EXPERIMENTAL ENHANCEMENT OF IMAGINATIVE PLAY OF KINDERGARTEN CHILDREN IN A POVERTY AREA SCHOOL

by

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CHAPTER I

RATIONALE AND REVIEW OF THE LITERATURE

General Statement of the Problem

The purpose of this study was to determine whether or not it is possible to enhance the ability of lower class children to play imaginatively. More imaginative play is here defined as play in which there is more pretending, more "as if" characteristics, more elements introduced into the play situation that are not directly related to the overt tangible play stimuli. It is suggested that imaginative play is a dimension of fantasy ability and that it is the most appropriate and age-suitable mode of fantasy expression at kindergarten age. It is likely that imaginative play is a dimension of an ability that may be expressed by older children, when fantasy becomes more internalized, in writing original compositions, stories and poems, or painting unusual and creative artwork. The importance of enhancing a child's ability to engage in imaginative play, as a dimension of fantasy, seems implicit in the current view of fantasy within moderate limits as a constructive and useful cognitive skill, in contrast to the older Freudian drive-reduction notion.

Theoretical Conceptions of the Nature of Fantasy

Freud (1962) believed that fantasies are unfulfilled wishes or expressions of unreleased drives. He thought that fantasies allowed for

some cathartic effect by reducing small quantities of the unreleased energy. This Freudian drive-reduction or wish-fulfillment view of fantasy has dominated thinking about inner experience until recently. It should be pointed out that Freud thought of play as closely related to fantasy; as fantasy woven around real objects. He thought that play shares many of the unconscious determinants that shape dream life.

Imagery, which is related to fantasy, had been investigated prior to the time of Freud's writings on the subject by Wundt and later by Titchener. However, Wundt and Titchener's work dealt with short-term imagery, closely related to perception. Imagery was seen by Wundt in the context of a structural organization of the mind, not as fantasy in the sense of a possibly useful function of the individual. Despite the fact that the Freudian view of fantasy, as developing out of the hallucinatory image of the absent breast or bottle, has been so widely accepted, neither Freud nor Rapaport has ever spelled out clearly how this early hallucinated image is internalized as fantasy. Nevertheless, it is clear from the writings of the members of the Freudian school (A. Freud, 1937; Greenacre, 1959; and Klein, 1960) that they view the play behavior of children as cathartic or drive-reducing and make use of play as a major therapeutic tool with children.

Piaget (1962) considered fantasies and imaginative play of children as a necessary step in their cognitive development toward operational thought. Through imaginative play, the child is able to assimilate elements of the environment into his existing schema. The child can thus develop the ability to manipulate the symbols of his

environment internally, so that he is no longer as dependent upon external cues as he was in the preconservation period and can also role-play by internal manipulation of images to shortcut the overt trial and error behavior characteristic of the infant and young child. Piaget regarded imaginative play as the second of three main stages of play (i.e., practice play, symbolic play, and playing games with rules) through which each child must pass. Play is regarded by Piaget as being closely linked with fantasy and dreaming, since in all of these, reality is bent to fit existing concepts or thought patterns. He refers to the joy which comes to the child through self-assertion or efficacy in symbolic play. Piaget also notes the adaptive aspect of symbolic play in that it develops, fixes, and retains new abilities, as well as its compensatory aspect, that is when it "improves upon reality" to render it more agreeable. Erikson (1940) considered play an infantile way of thinking over difficult experiences and restoring a sense of mastery, thus stressing the coping effects of symbolic play. Werner (1948) also regarded play as a necessary part of a child's cognitive development. He demonstrated a relationship between degree of motility and the child's perception of movement responses in the Rorschach Test, generally regarded as being related to capacity for inner experience.

Beginning with the work of Hartmann, Kris, and Lowenstein in 1947, there has been increasing support, especially among psychologists, for the conception of an autonomous ego, separate from the struggles between impulses and the environment. White (1963) has stressed the

notion of competence or effectance which implies an ego that has a positive interest in learning to deal with the world effectively, apart from a simplistic interest in its drive-reducing properties. Schachtel (1959) has also effectively challenged the drive-reduction view of human functioning with convincing data from numerous studies particularly those involving natural observation of young children.

In recent years any energy notion of ego and cognitive functioning has been seriously questioned and new models such as those involving the information-processing capacities of the ego and its cognitive functions have seemed to fit the data well and be more parsimonious. It should be noted that White still spoke of ego energy as leading to exploring and testing reality and to the development of dynamic structures: abilities, skills, knowledge, etc. The information-processing approach emanated originally from the work of Wiener (1948) in the physical sciences and has been developed and used by Miller (1953) and Tomkins (1962) in explaining cognitive functioning. The implications of this model for the study of fantasy would seem to be that how fantasy develops in any particular individual has to do with the balance he develops between attention to inner and outer experience, as the notion of channel implies a limited capacity for processing.

Tomkins (1962) views personality as a two-way communication with the social and physical environment. This conceptualization is an information-processing feedback model which rejects drive-reduction as a major motivational concept and emphasizes human efforts to amplify and seek out stimulation. Tomkins suggests that affect is involved in the

development of the image that governs man's purposive behavior. For Tomkins, the purpose of the organism is a centrally-emitted blueprint called the image, that is the intention of doing something. The organism, by using the feedback information about the discrepancy between the present state and the image, activates the affect system which is motivational and cue-producing.

Singer (1961) has speculated that imaginative play is a dimension of fantasy, a predisposition that the child may or may not develop depending on his own constitutional capacities and a facilitating set of environmental conditions. Singer and his associates (1966) have been the first to begin systematic research in the area of fantasy (not ignoring the few occasional insightful writings on fantasy such as those by William James) and have shown some evidence that fantasy ability at moderate levels is a cognitive skill related to self control, delay of gratification, and the development of creative thought. He suggests that imaginative play, the ability to pretend, to project life and verbalization onto inanimate objects, to act "as if" may, at age five or six, represent the fantasy dimension appropriate before the internalization of role-playing and other fantasy behaviors takes place. Singer's conception of fantasy is consistent with the ideas of Schachtel, White, and Tomkins, that human functioning is motivated by positive seeking of stimulation and not drive-reduction. It should be noted that in speaking of fantasy as a useful cognitive skill, Singer is referring to moderate levels of this predisposition within normal functioning and does not mean to ignore the regressive aspects of extreme and

idiosyncratic fantasy behavior found in serious psychopathology.

While there has been little experimental support for this, Singer (1966) has suggested that some capacity for imaginative play can be a useful tool for a child in handling of anxiety and in exploring future roles. Singer (1961) found, for instance, that children who were high in fantasy predisposition (based on interview questions about play preferences) were able to remain waiting for longer periods of time than children judged as low in fantasy predisposition, presumably because the former had been pleasurably engaged in fantasy. Thus, in a situation in which a child must delay gratification or inhibit his natural motor tendencies, it might be expected that a highly imaginative child would have a greater ability to pass the time pleasurably and could rely on his fantasy skill to help make the delay period more tolerable.

More support for this idea comes from the study of Riess (1957) who found that six- and seven-year-old children who saw more human movement (M) on the Rorschach Test (which is related to fantasy ability) spent a greater amount of time in fantasy or imaginative behavior than in more muscular play with balls, jump ropes, etc. which were available for play. Books and puzzles that lent themselves to less motoric behavior and more imaginative activity were also available and were chosen for play more often by the more imaginative children. Out of 30 children in the M group, half received the lowest possible score in motor activity, while only six of the non-M group received this low score.

