex (4.17), while for girls the interaction occurred with heterosexual groups (73.38), heterogeneous groups (16.22),

and with own sex groups (5.41).

Collecting. The application of chi-square reveals no significant difference between fourth grade boys and girls in collecting. As indicated in Table 10, funny books (8.96 for boys, 6.20 for girls) show a small sex difference in favor of boys. All other items in this category appear for one or both groups but in frequencies ranging from less than one-half to slightly more than one per cent.

In the behavioral situation, shown in Table 11A, all of the behavior for boys occurred alone, and for girls 93.86 per cent of the activity occurred alone.

Passive Participation. The test of chi-square shows no significant difference between fourth grade boys and girls in passive participation. As indicated in Table 10, movies show a slight difference in favor of boys (11.16 for boys, 10.86 for girls), while radio (9.94 for girls, 8.08 for boys) and reading (1.29 for girls, 0.88 for boys) show a slight difference in favor of girls. Table 10A shows that radio ranks second in importance for girls and fourth for boys, while movies are first for girls and second for boys. Reading is number 5 for girls and 11 for boys.

In summary, comparison of the total pattern of play behavior of fourth grade boys and girls revealed differences at the one per cent level of significance. Dramatic play, ritual games, and games of [illegible] showed this significant difference in favor of girls, and team sports and individual competitive games showed a significant difference at the one per cent level in favor of boys.

The significant difference in dramatic play was determined by differences in favor of girls for domestic roles, community roles, and planned play. Killing-dying showed a noticeable difference in favor of boys. In

ritual games, all of the items except chasing-fleeing showed greater frequencies for girls. The difference in favor of boys for team sports was evident in baseball, fottball, basketball and gymnastics. Volley ball was favored by girls. In individual competitive games, differences in favor of boys were consistent for all the separate items, with marbles as the most important. Games of chance and card games determined the significant difference in favor of girls for games of intellect. Folkdancing was slightly favored by girls but the difference was not significant. Funny books showed a small difference in favor of boys, while all of the other items appeared in one or both groups with negligible sex differences. Radio and reading showed small differences in favor of girls, and movies appeared in almost equal frequencies for both groups.

In the behavioral situation, boys showed greater participation alone, with a peer of the same sex, and with heterogeneous groups, than did girls. In contrast, girls interacted to a greater extent with heterosexual groups, and in passive participation, with siblings and parents.

EIGHTH GRADE BOYS AND GIRLS

A comparison of the play behavior of eighth grade boys and girls shows differences at the one per cent level of significance, as determined by chi-square. As Table 17B indicates, team sports, individual competitive games, and collecting show differences at the one per cent level of significance in favor of boys, and social games and passive participation show these differences with greater participation by girls. In dramatic play differences in favor of girls are at the two per cent level, and in ritual games, in favor of boys, at the five per cent level of significance.

Dramatic Play. The application of chi-square reveals differences between eighth grade boys and girls that are significant at the two per cent level, with greater participation by the girls. This difference is accounted for by planned play (5.25 for girls, 3.24 for boys), the only item to appear in this category (Table 10).

Table 11B shows that for both boys and girls all of this activity occurred with heterogeneous groups.

Ritual Games. Table 17B shows that for ritual games differences between eighth grade boys and girls are significant at the five per cent level in favor of boys. As Table 10 indicates, this significance is determined by small sex differences for chasing-fleeing (1.45 for boys, 0.44 for girls), catching-throwing (0.60 for boys, 0.52 for girls) and for hiding-seeking (0.17 for boys). Jumping-skipping appears only in the girls' group (0.09).

In the behavioral situation, indicated in Table 11B, girls participated more than did boys with own sex groups (92.31 for girls, 11.54 for boys), and with younger children (7.69 for girls). Boys also interacted

with heterosexual groups (46.15), heterogeneous groups (19.23), a peer of the same sex (19.23), and with a peer of the opposite sex (3.85).

Team Sports. Team sports show differences between eighth grade boys and girls which are significant at the one per cent level, as determined by chi-square. As Table 10 indicates, this difference is evident in baseball (11.08 for boys, 3.76 for girls) which shows a striking difference in favor of boys, and in football (5.38) and gymnastics (1.37) which appear only in the boys' group. Volley ball (11.02 for girls, 3.24 for boys), basket ball (9.80 for girls, 6.36 for boys), and to a less extent, tennis (0.79 for girls, 0.43 for boys) are favored by girls. Baseball has a rank order of 1 for boys and 8 for girls, while football is number 6 for boys and does not appear for girls. Volley ball is number 3 for girls and 8.5 for boys (Table 10A).

For both groups, the major proportion of this behavior occurred with own sex groups (approximately 95 per cent), as shown in Table 11B.

Individual Competitive Games. Table 17B shows that individual competitive games do not occur for eighth grade girls, but that they appear for boys with a difference which is significant at the one per cent level. This significance is determined by the small frequencies for boys for marbles (0.51), horseshoes (0.43), and spinning tops (0.26), as shown in Table 10.

Table 11B shows that these activities for boys occurred with own sex groups (71.43) and with a peer of the same sex (28.57).

Games of Intellect. No significant difference is found between eighth grade boys and girls in games of intellect. Games of chance show slightly greater frequency for boys (3.41 for boys, 2.01 for girls), and card games for girls (2.62 for girls, 0.63 for boys). Puzzles appear in

small and almost equal frequencies (0.15 - 0.17) for both groups (Table 10).

Table 11B indicates that for boys the greater proportion of these activities occurred with a peer of the same sex (75.51 for boys, 26.30 for girls). In contrast, girls interacted more with own sex groups (56.60 for girls, 13.37 for boys), with a peer of the opposite sex (11.32 for girls, 4.08 for boys), and slightly more with heterogeneous groups (3.77 for girls, 2.04 for boys).

Social Games. The application of chi-square reveals differences at the one per cent level of significance between eighth grade boys and girls in social games. Table 10 shows that this significance in favor of girls is determined by the sex differences in ballroom dancing (8.05 for girls, 2.65 for boys), conversation (3.67 for girls, 0.66 for boys), and folkdancing (0.35 for girls, 0.09 for boys). Car riding and kissing games show small differences in favor of boys. Ballroom dancing has a rank order of 6 for girls and 10 for boys, and conversation is 9 for girls and 17 for boys (Table 10A).

Table 11B shows that for both groups most of this participation was with heterogeneous groups (94.23 for girls, 87.69 for boys). Boys showed greater interaction than did girls with own sex groups (10.77 for boys, 5.77 for girls).

Collecting. The application of chi-square reveals differences between eighth grade boys and girls in collecting that are significant at the one per cent level in favor of boys. Table 10 shows that this sex difference is evident in funny books (14.59 for boys, 3.59 for girls), stamps (1.62 for boys, 0.70 for girls), and coupons (0.60 for boys, 0.17 for girls). Autographs are favored by girls (3.24 for girls, 0.26 for boys). Match covers (0.61) appear in small frequency for girls, and marbles (0.26) for boys.

Funny books have a rank order of 3 for boys and 10 for girls (Table 10A).

All of the collecting for both groups is done alone, as shown in Table 11A.

Passive participation. As indicated in Table 17B passive participation have differences between eighth grade boys and girls which are significant at the one per cent level, with greater participation by girls. Radio (17.06 for girls, 11.95 for boys) and reading (6.40 for girls, 2.47 for boys) show noticeable differences in favor of girls, while movies appear with almost equal frequencies (approximately 10 per cent) for both groups. Radio is first in rank for girls and second for boys, and movies are first for boys and second for girls. Reading is in fifth place for girls and eleventh for boys (Tables 10 and 10A).

Both groups show wide and very similar participation in these activities. Girls show slightly greater participation alone (50.21 for girls, 47.94 for boys), with siblings (12.16 for girls, 9.69 for boys) and with parents (3.37 for girls, none for boys). Boys show slightly greater activity with a peer of the same sex (24.74 for boys, 20.59 for girls). Differences in interaction with a peer of the opposite sex, own sex groups and heterogeneous groups are negligible, as may be observed in Table 11B.

In summary, a comparison of the total pattern of play behavior of eighth grade boys and girls revealed differences at the one per cent level of significance. Team sports, individual competitive games, and collecting showed differences at the one per cent level of significance in favor of boys, and social games and passive participation showed this difference in favor of girls. Differences in favor of girls for dramatic play were at the two per cent level of significance, and in favor of boys for ritual games, at the five per cent level.

In the dramatic play category, planned play, favored by girls, accounted for the significant difference. Small sex differences in favor of boys for chasing-fleeing, catching-throwing, and hiding-seeking determined the significance for ritual games. Baseball, football and gymnastics showed differences in favor of boys, while volley ball showed a noticeable difference in favor of girls. Differences in individual competitive games were evident in small but greater frequencies for boys for marbles, horseshoes, and spinning tops. Games of chance showed slightly greater frequency for boys and card games for girls, but the differences were not significant. Ballroom dancing, conversation and folkdancing, favored by girls, determined the significant difference in this category. Funny books and, to a less extent, stamps and coupons weighted the difference in favor of boys for collecting. Autographs were favored by girls. Radio and reading showed greater frequencies for girls, and movies, popular with both groups, appeared in almost equal frequencies for boys and girls.

In the behavioral situation, boys showed greater participation than did girls with a peer of the same sex and with heterosexual groups. The proportion of participation for boys and girls which occurred alone, with own sex groups, with a peer of the opposite sex, and with parents and siblings, was very similar with only slight differences in favor of girls. Both groups showed relatively wide participation with heterogeneous groups.

SUMMARY AND CONCLUSIONS

The sex comparisons reported in this chapter provide added support for a relationship between the developmental sequence of children's play behavior and the sex differences in children. Not only does this analysis reveal sex differences in children's play, it also shows that for some play activities the significance of these differences varies with the age-grade level of the children, thus indicating the relationship of sex differences to the changing pattern of children's play through the grades.

In dramatic play, white children showed no significant sex differences in participation at any level compared, but for Negro children significant sex differences in favor of girls were found at second, fourth and eighth grade levels. Of the separate items, transportation, killing-dying, and animal play were consistently favored by boys wherever they appeared, and domestic roles, community roles, and planned play (except for second grade Negro boys) were consistently favored by girls.

Significant differences in favor of girls were found for white boys and girls at the fourth grade level for ritual games. Negro children showed these differences in favor of girls at second and fourth grade levels, and in favor of boys at the eighth grade level. Chasing-fleeing was consistently favored by boys, and with one exception, jumping-skipping and seesawing-swinging were favored by girls.

The general pattern for team sports was that of greater participation by boys at all grade levels. These significant differences (except for eighth grade Negro children) were determined by consistently greater frequencies for baseball, football, and gymnastics, and in most instances, for basketball. Volley ball and tennis were favored by girls wherever they appeared.

In individual competitive games, the general pattern was that of greater frequency of participation for boys at all levels, with most of the differences showing statistical significance. Every single item in this category was consistently favored by boys at all grade levels.

Games of intellect showed significant differences in favor of girls, both white and Negro, only at the fourth grade level. This difference was due to greater participation of white girls for card games, puzzles, and games of chance, and of Negro girls, for games of chance.

Only at the eighth grade level were significant sex differences found for social games. These differences were due to striking sex differences in favor of girls for ballroom dancing, conversation, and folkdancing.

In collecting, white children showed a significant difference in favor of boys at the eighth grade level, and Negro children showed this difference in favor of boys at second, fourth, and eighth grade levels. Of the separate items, funny books were consistently favored by boys at all levels, and with very few exceptions, stamps, boxtops, marbles and coupons were also favored by boys. Autographs, and in most instances, match covers and playing cards, showed greater frequencies for girls.

In passive participation, significant sex differences in favor of girls were found for Negro children at the fourth grade level, and for white children at the eighth grade level. In terms of the separate items, radio and reading consistently showed small sex differences in favor of girls, while movies showed no consistent pattern of sex preference.

From this analysis of data in terms of sex differences in children's play, there seem to be a few general conclusions regarding the nature of the differences. Significant differences in favor of boys were found for the

very active, the very competitive games. In contrast, significant differences in favor of girls were found for dramatic play (Negro girls), and in ritual games, games of intellect, social games, and passive participation at certain grade levels.

These findings suggest that the differences in favor of boys are in the direction of the highly organized, highly skilled, and more strenuous activities than those preferred by girls. On the other hand, the differences in favor of girls are in the direction of the quieter, less strenuous activities. Some exceptions to this are evident in the data, as in the collecting activities for boys, and in the case of almost equal movie attendance for both groups.

All of these differences may be seen in relation to the differences between boys and girls in physical development, and to differences in cultural expectations for the two groups. Research such as that of Jones and Shack reported in Chapter II of this dissertation, points up many sex differences in physical strength, in the pattern of development of certain muscle groups, in skill and endurance (reaction to stress), which could account for many of the sex differences in the play behavior observed in this study.

Differences in cultural expectations as to the appropriate behavior for boys and girls, evident in the kinds of play materials provided for children, offer a further explanation for some of the observed differences. Preference on the part of boys, not only for team sports and individual competitive games, but for activities such as transportation, killing-dying, and animal play, and of girls for domestic roles, community roles, and social games, seem to reflect these cultural influences. In these behaviors children may well be expressing their identifications with the male or female sex role in response to the cultural expectations.

Some of these differences might have resulted from some limitations in the data, but the fact of sex differences in play behavior seems to be well established in this and in other research. On the basis of the findings presented in this chapter, the hypothesis that the developmental sequence of play behavior varies with relation to sex groupings is given support. This refutes the null hypothesis that all of the children included in the study come from the same population and that no differences in play behavior can be expected.

In the succeeding chapter an analysis of the data in terms of caste differences in play behavior will be presented.

CHAPTER VII

ANALYSIS OF DATA - CASTE DIFFERENCES IN PLAY BEHAVIOR

In this final chapter dealing with the analysis of data, comparisons are made between white and Negro boys' and girls' groups in second, fourth, and eighth grades, and between total white and Negro groups within these grades.