A study by Lesser (cited by Singer, 1966, p. 131) found that

less imaginative children chose playthings requiring vigorous motoric behavior (basketball, baseball, etc.). More imaginative children were found to choose toys that did not require motor behavior, but rather more imagination in play (such as a fort with soldiers, a science kit, etc.). It is suggested that the less imaginative child, without some fantasy resources may have to resort to physical contact with his environment, even when such contact may be inappropriate or unrewarding. Of course, there is the other extreme, where a child is lost in his own imaginative world most of the time and who is thereby prevented from obtaining important learnings from actual interaction with the environment.

It should be noted that fantasy viewed as a desirable skill has had many detractors, not only Freud and Janet who related it to the onset of hysterical symptoms, but also the famous child educator, Maria Montessori. Montessori (1948) designed her play materials to suppress fantasy which she felt would lead to character defects. In passing, it should be noted, however, that researchers in creativity, such as Getzels and Jackson (1962), Guilford (1956), Torrance (1962), Taylor (1964), and Wallach and Kogan (1965), have all sought ways to increase imaginativeness in children as a way of enhancing their cognitive functioning. De Mille (1967) developed methods of exercising children's imagination which he found could be improved with practice. Davidson and Greenberg (1967), working with fifth-grade lower class Negro children, found that high achievers (grade level and above academically) saw an average of two M's on the Rorschach (in contrast to an average of less than one for

the low achievers) and were also rated by clinical psychologists, on the basis of interviews and projective techniques, as being more able to draw upon their inner resources, and as having greater capacity to exercise control and to cope more effectively than lower achievers with feelings of hostility and anxiety. The weight of the evidence that exists seems to suggest, therefore, that the development of a moderate amount of fantasy ability may aid a child in developing cognitive skills available for dealing with certain kinds of conflicts that inevitably arise in development and which offer pleasurable alternatives to inappropriate overt behavior.

Fantasy Ability and Social Class Factors

On the basis of admittedly sparse evidence, there seems to be some justification for viewing imaginative play as a useful and pleasure-giving skill that might be enhanced in children to their ultimate educational benefit. It would seem that kindergarten would be a very suitable age to attempt such training, since much of the fantasy life of the five-year-old is played out overtly, and since the cognitive benefits that might follow such training would exist prior to the beginning of formal educational efforts. It also seems appropriate to begin with children who are in most urgent need of help. In 1964, forty to seventy percent of the total school population in our twenty biggest metropolitan areas consisted of children from lower class homes and it was then projected that by junior high school 60% of these children would be academically retarded by one to four years (Deutsch, 1964). This academic

retardation has broad social implications and represents a great loss to our society in terms of needed resources. While evidence for the close relation of imaginative ability and social class is scant, and the role of imaginative ability in effective cognitive functioning not clearly established, it seems that it would be instructive to determine if this ability could be enhanced in lower class children, with the hope that this would stimulate other researchers to do longitudinal studies to assess long-term gains from such training. It is also hoped that this investigation will provide some information about the factors that contribute to a child's ability to engage in make-believe behavior.

There are some studies dealing with the factors involved in the development of fantasy ability, although there is considerable disagreement among them. The findings of Singer and his associates (1966) suggest that cultural background, socio-economic level, and verbal facility are related to fantasy development. Singer and his associates suggest that it is likely that children who have experienced greater frustration of biological needs or who lack a consistent and benign parental figure have never had the opportunity of mastering the skill of imaginative play. Such children, frequently from lower class homes, are often found to be hyperactive and impulse-ridden when they are seen in clinical settings. Marshall (1961) found a high relationship between fantasy play of young children at school and the number of imaginative play topics that the child talked about with his parents, according to parental report.

Piaget (1962) spoke of the need for the opportunity and freedom

(from anxiety or grossly unmet needs) to play in order to achieve higher cognitive development. Tomkins (1962) has suggested that, when strong biological needs are not met, other personality subsystems, such as affect and cognition, are more dominated by the biological, need-reduction system, and thereby less able to develop. White (1959, 1964) and Schachtel (1959) have pointed out that manifestations of exploratory and creative play are most likely to be found among children whose biological and most elemental needs are reasonably well gratified and anxiety kept to a minimum. The latter is likely to more often be the case with middle class children.

Singer (1961) found high daydreamers (middle class children, six to nine years old) reported significantly more association between themselves and their parents than did low daydreamers, thus suggesting a relation between fantasy ability and identification with one or both parents. He also found a tendency for high daydreamers to be only children or first-born in the family, the former being much less likely in the lower class family. (Davidson and Greenberg found no differences between their high and low achievers in ordinal position or number of children in the family.) From his study, Singer suggests that an important environmental factor in the development of fantasy predisposition may be the opportunity for regular contact with at least one parent whose actions and speech patterns are available for imitation. Thus, parents who are physically absent or absorbed in many demanding household responsibilities, as lower class parents frequently are, may not be able to provide this opportunity. Singer also points out that the child needs

the opportunity to be alone to practice his developing fantasy skill. This would imply that an overprotective mother (which actually could be a more frequent phenomenon in the middle class home) who will not allow her child to do his own thinking, or a houseful of closely-spaced siblings and lack of physical space in which to be alone (more likely in a lower class home) would lessen a child's opportunity to develop this skill. (Davidson and Greenberg found no differences between their high and low achievers in person/room ratio.) As Singer (1966) says, "The accident of birth into the middle of a large family, the fate of growing up in conditions of . . . severe poverty, where crowded conditions prevail may impede development of sensitivity to inner experience [p. 164]." The inability of many lower class children to delay gratification and their frequent lack of basic trust may reflect the lack of inner continuity and integrated self-differentiation which an opportunity for fantasizing may have been able to provide.

Bandura and Walters (1959) have emphasized the important influence of the parent as a model for children to use in the development of their fantasy and make-believe activities. Growing up with parents who present models of aggressive, impulsive, or distrustful behaviors, children are probably less likely to engage in fantasy or internalize long-range goals. Singer also suggests the importance of the attitude of the parents and the subculture group toward imagination as playing a significant role in fantasy development in particular individuals.

The importance of varied environmental stimulation in fantasy development is strikingly demonstrated by the differences found by

Singer and Streiner (1966) in the structure and content of play habits, daydreams, and night dreams of blind and sighted children. Piaget (1962) stressed that the stimulation from the external world is assimilated by the developing child into the existing schema, thus incorporating the outside world into the child's inner experience. It would seem reasonable that the richer, more varied environment of the middle class child would permit the building of a wider basis for a more varied inner experience.

Deutsch (1964) who has worked extensively with children from lower class homes also found that the crowded conditions, few toys or even household objects with which to play resulted in stimulus deprivation in many lower class families. Dr. Newton S. Metfessel, Director of the Center for the Study of the Education of Disadvantaged Youth of the University of Southern California (in Frost & Hawkes, 1966) found that lower class children studied at the center were frequently underdeveloped in the use of symbols and concepts existing apart from concrete objects. He found that lower class parents were much less accepting of imaginary playmates than middle class parents and also more likely to look upon imaginativeness as lying and to punish it when it is observed. He also found that lower class children need to see the concrete application of what they are doing to immediate satisfaction which brings them into conflict with the school situation where delay of gratification is often essential for learning. Metfessel also found lower class children to have poor attention span, slowness of thinking, a narrow range of experience and poor verbal ability as compared with

middle class children of comparable age.