COMPARISONS OF THE PLAY BEHAVIOR OF WHITE AND NEGRO BOYS

Analysis of the play patterns of white and Negro boys is based upon the information reported in Tables 18, 18A, and 18B; 19 and 19A; 5A, 5B and 5C; 8, 8A and 8B (See Chapter V. pp.70-72; 87-89)

Table 18

A COMPARISON OF THE PLAY BEHAVIOR OF SECOND GRADE WHITE AND NEGRO BOYS

SECOND GRADE	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
White Boys	182 136.3	260 211.2	13 51.7	28 50.5	28 23.8	5 2.8	68 86.3	103 124.3	687
Negro Boys	58 103.7	112 160.8	78 39.3	61 38.5	14 18.2	0 2.2	84 65.7	116 94.7	523
	240	372	91	89	42	5	152	219	1210

Chi Square = 173.27

Chi Square Values at .05 = 14.067
" " " " .01 = 18.475
(d.f. = 7)

Table 18 A

A COMPARISON OF THE PLAY BEHAVIOR OF FOURTH GRADE WHITE AND NEGRO BOYS

FOURTH GRADE	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
White Boys	93 87.7	85 101.6	180 173.5	47 67.1	24 23.6	24 14.5	67 81.6	168 138.4	688
Negro Boys	52 57.3	83 66.4	107 113.5	64 43.9	15 15.4	0 9.5	68 53.4	61 90.6	450
	145	168	287	111	39	24	135	229	1138

Chi Square = 61.89

Chi Square Values at .05 = 14.067
" " " " .01 = 18.475
(d.f. = 7)

Table 18 B

A COMPARISON OF THE PLAY BEHAVIOR OF EIGHTH GRADE WHITE AND NEGRO BOYS

EIGHTH GRADE	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
White Boys	19 21.4	2 14.7	217 217.1	1 7.9	25 27.6	60 36.7	107 114.5	230 221.1	661
Negro Boys	19 16.6	24 11.3	168 167.9	13 6.1	24 21.4	5 28.3	96 88.5	162 170.9	511
	38	26	385	14	49	65	203	392	1172

Chi Square = 76.17

Chi Square values at .05 = 14.067
" " " " .01 = 18.475
(d. f. = 7)

Table 19

A COMPARISON OF THE PERCENTAGE FREQUENCIES OF THE PLAY BEHAVIOR OF WHITE BOYS AND NEGRO BOYS IN THREE GRADES

Play Patterns	Second Grade		Fourth Grade		Eighth Grade	
	White Boys	Negro Boys	White Boys	Negro Boys	White Boys	Negro Boys
Dramatic Play						
Domestic Roles	0.87	0.38	—	—	—	—
Selling-Buying	0.87	—	—	—	—	—
Transportation	6.11	1.91	0.29	—	—	—
Community Roles	0.73	1.91	0.15	—	—	—
Killing-Dying	8.59	4.21	7.56	6.67	—	—
Legendary	0.29	—	—	0.44	—	—
Animal Play	1.16	—	—	—	—	—
Planned Play	7.86	2.68	5.52	4.44	2.87	3.72
Ritual Games						
Singing Games	6.55	2.49	0.87	—	—	—
Jumping-Skipping	4.37	1.72	1.16	—	—	—
Hiding-Seeking	1.31	0.57	1.45	3.78	—	0.39
Chasing-Fleeing	11.21	11.09	6.10	8.67	—	3.33
Catching-Throwing	10.63	5.16	2.18	5.78	0.30	0.98
Seesawing-Swinging	3.78	0.38	0.58	0.22	—	—
Team Games and Sports						
Baseball	0.15	11.09	13.08	16.44	12.86	15.66
Football	1.75	—	3.92	4.00	3.93	7.24
Basketball	—	0.19	2.18	1.78	10.14	6.07
Volley Ball	—	3.63	3.49	1.56	2.72	3.91
Tennis	—	—	—	—	0.76	—
Gymnastics	—	—	—	—	2.42	—
Individual Competitive Games						
Chicken Fights	—	0.38	—	0.22	—	—
Horseshoes	—	1.34	0.29	1.11	—	0.98
Spinning Tops	0.73	1.53	0.44	1.78	—	0.59
Marbles	3.35	8.41	5.81	11.11	0.15	0.98
Darts	—	—	0.29	—	—	—
Games of Intellect						
Puzzles	2.18	—	1.16	1.11	0.30	—
Card Games	—	0.76	0.44	—	0.30	0.98
Games of Chance	1.89	1.91	1.89	2.22	3.18	3.72
Social Games						
Folk Dancing	0.73	—	3.49	—	0.15	—
Ballroom Dancing	—	—	—	—	3.93	0.98
Kissing Games	—	—	—	—	1.66	—
Car Riding	—	—	—	—	2.12	—
Conversation	—	—	—	—	1.21	—

Table 19 (Cont.)

A COMPARISON OF THE PERCENTAGE FREQUENCIES OF THE PLAY BEHAVIOR OF WHITE BOYS AND NEGRO BOYS IN THREE GRADES

Play Patterns	Second Grade		Fourth Grade		Eighth Grade	
	White Boys	Negro Boys	White Boys	Negro Boys	White Boys	Negro Boys
Collecting						
Match Covers	—	—	0.58	—	—	—
Playing Cards	0.15	—	0.58	—	—	—
Coupons	—	0.57	0.15	—	0.76	0.39
Funny Books	8.30	14.91	6.10	13.33	12.86	16.83
Marbles	—	—	0.29	—	0.45	—
Autographs	—	—	—	—	—	0.59
Stamps	—	—	1.02	1.33	2.12	0.98
Box Tops	1.46	0.57	1.02	0.44	—	—
Passive Participation						
Radio	8.73	11.85	8.58	7.33	14.83	15.07
Movies	6.11	10.33	14.39	6.22	17.10	14.68
Reading	0.15	—	1.45	—	2.87	1.96

TABLE 19 A

A COMPARISON OF THE RANK ORDER OF THE
PLAY BEHAVIOR OF WHITE BOYS AND NEGRO BOYS IN THREE GRADES

Play Patterns	Second Grade		Fourth Grade		Eighth Grade	
	White Boys	Negro Boys	White Boys	Negro Boys	White Boys	Negro Boys
Dramatic Play						
Domestic Roles	19.5	23	—	—	—	—
Selling-Buying	19.5	—	—	—	—	—
Transportation	8.5	13	29.5	—	—	—
Community Roles	22	13	32.5	—	—	—
Killing-Dying	4	8	4	6	—	—
Legendary	24	—	—	19.5	—	—
Animal Play	18	—	—	—	—	—
Planned Play	6	10	8	9	9.5	8.5
Ritual Games						
Singing Games	7	11	22	—	—	—
Jumping-Skipping	10	15	18.5	—	—	—
Hiding-Seeking	17	20	16.5	11	—	20.5
Chasing-Fleeing	1	3.5	5.5	4	—	10
Catching-Throwing	2	7	13.5	8	21	14.5
Seesawing-Swinging	11	23	24	21.5	—	—
Team Games and Sports						
Baseball	26	3.5	2	1	3.5	2
Football	15	—	9	10	6.5	5
Basketball	—	25	13.5	13.5	5	6
Volley Ball	—	9	11	15	11	7
Tennis	—	—	—	—	17.5	—
Gymnastics	—	—	11	—	12	—
Individual Competitive Games						
Chicken Fights	—	23	—	21.5	—	—
Horseshoes	—	17	29.5	17.5	—	14.5
Spinning Tops	22	16	26.5	13.5	—	18.5
Marbles	12	6	7	3	23.5	14.5
Darts	—	—	29.5	—	—	—
Games of Intellect						
Puzzles	13	—	18.5	17.5	21	—
Card Games	—	18	26.5	—	21	14.5
Games of Chance	14	13	15	12	8	8.5
Social Games						
Folk Dancing	22	—	11	—	23.5	—
Ballroom Dancing	—	—	—	—	6.5	14.5
Kissing Games	—	—	—	—	15	—
Car Riding	—	—	—	—	13.5	—
Conversation	—	—	—	—	16	—

TABLE 19 A (Cont.)

A COMPARISON OF THE RANK ORDER OF THE
PLAY BEHAVIOR OF WHITE BOYS AND NEGRO BOYS IN THREE GRADES

Play Patterns	Second Grade		Fourth Grade		Eighth Grade	
	White Boys	Negro Boys	White Boys	Negro Boys	White Boys	Negro Boys
Collecting						
Match Covers	—	—	24	—	—	—
Playing Cards	26	—	24	—	—	—
Coupons	—	20	32.5	—	17.5	13
Funny Books	5	1	5.5	2	3.5	1
Marbles	—	—	29.5	—	19	—
Autographs	—	—	—	—	—	18.5
Stamps	—	—	20.5	16	13.5	14.5
Box Tops	16	20	20.5	19.5	—	—
Passive Participation						
Radio	3	2	3	5	2	3
Movies	8.5	5	1	7	1	4
Reading	26	—	16.5	—	9.5	11

SECOND GRADE WHITE AND NEGRO BOYS

A comparison of the play activities of second grade white and Negro boys in terms of the total pattern reveals differences at the one per cent level of significance, as determined by chi-square. Table 18 indicates for dramatic play and ritual games significant differences at the one per cent level, with greater participation by white boys. Team sports, individual competitive games, collecting, and passive participation show differences at this level of significance, with greater participation by Negro boys.

Dramatic Play. The application of chi-square reveals a difference at the one per cent level of significance between second grade white and Negro boys in dramatic play. Table 19 shows that this significance is determined by caste differences in favor of white boys for transportation (6.11 for white, 1.91 for Negro), killing-dying (8.59 for white, 4.21 for Negro), and planned play (7.86 for white, 2.68 for Negro). All other items appear in small frequencies and the caste differences are negligible. The rank order of the items mentioned, Table 19A, shows the same caste preferences.

In the behavioral situation, indicated in Tables 5A and 8, second grade white boys showed slightly greater participation alone (14.84 for white, 10.34 for Negro), with a peer of the same sex (14.84 for white, 5.17 for Negro), and with heterosexual groups (4.95 for white). Negro boys showed more interaction with heterogeneous groups (53.45 for Negro, 36.81 for white), and with own sex groups (31.03 for Negro, 27.47 for white).

Ritual Games. Table 18 shows for ritual games differences between second grade white and Negro boys which are significant at the one per cent level, as determined by the chi-square technique. Table 19 shows that this difference of greater participation for white boys is evident in chasing-

fleeing (11.21 for white, 11.09 for Negro), catching-throwing (10.63 for white, 5.16 for Negro), singing games (6.55 for white, 2.49 for Negro), jumping-skipping (4.37 for white, 1.72 for Negro), seesawing-swinging (3.78 for white, 0.38 for Negro), and hiding-seeking (1.31 for white, 0.57 for Negro). Chasing-fleeing ranks first in importance for white boys and is number 3.5 for Negro, while catching-throwing is in second place for white and seventh for Negro boys (Table 19A).

In the behavioral situation, Tables 5A and 8, the greatest proportion of participation for both groups was with heterogeneous groups (55 to 58 per cent) and with own sex groups (42.86 for Negro, 23.85 for white).

Team Sports. Table 18 shows for team sports differences between second grade white and Negro boys that are significant at the one per cent level, as determined by chi-square. As may be observed in Table 19, the activities which account for this significant difference in favor of Negro boys are baseball (11.09 for Negro, 0.15 for white) and volley ball (3.63 for Negro). Caste differences for the other items are negligible.

Tables 5A and 8 show that for white boys participation in team sports occurred with own sex groups (69.23) and with a peer of the same sex (30.78), while for Negro boys the interaction was with own sex groups (75.64) and with heterogeneous groups (24.36).

Individual Competitive Games. The application of chi-square reveals for individual competitive games differences between second grade white and Negro boys that are significant at the one per cent level, as indicated in Table 18. This difference of greater participation of Negro boys, is consistent for all items, as shown by the frequencies of

marbles (8.41 for Negro, 3.35 for white) and spinning tops (1.53 for Negro, 0.73 for white) appearing in both groups, and for horseshoes (1.34) and chicken fights (0.38) which appear only in the Negro group (Table 19).

As indicated in Tables 5A and 8, white boys engaged in these activities with own sex groups (60.71) and with a peer of the same sex (39.29). For Negro boys more than 90 per cent of the activity was with own sex groups.

Games of Intellect. The application of chi-square reveals no significant difference between second grade white and Negro boys in games of intellect, as shown in Table 18. Games of chance appear for both groups, puzzles for white boys and card games for Negro boys, but all of the frequencies are small (Table 19).

As indicated in Tables 5A and 8, all of the participation in games of intellect for white boys was with a peer of the same sex (67.86) or alone (32.14). For Negro boys, participation occurred alone (14.29), with a peer of the same sex (21.43), a peer of the opposite sex (14.29), own sex groups (28.57), and with heterosexual groups (21.43).

Social Games. Table 18 indicates that there is no significant difference between second grade white and Negro boys in social games. Table 19 shows that only folkdancing appears for white boys with a frequency of 0.73 per cent.

Collecting. Table 18 shows that the differences between second grade white and Negro boys in collecting are significant at the one per cent level. This difference in favor of Negro boys is accounted for by the caste difference in funny books (14.91 for Negro, 8.30 for white). Boxtops, coupons and playing cards appear in one or both groups but the frequencies are less than two per cent, as shown in Table 19. Funny books rank first in importance for Negro boys and fifth for white boys.

Table 5A and 8 show that for second grade white boys' participation in collecting occurred alone (73.53) and with a peer of the same sex (26.47), while for Negro boys 98.81 per cent of the activity was alone.

Passive Participation. The application of chi-square reveals differences in passive participation for second grade white and Negro boys that are at the one per cent level of significance, as indicated in Table 18. This difference in favor of Negro boys is evident in radio (11.35 for Negro, 8.73 for white) and in movies (10.33 for Negro, 6.11 for white). Reading appears in small frequency (0.15) only in the white group (Table 19). The rank order of these items, presented in Table 19A, shows their relative importance.

In the behavioral situation, Tables 5A and 8, white boys, to a greater extent than Negro boys, participated in these activities alone (49.51 for white, 45.69 for Negro), with a peer of the same sex (9.71 for white, 4.31 for Negro), and with parents (15.53 for white). Negro boys showed greater interaction with siblings (50.00 for Negro, 25.24 for white).

In summary, comparison of the total pattern of play behavior for second grade white and Negro boys revealed differences at the one per cent level of significance. Dramatic play and ritual games showed differences significant at the one per cent level, with greater participation by white boys, while team sports, individual competitive games, collecting, and passive participation showed these significant differences, with greater participation by Negro boys. Differences in games of intellect and social games were not significant.

In the dramatic play category, transportation, killing-dying, and planned play showed the greatest differences in favor of white boys. All of the items categorized as ritual games showed caste differences in favor

of white boys. Differences in team sports in favor of Negro children, were accounted for by the preference of Negro boys for baseball and volley ball. Football appeared in small frequency in the white group and basketball in the Negro group. All of the items in individual competitive games showed greater frequencies in the Negro group, with marbles being the most important. Games of chance appeared in both groups, puzzles for white boys and card games for Negro, but none of the differences were significant. Folkdancing appeared in small frequency only for white boys. Funny books, favored by Negro boys, appeared as the most important item for this group. Radio and movies, popular with both groups, showed greater frequencies in the Negro group.

In the behavioral situation, the proportion of participation which occurred alone was very similar for white and Negro boys.

White children, to a greater extent than did Negro, interacted with a peer of the same sex and with parents (passive participation). Negro boys showed a greater proportion of activity with own sex groups, and slightly greater with heterosexual groups, a peer of the same sex, and with siblings (passive participation). With the exception of social games, Negro children interacted more widely with heterogeneous groups.

FOURTH GRADE WHITE AND NEGRO BOYS

A comparison of the eight categories of play behavior of fourth grade white and Negro boys through the use of chi-square reveals differences at the one per cent level of significance, as shown in Table 18A. Of the separate categories, social games and passive participation showed this significant difference with greater participation by white boys, and ritual games and individual competitive games in favor of Negro boys. Collecting showed caste differences at the two per cent level of significance, with greater participation by Negro boys.

Dramatic Play. The application of chi-square reveals no significant difference between fourth grade white and Negro boys in dramatic play. Table 19 shows that, of the separate items, killing-dying (7.56 for white, 6.67 for Negro) and planned play (5.52 for white, 4.44 for Negro) are the most important items but the caste differences are small. Frequencies for the other items are less than one-half per cent.

In social interaction, indicated in Tables 5B and 8A, both groups showed the greatest proportion of participation with heterogeneous groups (41.94 for white, 38.46 for Negro) and with own sex groups (51.92 for Negro, 46.24 for white). As the frequencies show, these caste differences are also small.

Ritual Games. Table 18A shows for ritual games differences between fourth grade white and Negro boys that are significant at the one per cent level in favor of Negro boys. Table 19 indicates that chasing-fleeing (8.67 for Negro, 6.10 for white), catching-throwing (5.78 for Negro, 2.18 for white), and hiding-seeking (3.78 for Negro, 1.45 for white) account for the significant difference. Jumping-skipping, singing games and seesawing-swinging appear in small frequencies, with slightly greater

participation by white children.

Tables 5B and 8A show that for both groups approximately 48 per cent of the activity occurred with heterogeneous groups. Negro boys showed more participation than did white boys with own sex groups (42.17 for Negro, 17.65 for white), while white boys showed more participation with heterosexual groups (15.29 for white, 9.64 for Negro) and with a peer of the same sex (10.59).

Team Sports. The application of chi-square reveals no significant differences between fourth grade white and Negro boys in team sports. As indicated in Table 19, baseball (16.44 for Negro, 13.08 for white) and football (4.00 for Negro, 3.92 for white) show slightly greater frequencies for Negro boys, and basketball (2.18 for white, 1.78 for Negro) and volley ball (3.49 for white, 1.56 for Negro) show small differences in favor of white boys. Gymnastics (3.49) appear only in the white group. In rank order, Table 19A, baseball is first in importance for Negro boys and second for white boys.

In the behavioral situation, indicated in Tables 5B and 8A, the major proportion of activity for both groups was with own sex groups (93.46 for Negro, 87.78 for white).

Individual Competituve Games. The test of chi-square reveals differences between fourth grade white and Negro boys in individual competitive games that are at the one per cent level of significance with the greater frequencies for Negro boys. Table 19 shows that marbles appear with a frequency of 11.11 for Negro boys and 5.81 for white boys. Also, spinning tops and horseshoes, appearing in small frequencies, are slightly favored by Negro boys.

In the behavioral situation, Tables 5B and 8A, both white and Negro boys showed the greatest proportion of these activities with own sex groups (93.62 for white, 64.06 for Negro) and with a peer of the same sex (35.94 for Negro, 6.38 for white).

Games of Intellect. The test of chi-square reveals no significant difference between fourth grade white and Negro boys in games of intellect. As indicated in Table 19, games of chance and puzzles appear for both groups, and card games for white boys but the frequencies are small and the differences negligible.

Tables 5B and 8A show that for these activities, white boys to a greater extent than Negro, participated alone (20.83 for white, none for Negro) and with heterogeneous groups (29.17 for white, 13.33 for Negro). Negro boys showed more interaction with a peer of the same sex (53.33 for Negro, 29.17 for white) and with own sex groups (33.33 for Negro, 16.67 for white).

Social Games. Table 18 shows for social games differences at the one per cent level of significance between fourth grade white and Negro boys. Table 19 shows that in this category only folkdancing appears for white boys with a frequency of 3.49. It has a rank order of 11 (Table 19A).

Tables 5B and 8A indicate that this behavior for white boys occurred with heterogeneous groups (79.17), with a peer of the same sex (16.67), and with a peer of the opposite sex (4.17).

Collecting. Table 18A indicates that the differences between fourth grade white and Negro boys in collecting are significant at the two per cent level, as tested by chi-square. As the data in Table 19 show, this significant difference in favor of Negro boys is determined by the caste

difference in funny books (13.33 for Negro, 6.10 for white). Stamps are slightly favored by Negro boys (1.33 for Negro, 1.02 for white). Boxtops, match covers, playing cards, marbles, and coupons appear in very small frequencies in the white group. Funny books rank in second place for Negro and are number 5.5 for white boys.

As shown in Tables 5B and 8A, all of the collecting for both groups was done alone.

Passive Participation. As revealed in Table 18A, differences in passive participation between fourth grade white and Negro boys are significant at the one per cent level, as determined by chi-square. Table 19 shows that this level of significance is accounted for by the greater frequencies for white boys for movies (14.39 for white, 6.22 for Negro), radio (8.58 for white, 7.33 for Negro), and reading (1.45 for white, none for Negro). In rank order, shown in Table 19A, movies are first in importance for white and seventh for Negro boys, and radio, in third place for white is in fifth place for Negro boys. Reading is number 16.5 for white boys.

In the behavioral situation, Tables 5B and 8A, white boys showed more participation alone (63.10 for white, 21.31 for Negro) and with a peer of the same sex (15.48 for white, 9.84 for Negro). Negro boys showed a greater proportion of activity with siblings (63.93 for Negro, 16.67 for white).

In summary, a comparison of the total pattern of play behavior of fourth grade white and Negro boys revealed differences at the one per cent level of significance. Social games and passive participation showed this difference in favor of white boys, while ritual games and individual games showed a significant difference, with greater participation by Negro boys.

Collecting behavior showed differences at the two per cent level in favor of Negro children. Dramatic play, team sports and games of intellect showed no significant differences.

In the category of dramatic play, killing-dying and planned play, slightly favored by white boys, were the most important activities. The significant difference for ritual games was determined by the preference of Negro children for chasing-fleeing, catching-throwing, and hiding-seeking. Jumping-skipping and singing games appeared in the white group, and see-sawing-swinging in the Negro group, but all of these frequencies were small. Baseball and football showed slightly greater frequencies for Negro boys, and basketball and volley ball for white boys. Marbles, the most important item in individual competitive games, determined the significant difference in favor of Negro boys. Games of chance and puzzles appeared for both groups and card games only for white boys, but the caste differences were negligible. Folkdancing, participated in only by white boys, was the only social game to appear. Funny books, favored by Negro boys, appeared as the most important item of collecting. Radio, movies, and reading showed greater frequencies for white than for Negro boys, thus determining the significant difference for passive participation.

In the behavioral situation, white boys showed wider participation alone, with a peer of the same sex, with a peer of the opposite sex, and slightly greater with heterosexual groups than did Negro boys. Interaction with heterogeneous groups and with parents was very similar for the two groups. With the exception of individual competitive ganes, Negro boys consistently showed more interaction with own sex groups than did white boys.

EIGHTH GRADE WHITE AND NEGRO BOYS

A comparison of the total pattern of play behavior for eighth grade white and Negro boys through the use of chi-square reveals differences at the one per cent level of significance, as indicated in Table 18B. These differences are evident in ritual games and in individual competitive games, favored by Negro boys, and in social games which show greater participation by white boys.

Dramatic Play. The application of chi-square reveals no significant difference between eighth grade white and Negro boys in dramatic play. As indicated in Table 19, the only item to appear in this category is planned play with a frequency of 3.72 for Negro and 2.87 for white boys.

Tables 5C and 8B show that for both groups this behavior occurred with heterogeneous groups.

Ritual Games. Table 18B shows for ritual games differences between eighth grade white and Negro boys that are at the one per cent level of significance, as determined by chi-square. Table 19 shows that this difference in favor of Negro boys is determined by chasing-fleeing (3.33) and hiding-seeking (0.39), which appear only in the Negro group, and catching-throwing which is slightly favored by Negro boys (0.98 for Negro, 0.30 for white).

Tables 5C and 8B indicate that for white boys all of this behavior occurred with a peer of the same sex, and for Negro boys it occurred with heterosexual groups (50.00), heterogeneous groups (20.83), own sex groups (12.50), a peer of the same sex (12.50) and with a peer of the opposite sex (4.17).

Team Sports. The technique of chi-square reveals no significant differences between eighth grade white and Negro boys in team sports, as

shown in Table 18B. Of the separate items, baseball (15.66 for Negro, 12.86 for white), football (7.24 for Negro, 3.93 for white), and volley ball (3.91 for Negro, 2.72 for white) are slightly favored by Negro boys. Basketball appears with greater frequency for white boys (10.14 for white, 6.07 for Negro), and gymnastics (2.12) and tennis (0.76) appear only in the white group (Table 19).

Tables 5C and 8B show that for both groups more than 95 per cent of these activities occurred with own sex groups.

Individual Competitive Games. Table 18B shows for individual competitive games differences between eighth grade white and Negro boys which are significant at the one per cent level in favor of Negro boys. Table 19 indicates that this significance is determined by small caste differences for marbles (0.98 for Negro, 0.15 for white), horseshoes (0.98 for Negro), and spinning tops (0.59 for Negro).

As may be observed in Tables 5C and 8B, this behavior occurred for white boys with own sex groups, and for Negro boys with own sex groups (69.23) and with a peer of the same sex.

Games of Intellect. Table 18B shows that there is no significant difference between eighth grade white and Negro boys in games of intellect. Games of chance (3.72 for Negro, 3.18 for white) and card games (0.98 for Negro, 0.30 for white) appear with slightly greater frequencies in the Negro group, and puzzles (0.30) appear only for white boys (Table 19).

Tables 5C and 8B show that for both groups most of this participation was with a peer of the same sex (92.00 for white, 58.33 for Negro) and with own sex groups (29.17 for Negro, 8.00 for white). Negro boys showed some interaction with a peer of the opposite sex (8.33) and with heterogeneous groups (4.17).

Social Games. Differences in social games for eighth grade white and Negro boys are significant at the one per cent level in favor of white boys, as determined by chi-square. Table 19 indicates that ballroom dancing, which shows a frequency of 3.93 for white and 0.98 for Negro boys, is the only item to appear in the Negro group. Car riding (2.12), kissing games (1.66); conversation (1.21), and folkdancing (0.15) appear only in the white group in the frequencies shown. Ballroom dancing has a rank order of 6.5 for white and 14.5 for Negro.

For Negro children, all of the participation in social games occurred with heterogeneous groups, while for white boys 86.67 per cent of the activity was with heterogeneous groups, 11.67 per cent with own sex groups, and 1.67 per cent with heterosexual groups.

Collecting. The application of chi-square reveals no significant difference between eighth grade white and Negro boys in collecting, as shown in Table 18B. Funny books, the most popular item (16.83 for Negro, 12.86 for white) show slightly greater frequency for Negro boys. With the exception of stamps (2.12 for white, 0.98 for Negro), all other items appear in frequencies of less than one per cent. Funny books are first in rank for Negro boys and are number 3.5 for white boys (Tables 19 and 19A).

Tables 5C and 18B show that for both groups all of the collecting was done alone.

Passive Participation. As indicated in Table 18B, differences between eighth grade white and Negro boys in passive participation show no significance. Table 19 shows that for radio (15.07 for Negro, 14.83 for white), movies (17.10 for white, 14.68 for Negro), and for reading (2.87 for white, 1.96 for Negro) the caste differences are negligible. The rank order

of these items (Table 19A) further shows their relative importance in the two groups.

Table 5C and 8B show that for both groups the range of social interaction is wide although differences in the play behavior show no significance.

In summary, comparison of the total pattern of play behavior for eighth grade white and Negro boys revealed differences at the one per cent level of significance. Ritual games and individual competitive games showed these differences with greater participation by Negro boys, and social games showed significant differences with greater participation by white boys. No significant differences were found for the other categories.

In dramatic play, planned play appeared with slightly greater frequency for Negro boys. The significant difference in ritual games was determined by small differences in favor of Negro boys for chasing-fleeing, hiding-seeking and catching-throwing. Baseball, football, and volley ball appeared with greater frequencies in the Negro group, and basketball, with greater frequency in the white group. Gymnastics and tennis appeared only in the white group. In individual competitive games the significant difference was due to small differences in favor of Negro boys for marbles, spinning tops and horseshoes. Of the social games, only ballroom dancing appeared in the Negro group, while all of the items appeared in the white group. Funny books, slightly favored by Negro boys, was the most important item in collecting. Radio showed a small difference in favor of Negro boys, and movies and reading a small difference in favor of white boys, but the differences were not significant.

In social interaction, Negro boys showed a greater proportion of

participation with siblings (passive participation), with heterogeneous groups, and with heterosexual groups (ritual games) than did white boys. Although there was variation in terms of the separate categories, the total proportion of interaction with own sex groups, a peer of the same sex, and a peer of the opposite sex was very similar for the two groups.

CONCLUSIONS ON THE PLAY BEHAVIOR OF WHITE AND NEGRO GIRLS

Analysis of the play patterns of white and Negro girls is based upon the data contained in Tables 20, 20A and 20B; 21 and 21A; 5A, 5B and 5C; 6, 6A and 6B. (Chapter V, pp 70-72; 87-89)

Table 20

A COMPARISON OF THE PLAY BEHAVIOR OF SECOND GRADE WHITE AND NEGRO GIRLS

SECOND GRADE	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
White Girls	184 154.5	294 291.1	0 20.8	1 1.7	26 25.4	9 5.8	49 51.3	123 135.5	686
Negro Girls	84 113.5	211 213.9	36 15.2	2 1.3	18 18.6	1 4.2	40 37.7	112 99.5	504
	268	505	36	3	44	10	89	235	1190

Chi Square = 69.18

Chi Square Values at .05 = 14.067
" " " " .01 = 18.475
(d.f. = 7)

Table 20 A

A COMPARISON OF THE PLAY BEHAVIOR OF FOURTH GRADE WHITE AND NEGRO GIRLS

FOURTH GRADE	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
White Girls	85 106.2	142 159.8	61 65.6	4 3.3	46 42.3	31 20.0	75 61.8	145 130.0	589
Negro Girls	111 89.8	153 135.2	60 55.4	2 2.7	32 35.7	6 17.0	39 52.2	95 110.0	498
	196	295	121	6	78	37	114	240	1087

Chi Square = 38.08

Chi Square Values at .05 = 14.067
" " " " .01 = 18.475
(d.f. = 7)

Table 20 B

A COMPARISON OF THE PLAY BEHAVIOR OF EIGHTH GRADE WHITE AND NEGRO GIRLS

EIGHTH GRADE	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
White Girls	26 33.4	5 7.2	155 161.6	0	21 29.5	82 86.9	65 52.9	283 265.3	637
Negro Girls	34 26.6	8 5.8	135 128.4	0	32 23.5	74 69.1	30 42.1	193 210.7	506
	60	13	290	0	53	156	95	476	1143

Chi Square = 20.88

Chi Square Values at .05 = 14.067
" " " " .01 = 18.475
(d.f. = 7)

TABLE 21

A COMPARISON OF THE PERCENTAGE FREQUENCIES OF THE PLAY BEHAVIOR OF WHITE GIRLS AND NEGRO GIRLS IN THREE GRADES

Play Patterns	Second Grade		Fourth Grade		Eighth Grade	
	White Girls	Negro Girls	White Girls	Negro Girls	White Girls	Negro Girls
Dramatic Play						
Domestic Roles	9.33	3.17	4.92	4.82	—	—
Selling-Buying	1.60	—	—	—	—	—
Transportation	0.44	2.18	—	—	—	—
Community Roles	5.25	8.73	1.87	9.24	—	—
Killing-Dying	0.87	0.20	0.51	—	—	—
Legendary	0.15	—	—	—	—	—
Animal Play	0.15	—	0.17	—	—	—
Planned Play	9.04	2.38	6.96	8.23	4.08	6.72
Ritual Games						
Singing Games	10.50	7.34	0.34	3.63	—	—
Jumping-Skipping	9.91	11.31	7.47	6.83	—	—
Hiding-Seeking	1.60	1.98	2.21	2.81	—	—
Chasing-Fleeing	9.48	9.13	3.40	7.83	—	0.99
Catching-Throwing	4.37	7.74	3.74	6.02	0.78	0.20
Seesawing-Swinging	7.00	4.37	6.96	3.61	—	—
Team Games and Sports						
Baseball	—	2.18	1.70	5.02	4.40	2.96
Football	—	—	—	—	—	—
Basketball	—	—	0.34	1.41	8.95	10.87
Volleyball	—	4.96	6.96	5.42	9.58	12.85
Tennis	—	—	0.17	0.20	1.41	—
Gymnastics	—	—	1.19	—	—	—
Individual Competitive Games						
Chicken Fights	—	—	—	—	—	—
Horseshoes	—	—	—	—	—	—
Spinning Tops	—	—	—	—	—	—
Marbles	0.15	0.40	0.51	0.40	—	—
Darts	—	—	0.17	—	—	—
Games of Intellect						
Puzzles	1.17	0.40	1.53	0.20	—	—
Card Games	0.44	0.60	3.57	—	2.51	2.77
Games of Chance	2.19	2.58	2.72	6.22	0.78	3.56
Social Games						
Folk Dancing	1.31	0.20	5.26	1.20	0.63	—
Ballroom Dancing	—	—	—	—	7.38	8.89
Kissing Games	—	—	—	—	1.57	—
Car Riding	—	—	—	—	1.26	—
Conversation	—	—	—	—	2.04	5.73

TABLE 21 (Cont.)