Bronfenbrenner (1958, p. 425), in reviewing studies in the area of social class and parent-child relationships, says, "Over the entire twenty-five year period studied, parent-child relationships in middle class homes are consistently reported as more acceptant and equilitarian, while those in the working-class are oriented toward maintaining order and obedience." Riessman (1962) cautions lest we overlook the differences among lower class children and also that we should not forget about the cognitive strengths they do possess. He makes the point that lower class life is not necessarily less varied and stimulating than middle class life and that it often takes a great deal of ingenuity to survive conditions of severe poverty. He cautions also that slowness of thinking can be a cognitive asset at times and that he has found good verbal ability among lower class children in out-of-school situations, in circumstances that do not converge with school values and emphases. He found them particularly verbal in role-playing situations. Riessman concedes that deficiencies do exist among lower class children in formal language and in cognitive functioning, but he places emphasis on the great differences he has found between the formal language required at school and the public language of the lower class child at which he is much better. This distinction between formal and public language is one that is clearly made by Bernstein (1962) who sees language as being anchored in social class structure. However, while Riessman argues that the lower class child can be just as verbal as the middle class child in the appropriate circumstances, Bernstein argues that the lower class

child has fewer structural possibilities available for use and hence his verbal ability is restricted. However, Bernstein and Deutsch see much overlap between the middle and lower class children in cognitive functioning, attributing the usually found statistical difference in favor of the middle class to a hard-core very low subgroup within the lower class group which is often found to be especially resistant to remedial techniques.

John (1963) also points out the differences in cognitive functioning among lower class children, but speaks of a tendency for lower class families to place less reliance upon language as a means of communication and of cognitive exploration. She attributes much of this to the noise and interference that comes with the overcrowdedness of many lower class homes. Brown (1964) has found that lower class children generally perform less well than middle class children on tests of verbal power, but not in measures of verbal output. He suggests that this finding be further explored to assess the specific cognitive strengths and weaknesses of lower class children.

A study by Deutsch et al. (1964) found that, when I.Q. was held constant, differences in speech quality based on variety of verbal output were not significant between lower and middle class children. Some investigators (like Davidson & Greenberg, 1967) specifically avoid equating for I.Q. because they feel that this equates only for abilities measured on standard I.Q. tests and may obscure other abilities that aid in cognitive functioning or that could be built upon with special training methods. Deutsch (1963, 1964) also points out that lower class

children tend to score within a fairly broad range on tests of cognitive functioning, a fact that is often obscured in a literature that tends to emphasize average differences rather than degree of overlap of groups.

Deutsch suggests placing more emphasis on identifying youngsters who are deficient in cognitive skills, assessing the specific strengths obscured by traditional tests and also finding innovative methods of building upon the strengths of the lower class children. He points to evidence that even in the most economically deprived areas, where school retardation rates are highest, there are children who show considerable school success. It can not be assumed that a so-called "underprivileged" area possesses homogeneous characteristics. There are, as Deutsch points out, considerable variations in the home environments of children from such areas. It should be noted also that both Deutsch (1960) and Davidson and Greenberg (1967) found that lower class Negro girls have a better personal, social, and emotional adjustment than their male counterparts and usually do better in school.

Ausubel and Ausubel (1963) argue that there is sufficient consistency of experience for lower class urban children to speak of such experience as having some deleterious effects on these children's cognitive functioning. Deutsch agrees that there is a statistical difference between lower and middle class children, but is more interested in finding out how to enhance and build upon the strengths of the lower class children and to isolate the factors associated with the subgroups within the lower class that do relatively well and those that do relatively poorly in their cognitive functioning.

In an article in the New York Times Magazine Section of July 6, 1969, it was reported that researchers in the Harvard School of Education Pre-school Project (under the direction of Dr. Burton L. White) found that middle class children engaged in role-playing five times more frequently than lower class children of the same age. These researchers who visited the homes of the children for observational purposes found that children with interested, involved mothers spend about one-fifth of their time in make-believe and pretending activities and that children of overwhelmed mothers who do not have much time to interact with their children almost never engage in such activities (Pines, 1969).

Evidence from Projective Techniques on Fantasy Ability and Social Class

There is some evidence from studies using projective techniques indicating differences between lower and middle class fantasy behavior. Rorschach (1942), Klopfer (1954), Schachtel (1966) and others have related human movement (M) responses, large number of responses (R), varied content, low number of populars (P), and low percent of animal responses (A%) on the Rorschach Test to imaginativeness and fantasy ability, or sensitivity to inner experience. Rabin and Haworth (1960) indicate that the length of the story in the Thematic Apperception Test (T.A.T.) is frequently associated with imaginativeness and fantasy ability.

Korchin et al. (1950) reported their middle class subjects gave significantly longer stories than lower class subjects (no differences

were found between Negro and white subjects). Riessman (1958), however, contends that results such as these are obtained because of the fact that storytelling is more familiar for middle class children than for lower class children. Pasamanick and Knobloch (1955) caution that, in evaluating the results of test data with Negro subjects, racial awareness and/or lack of rapport between Negro subject and white examiner can play significant roles in results and should be taken into account before drawing conclusions. Downing et al. (1961) and Ames (1966) found Negro lower class elementary school children less productive (fewer R), less accurate (lower F+%), more banal (higher P, lower O), less imaginative (lower M) on the Rorschach Test than white children of comparable age, intelligence, and socio-economic levels. Stainbrook and Siegel (1944) found Negro high school students gave fewer D, S, m, M, K, and CF, as well as fewer responses of any kind on the Rorschach, than white students, but these investigators did not equate for intelligence. Megargee (1966) found no significant differences between white and Negro lower class juvenile delinquents (males) matched for Mental Age on 69 T.A.T. variables, nor on seven variables of the Rosenszweig Picture Frustration Test. The only significant differences he found were on the Holtzman Inkblot Test: the whites gave more popular and the Negro more anatomy responses. The Downing and the Ames studies do suggest that middle class subjects tend toward higher fantasy predisposition than lower class subjects, but admittedly the evidence is only suggestive.

Studies Related to Enhancement of Imaginative Play

As Singer (1966) says, "It would be most desirable to see if a long-term plan of training could result in greater internalization and sensitivity to inner channels [pp. 169-170]," and, indeed, the whole area of training in imaginative play regarded as a dimension of fantasy is largely unexplored. The only relevant research that could be located prior to the undertaking of this investigation was that of Marshall and Hahn (1967) who worked with middle class children. They matched three groups of twelve children for sex, age, ordinal position in the family, status of father's occupation, and length of school attendance. The children were rated initially for evidence of imaginative play by a classroom observer. During a six-week period, one group received no training whatsoever, one group was assisted in doing puzzles by the investigator, and the experimental group was given four fifteen-minute training sessions of imaginative play instruction with dolls and creative play equipment. Four other types of interaction among peers were recorded (in addition to imaginativeness of play) before and after the training period: associative play, friendly approach or response; conversations, and aggressions. The purpose of the study was to determine whether more imaginative play would enhance associative play with other children. After the training, the experimental group significantly increased the frequency of imaginative play and the other groups did not. The experimental group also increased significantly in associative behavior with peers after the training, but not in the other kinds of reactions with

other children. The factor of warmth and attention of the investigator as a possible cause of the increased frequency of imaginative play and associative play was ruled out by the existence of the group which received help with puzzles. The results of this study support the hypothesis that children may be trained toward increased ability to engage in imaginative behavior. The authors found support in their study for the model theory of Bandura in that the children imitated the behavior of the adult investigator. Marshall and Hahn's study was carried out with middle class children only and it is quite possible that the subjects low in imaginative play were only low relative to their peers and not on an absolute basis. It is possible that lower class children would be found to be less developed in this area of functioning and would not be able to improve as readily from such methods of training.

After the present investigation was completed, a study conducted in Israel by Dr. Sara Smilansky of the Szold National Institute was located in which it was found that disadvantaged kindergarten children were less able to engage in sociodramatic play than middle class children. (Sociodramatic play was defined by the author as having a major imaginative and role-playing aspect.) Dr. Smilansky engaged in the systematic training of the disadvantaged children using techniques very similar to those of this study and was successful in increasing their sociodramatic play significantly. This study will be discussed in considerable detail in the Discussion section and the findings compared to those of the present investigation (Smilansky, 1968).

Summary of Rationale of the Hypotheses

The selection of lower class subjects in this study was based on the statistical finding that, on the average, lower class children do less well than middle class children in cognitive functioning and are therefore in the most need of special help. That fantasy ability may be a useful cognitive skill finds support in the work of Singer (1966) and Davidson and Greenberg (1967) who, while finding a wide range of cognitive functioning among lower class Negro children, found that the high achievers were more capable of drawing on inner resources, had better control of impulses, dealt more successfully with feelings of hostility, were more original and creative, and were superior in language functions to the low achievers. (High achievers gave more Rorschach responses, saw more human movement, and were able to give more uses for objects.) However, it should be noted that the largest differences found between high and low achievers were on skills emphasized in the schools. Differences in curiosity, creativity, and linguistic complexity were smaller. Support for the hypothesis that specific training can enhance imaginative play, which is related to fantasy predisposition in this study, comes from the research of Marshall and Hahn, although their subjects were middle class children, and from Bandura's work (1961, 1963) which suggests that teachers' actions in demonstrating use of toys and vocabulary may be effective in stimulating imaginative behavior in children through imitation. The hypothesis that the experimental group will be rated as having more pleasurable affect in their play after training receives some support from the work of Singer that children who

are high daydreamers are able to tolerate waiting situations longer presumably because of their pleasurable cognitive or fantasy activity. Hartley (1952) and Lieberman (1964) have both described the joy and delight of children engaging in spontaneous and original play. The hypothesis that the experimental group will, after training, be more absorbed and concentrated in their play receives support from the findings of Singer, Werner, and Riess, relating fantasy ability and inhibition of motility.

The hypothesis that "high" fantasizers will improve more than the "low" fantasizers receives support from the evidence, such as it is, that on the average lower class subjects tend to be less imaginative than middle class subjects. This seems to imply that a "high" lower class fantasizer would probably not be "high" in an absolute sense, but at least a child who had developed some fantasy ability, while still retaining considerable scope for improvement. However, the "low" lower class fantasizer may be so deficient in the fantasy skill that it can not be developed in him within this short amount of time. He may well be part of that hard-core, severely deficient subgroup of lower class children referred to by Deutsch (1964) and Bernstein (1962). Nevertheless, it is predicted that, despite fantasy predisposition, the training factor will be the most powerful one. It should be pointed out that the designation of "high" and "low" fantasy predisposition in this study was based on one projective test, one short interview conducted on one day, and a teacher's evaluation based on three months of focused observation and not on extensive testing and observation on a long-term basis.

Clinical Hypothesis

Following the experimental phase of the study, six of the lowest and six of the highest fantasizers were selected for further study in an attempt to explore what environmental factors tend to facilitate the development of fantasy ability. This was accomplished by the investigator conducting an interview with the head of household of the children involved to determine ordinal position of child, number and spacing of siblings, person/room ratio, presence or absence of father, amount of time parents and child spend together and in what kinds of activities, child's favorite play activities, parent's attitude toward imaginativeness, parents' educational and occupational level, to whom the child seems closest in the family, and some assessment of the general concern of the parent for the child. These are some of the factors that Singer (1966) has suggested as possible predisposing conditions for the development of fantasy ability. Davidson and Greenberg (1967) found very low and insignificant correlations between achievement of the child and occupational or educational level of parents, person per room ratio, number of siblings, and order of birth. The most significant factor they found to relate to the child's achievement was general parental concern for the child, as judged by a clinical interview. The interviews of the present study were sufficiently open-ended to allow for spontaneous comments that might offer some new and unexplored leads. It is hypothesized that the major environmental factors distinguishing the "high" and "low" fantasizers are: time spent with the children by one or both parents, the kinds of activities undertaken together, and the family

attitudes toward imaginativeness. The prediction is derived from the study of Davidson and Greenberg (1967) which was specifically done with Negro lower class children in the same urban area. The hypothesis also would seem to derive from the work of Bandura in regard to imitation of parents. Obviously class variables influence the factors to be assessed, but it is important to look at them more closely because of the large differences in the home conditions and in the cognitive functioning within the same social class.

Hypotheses of This Study

Accordingly, after careful review of the literature, it is hypothesized that:

1. Lower class kindergarten children who receive training in imaginative play will play more imaginatively than a group of children who do not receive the training.

2. Lower class kindergarten children who receive training in imaginative play will play with more positive affect than a group of children who do not receive the training.

3. Lower class kindergarten children who receive training in imaginative play will play with a higher degree of concentration than a group of children who do not receive the training.

4. Children designated as "high" fantasizers will be rated higher in Imaginativeness, Affect, and Concentration after training than children designated as "low" fantasizers.

5. Parents of children with "high" fantasy predisposition will report more time spent with the child, more playful and imaginative interactions with him, and more encouraging and tolerant attitudes toward imaginativeness than parents of children with "low" fantasy predisposition.

CHAPTER II

PROCEDURE

Subjects

The subjects of this study were eighty lower class five-year-olds who were in four kindergarten classes at a Special Services public elementary school in Central Harlem. The socio-economic status of each child in the study was determined by obtaining the occupational level and the educational level of the head of household from school records, teacher's files, and in some cases from the parents themselves. The fact that the school had been designated as a Special Services school and its location in Central Harlem insured that the overwhelming majority of the school population came from lower class homes.

It was found that the head of household for all eighty subjects was either on welfare or engaged in unskilled labor. No parent of these children had completed more than eight years of schooling. Seventy-seven percent of the fathers were living at home, 23% being absent or dead. Eight percent of the families were welfare recipients.

Individual Interviews of Children

For the purpose of determining the fantasy predisposition of the subjects, all children who could speak English in the four different kindergartens were individually interviewed in a separate room by the investigator. After a few moments of friendly conversation, the child

was told that the investigator wanted to ask him a few questions about what he likes to play. In the majority of cases, the children were friendly and responsive to the investigator and cooperated fully in the interview. The four following questions which comprise Singer's (1961) Imaginative Play Interview were then asked each child:

1. What do you like to play best? What is your favorite game?
2. What do you like to do best when you're alone?
3. Do you ever have pictures in your head when you're awake?
4. Have you ever had a make-believe friend or playmate?