A COMPARISON OF THE PERCENTAGE FREQUENCIES OF THE PLAY BEHAVIOR OF WHITE GIRLS AND NEGRO GIRLS IN THREE GRADES

Play Patterns	Second Grade		Fourth Grade		Eighth Grade	
	White Girls	Negro Girls	White Girls	Negro Girls	White Girls	Negro Girls
Collecting						
Match Covers	—	—	0.85	—	1.10	—
Playing Cards	2.04	—	1.87	—	—	—
Coupons	0.15	—	—	—	—	0.40
Funny Books	4.81	7.94	8.49	5.02	4.55	2.37
Marbles	—	—	—	0.40	—	—
Autographs	—	—	1.02	—	4.08	2.17
Stamps	—	—	0.34	0.20	0.47	0.99
Box Tops	0.15	—	0.17	2.21	—	—
Passive Participation						
Radio	8.75	14.48	10.53	9.24	17.27	16.80
Movies	8.45	7.74	11.71	9.84	18.21	13.24
Reading	0.73	—	2.38	—	8.95	7.71

TABLE 21 A

A COMPARISON OF THE RANK ORDER OF THE
PLAY BEHAVIOR OF WHITE GIRLS AND NEGRO GIRLS IN THREE GRADES

Play Patterns	Second Grade		Fourth Grade		Eighth Grade	
	White Girls	Negro Girls	White Girls	Negro Girls	White Girls	Negro Girls
Dramatic Play						
Domestic Roles	4	11	9	12	—	—
Selling-Buying	14.5	—	—	—	—	—
Transportation	20.5	14.5	—	—	—	—
Community Roles	9	4	16.5	2.5	—	—
Killing-Dying	18	20.5	23.5	—	—	—
Legendary	24	—	—	—	—	—
Animal Play	24	—	29.5	—	—	—
Planned Play	5	13	6	4	9.5	7
Ritual Games						
Singing Games	1	8	26	13.5	—	—
Jumping-Skipping	2	2	4	6	—	16.5
Hiding-Seeking	14.5	16	15	15	—	—
Chasing-Fleeing	3	3	12	5	—	14.5
Catching-Throwing	11	6.5	10	8	17.5	18
Seesawing-Swinging	8	10	6	13.5	—	—
Team Games and Sports						
Baseball	—	14.5	18	10.5	8	10
Football	—	—	—	—	—	—
Basketball	—	—	26	17	4.5	4
Volleyball	—	9	6	9	3	3
Tennis	—	—	29.5	22	14	—
Gymnastics	—	—	20	—	—	—
Individual Competitive Games						
Chicken Fights	—	—	—	—	—	—
Horseshoes	—	—	—	—	—	—
Spinning Tops	—	—	—	—	—	—
Marbles	24	18.5	23.5	19.5	—	—
Darts	—	—	29.5	—	—	—
Games of Intellect						
Puzzles	17	18.5	19	22	—	—
Card Games	20.5	17	11	—	11	11
Games of Chance	12	12	13	7	17.5	9
Social Games						
Folk Dancing	16	20.5	8	18	19	—
Ballroom Dancing	—	—	—	—	6	5
Kissing Games	—	—	—	—	13	—
Car Riding	—	—	—	—	15	—
Conversation	—	—	—	—	12	8

TABLE 21 A (Cont.)

A COMPARISON OF THE RANK ORDER OF THE
PLAY BEHAVIOR OF WHITE GIRLS AND NEGRO GIRLS IN THREE GRADES

Play Patterns	Second Grade		Fourth Grade		Eighth Grade	
	White Girls	Negro Girls	White Girls	Negro Girls	White Girls	Negro Girls
Collecting						
Match Covers	—	—	22	—	16	—
Playing Cards	13	—	16.5	—	—	—
Coupons	24	—	—	—	—	16.5
Funny Books	10	5	3	10.5	7	12
Marbles	—	—	—	19.5	—	—
Autographs	—	—	21	—	9.5	13
Stamps	—	—	26	22	20	14.5
Box Tops	24	—	29.5	16	—	—
Passive Participation						
Radio	6	1	2	2.5	2	1
Movies	7	6.5	1	1	1	2
Reading	19	—	14	—	4.5	6

SECOND GRADE WHITE AND NEGRO GIRLS

Comparison of the total pattern of play behavior of second grade white and Negro girls through the use of chi-square reveals differences at the one per cent level of significance. Of the separate categories, dramatic play shows this difference in favor of white girls, and team sports show the significant difference with greater participation by Negro girls.

Dramatic Play. As the data in Table 20 show, differences between second grade white and Negro girls in dramatic play are significant at the one per cent level with greater participation by white girls. Table 21 shows that this difference is accounted for by caste differences in domestic roles (9.33 for white, 3.17 for Negro), killing-dying (0.87 for white, 0.20 for Negro), and by selling-buying, legendary and animal play which appear in small frequencies only in the white group. Community roles (8.73 for Negro, 5.25 for white) and transportation (2.18 for Negro, 0.44 for white) are favored by Negro girls.

Tables 5A and 8 show that for both groups most of this participation occurred with heterogeneous groups (67.86 for Negro, 51.63 for white) and with own sex groups (28.57 for white, 22.28 for Negro).

Ritual Games. The application of chi-square reveals no significant difference between second grade white and Negro girls in ritual games. As may be observed in Table 21, singing games (10.50 for white, 7.34 for Negro), chasing-fleeing (9.48 for white, 9.13 for Negro), and seesawing-swinging (7.00 for white, 4.37 for Negro) appear with slightly greater frequencies for white girls. Jumping-skipping (11.31 for Negro, 9.91 for white), catching-throwing (7.74 for Negro, 4.37 for white) and hiding-seeking (1.98 for Negro, 1.60 for white) show slightly greater frequencies for

Negro girls.

In social interaction, Tables 5A and 8, white girls engaged in these activities to a greater extent with heterogeneous groups (56.12 for white, 41.23 for Negro) and with a peer of the same sex (15.99 for white, 0.47 for Negro). Negro girls showed more interaction with own sex groups (54.98 for Negro, 19.39 for white).

Team Sports. Table 20 shows for team sports differences between second grade white and Negro girls that are at the one per cent level of significance in favor of Negro girls. Table 21 indicates that this level of significance is accounted for by volley ball (4.96 for Negro) and baseball (2.18 for Negro).

The participation in team sports occurred with own sex groups (55.56), with heterogeneous groups (27.78) and with heterosexual groups (16.67).

Individual Competitive Games. The test of chi-square reveals no significant differences in individual competitive games for second grade white and Negro girls. In this category only marbles appear with frequencies of less than one-half per cent.

Games of Intellect. In games of intellect no significant difference is found between second grade white and Negro girls, as shown in Table 20. Games of chance and card games appear in slightly greater frequencies for Negro girls, and puzzles for white girls, but the differences are negligible.

In the behavioral situation, Tables 5A and 8, white girls showed the greater proportion of participation with a peer of the same sex (65.38 for white, 22.22 for Negro), with a peer of the opposite sex (19.23 for white, none for Negro), and alone (11.54 for white, 5.56 for Negro).

Social Games. Table 20 indicates that in social games differences between second grade white and Negro girls show no significance. In this category only folkdancing appears with a frequency of 1.31 for white and 0.20 for Negro girls (Table 21).

Tables 5A and 8 show that this behavior for white girls occurred with heterogeneous groups, and for Negro girls, with own sex groups.

Collecting. The application of chi-square reveals no significant differences in collecting for second grade white and Negro girls. Table 21 shows that, of the separate items, funny books appear with a frequency of 7.94 for Negro and 4.81 for white girls. Playing cards, coupons, and box-tops appear in small frequencies only in the white group. Funny books have a rank order of 5 for Negro and 10 for white girls.

As Tables 5A and 8 reveal, all of the collecting for Negro girls was done alone, and for white girls the behavior occurred alone (73.47) and with a peer of the same sex (26.53).

Passive Participation. Table 20 indicates that the differences between second grade white and Negro girls in passive participation show no significance (.10). Table 21 shows that radio (14.48 for Negro, 8.75 for white) appears with the greatest caste difference in favor of Negro girls, while movies (8.45 for white, 7.74 for Negro) show a small difference with greater participation by white girls. Reading appears only in the white group. The rank order shift for radio from first place for Negro to sixth place for white girls (Table 21A) also shows the relative importance of this item.

In the behavioral situation, indicated in Tables 5A and 8, both groups showed most of the participation with siblings (45.54 for Negro,

30.08 for white), with parents (33.93 for Negro, 26.02 for white), or alone (39.02 for white, 20.54 for Negro).

In summary, a comparison of the pattern of play behavior between second grade white and Negro girls revealed differences significant at the one per cent level. Of the separate categories, dramatic play showed this significant difference with greater participation by white girls, and team sports showed this difference in favor of Negro girls. Caste differences for all other categories showed no signigicance.

In the dramatic play category, domestic roles, planned play, and killing-dying showed greater frequencies in the white group, while selling-buying, legendary play and animal play appeared only in the white group. Community roles and transportation were favored by Negro girls. Singing games, chasing-fleeing, and seesawing-swinging showed small differences in favor of white girls, and jumping-skipping, catching-throwing, and hiding-seeking appeared with slightly greater frequencies in the Negro group. In team sports, only volley ball and baseball appeared for Negro girls. Games of chance and card games appeared in small but slightly greater frequencies for Negro girls, and puzzles, with greater frequency for white girls. Folkdancing, the only social game to appear, was slightly favored by white girls. Funny books showed a greater frequency for Negro girls, while playing cards, coupons and boxtops appeared only in the white group. Radio showed a difference in favor of Negro girls, while movies showed very similar frequencies for both groups. Reading appeared only in the white group.

In the social situation, second grade white girls showed wider participation alone, with a peer of the same sex, and with a peer of the opposite sex than did Negro girls. In contrast, Negro girls showed more

[illegible] and [illegible] [illegible] [illegible]

Fourth grade white and Negro girls

A comparison of the pattern of play behavior for fourth grade white and Negro girls reveals differences at the one per cent level of significance. Differences at this level of significance are evident in dramatic play, with greater participation by Negro girls, and in social games, with greater participation by white girls. In collecting, differences between white and Negro girls are at the two per cent level in favor of white girls, and in ritual games, at the five per cent level in favor of Negro girls.

Dramatic Play. The application of chi-square reveals differences between fourth grade white and Negro girls in dramatic play that are significant at the one per cent level. Table 21 shows that community roles (9.24 for Negro, 1.87 for white) and planned play (3.23 for Negro, 6.96 for white) determine this significant difference in favor of Negro girls. Domestic roles appear in both groups in frequencies of approximately 5 per cent. The greatest rank order shift is for community roles, which is number 2.5 for Negro, and 10.5 for white girls.

In the behavioral situation, Tables 5B and 8A, both groups showed the greatest proportion of activity with heterogeneous groups (approx. 50 per cent), with a peer of the same sex (13.82 for white, 10.81 for Negro), and with own sex groups (37.84 for Negro, 22.35 for white).

Ritual Games. As shown in Table 20A, differences between fourth grade white and Negro girls in ritual games are significant at the five per cent level in favor of Negro girls. Table 21 shows that this level of significance is accounted for by caste differences in singing games (3.63 for Negro, 0.34 for white), chasing-fleeing (7.03 for Negro, 3.10 for white), catching-throwing (6.02 for Negro, 3.74 for white) and hiding-seeking (2.81 for Negro, 2.21 for white). Jumping-skipping (7.47 for white,

6.83 for Negro) and seesawing-swinging (6.96 for white, 3.61 for Negro) show small differences in favor of white girls.

White girls, to a greater extent than did Negro, participated in these activities with a peer of the same sex (26.76 for white, 9.19 for Negro) and with heterogeneous groups (23.24 for white, 20.26 for Negro). Negro girls showed more interaction with own sex groups (64.71 for Negro, 41.55 for white) and with heterosexual groups (5.88 for Negro, 3.52 for white).

Team Sports. The application of chi-square reveals no significant difference between fourth grade white and Negro girls in team sports. Table 21 shows that volley ball appears with slightly greater frequency in the white group (6.96 for white, 5.42 for Negro), while baseball is favored by Negro girls (5.02 for Negro, 1.70 for white). The frequencies for all other items are small and the differences of no significance.

Tables 5B and 8A show that for both groups the greater proportion of these activities occurred with own sex groups (63.93 for white, 46.67 for Negro), and with heterogeneous groups (50.00 for Negro, 24.59 for white).

Individual Competitive Games. Table 20A shows for individual competitive games no significant difference between fourth grade white and Negro girls. As indicated in Table 21, only marbles and darts appear in this category. The frequencies are less than one per cent and the differences negligible.

For both groups, this behavior occurred with heterosexual groups.

Games of Intellect. In games of intellect no significant differences are found between fourth grade white and Negro girls, as Table 20A shows. Of the separate items, games of chance are favored by Negro girls (6.22 for Negro, 2.72 for white), while card games (3.57 for white, none

for Negro) and puzzles (2.53 for white, 0.20 for Negro) show greater frequencies in the white group.

In social interaction, Tables 5B and 8A, both groups showed the greater proportion of these activities with a peer of the same sex (56.25 for Negro, 41.30 for White) and with own sex groups (34.38 for Negro, 32.61 for white). Only a small proportion of activity occurred with other groups, as these tables indicate.

Social Games. As shown in Table 20, differences between fourth grade white and Negro girls in social games are significant at the one per cent level, with greater participation by white girls. Table 21 shows that folkdancing (5.26 for white, 1.20 for Negro) accounts for this level of significance. The rank order of this item is 8 for white and 13 for Negro girls (Table 21A).

As indicated in Tables 5B and 8A, all of this participation for Negro girls occurred with heterogeneous groups, and for white girls it occurred with heterosexual groups (93.55) and with own sex groups (6.45).

Collecting. The application of chi-square reveals differences at the two per cent level of significance between fourth grade white and Negro girls in collecting. Table 21 shows that this difference is accounted for by caste differences in funny books (8.49 for white, 5.02 for Negro) which show greater frequency for white girls, and in playing cards (1.07), autographs (1.02), and match covers (0.05) which appear only in the white group. Boxtops (2.21 for Negro, 0.17 for white) show a small difference in favor of Negro girls. Stamps appear in both groups, and marbles in the Negro group, but in frequencies of less than one-half per cent.

For both groups most of the collecting was done alone (97.14 for Negro, 92.00 for White), with a small proportion shared with heterogeneous groups (approx. 3 per cent for both groups), and for white girls with a peer of the same sex (5.33), as shown in Tables 5B and 6A.

Passive Participation. No significant differences (.10) are found between fourth grade white and Negro girls in passive participation. All of the separate items show small percentage differences in favor of white girls, as shown by the frequencies of movies (11.71 for white, 9.84 for Negro), radio (10.53 for white, 9.24 for Negro) and reading (2.38 for white). Movies are first in rank for both groups, and radio, in second place for white, is 2.5 for Negro. Reading is number 14 for white, and does not appear for Negro girls (Tables 21 and 21A).

White girls showed greater participation in these activities alone (22.28 for white, 20.00 for Negro) and with a peer of the same sex (11.72 for white, 4.21 for Negro). Both groups showed approximately 36 per cent of interaction with siblings, and Negro girls interacted with parents in 37.89 per cent of the cases (Tables 5B and 6A).

In summary, a comparison between fourth grade white and Negro girls for all categories of play behavior, revealed differences at the one per cent level of significance. Dramatic play showed this level of significant difference with greater participation by Negro girls, and social dance showed this difference with greater participation by white girls. In collecting, there was a difference between white and Negro girls at the two per cent level in favor of white girls, and in ritual games, a difference at the five per cent level of significance with greater participation by Negro girls.

In the category of dramatic play, community roles and planned play

accounted the significant difference for Negro girls. Domestic roles, relatively popular with both groups, showed a small difference in favor of white girls. Differences in favor of Negro girls in singing games, chasing-fleeing, catching-throwing and hiding-seeking accounted for the significance in ritual games. Jumping-skipping and seesawing-swinging were favored by white girls. Baseball and basketball showed small differences in favor of Negro, and volley ball and gymnastics small differences in favor of white girls. Tennis appeared with very small frequencies in both groups. In individual competitive games, only marbles and darts appeared with negligible differences. Games of chance were favored by Negro girls, and puzzles were slightly favored by white girls. Card games appeared only in the white group. Folkdancing accounted for the significant difference in favor of white girls in social games. Funny books showed greater frequency in the white group, and playing cards, autographs and match covers appeared only for white girls. Boxtops showed slightly greater frequency for Negro girls. Movies and radio showed small differences in favor of white girls and reading appeared only in the girls' group.

In the behavioral situation, white girls showed wider participation than did Negro girls alone, with a peer of the same sex, peer of the opposite sex, and with heterosexual groups. Negro girls showed a little greater participation with own sex groups, with heterogeneous groups, and with parents (passive participation).

EIGHTH GRADE WHITE AND NEGRO GIRLS

A comparison of the total pattern of play behavior of eighth grade white and Negro girls through the application of chi-square reveals differences at the one per cent level of significance. The data presented in Table 20D indicate that in games of intellect caste differences are at the two per cent level of significance in favor of Negro girls, and in collecting, at the two per cent level, with greater participation by white girls.

Dramatic Play. No significant differences (.10) are found in dramatic play for eighth grade white and Negro girls. Table 21 shows that, for this category, only planned play appears with a small difference in favor of Negro girls (6.72 for Negro, 4.03 for white).

As Tables 5C and 8B indicate, all of this behavior occurred with heterogeneous groups.

Ritual Games. The application of chi-square reveals no significant difference between eighth grade white and Negro girls in ritual games. Table 21 shows that, of the separate items, catching-throwing appears in both groups (0.78 for white, 0.20 for Negro), and chasing-fleeing (0.99) only in the white group.

All of this behavior, for white girls, occurred with own sex groups, and for Negro girls, with own sex groups (67.50) and with younger children (Tables 5C and 8B).

Team Sports. Table 20E reveals for team sports no significant differences between eighth grade white and Negro girls. Table 21 shows that volley ball (12.85 for Negro, 9.55 for white) and basketball (10.87 for Negro, 8.95 for white) appear with small differences in favor of Negro girls, and baseball (4.40 for white, 2.96 for Negro) and tennis (1.41 for white, none for Negro) are slightly favored by white girls.

Tables 5C and 8B indicate that for both groups more than 90 per cent of the participation was with own sex groups.

Individual Competitive Games. These activities did not occur for white or Negro girls.

Games of Intellect. Table 20B shows for games of intellect differences at the two per cent level of significance for eighth grade white and Negro girls. Table 21 indicates that this significance is due to differences in favor of Negro girls in games of chance (3.56 for Negro, 0.78 for white) and card games (2.77 for Negro, 2.51 for white).

In the behavioral situation, Tables 5C and 8B, the greater proportion of participation for both groups was with own sex groups (59.38 for Negro, 53.28 for white). The remainder of this activity was shared with a peer of the same sex, a peer of the opposite sex, and with heterogeneous groups.

Social Games. No significant difference is found between eighth grade white and Negro girls in social games. Table 21 shows that ballroom dancing (8.89 for Negro, 7.38 for white) and conversation (5.73 for Negro, 2.04 for white) appear with slightly greater frequencies for Negro girls, and kissing games (1.57), car riding (1.26), and folkdancing (0.63) appear only in the white group.

Tables 5C and 8B show that for both groups more than 90 per cent of this participation occurred with heterogeneous groups.

Collecting. Table 20B shows for collecting differences between eighth grade white and Negro girls that are significant at the two per cent level. Table 21 shows that this difference in favor of white girls is accounted for by caste differences in funny books (4.55 for white, 2.37 for Negro), autographs (4.08 for white, 2.17 for Negro), and

match covers (1.10 for white). Stamps and coupons appear in small but slightly greater frequencies for Negro girls.

For both groups all of the collecting was done alone (Tables 5C and 8B).

Passive Participation. The application of chi-square reveals no significant difference in passive participation for eighth grade white and Negro girls. Table 21 indicates that all of the separate items occur with slightly greater frequencies for white girls, as shown by percentage frequencies for radio (17.27 for white, 16.80 for Negro), movies (13.21 for white, 13.24 for Negro) and reading (8.95 for white, 7.71 for Negro). The rank order of these items also shows their relative positions for the two groups (Table 21B).

In the behavioral situation, Tables 5C and 8B, the greater proportion of these activities for both groups occurred alone (53.71 for white, 45.08 for Negro). White girls showed more interaction than did Negro girls with a peer of the opposite sex, with own sex groups, and with heterogeneous groups. Negro girls interacted to a greater extent with siblings and parents.

In summary, a comparison of the total pattern of play behavior of eighth grade white and Negro girls revealed differences at the one per cent level of significance. Of the separate categories, games of intellect showed significant differences with greater participation by Negro girls, at the two per cent level, and collecting showed differences at the two per cent level of significance, with greater participation by white girls.

In the dramatic play category, only planned play appeared with a small difference in favor of Negro girls. Catching-throwing appeared in both groups, and chasing-fleeing in the white group, but with negligible differences. Volley ball and basketball showed small differences in favor

of Negro girls, and baseball and tennis in favor of white girls. No individual competitive games appeared. The significant differences in favor of Negro girls in games of intellect were determined by differences in games of chance and card games. Ballroom dancing and conversation showed small differences in favor of Negro girls, while car riding, kissing games, and folkdancing appeared only in the white group. The two items which had greatest weight in determining the significant difference in collecting were funny books and autographs, favored by white girls. Radio, movies, and reading appeared in slightly greater frequencies for white girls.

The type of social interaction for the two groups was very similar. White girls showed slightly greater participation than did Negro girls with a peer of the opposite sex, and with own sex groups. Negro girls interacted more than did white girls with siblings and with parents (passive participation), and with a peer of the same sex. All of these differences were relatively small.

COMPARISONS OF THE PLAY BEHAVIOR OF WHITE AND NEGRO CHILDREN

Comparisons of the play behavior of total white and Negro groups within the grades are based upon the information reported in Tables 22, 22A, and 22B; 13 and 13A; 14, 14A, and 14B (Chapter V. pp.118-120, 122-124)

Table 22

A COMPARISON OF THE PLAY BEHAVIOR OF SECOND GRADE WHITE AND NEGRO CHILDREN

SECOND GRADE	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
White	366	554	13	29	54	14	117	226	1373
(B & G)	290.6	501.7	72.7	52.6	59.2	8.6	137.9	259.7	
Negro	142	323	114	63	32	1	124	228	1027
(B & G)	217.4	375.3	54.3	39.4	36.8	6.4	103.1	194.3	
	508	877	127	92	86	15	241	454	2400

Chi Square = 224.52

Chi Square Values at .05 = 14.067
" " " " .01 = 18.475
(d. f. = 7)

Table 22 A

A COMPARISON OF THE PLAY BEHAVIOR OF FOURTH GRADE WHITE AND NEGRO CHILDREN

FOURTH GRADE	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
White	178	227	241	51	70	55	142	313	1277
(B & G)	195.7	265.7	234.2	67.2	67.2	35.0	142.9	269.2	
Negro	163	236	167	66	47	6	107	156	948
(B & G)	145.3	197.3	173.8	49.8	49.8	26.0	106.1	199.8	
	341	463	408	117	117	61	249	469	2225

Chi Square = 70.48

Chi Square Values at .05 = 14.067
" " " " .01 = 18.475
(d.f. = 7)

Table 22 B

A COMPARISON OF THE PLAY BEHAVIOR OF EIGHTH GRADE WHITE AND NEGRO CHILDREN

EIGHTH GRADE	Dramatic Roles	Ritual Games	Team Sports	Individual Competitive Games	Games of Intellect	Social Games	Collecting	Passive Participation	Totals
White	45	7	372	1	46	142	172	513	1298
(B & G)	54.9	21.9	378.5	7.8	57.2	123.9	167.1	486.7	
Negro	53	32	303	13	56	79	126	355	1017
(B & G)	43.1	17.1	296.5	6.2	44.8	97.1	130.9	381.3	
	98	39	675	14	102	221	298	868	2315

Chi Square = 55.37

Chi Square Values at .05 = 14.067
" " " " .01 = 18.475
(d.f. = 7)

SECOND GRADE WHITE AND NEGRO CHILDREN

A comparison of the play behavior of second grade white and Negro children in terms of total pattern reveals differences at the one per cent level of significance. Dramatic play, ritual games, and social games showed this significant difference with greater participation by white children, and team sports, individual competitive games, collecting, and passive participation reveal the significant differences in favor of Negro children.

Dramatic Play. The application of chi-square technique reveals differences in dramatic play for second grade white and Negro children that are significant at the one per cent level. As may be observed in Table 13, this significance is accounted for by differences in favor of white children for planned play (8.45 for white, 2.53 for Negro), domestic roles (5.10 for white, 1.75 for Negro), killing-dying (4.73 for white, 2.24 for Negro), transportation (3.28 for white, 2.04 for Negro), selling-buying (1.24 for white), and animal play (0.66 for white). Only community roles are favored by second grade Negro children (5.26 for Negro, 2.99 for white).

In the behavioral situation, Table 14, the greatest caste differences were in the proportion of activity which occurred with heterogeneous groups (61.97 for Negro, 44.26 for white), with own sex groups (29.58 for Negro, 24.86 for white), and with a peer of the same sex (11.75 for white, 2.82 for Negro). White children engaged in more of these activities alone (11.48 for white, 4.23 for Negro) than did Negro children.

Ritual Games. Table 22 shows for ritual games a difference at the one per cent level of significance for second grade white and Negro children. Table 13 indicates that this difference in favor of white children is evident

in singing games (8.52 for white, 4.87 for Negro), seesawing-swinging (5.39 for white, 2.34 for Negro), chasing-fleeing (10.34 for white, 10.13 for Negro), catching-throwing (7.50 for white, 6.43 for Negro), jumping-skipping (7.14 for white, 6.43 for Negro), and hiding-seeking (1.46 for white, 1.27 for Negro). Chasing-fleeing, the most popular item, ranks first in importance for white children and third for Negro children (Table 13A).

In social interaction, indicated in Table 14, both groups showed the greater proportion of activity with heterogeneous groups (56.68 for white, 46.13 for Negro) and with own sex groups (50.77 for Negro, 21.48 for white).

Team Sports. The test of chi-square reveals differences at the one per cent level of significance in team sports for second grade white and Negro children. Table 13 shows that this difference is accounted for by the greater frequencies for Negro children for baseball (6.72 for Negro, 0.07 for white) and volley ball (4.28 for Negro, none for white). Football appears in small frequency for white children (0.87).

For both groups the greater proportion of these activities occurred with own sex groups (approx. 69 per cent). White children showed some interaction with a peer of the same sex (30.77), and Negro children with heterogeneous groups (25.44) and with heterosexual groups (5.26).

Individual Competitive Games. In individual competitive games, differences between second grade white and Negro children are significant at the one per cent level, as indicated in Table 22. This difference in favor of Negro children is consistent for all of the separate items, with marbles showing the greatest frequency (4.48 for Negro, 1.75 for white). Spinning tops appears in both groups, and horseshoes and chicken fights

only in the Negro group, all of these frequencies being less than one per cent (Table 13).

In the behavioral situation, indicated in Table 14, both groups showed the greatest proportion of interaction with own sex groups (87.30 for Negro, 58.62 for white). White children interacted to a greater extent than did Negro children with a peer of the same sex (30.77 for white, 3.17 for Negro).

Games of Intellect. The application of chi-square reveals no significant difference between second grade white and Negro children in games of intellect. Table 13 shows that games of chance and card games are slightly favored by Negro children, and puzzles by white children, but all of those caste differences are small.

In the behavioral situation, Table 14, white children showed the greatest proportion of these activities with a peer of the same sex (66.67), while Negro children showed the greatest proportion of activity with own sex groups (53.13).

Social Games. Table 22 shows for social games differences between second grade white and Negro children that are significant at the one per cent level, as determined by chi-square. Table 13 shows that this difference in favor of white children is accounted for by folkdancing which has a frequency of 1.02 for white and 0.10 for Negro children.

For white children all of this participation occurred with heterogeneous groups, and for Negro children, with own sex groups.

Collecting. In collecting, differences between second grade white and Negro children are significant at the one per cent level in favor of Negro children. Table 13 shows that this difference is due to the greater frequency for Negro children for funny books (11.49 for Negro, 6.55 for white).

The frequencies for other items are small and the caste differences negligible. Funny books have a rank order of 2 for Negro and 8 for white children (Table 13A).