For the last two questions, if the child replied affirmatively, the investigator asked for examples to make sure the child really understood the question. All replies were recorded verbatim. No more than two repetitions of the questions was given to any child, but a repetition of the question was seldom necessary. Later, replies were given a rating of one if they tended to indicate a preference for solitary or fantasy activity and a score of zero if they did not. For instance, a child whose favorite game was baseball or who plays structured box games or watches television when alone would receive a score of zero. Children preferring to play house, or pretending to be Superman, or who like to read books when alone received scores of one. The total scores ranged from zero to four, depending upon the number of questions receiving a score of one. The majority of the children's scores were 0, 1 and 2, with a small number having a total score of 3, and only five children attaining a total score of 4. The mean score was 1.48 and therefore

children whose scores fell below this (zero or one) were designated the "low" group and children whose scores fell above this (2, 3, and 4) were designated the "high" group.

Following the Imaginative Play Interview, the investigator administered the Barron Inkblot Test (1955) to each child. This test consists of a graduated series of twenty-eight inkblots in which it is progressively easier to see human movement. This instrument was tried out on a few children in the kindergarten (before the formal interviews) whose families were planning to move and therefore could not be subjects of the study. One child first saw human movement on card 17, and the other two on card 19. Based on this suggestive finding and Pulaski's (1968) finding that the first eight cards of the Barron series were too difficult for five-year-olds, the investigator began with card 9 for each child.

The instructions were, "Now, I am going to show you some pictures and I want you to tell me what each one looks like to you. People see many different things, but I want to know what it looks like to you." Then each card was presented to the child until he saw human movement on two cards. The numbers of these two cards were recorded, the number of his first choice card becoming his M thresold score. The purpose of recording the card number of the second choice was to diminish the possibility of using a first choice score that was an atypical finding. The children enjoyed this test, frequently laughed at the pictures, and were highly cooperative. Most of the non-M responses were animals and seemed form-determined. Most of the M responses were men or ladies

walking, running, or talking. There were few original or elaborated responses. All responses were recorded verbatim. No more than two repetitions of instructions was given to any child, but more than one was seldom necessary.

The range of first choice scores was from 10 to 26, with a mean of 19.99. Actually the distribution was a bimodal one with high groupings at card 17 and at cards 24 and 25. Children whose scores were 20 and above were designated the "high" group and children whose scores fell below 20 were designated the "low" group. The mean of the second choice scores was 21.44 and the distribution was also bimodal with high groupings at card 18 and cards 25 and 26. This indicates that the second choice was in most cases one card after the first, strongly suggesting that the first card choice was truly representative of the child's human movement threshold and not an atypical, accidental occurrence.

Teacher's Ratings of Imaginativeness

In January, 1969, before the pre-training observations were begun, the teachers were given a list of each child in their classes that was prepared by the investigator on which they could rate each child on a five-point scale of imaginativeness. The teachers were then asked to observe the children for the next three months during their free-play time and, at the end of March, to rate each child on the rating scale. The criteria for the ratings of imaginativeness were carefully explained to the teachers and examples of behavior for each scale point were also

provided in writing. Imaginativeness was defined for the teachers in writing as play in which the child pretends, acts "as if," introduces elements into the play situation that transcend the stimulus materials, and in which he engages in actions and/or verbalizations which indicate that he or his play materials are someone or something other than what they really are. The investigator showed some unidentified observations done on a pilot basis of a few children and rated by the investigator in order to give the teachers a clear understanding of what the criteria represented. The teachers were also asked to rate a few observations in the presence of the investigator to determine if their ratings agreed essentially with those of the investigator. It was found that the teachers were quickly and easily able to apply the criteria in rating in the same manner as the investigator so that there was essential agreement in their judgments.

The ratings were completed at the end of March by the teachers and it was found that the mean rating was 2.37. The scores ranged from one to five with most scores falling between one and three, a small number at four, and only three children at five. Children receiving scores of one and two were designated the "low" group and those receiving scores of 3, 4, and 5 were designated as the "high" group. The criteria for the ratings of imaginativeness were as follows:

1. Is extremely unimaginative in his play. Introduces no pretend elements into the play situation. Extremely stimulus-bound by the play materials. No role-playing and very concrete in use of play materials.

2. Is slightly imaginative in his play, occasionally introducing fleeting pretend elements into play situation,

but does not stay with any pretend situation for very long. No originality or organization found in pretend situations. A few pretend elements added to otherwise very stimulus-bound play.

3. Shows a moderate amount of pretending in his play, but not very original or removed from the actual stimulus situation. Little organization or consistency of pretense or role-playing. No voice changes or simulated vocalizations. Considerable changing from one activity to another.

4. Shows a substantial amount of pretend elements in his play, spontaneously creating make-believe situations, showing some originality in his pretending, not changing activities very often. Some organization and consistency in pretense or role-playing, including simulated vocalizations.

5. Shows high originality in the ways he uses toys and play materials. A very high number of pretend elements in his play. High organization of activity and role-playing. Is able to go well beyond what the play stimuli in themselves suggest. Resists interruption of play by others.

Determination of Overall Fantasy Score

Children who were in the "high" group on at least two of the three measures (Imaginative Play Interview, Barron Test, and Teacher's Rating of Imaginativeness) were considered as being in the "high" fantasy group and those "low" in at least two of the three measures were considered as being in the "low" fantasy group. There was complete agreement of all three measures for 79 of the 85 children in the source population as to "high" or "low" fantasy level. However, the distance from the mean was not always the same for the same children from measure to measure. Since only eighty subjects were needed, only one child whose measures were not in full agreement as to "high" or "low" fantasy

predisposition was included as a subject. A "low" fantasy girl was needed for the establishment of the experimental and control groups and therefore a child whose scores placed her in the "low" group on two out of the three measures was selected from the source population to serve as a subject.

An experimental group and a control group of forty subjects each was then established by assigning the "high" fantasy girls, the "low" fantasy girls, the "high" fantasy boys, and the "low" fantasy boys randomly to the experimental and control groups. This was done by placing cardboard circles with the subjects' identification numbers on them into a box, one group ("low" boys, "low" girls, "high" boys, "high" girls) at a time and selecting ten of the twenty circles for the experimental group and ten for the control group. Thus, the experimental and the control groups had equal numbers of males and females and equal numbers of "high" and "low" fantasizers.

Comparison of Experimental and Control Groups

Since the children were assigned at random to the experimental and control groups, there was no reason to expect systematic differences between the two groups. However, it was decided to ascertain definitively if there were any significant differences between the two groups in abilities usually related to I.Q. In order to do this, each child was given the Vocabulary Subtest of the Stanford-Binet Test during the individual interview. Since scores on the Vocabulary Subtest correlate highly with I.Q. on the complete scale (.67), it has been frequently

used as a quick device for assessing intelligence. The Vocabulary Subtest of the Stanford-Binet was used in this study to ascertain that there were no systematic differences between the two groups with respect to abilities usually related to intellectual functioning. The words "I.Q." and "Mental Age" thus derived are not intended in any way to denote fixed categories of mental functioning in the subjects. The Vocabulary Subtest does not appear on the Stanford-Binet Scale until the year six, but pilot work with some children who would not be in the study strongly suggested that these five-year-olds would be familiar with the easiest words on the list (orange, envelope, straw, puddle, tap, etc.). The norm for six-year-olds is six words correctly defined and eight words for eight-year-olds. From this the Mental Age of each child could be extrapolated by determining the number of words correctly defined. In this way, the Mental Age was established for each child. The Vocabulary Subtest was given to each child after the Barron Inkblot Test. The investigator said to each child, "Now I am going to say some words to you and I want you to tell me what they mean." Then each word was stated slowly and distinctly. If the child did not reply after a few seconds, the investigator said, "What does _____ mean?" The word was not repeated more than once. One minute was allowed for a reply after the repetition. The test was discontinued after three successive failures (lack of reply or wrong definition).