As indicated in Table 14, for Negro children 99.19 per cent of collecting was done alone, and for white children 73.50 per cent occurred alone, and 26.50 per cent was shared with a peer of the same sex.

Passive Participation. The application of chi-square shows differences between second grade white and Negro children in passive participation that are significant at the one per cent level in favor of Negro children. As may be observed in Table 13, both radio (13.15 for Negro, 8.74 for white) and movies (9.06 for Negro, 7.28 for white) show this difference in favor of Negro children. Reading appears only in the white group in small frequency.

In the behavioral situation, indicated in Table 14, white children showed more participation in these activities alone (43.81 for white, 33.33 for Negro), with a peer of the same sex (7.08 for white, 2.19 for Negro), and with parents (21.24 for white, 16.67 for Negro). In contrast, Negro children showed more interaction with siblings (47.81 for Negro, 27.88 for white).

In summary, a comparison of the play behavior, in terms of the total pattern, between second grade white and Negro children revealed differences at the one per cent level of significance. Of the separate categories, dramatic play, ritual games and social games showed this significant difference with greater participation by the white children, and team sports, individual competitive games, collecting and passive participation revealed the significant differences in favor of Negro children. Only games of intellect failed to show significant differences.

In the dramatic play category, the greatest differences in favor of white children appeared in planned play, domestic roles, killing-dying and transportation. Community roles were favored by Negro children. All of the items categorized under ritual games showed greater frequencies for white children. The difference in team sports in favor of Negro children was determined by differences in baseball and volley ball. Football appeared only in the white group. Marbles accounted for the sex difference in favor of Negro children in individual competitive games. All of the separate items in games of intellect appeared for both groups but in too small frequencies to show any significance. Folkdancing, favored by white children, determined the significant difference in social games. In collecting, funny books, with greater frequency for Negro children, was the activity of greatest significance. Radio and movies, both with greater frequencies for Negro children accounted for the significant difference found in passive participation. Reading appeared only in the white group and in small frequency.

In the behavioral environment, white children consistently showed more participation alone than did Negro children, except in collecting behavior. White children also showed a greater proportion of interaction with a peer of the same sex and with a peer of the opposite sex. Negro children interacted to a greater extent than did white children with own sex groups, with heterosexual groups, and with siblings (passive participation). Differences in interaction with heterogeneous groups and with parents seemed to vary more in terms of the activity than with the group.

FOURTH GRADE WHITE AND NEGRO CHILDREN

A comparison of the play behavior of fourth grade white and Negro children through the use of chi-square reveals differences at the one per cent level of significance. These significant differences are evident in ritual games and individual competitive games, which show greater participation by Negro children, and in social games and passive participation, with greater participation by the white group.

Dramatic Play. The application of chi-square reveals no significant difference between fourth grade white and Negro children in dramatic play. Table 13 shows that, of the separate items, community roles (4.85 for Negro, 0.94 for white), planned play (6.43 for Negro, 6.19 for white), and domestic roles (2.53 for Negro, 2.27 for white) appear with slightly greater frequencies for Negro children, and killing-dying (4.31 for white, 3.16 for Negro) for white children. The frequencies for all other items are less than one-half per cent.

For both groups most of this interaction occurred with heterogeneous groups (46 per cent), with own sex groups (43.33 for Negro, 34.83 for white), and with a peer of the same sex (13.48 for white, 10.43 for Negro).

Ritual Games. Table 22A shows for ritual games differences between fourth grade white and Negro children that are significant at the one per cent level in favor of Negro children. Table 13 shows that this greater participation of Negro children is evident in chasing-fleeing (8.23 for Negro, 4.86 for white), catching-throwing (5.91 for Negro, 2.90 for white), hiding-seeking (3.27 for Negro, 1.80 for white) and singing games (1.90 for Negro, 0.63 for white). Jumping-skipping and seesawing-swinging show small differences in favor of white children. The rank order of these items,

Table 13A, further shows their relative importance in the two groups.

In the behavioral situation, Table 14A, the greatest caste differences were in the proportion of activity engaged in with own sex groups (56.78 for Negro, 32.60 for white), and with a peer of the same sex (20.70 for white, 5.93 for Negro).

Team Sports. No significant differences are found for fourth grade white and Negro children in team sports. As may be observed in Table 13, baseball, the most popular item, shows a greater frequency for Negro children (10.44 for Negro, 7.83 for white), while volley ball (5.09 for white, 3.59 for Negro) shows a noticeable difference in favor of white children. Frequencies for all other items are small and the differences negligible. Baseball ranks first for Negro children and third for white (Table 13A).

As indicated in Table 14A, the greatest proportion of these activities for both groups occurred with own sex groups (81.74 for white, 76.65 for Negro) and with heterogeneous groups (20.36 for Negro, 9.96 for white).

Individual Competitive Games. Table 22A shows for individual competitive games differences at the one per cent level of significance between fourth grade white and Negro children. Table 13 shows that this difference in favor of Negro children is evident in marbles (5.49 for Negro, 3.37 for white), and in spinning tops, horseshoes, and chicken fights which appear in frequencies of less than one per cent.

Table 14A shows that white children participated in these activities to a greater extent than did Negro children with own sex groups (86.27 for white, 62.12 for Negro). Negro children showed more interaction with a peer of the same sex (34.85 for Negro, 5.88 for white).

Games of Intellect. The application of chi-square reveals no significant difference between fourth grade white and Negro children in games of intellect, as indicated in Table 22A. In this category, small caste differences in favor of Negro children appear for games of chance (4.32 for Negro, 2.27 for white), and differences in favor of white children for puzzles (1.33 for white, 0.63 for Negro) and card games (1.88 for white, none for Negro).

Table 14A shows that for both groups the greater proportion of these activities occurred with a peer of the same sex (55.32 for Negro, 37.14 for white) and with own sex groups (34.03 for Negro, 27.14 for white). White children showed more participation alone and with a peer of the opposite sex than did Negro children.

Social Games. Table 22A shows that the differences between fourth grade white and Negro children in social games are at the one per cent level of significance, as determined by chi-square. Table 13 shows that this difference in favor of white children is determined by folkdancing which appears with a frequency of 4.31 for white and 0.63 for Negro children.

For Negro children all of this activity occurred with heterogeneous groups, while for white children the greater proportion of participation was with heterosexual groups (52.73) and with heterogeneous groups (34.55), as indicated in Table 14.

Collecting. The application of chi-square reveals no significant difference between fourth grade white and Negro children in collecting. As may be observed in Table 13, funny books appear with a frequency of 8.97 for Negro and 7.20 for white children. Other items appear in frequencies of less than two per cent and the caste differences are negligible.

For both groups more than 95 per cent of these activities occurred

alone (Table 14A).

Passive Participation. Table 22A shows for passive participation differences between fourth grade white and Negro children that are significant at the one per cent level with greater participation by white children. Table 13 shows that this difference in favor of the white group is evident for movies (13.16 for white, 8.12 for Negro), radio (9.48 for white, 8.33 for Negro), and for reading (1.88 for white, none for Negro). Movies, showing the greatest caste difference, rank first for white and fifth for Negro children (Table 13A).

As indicated in Table 14A, white children showed greater participation in these activities alone (56.23 for white, 20.51 for Negro), and with a peer of the same sex (13.74 for white, 6.41 for Negro). In contrast, Negro children showed greater interaction with parents (25.00 for Negro, 3.19 for white) and with siblings (48.08 for Negro, 26.84 for white), as indicated in Table 14A.

In summary, a comparison of the play behavior for white and Negro children revealed differences at the one per cent level of significance. Ritual games and individual competitive games showed significant differences with greater participation by Negro children, and social games and passive participation showed these differences with greater participation by the white children.

In the dramatic play category, community roles showed noticeable differences in favor of Negro children, and killing-dying, in favor of white children. Chasing-fleeing, catching-throwing, hiding-seeking, and singing games, in the category of ritual games, determined the significant difference in favor of Negro children, while jumping-skipping and seesawing-swinging showed small differences in favor of white children.

Baseball and basketball were favored by Negro children, but these differences showed no significance. All items categorized under individual competitive games were favored by Negro children except darts. Marbles appeared as the most important of these items. Folkdancing, the only activity to appear in the category of social games, determined the significant difference in favor of white children for this group. Funny books, the most important item of collecting, was favored by Negro children. Movies and radio showed greater frequencies for white children, while reading appeared in small frequency only in the white group.

In the behavioral situation, white children consistently showed more participation alone than did Negro children, except in the category of collecting. White children also showed a greater proportion of participation than did Negro children with a peer of the same sex, with a peer of the opposite sex, and with heterosexual groups. Negro children interacted to a greater extent than did white children (passive participation) with siblings and with parents. The proportion of participation with own sex groups and with heterogeneous groups was very similar for the two groups.

EIGHTH GRADE WHITE AND NEGRO CHILDREN

Comparison of the play behavior of eighth grade white and Negro children reveals differences at the one per cent level of significance. Ritual games and individual competitive games show this difference at the one per cent level of significance in favor of Negro children. Social games show significant differences at the two per cent level with greater participation by white children, while dramatic play and games of intellect show significant differences at the five per cent level with greater participation by Negro children.

Dramatic Play. Table 22B shows for dramatic play differences between eighth grade white and Negro children which are significant at the five per cent level, as determined by the chi-square technique. Table 13 indicates that this level of significance is accounted for by the difference in favor of Negro children in planned play (5.21 for Negro, 3.47 for white). No other item appears in this category.

For both groups all of this activity occurred with heterogeneous groups (Table 14B).

Ritual Games. The application of chi-square reveals differences at the one per cent level of significance for eighth grade white and Negro children in ritual games. Table 13 shows that this difference in favor of Negro children is due to the appearance of chasing-fleeing (2.16), hiding-seeking (0.20), and jumping-skipping (0.20) in the Negro group. Catching-throwing has a frequency of 0.59 for Negro and 0.54 for white children.

In social interaction, Table 14B, white children showed the greatest proportion of activity with own sex groups (71.43) and with a peer of the same sex (28.57). Negro children showed wider participation than did white children, as shown by their interaction with own sex groups (31.25),

heterosexual groups (37.50), heterogeneous groups (15.63) and to a less extent with a peer of the opposite sex, a peer of the same sex, and with a younger child.

Team Sports. The application of chi-square reveals no significant difference between eighth grade white and Negro children in team sports. As indicated in Table 13, Negro children show slightly greater participation in baseball (9.34 for Negro, 8.71 for white), football (3.64 for Negro, 2.00 for white), and volley ball (8.36 for Negro, 6.09 for white), while white children show some preference for basketball (9.55 for white, 8.46 for Negro). Tennis (1.08) and gymnastics (1.23) appear only in the white group.

Table 14B shows that for both groups more than 93 per cent of these activities occurred with own sex groups.

Individual Competitive Games. Table 22B shows for individual competitive games differences between eighth grade white and Negro children that are significant at the one per cent level in favor of Negro children. Table 13 shows that this difference is accounted for by the small frequencies in favor of Negro children for marbles, horseshoes, and spinning tops. No other items appear in this category.

As indicated in Table 14B, this behavior occurred for white children with own sex groups, and for Negro children, with own sex groups (69.23) and with a peer of the same sex (30.77).

Games of Intellect. The application of the chi-square technique reveals differences at the five per cent level of significance for eighth grade white and Negro children in games of intellect. As indicated in Table 13, this difference is accounted for by the preference of Negro children for games of chance (3.64 for Negro, 2.00 for white), and for card games (1.87 for Negro, 1.39 for white).

In social interaction, Table 14B, both groups showed the greatest proportion of activity with a peer of the same sex (60.87 for white, 42.86 for Negro), and with own sex groups (46.43 for Negro, 28.26 for white).

Social Games. Table 22B shows for social games differences between eighth grade white and Negro children that are significant at the two per cent level in favor of white children. Table 13 shows that this difference is accounted for by ballroom dancing which has a frequency of 5.62 for white and 4.92 for Negro children, and by car riding (1.69), kissing games (1.62), and folkdancing (0.39) which appear only in the white group. Conversation shows a small difference in favor of Negro children.

For both groups, most of this activity occurred with heterogeneous groups (97.47 for Negro, 89.44 for white), and with own sex groups (9.86 for white, 2.53 for Negro).

Collecting. No significant differences are found in collecting between eighth grade white and Negro children. As may be observed in Table 13, funny books, the most important item, show a slightly greater frequency for Negro children (9.64 for Negro, 8.78 for white), while autographs (2.00 for white, 1.38 for Negro) and stamps (1.31 for white, 0.98 for Negro) appear with small differences in favor of white children. Frequencies for all other items are quite small.

For both groups all of the collecting was done alone, as indicated in Table 14B.

Passive Participation. In passive participation no significant differences are found between eighth grade white and Negro children, as indicated in Table 22B. All of the separate items in this category show small differences in favor of white children. This is shown in the percentage frequencies, presented in Table 13, for movies (17.64 for white,

4.16 for Negro), radio (16.02 for white, 15.93 for Negro), and reading 5.86 for white, 4.82 for Negro). Table 13A shows that movies rank first in importance for white children and second for Negro, and radio is first for Negro and second for white children. Reading is in seventh place for white and ninth place for Negro children.

In the behavioral situation, Table 14B, both groups showed similar participation alone (47 to 51 per cent), and with a peer of the same sex (20 to 24 per cent). The greatest caste differences were in the proportion of activity which occurred with siblings (20.56 for Negro, 4.48 for white), and with a peer of the opposite sex (10.92 for white, 1.69 for Negro).

In summary, a comparison of the total pattern of play behavior between eighth grade white and Negro children revealed differences at the one per cent level of significance. Ritual games and individual competitive games showed this difference at the one per cent level of significance in favor of Negro children. Social games showed a difference significant at the two per cent level with greater participation by white children, while dramatic play and games of intellect showed significant differences at the five per cent level, with greater participation by Negro children.

In the dramatic play category, the difference was accounted for by planned play which showed a greater frequency for Negro children. Catching-throwing, chasing-fleeing, hiding-seeking, and jumping-skipping, all of which appeared in small frequencies, were favored by Negro children. Although no significant differences were found in team sports, the data showed a slight preference of Negro children for baseball, football and volley ball, and of white children for basketball. Tennis and gymnastics appeared in small frequencies only in the white group. In individual competitive games, the activities which appeared were in small frequencies consistently greater for

Negro children. The differences in games of intellect in favor of Negro children were determined by the differences in games of chance and card games. All of the items categorized as social games showed greater frequencies for the white children, with the exception of conversation. Ballroom dancing appeared as the most popular of these items. Funny books, the most important item of collecting, showed slightly greater frequency for Negro children. Movies, radio and reading showed small differences in favor of white children. Movies and radio were the most popular items for both groups.

In terms of the total pattern of social interaction, white and Negro children at the eighth grade level were very similar. White children showed a little greater participation with own sex groups, and with a peer of the opposite sex than did Negro children. Negro children showed slightly greater interaction with heterogeneous groups, with heterosexual groups (ritual games) and with siblings (passive participation).

SUMMARY AND CONCLUSIONS

The caste comparisons of play behavior reported in this chapter give support to the hypothesis that the patterns of change in children's play activities are related to caste differences. Many significant differences became evident in the analysis of the play behavior of the separate categories.

In dramatic play, significant caste differences in favor of white children were found at the second grade level, and in favor of Negro children at the fourth and eighth grade levels. These differences in favor of second grade white children were due to consistently greater frequencies for domestic roles, selling-buying, killing-dying, animal play, and in most instances, planned play and legendary play. The difference in favor of Negro children at the fourth grade level were due to greater frequencies for community roles and for planned play, and at the eighth grade level, to differences in planned play.

Significant differences were found in favor of white boys at the second grade level, and in favor of Negro boys at the fourth grade level for ritual games. Differences in favor of Negro boys were evident at the eighth grade level. In second grade, the significant differences in favor of white boys were due to the greater frequencies for all of the separate items. The differences in favor of Negro children in fourth and eighth grades were due to differences in chasing-fleeing, catching-throwing, hiding-seeking, and singing games (for girls).

In team sports, significant caste differences in favor of Negro boys and girls were found at the second grade level. These differences were due in part, to greater participation of Negro children in baseball and in volley

ball. With the exception of eighth grade white girls, baseball was consistently favored by Negro children at all levels. Football showed greater frequencies for Negro boys in fourth and eighth grades, while volley ball was favored by white children in fourth grade and Negro children in eighth grade. Gymnastics were consistently favored by white children.

In individual competitive games, significant caste differences in favor of Negro children were found for boys in second, fourth, and eighth grades. No significant differences were found between white and Negro girls in these activities. With the exception of darts, all of the items in this category were consistently favored by Negro boys.

Games of intellect showed significant caste differences in favor of Negro children at the eighth grade level. These differences were due to the greater frequencies for Negro children for card games and games of chance. Puzzles were consistently favored by white children.

Significant differences for social games were in favor of white children. These differences in favor of white children were consistent for all of the separate items, with the exception of ballroom dancing and conversation which showed greater frequencies for Negro girls at the eighth grade level.

In collecting, significant differences in favor of Negro boys were found at the second and fourth grade levels, while for girls, the significant differences were in favor of white children at the fourth and eighth grade levels. The differences in favor of Negro boys of second and fourth grade were due mainly to the greater frequencies for funny books, and those in favor of white girls at the fourth and eighth grade levels were due to caste differences in funny books, match covers, playing cards, and autographs.

Significant caste differences in favor of Negro boys were found at the second grade level for passive participation, and differences in favor of white boys were found at the fourth grade level. No significant differences were found between white and Negro girls, or between eighth grade white and Negro boys. The significant difference in favor of Negro boys at the second grade level was evident in radio and movies, and the difference in favor of white boys at the fourth grade level was due to greater frequencies for white boys for radio, movies, and reading.

It is noted that the significant differences at the second grade level were in favor of white children for dramatic play and ritual games and in favor of Negro children for team sports, individual competitive games, collecting and passive participation. At the fourth and eighth grade levels the significant differences were in favor of Negro children for dramatic play, ritual games, individual competitive games, and games of intellect, and in favor of white children for social games and for passive participation.

Some of these caste differences may suggest different identifications of white and Negro children. For example, the greater participation of Negro children in team sports and individual competitive games, and less participation in dramatic play at the second grade level (as compared with white children), may suggest for Negro children fewer identifications with adults and more with older children.

Some of the differences between white and Negro children may be explained in terms of differences in teacher expectations. Although there is no research in this area, consultants in the field program of the Institute for Child Study, University of Maryland, report evidence that Negro teachers see their roles as different from those of white teachers. Negro teachers

express a feeling of obligation to force children into middle class patterns, to use pressure in getting them to be more like adults.* It is not known what influences such adult expectations have on children's patterns of play, but it is expected that they would result in some observable differences.

Caste differences in play may also be seen in relation to family systems which seem to influence interpersonal relationships in children's groups. The research of Maas on the influence of social class differences, reported in the second chapter of this dissertation, suggests this relationship.

Whether these differences between white and Negro children are due to differences in opportunity, to differences in cultural expectations, to differences in social and emotional development is not known. Additional research in this area might help to answer some of these questions.

In the data analysis presented in this chapter, many significant differences between white and Negro children in play behavior were shown, thus supporting the hypothesis that the developmental sequence of children's play behavior varies with relation to caste groupings. This refutes the null hypothesis that all of the children included in the study come from the same population and that no differences in play behavior can be expected.

The final chapter, immediately following, includes a summary, general conclusions, and implications suggested by this research project.

* Based on opinions expressed by individual members of the Staff of the Institute for Child Study, University of Maryland.

CHAPTER VIII

SUMMARY, CONCLUSIONS AND IMPLICATIONS

SUMMARY

Increased awareness within recent years of the importance of peer group membership in the socialization of children, along with the increased emphasis on new and improved techniques for studying the dynamics involved in group interaction, has served to create new interests in the whole pattern of children's play.

Earlier research designed to determine the patterning of children's play has been, for the most part, concerned with small groups of children of limited age range or with certain isolated aspects of play behavior. Also, much of this research has been dependent upon data gathered through the use of questionnaires or play inventories rather than through direct observation of children's participation in play activities. This investigation was an attempt to extend the findings of these earlier studies of play behavior and also the method of investigation. As a further step in meeting the need for a better understanding of children's group interaction through play activities, this research investigates the developmental sequence of play behavior from kindergarten through eighth grade as these play behaviors were influenced by the factors of age, sex, and caste.

SCOPE OF THE INVESTIGATION

The sample of children used for this research consisted of 1669 elementary school children in kindergarten, second, fourth and eighth grades. With two exceptions, this number included a distribution of 120 children in

each sex-caste group in each of the four grades. Due to the lack of available records, the kindergarten group included only white children, and the fourth grade group included only 109 white girls. The kindergarten group included five year old children; the second grade included seven and eight year old children; the fourth grade group included nine and ten year old children; and the eighth grade group included thirteen and fourteen year old boys and girls.

As Table 1 (See ch. III, p.37) indicates, the white children in this sample represent seven different geographical regions, and the Negro children represent only two such regions. Within limitations, the sampling procedure provided for some equating of the records of these children in terms of geographical origin and family membership.

The data consisted of the recorded descriptions of the play behavior of this group of children as it was observed and recorded in the context of all of the activities of the children during a school day. These anecdotal records were prepared by classroom teachers who were participating in an organized child study program.

The play behaviors, forty-four separate items categorized under eight major headings, which were identified in the records of the 1669 selected children comprised the data for the analyses made in this study.

PROCEDURE USED IN THE INVESTIGATION

To facilitate the task of analyzing the records, a check sheet was devised including the forty-four items of play behavior which had been accepted as an organizing framework on the basis of the pilot study and a survey of related literature. The records were analyzed and all evidences

of play behavior contained in the records were tabulated on the instrument and later tallied and categorized for the different grade, sex and caste groups. All of the frequencies of the separate items of play behavior for each grade, sex and caste group were converted into percentages and into a rank order distribution, and comparisons were made using these as a basis for explaining the significant differences found between the groups compared.

The major comparisons made in this investigation were in consideration of the eight large categories of play behavior as they were revealed by the different groups of children. These categories were: (1) Dramatic Play; (2) Ritual Games; (3) Team Sports; (4) Individual Competitive Games; (5) Games of Intellect; (6) Social Games; (7) Collecting; (8) Passive Participation.

The significance of the observed differences was tested through the use of the chi-square technique. It was assumed that all of the grade, sex, and caste groups of children included in this investigation were from the same population and that no differences could be expected in the play patterns which they exhibited. This null hypothesis was tested for every set of tabulations through the application of the chi-square technique.

CONCLUSIONS

The conclusions reached in this study are presented in the same order as that of the three major hypothses on which this study was based. This is also the order of the presentation of the total findings reported in Chapters V, VI, and VII. Each hypothsis is restated here, followed by a summary of the findings which support or refute its validity. These hypothses and the results

of the study most closely relating to them serve as the basis for the organization of the material in this section.

1. Hypothesis: The play patterns of children follow a developmental sequence paralleling age-grade levels.

The results presented with respect to this hypothesis in Chapter V show that the developmental sequence varies for the eight categories of play behavior and for the different groups being compared. In order to get a clear picture of what the developmental pattern is like, it is necessary to consider these categories separately.

Dramatic Play. The developmental sequence for this category is a progressive decrease in participation from kindergarten through eighth grade for white children, and from second grade through eighth for Negro children. The only exception is an increase from second to fourth grade for Negro girls, which influences the total Negro group in that direction. The differences between all of the groups compared show statistical significance at the one per cent level of probability.

For white boys and girls all of the separate items show this progressive decrease through fourth grade and disappear in eighth except planned play, which increases in second and decreases in fourth and eighth grades. The exceptions to this pattern of progressive decrease for Negro boys is an increase at the fourth grade level for killing-dying and planned play, and for Negro girls, an increase in fourth grade for domestic roles and planned play.

Ritual Games. The developmental sequence for ritual games is that of a progressive decrease from kindergarten or second grade (Negro children) through the eighth grade, with differences between the grades showing significance at the one per cent level. The only exception is the difference between kindergarten and second grade for the total white group, which shows no significance.

For all groups compared, this pattern of progressive decrease was most evident in singing games, jumping-skipping, and seesawing-swinging. Chasing-fleeing, catching-throwing, and hiding-seeking showed variation in pattern for the different groups.

Team Sports. The pattern of development for team sports is that of a progressive increase from second through eighth grade, with all of the grade differences showing significance at the one per cent level of probability. Team sports do not appear at the kindergarten level, or for second grade white girls.

Although a few exceptions were evident, the general pattern for the separate items in this category is that they appear in second or fourth grade and show an increase in eighth grade.

Individual Competitive Games. The sequence of development for individual competitive games is that of an increase from kindergarten or second grade through fourth grade and a marked decrease in eighth grade. This is the pattern for every group except that of Negro girls who show small but equal frequencies in second and fourth grades and none in eighth grade. For white and Negro boys, total boys, and total white and Negro groups, all

of the grade differences show significance at the one per cent level. Differences between second and fourth grade white girls (.05), between fourth and eighth grade white girls (.02), and between fourth and eighth grade total girls (.05) also show statistical significance. Grade comparisons between kindergarten and second grade white girls, second and fourth grade total girls, and all grade comparisons for Negro girls show no significant differences.

Marbles, the item which had greatest weight in determining the pattern, show this sequence of increase through fourth grade and decrease in eighth for both white and Negro boys, total boys, and total white and Negro groups.

Games of Intellect. Games of intellect show no consistent pattern of change for all groups. White boys show a decrease in these activities from kindergarten through fourth grade and an increase in eighth grade, with only the difference between kindergarten and second grade showing significance (.01 level). White girls, the total girls' group, and the total white group, show a decrease in participation from kindergarten to second grade, an increase in fourth and a decrease in eighth grade, with significant differences at the one per cent level of probability in each case. Negro girls show an increase in participation from second to fourth grade (.05 level of significance) and no change from fourth to eighth grade. Negro boys show a progressive increase but the grade differences are not significant.

Of the separate items in this category, puzzles account for most of the decrease from kindergarten to second or fourth grade, and games of chance account for much of the increase at fourth and eighth grade levels, particularly for boys. Neither these items, nor card games, have a consistent pattern for all groups.

Social Games. The sequential development of social games is that of a progressive increase from kindergarten or second grade through eighth grade, with differences at the one per cent level of significance between all of the grade groups. The only exception is for Negro boys for whom social games do not appear in second or fourth grade, and for whom differences between fourth and eighth grade are at the five per cent level of probability.

Folkdancing shows the general pattern of increase through the fourth grade and decreases in eighth grade, while all of the other items appear only at the eighth grade level.

Collecting. In collecting, white boys, Negro boys, total boys' group and the total Negro group show a pattern of decrease in participation from kindergarten through fourth grade with an increase at the eighth grade level. Significant differences were found for white boys between kindergarten and second grade (.05), and between fourth and eighth grade (.01). These differences were also found for the total boys' group between second and fourth (.05) and between fourth and eighth grades (.01). Collecting shows for white girls and for the total girls' group a pattern of increase through fourth grade and a decrease in eighth grade, with all of the grade differences for white girls showing a one per cent level of significance. For the total girls' group, differences between second and fourth grade were at the two per cent level of significance, and those between fourth and eighth grade, at the five per cent level. The total white group shows a progressive increase in participation with all of the differences showing significance at the one per cent level, except those between second and fourth grades (.05). None of the grade differences for Negro boys and girls show significance.

Although funny books occurred with greatest frequencies for all

groups and had the greatest weight in determining the pattern of collecting, none of the separate items showed a consistent pattern for all groups.

Passive Participation. The developmental sequence for passive participation is that of a progressive increase from kindergarten through the eighth grade for white boys and girls, total boys and total girls' groups, and total white group. For Negro boys and girls and for the total Negro group there is a decrease from second to fourth grade and an increase in eighth grade. All of the grade differences for all groups are statistically significant at the one per cent level of probability.

With a few exceptions, radio and movies follow the pattern for the different groups as that of the total category. Reading, for white children, shows a progressive increase from second through eighth grade, but does not appear for Negro children before the eighth grade level.

This developmental sequence, with greater participation in dramatic roles and ritual games with young children, and the replacement of these by such activities as team sports, social games, and the more passive types of recreation with greater maturity, is in accord with many of the principles which are known about the growth and development of children. Young children are observed as they engage in much individual and small group exploration of the environment through role playing, and as they express delight in experimentation with their physical strength and skills in their ritual games and in individual competitive games. With increased development of social consciousness and social skills and of physical skills, a parallel increase in participation in the activities which further contribute to and which permit an expression of this development results.

2. Hypothesis: The developmental sequence of play behavior varies with relation to sex groupings.

The results presented in Chapter VI of this dissertation provide evidence of many sex differences in play behavior. The findings are summarized below in terms of the eight categories of play behavior.

Dramatic Roles. In dramatic roles there is no significant difference between white boys and girls at any grade level compared. For Negro children the differences are significantly in favor of girls in second grade (.02), fourth (.01), and eighth (.05). This significant difference in favor of girls for the total group is evident at the fourth (.01) and at the eighth grade level (.02). Of the separate items, transportation, killing-dying, and animal play are consistently favored by boys, and domestic roles, community roles, and planned play (except for second grade Negro boys) are consistently favored by girls. This includes both white and Negro children. Selling-buying and legendary play, appearing only in small frequencies show no consistent pattern of sex preference.

Ritual Games. Significant differences between white boys and girls in ritual games were found only at the fourth grade level (.01). For Negro children there is a difference at the one per cent level of significance in favor of girls in second and fourth grades, and in favor of boys in eighth grade. The total group of children showed significant differences (.01) in favor of girls in second and fourth grades, and in favor of boys in eighth grade (.05). Chasing-fleeing was the only item consistently favored by boys. Singing games (one exception at the fourth grade level where frequencies

were less than one per cent), jumping-skipping, and seesawing-swinging were favored by both Negro and white girls at all grade levels where they appeared. Catching-throwing and hiding-seeking showed no consistent pattern of sex preference.