The mean Mental Age for each of the two groups was computed and found to be 5.35 for the experimental group and 5.38 for the control group. A t test was not computed because the difference is obviously

not significant. The mean chronological age for each group as of January 1, 1969 was also determined and found to be 66.92 months for the experimental group and 66.66 months for the control group. The mean age of each group was slightly under five years and seven months and there was obviously no significant difference between the two groups. It was also noted that there was the same proportion of blacks and non-blacks (Puerto Ricans, Cubans, Chinese, and whites) in the experimental and control groups, as well as the same proportion of children from the classes of the two different teachers. (Each teacher taught two of the kindergarten classes.) Seventy-three percent of the children in the experimental group had their fathers or foster fathers present in the home in comparison with 83% in the control group. Eight percent of both groups were welfare recipients. From these findings, it would seem that the experimental and control groups were not significantly different in any of the variables thought to be in any way related to fantasy predisposition.

Pilot Work

For one month prior to the beginning of actual data collection, the investigator and her co-observer visited the four kindergarten classes (two morning and two afternoon classes) regularly. During this time, the personal data on each child were copied from the teacher's record cards. The observers learned the names of all the children, so that the protocols could be labeled quickly with the correct names during actual observations. A complete listing of all toys and play

equipment in the rooms was also compiled.

The investigator made a record of common play themes and interests of the children in order to have some basis for deciding on themes to be utilized in training. Notes were also made on the patterns of play of the individual children, so that the observers could later ascertain that randomly obtained protocols reflected and were representative of the child's usual patterns of play. The kinds of toys commonly used and most enjoyed by the children were noted as a guide in planning the training sessions. The investigator spent many full sessions of the kindergarten classes with the children, so that the topics discussed during their lessons could be incorporated into training. (For example, vehicles and their different uses was a major theme of discussion at this time, around which their learning experiences were centered.) Another purpose of spending time in the classrooms was to accustom the children to the presence of adults other than the teachers. At the beginning, the children made many attempts to talk to and interact with the observers. This was gently discouraged during the pilot period until the children began to ignore the observers' presence and go about their play as usual.

During the pilot period, the observers practiced making their observations and recording behavior. These protocols were used to establish inter-observer reliability. The two observers recorded behavior of the same children simultaneously. These protocols were shown to members of the dissertation committee and to participants in a seminar on daydreaming and there was strong agreement that the protocols

of the two different observers were virtually identical and included the same basic items. Examples of the sets of protocols are included in the Appendices. The observations obtained during the pilot period were utilized in training the teachers to rate the imaginativeness of the children, as well as in training the raters to apply the rating criteria to the observational protocols.

During the pilot period, several children who were not going to be included as subjects because they were going to move from the neighborhood were given the Vocabulary Subtest of the Stanford-Binet Test and the Barron Inkblot Test to ascertain their suitability for children of this age and socio-economic background. The investigator also engaged in some training of imaginativeness with these children. Several different types of plots were enacted by the investigator with them in order to gain some idea of which kinds of themes and equipment were most enjoyed by these children, with the assumption that they would be representative of their classmates. Family situations, school situations, and anything to do with cars, trains, buses, or airplanes seemed to have the greatest appeal of all the themes presented to them.

Observations of the Children

Following the individual interviews, the children in the four kindergarten classes were observed during their free-play period (about 45 to 50 minutes at the beginning of class), each child for six five-minute periods by two independent observers for a total of twelve protocols per child. The behavior was recorded in minute detail, including

physical movements, facial expressions, social interchanges, play equipment used, all verbalizations, and tone of voice. One of the observers (Observer A) was the investigator and the other (Observer B) was a doctoral candidate in clinical psychology who had no knowledge of the fantasy predisposition of the children. The observers were present in the same classrooms on separate days, so that they were never recording the same class simultaneously. Both observers have Master's Degrees in psychology and have had specific training in the recording of children's behavior.

The observers stood to the side of the area in which the child being observed was playing. Usually the children did not try to interact with the observers, but when they did, this was discouraged, and another child was then observed. All first observations were recorded for all children, before going on to the second, third, fourth, fifth, and sixth. Children were randomly chosen for observation in the hope that this would result in obtaining protocols representative of the children's usual patterns of play. The observers did, however, record three segments of behavior from the first half of the free-play time for each child and three segments during the second half in case fatigue, boredom, or other factors were operating differentially during the different time segments of the play period.

During free-play time children were free to do as they pleased and to play with whatever they wished. There is a block corner in which there are blocks of every size, shape and color to the left of the entrance. Boxes of Creative Playthings dolls, plastic animals, cars,

and trains are on shelves in the block area. There are drums, a piano, cymbals, and a phonograph with records in the far left corner of the room. Shelves all around the room contain books, magazines, paste, crayons, paints, clay, and wooden jigsaw puzzles. All kinds of construction sets, box games, work benches, sewing sets, clay and play doh are also found on the shelves. To the right of the entrance, there is a house corner, including household appliances, doll beds and carriages, table and chairs, play food items, dress-up clothes and household furnishings and equipment. In various boxes around the room, there are animals, doll houses, trucks, trains, tracks, boats, airplanes, jump ropes, puppets, stethescopes, and costumes. The room includes a sink with running water on which there are all kinds of paints and art supplies. There are clusters of tables and chairs all about the room. The pre-training observations were recorded over a period of about seven weeks.

When all twelve protocols were obtained for each child, his name was removed from the record sheets and a code number substituted, so that his identity would be unknown when the protocols were rated. After all the protocols were collected for all children, the two observers and a third person who is a speech therapist who worked in a public elementary school began the task of rating the protocols. Before the actual rating began, the three raters discussed the criteria and the investigator provided examples for each point in the rating scales from some of the pilot observations. The raters then independently rated pilot observations and then the sets of ratings were compared. There

was, in general, high agreement. Wherever there were situations which seemed to generate substantial disagreement, these were rediscussed and rating standards established for them. Each protocol of each child was rated separately by the three raters on the following scales for Imaginativeness, Affect, and Concentration:

Imaginativeness

1. Is extremely unimaginative in his play. Introduces no pretend elements into the play situation. Extremely stimulus-bound by the play materials. No role-playing and very concrete in use of play materials.

2. Is slightly imaginative in his play, occasionally introducing fleeting pretend elements into play situation, but does not stay with any pretend situation for very long. No originality or organization found in pretend situations. A few pretend elements added to other wise very stimulus-bound play.