Team Sports. Team sports, not appearing in kindergarten, show significant differences at the one per cent level in favor of boys for both Negro and white children in second and fourth grades and for white boys at the eighth grade level. Negro children show no significant sex differences (.10) at the eighth grade level. These differences in favor of boys were determined by consistently greater frequencies for boys for baseball, football, and gymnastics. Basketball also showed greater frequencies for boys except for the Negro group and for the total group at the eighth grade level where the difference was slightly in favor of girls. Volley ball and tennis were favored by girls whenever they appeared.

Individual Competitive Games. In individual competitive games, differences at the one per cent level of significance in favor of boys were found for white children of the second and fourth grades, and for Negro children and for the total group at second, fourth and eighth grade levels. White children showed no significant sex differences in kindergarten or in eighth grade. Every single item in this category, marbles, darts, spinning tops, chicken fights and horseshoes, were consistently favored by white and by Negro boys at all grade levels. Only marbles and darts appeared for girls.

Games of Intellect. Sex differences in games of intellect for white and Negro children show significance (.01) only at the fourth grade level. This difference is in favor of girls. In terms of the separate items, this difference is due to greater frequencies for white girls for all of the items, puzzles, card games, and games of chance, and for Negro girls for games of chance at the fourth grade level. In the other grades the sex preferences for the separate items show no consistent pattern.

Social Games. Only at the eighth grade level are the sex differences in social games significant. These differences in favor of girls are at the five per cent level of significance for white children, and at the one per cent level of signifcance for Negro children and for the total Negro-white group. Of the separate items, ballroom dancing and conversation show striking differences in favor of girls for white and Negro children, and folkdancing for white children (girls) at the eighth grade level. Kissing games and car riding show slightly greater frequencies for white boys but do not appear for Negro boys or girls.

Collecting. White children show a significant difference (.01) in favor of boys at the eighth grade level for collecting, while Negro children show differences in favor of boys at this level of significance for second, fourth and eighth grades. For the total group of children, differences in favor of boys at second and eighth grade levels show significance at the one per cent level. In terms of the separate items, funny books showing the greatest frequencies, were consistently favored by boys. And although there are a few minor exceptions, in general, stamps, boxtops, marbles, and coupons are favored by boys, while match covers and playing cards are in most instances

favored by girls. Autographs are consistently favored by girls.

Passive Participation. Sex differences in passive participation show a two per cent level of significance for eighth grade white children, a five per cent level for fourth grade Negro children, and a one per cent level for the total group of eighth grade children, all of the sinificant differences being in favor of girls. None of the other grade or caste groups show significant sex differences. In terms of percentage frequencies, radio and reading are consistently favored by girls for all groups at all grade levels where these items appeared. Reading does not appear until the eighth grade for Negro children. Movies, popular for both sexes, show no consistent pattern of sex differences. At all levels differences between boys and girls in movie attendance are quite small.

These sex differences in play behavior may be seen in relation to differences in the pattern of physical development for boys and girls. Sex differences in physical strength, skill, and endurance, as well as in the pattern of development of muscular coordination may provide a partial explanation for these observed sex differences in play activities. The preferences of boys for chasing-fleeing, for baseball, football, basketball and gymnastics, and of girls for jumping-skipping, seesawing-swinging, volley ball and tennis seem to offer further evidence of sex differences in physical development and in the use of the body as having a strong influence in the children's choice of play activities.

The findings also suggest that differences in cultural expectations may account for many of the observed sex differences in play behavior. In the culture the male and female roles are different, and for each sex role there are certain prescribed ways of thinking and behaving. These culturally approved ways of behaving may be reflected in the boys' choice of such ac-

tivities as transportation, killing-dying, individual competitive games, baseball, football and gymnastics, and in the girls' choice of domestic and community roles, and most of the social games.

3. Hypothesis: The developmental sequence of play behavior varies with relation to caste groupings.

The results pertaining to this hypothesis, reported in Chapter VII, provide evidence of caste differences in the several items of play behavior. In terms of the eight major categories of play behavior, these findings are summarized in the following paragraphs.

Dramatic Play. Comparison of white and Negro boys in dramatic play reveals a difference at the one per cent level of significance in favor of white boys in second grade. This significant difference (.01) is also evident in favor of white girls at the second grade level, and in favor of Negro girls at the fourth grade level. For the total group, caste differences in favor of white children are at the one per cent level of significance in second grade, and at the five per cent level of significance in favor of Negro children at the eighth grade level. No significant differences (.10) were found for the total group at the fourth grade level.

These differences in favor of white boys and girls of second grade are due to the consistently greater frequencies in favor of white children for domestic roles, selling-buying, killing-dying and animal play. Also, planned play and legendary play are favored by white children at the second grade level. The difference in favor of Negro girls of the fourth grade are due to the consistently greater frequencies for Negro children for community

roles (one small exception), and for the greater frequency for Negro girls of planned play in fourth grade. The difference in favor of Negro children (total group) at the eighth grade level are due to differences in planned play which is favored by both Negro boys and girls of the eighth grade.

Ritual Games. Comparison of white and Negro children in ritual games shows for boys and for the total group differences at the one per cent level of significance in favor of white boys and of the total white group at the second grade level, and differences (.01) in favor of Negro boys and total Negro groups in fourth and eighth grades. In the girls' group, there is a difference at the five per cent level of significance in favor of Negro girls of the fourth grade. Second and eighth grade girls show no significant caste differences in ritual games.

At the second grade level, for boys and for the total group, all of the items in this category show greater frequencies for white children. In the girls' group, jumping-skipping, catching-throwing, and hiding-seeking show greater frequencies for Negro children. The differences in favor of Negro boys and of the total Negro group in fourth and eighth grades, and of Negro girls in fourth grade, are due to differences for boys and girls in chasing-fleeing, catching-throwing, and hiding-seeking, and for girls, differences in singing games.

Team Sports. At the second grade level, caste differences in team sports are at the one per cent level of significance in favor of Negro boys and girls. Differences at the fourth and eighth grade levels show no significance. These significant differences for second grade are due to caste

differences in favor of Negro children for baseball and for volley ball. Football appears for white and basketball for Negro boys but in small frequencies. With the exception of eighth grade white girls baseball was consistently favored by Negro boys and girls at all levels. Football showed greater frequencies for Negro boys in fourth and eighth grades, while volley ball was favored by white children in fourth grade but Negro children in eighth grade. Gymnastics were consistently favored by white children. No consistent pattern of caste differences was found for basketball or tennis.

Individual Competitive Games. In individual competitive games caste differences at the one per cent level of significance in favor of Negro children are found for boys and for the total group of children in second, fourth, and eighth grades. Girls show no significant caste differences in these activities. With the exception of darts which appear in small frequency only for white children, all of the separate items in this category consistently show greater frequencies for Negro boys. Only marbles and darts appear for girls, and these in too small frequencies to show any significance.

Games of Intellect. In games of intellect significant caste differences were found only at the eighth grade level for girls (.02) and for the total group (.05). These differences, in favor of Negro children were determined by the greater frequencies at the eighth grade level of card games and games of chance. Except for card games at the fourth grade level, both of these items were consistently favored by Negro children at all levels. Puzzles were consistently favored by white children.

Social Games. Caste differences at the one per cent level of signifi-

dance in social games were found at the fourth and eighth grade levels for boys, at the fourth grade level for girls, and at second, fourth, and eighth grade levels for the total group of children. These differences are in favor of white children. Folkdancing, the only item to appear before the eighth grade, accounts for all of the differences observed in the other grades. White boys show greater frequencies for all items in this category than do Negro boys, whereas white girls show greater frequencies for all except ballroom dancing and conversation. In the total group, white children show greater frequencies for folkdancing, ballroom dancing, car riding and kissing games, with only conversation favored by Negro children.

Collecting. In collecting, significant differences between white and Negro children were found in favor of Negro boys in second (.01 level) and in fourth grades (.03), and in favor of white girls in fourth (.02) and eighth (.0.) grades. In the total group, only the difference (.01) in favor of Negro children at the second grade level was found to be significant. The significant difference in favor of Negro boys in second and fourth grades is due mainly to greater frequencies for funny books for Negro boys in these grades. Coupons also show greater frequency for Negro boys in second grade, and stamps in fourth grade, but the frequencies are small. The difference in favor of white girls in fourth grade is evidenced in funny books, match covers, playing cards and autographs, and in eighth grade by funny books, match covers, and autographs. The significant difference in favor of Negro children at the second grade level for the total group is determined by a greater frequency for funny books for this group. With the exception of white girls of fourth and eighth grades, funny books are consistently

favored by Negro children for all groups at all levels. Playing cards, match covers, and autographs (except for eighth grade Negro boys) are consistently favored by white children although the frequencies were small.

Passive participation. In passive participation some differences (.01) in favor of Negro children were found for boys and for the total group at the second grade level, and differences in favor of white children for boys and for the total group at the fourth grade level. No significant differences were found between white and Negro girls or between eighth grade white and Negro boys. These significant differences in favor of Negro boys at the second grade level are due to greater frequencies for Negro boys for radio and movies. Radio appears with greater frequency for Negro girls in second grade, but movies and reading show greater frequencies for white girls. At the fourth grade level, radio, movies and reading appear with greater frequencies for white boys and girls than for Negro, but only the differences for boys are significant. With the exception of radio for Negro boys, all of the items show greater frequencies for white boys and girls at the eighth grade level but the differences are not significant.

In terms of the total play pattern of play behavior for white and Negro children, the records of white children contained more evidences of play participation than did those of Negro children. This is shown in the total number of descriptions of play reported for white children in second, fourth and eighth grades, which is 3018 as compared with 2992 for Negro children. In second grade (29 for white, 27 for Negro), fourth grade (37 for white, 29 for Negro), and in eighth grade (26 for white, 25 for Negro), the difference in the total number of play activities participated in, was in favor of white children.

Comparison of the eight categories of play behavior for white and Negro children showed that the significant differences in favor of one or the other caste group varied somewhat for the different grade levels. It is noted that the significant differences, at the second grade level, were in favor of white children for dramatic play and ritual games, and in favor of Negro children for team sports, individual competitive games, collecting and passive participation. At the fourth and eighth grade levels, the significant differences in dramatic play, ritual games, individual competitive games, and games of intellect (eighth grade) were in favor of Negro children, and the differences in social games and passive participation were in favor of white children. From this it is evident that the caste groups show some variation in the time at which the different activities become most important to them. The shift in the direction of the differences in favor of one group or the other shows caste differences not only in the choice of activities but differences in the developmental sequence of play activities for the two groups. Whether this is due to differences in opportunity, to differences in social and emotional development, to limitations in the data, or to all of these plus other factors, is not known.

IMPLICATIONS

Most educators are agreed that the major purpose of education is to help boys and girls to gain the knowledge, attitudes, skills, interests, and appreciations that will equip them for most effective participation in the kind of society in which they live. Recognition of this overall goal of education implies a concern for all of the activities in which children

participate and for the opportunities provided by the educational system for the achievement of these essential learnings. If the school is to provide opportunities for these basic understandings, teachers must recognize the learning possibilities of group interaction for children, and understand something of the nature of the activities which are a part of the child's group experience.

The findings and conclusions of this research, based on the analysis of the developmental sequence of children's play behavior, suggest the following implications for education:

1. Implications for Curriculum. Any form of curriculum improvement, in part, demands a clarification of goals in terms of the needs of children and how the school is attempting to satisfy them. The findings of this research, revealing the patterns of play selected by children of different grade, sex, and caste groups, provide additional insights into children's interests, values, and goals. These new insights into the play tendencies of children, discovered through their free choices of play activity, can be used in curriculum planning as a basis for enriching the school's offerings to children.

2. Implications for Guidance. If play is the child's natural medium of expression, and if in this medium the child seeks the satisfaction of certain needs and goals, then the nature of his play may give some clues as to the nature of his needs and goals. This suggests that if teachers and guidance personnel know what play activities a child selects, what skills he has in the play group, or what skills or knowledges he needs in order to

be a participating member, they have a medium of communication with the child and are better able to reach him on his own level. Viewed in this way, the findings from this research concerning the nature of children's play can be of great value in the guidance service of the school.

3. Implications for Administration. The nature of the developmental sequence of children's play behavior has implications for school administrators, supervisors, and teachers who have the responsibility of determining the school policies that affect children. The fact that this aspect of a child's growth follows a developmental pattern suggests that at different age levels children are seeking different values in their play activities. A better understanding of the nature of children's play, therefore, suggests the need for examining administrative policies regarding the use of time, space, and equipment provided for play.

Implications for the Culture. Some of the trends revealed in this study suggest rather specific cultural influences which seem to modify the pattern of play behavior in a particular direction. This is evident in the sharp decrease in free dramatic play through the grades to the extent that it almost disappears at the eighth grade level. Further evidence is seen in the small frequencies in reading for white children, and the failure of reading to appear before the eighth grade level for Negro children. In contrast, funny book collecting was found to be among the most popular activities. These findings suggest that as a socializing agent the school might seek to evaluate its influence in helping to shape the educational goals of the children, as well as its influence in stifling some of the more desirable pupil interests.

Implications for Research Methods. This study of play behavior drew its conclusions from the analysis of descriptions of children's play activities in the anecdotal records prepared by classroom teachers. The method was not limited to a narrow test situation, nor was it dependent upon a checklist approach. Instead, the behavior was observed and recorded in relatively free and unstructured situations which provided for the inclusion of the full scope of children's own motivational patterns. This means that the anecdotal material comprising the data for this research was free of any structuring which might have been done for the purpose of research. Because of the wide variety and scope of the information contained in these observational materials, they have been found very valuable for research purposes.

The nature of this investigation necessarily imposed a number of limitations which are evident in the findings. This suggests the need for further research in this area which might discover additional insights regarding the child's world of play and the factors influencing it.

SUGGESTIONS FOR FURTHER RESEARCH

Limitations present in this research project serve as the bases for a few suggestions for further research. The findings which resulted from the analysis of data used in this study brought to focus other questions about children's play which additional research might answer.

The present study investigated the play behavior of white children of four grade levels, and of Negro children of three grade levels. Many interesting trends in play behavior became evident as the sequence of development was followed through these grades. The question remains as to whether these same trends would hold true if all of the grades were considered from kindergarten through high school. For example, do the play

patterns which become popular at the eighth grade level continue to increase in importance through middle and late adolescence? Or, are there changes at the fifth or sixth grade level which would change the direction of the developmental sequence?

A further limitation of this study was in the distribution of records of Negro children and in the lack of certain types of information concerning the children included in the study. It is recalled that there were no records of kindergarten Negro children, and that the Negro children included represented only two geographical regions. To what extent the observed differences in play behavior between white and Negro children were due to regional differences, to socio-economic differences, to emotional factors related to family systems, to differences in opportunity, or to differences in the sensitivity of the teachers in recording the material, is unknown. Further research might help to answer some of these questions.

Although the data used in this research consisted of anecdotal records of individual children, all of the comparisons were made on a group basis. Furthermore, the anecdotal material contained many descriptions of the dynamics involved in the play situations for each child, but the procedure used in this study did not provide for any individual analysis. There is much to be learned through further investigation of the nature of a child's group interaction in the play activities which he selects.

The findings of this investigation also suggest further research using similar materials which might serve as a check on some of the trends or sex-caste differences which showed borderline significance, or which might have been influenced by variations in the data or factors which could not be controlled.

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