3. Shows a moderate amount of pretending in his play, but not very original or removed from the actual stimulus situation. Little organization or consistency of pretense or role-playing. No voice changes or simulated vocalizations. Considerable changing from one activity to another.

4. Shows a substantial amount of pretend elements in his play, spontaneously creating make-believe situations, showing some originality in his pretending, not changing activities very often. Some organization and consistency in pretense or role-playing, including some simulated vocalizations.

5. Shows high originality in the ways he uses toys and play material. A very high number of pretend elements in his play. High organization of activity and role-playing. Is able to go well beyond what the play stimuli in themselves suggest. Resists interruption of play by others.

Affect

1. Shows no interest or pleasure in the toys or play activities; much tangential behavior, conversations with observer, teacher, and others; critical remarks about toys or play activities; no smiling, laughter, or evidence of pleasure in playing.

2. Shows only mild pleasure and interest in toys or play activities; much looking around and/or desultory manipulation of play material. Occasional smiling or laughter.

3. Shows moderate interest, pleasure and enjoyment of activities and toys; talking freely about the play activities; somewhat lost in quiet enjoyment, considerable smiling and/or laughter during activities; some animation.

4. Shows deep pleasure and interest in play activity, smiling or laughing frequently. Expresses frequent pleasure, describing spontaneously or acting out fantasies in play.

5. Shows extreme delight in play; laughing, singing, smiling; thoroughly enjoying self in play, reluctant to leave play situation.

Concentration

1. Shows brief or little attention to or absorption in activities; aimless wandering, high distractibility, many questions to teacher; responding to noises or talk of children in room. Hyperactivity with no real interaction with play material.

2. Engages in superficial play with toys and play material while looking around the room, staring passively, talking to teacher, or wandering aimlessly. Changes toys and/or activities frequently.

3. Responds with moderate interest to the toys or play activities. Changes activities only once during the five-minute segment. Some distractibility and no real loss of self in the play situation. Some response to outside stimuli such as noises and the talk and play of other children.

4. Shows good absorption in play activity; very little response to outside stimuli, no change of activity during five-minute segment; no tangential behavior or conversation pertaining to activities other than the one at hand.

5. Shows intense absorption in play activy; stays with one activity for a long time; oblivious to outside stimuli, may not even respond to direct questions from teacher or children not included in the play situation at hand.

The scales for Affect and Concentration were based on those used effectively by Pulaski (1968) in her study of children's play.

Pulaski's scales, however, were somewhat modified to better suit the purposes of this study.

Since the Kendall coefficients of concordance were high and significant between the three sets of ratings, it seemed justifiable to average the ratings of the three raters to arrive at a mean for each child for pre-training Imaginativeness, Affect, and Concentration. Pre-training means for the group were computed for each of the three dependent variables.

Training Sessions

Following the observations, the investigator gave eight twenty-minute training sessions to small groups of four experimental group children at a time. The investigator told the children that she was taking them to another room to play some games with them. Groups of children were chosen for compatibility and an attempt was made to separate the extremely hyperactive children into different groups. The play materials that the children found spread on a large table in the training room included a large assortment of fabrics of various colors, sizes, and shapes, pipe cleaners, clay, play doh, blocks, tinkertoy sets, and a large assortment of wooden pieces (Creative Playthings) in many sizes and shapes. During each of the eight sessions, the investigator introduced a separate theme (based on the children's interests) and began to enact small plots in which pipe-cleaner people were made to talk and engage in a make-believe plot, using the play equipment imaginatively as props. Verbalizations were made by the investigator

in different tones of voice for the different characters of the story plot. Sounds of sirens, wind, water, etc. were simulated. Children were encouraged to adopt a role, using play equipment of their own choosing and to engage in verbalizations as though they were one of the characters in the story. All children were given an opportunity to participate in each story plot.

There were four themes, each one used twice in the eight sessions. One theme was devoted to a boat story and it was the overwhelming favorite of all groups. A blue piece of fabric was laid out by the investigator to represent the water and then she encouraged the children to select items from the pile of play equipment to represent boats, a bridge, rocks for the side of the water, etc. Pipe cleaners were formed into little sailor men and then the investigator initiated a plot in which a boat was lost in a storm. (Wind and splashing water sounds were made by the investigator and children.) The different sailors talked about the boat in distress and how to save it from crashing against the rocks. Role-playing conversations were initiated by the investigator and most of the children were able to carry the conversations along in a simulated voice in the context of the role. The sailors in their separate boats come to rescue of the boat in distress and there was much conversation about saving the sailor on the boat and getting him to the hospital, etc. A more detailed description of this theme and the others is included in the Appendices.

Another theme was devoted to a family situation. There were roles for a mother, father, and children, each role to be taken by

another child (except for the mother who was the investigator). Children chose play equipment to make a pretend kitchen (table, chairs, sink, plates, food, etc.). Father comes home and he and mother engage in conversation about the day's events. Then father and mother ask children about what they did in school. The family sits down at the table and conversations, initiated by the investigator, continue about the day's events and the food they are eating. The family figures are made of pipe cleaners. Mother announces that they are soon going to have a new baby and a conversation about what to name the baby is initiated. After dinner all the family members have a chance to speak to grandmother (voice simulated by investigator) on the telephone and talk about the new baby that is coming soon. This theme was also very popular with the children. A third theme which seemed to arouse somewhat less enthusiasm than the others was a school situation. The children set up a make-believe classroom of chairs and tables, using various blocks and wooden pieces. Pipe cleaner figures were used for teacher (played by investigator) and pupils (played by children). Conversations in simulated voices are initiated by the teacher (investigator) about familiar classroom topics. Then the teacher begins to talk about a trip to the zoo that the class had taken. Make-believe animals made of various materials by the children (pipe cleaners, clay, play doh, etc.) were introduced as visitors into the classroom and their usual sounds were simulated by the children. There was some conversation between the teacher and pupils about the animals in simulated voices. A fourth situation which was of intermediate popularity involved a magic genie

made out of pipe cleaners who could fly on a magic carpet, cause people to disappear, turn frankfurters into apples (clay), and make beans disappear from under paper cups. The children took turns playing the genie and engaging in her magic talk and various tricks with appropriate equipment that had been introduced by the investigator.

The children in the control group were also taken to a separate room in groups of four for eight twenty-minute sessions. These sessions were devoted to helping the children put together wooden jigsaw puzzles and make tinkertoy constructions. A supply of ten puzzles and five large tinkertoy sets was placed on the table and the children were allowed to select what they wished to play with. The investigator made friendly conversation with the children, helping each one either build a replica of a structure pictured on the tinkertoy box or put together a puzzle of his choice. The children showed moderate interest in the puzzles and structured building and the investigator attempted to have a warm and pleasant interaction with them. Their productions and efforts were generously praised. The level of positive affect or degree of concentration was never as high during these sessions as in the training sessions with the experimental groups.

Post-training Observations

Following the training period which extended over four weeks' time, the children were observed again during their free-play time for a total of twelve five-minute segments (six for each observer). The person who had done the pre-training observations was unable to continue

in the study and consequently a substitution had to be made. The person who had served as the third rater in the pre-training phase was then trained to be an observer in the same fashion as the original co-observer. Inter-observer agreement was established by discussions of criteria and by obtaining observations of the same children simultaneously. When the protocols of the investigator and the new co-observer for the same children were compared and reviewed by participants in the seminar on day-dreaming, they were deemed to be virtually identical. Samples of these protocols are included in the Appendices. After the twelve protocols of recorded behavior were collected for each child over a period of about seven weeks, as in the pre-training phase, they were rated independently by the same three raters who judged the pre-training protocols. The rating was done exactly as it had been on the pre-training protocols using the same rating scales. Kendall coefficients of concordance were computed for the three sets of ratings and found to be significant. Then the ratings for each child for each dependent variable were averaged across the three raters. Group means for post-training Imaginativeness, Affect, and Concentration were computed.

Results of the Experimental Phase

Three separate analyses of covariance were performed for Imaginativeness, Affect, and Concentration to determine if the training sessions had a significant effect in increasing the imaginativeness of play, the positive affect displayed during play, and the degree of concentration exhibited in play. It was also possible to determine by these

two-way (fantasy and training) analyses of covariance if the "high" fantasy group improved more than the "low" fantasy group as hypothesized. The analyses of covariance were used in order to eliminate the variance due to individual differences on the pre-training scores in determining the effects of training. The small differences between the boys' and girls' scores did not seem to necessitate separate analyses by sex.

Clinical Phase

The final phase of the study consisted of the investigator's conducting clinical-type interviews with the parents of six of the children with very "low" fantasy predisposition and of six of the children with very "high" fantasy predisposition. The "high" children who were chosen were those receiving the highest scores in the group on the Barron Test, Teacher's Ratings of Imaginativeness, the Imaginative Play Interview, and on the pre-training Imaginativeness rating. There were just about six children who were rated as especially "high" in the group, though they were not very high in an absolute sense. There were many more than six children who received extremely low scores on the above-mentioned measures and therefore six were chosen at random. Ten mothers, one father, and one grandmother (mother substitute) were interviewed. One of the teachers spoke personally to the twelve families and urged their cooperation with the investigator. No family approached for an interview refused to participate. The investigator went to the home of the children during the day so that, in most cases, the children were in

school. The parents were told that the investigator was studying the play of kindergarten children in an attempt to find new ways of teaching things to children. The interview lasted about forty-five minutes. The following information or assessments were sought:

1. Ordinal position of child in family.
2. Number of people in family and living in how many rooms.
3. Number of children in family and how closely spaced in age.
4. Presence or absence of father.
5. Occupational and educational level of mother and father.
6. Did mother work during child's preschool years.
7. How much time parent or parents spend doing things with child.
8. What kinds of activities, if any, are engaged in with child.
9. What kinds of games the child usually plays at home.
10. Attitude of parent toward and interest in imaginativeness.
11. To whom is the child closest in the family.
12. Some general assessment of parent's interest in and concern for the child and his activities as judged by the investigator.

The findings of the parental interviews are presented in tabular form in the Results section of this paper.

CHAPTER III

RESULTS

Interrater Reliability

In a study such as this one in which naturalistic observation was utilized as a method of investigation, as well as rating scales and criteria specially developed for this particular study, it is most important to examine the agreement among the independent raters who judged coded protocols of behavior without knowing which subjects' behavior was being evaluated. Before one may place confidence in conclusions drawn from such an investigation, it must be established that the raters were in essential agreement in applying the criteria to the behavioral data obtained by the observers. In order to obtain estimates of the degree to which the three independent raters of this study agreed with one another, the scores of all eighty subjects were ranked separately for Imaginativeness, Affect, and Concentration and for Pre-training and Post-training observations and then six separate Kendall Coefficients of Concordance (Kendall W) were computed. Table 1 presents the correlation coefficients thus obtained.

The coefficients for the pre-training observations for Imaginativeness, Affect, and Concentration are .89, .87, and .88 respectively, all significant at the .01 level. The coefficients for the post-training observations for Imaginativeness, Affect, and Concentration are .87, .85, and .86 respectively, all significant at the .01 level. The six

significant Kendall coefficients establish that the three raters in this study were in essential agreement in applying the established criteria of Imaginativeness, Affect, and Concentration to the behavioral protocols obtained by the two observers. This would indicate that the ratings made by carefully trained judges were essentially the same and this fact lends substantial support to any conclusions to be drawn about the effects of the experimental manipulation.

Table 1

Kendall Coefficients of Concordance for the Three Sets of Ratings

	Pre-training	Post-training
Imaginativeness	.89 p = <.01	.87 p = <.01
Affect	.87 p = <.01	.85 p = <.01
Concentration	.88 p = <.01	.86 p = <.01

All coefficients were corrected for ties

It was also important in this study to determine how highly the mean ratings of the protocols recorded by the two observers (A and B) correlated. The findings of this study were predicated on the assumption that the trained observers would be able to report objective and reasonably bias-free data, as well as on the assumption that the observers would not elicit differential patterns of behavior from the subjects. This latter point is important because one of the observers was the person who trained the subjects and there was a possibility

that she might serve as a cue for more imaginative play to the subjects in the experimental group in the post-training period. Therefore the ratings for all subjects (mean of the three raters' ratings) were divided according to those obtained by Observer A and Observer B. Separate Pearson Product-Moment Correlations were computed for pre-training and post-training Imaginativeness, Affect, and Concentration between the ratings of protocols recorded by Observer A and those recorded by Observer B. Table 2 presents these correlations which are highly significant.

Table 2

Correlations Between Ratings of Protocols of Observers A and B

	Pre-training	Post-training
Imaginativeness	.96	.97
Affect	.97	.95
Concentration	.96	.95

In view of these very high correlations between the ratings of Observer A and Observer B, it would seem reasonable to conclude that the observers did not elicit differential patterns of behavior from the subjects and, in addition, were objective recorders of rather consistent patterns of behavior of the subjects. In view of this finding and the significant Kendall coefficients, it would seem justifiable to place confidence in the findings of this investigation.

Construct Validity

For the purpose of this investigation, the subjects were divided into high and low fantasy groups and an equal number of each category were randomly placed in the experimental and control groups. Fantasy predisposition was measured in three ways for the purposes of this study: Teacher's Ratings of Imaginativeness, Barron Inkblot Test, and Singer's Imaginative Play Interview. It should again be noted that these fantasy designations were not based on intensive or long-term testing and observation. It was important to determine if these measures of fantasy were in essential agreement for this sample of subjects and if these measures were independent of sex and intelligence as measured by the Vocabulary Subtest of the Stanford-Binet. Accordingly, phi coefficients were computed between the following: Barron Test and Imaginative Play Interview; Barron Test and Teacher's Ratings of Imaginativeness; Barron Test and I.Q.; Imaginative Play Interview and Teacher's Ratings of Imaginativeness; Imaginative Play Interview and I.Q.; and Teacher's Ratings of Imaginativeness and I.Q. for the eighty subjects of this study and for the eighty-five children in the source population. Each child was given an overall fantasy rating of "high" or "low" based on his status as above or below the mean in at least two out of the three measures of fantasy. A phi coefficient was then computed between overall fantasy rating and pre-training score for Imaginativeness. These phi coefficients are presented in Table 3 from which it is clear that the three measures of fantasy—the Barron Test, the Imaginative Play Interview, and Teacher's Ratings of Imaginativeness—are closely related

Table 3

Phi Coefficients Between Fantasy Measures

	Experimental Sample	Source Population
Barron Test--Play Interview	.98*	.89*
Barron Test--Teacher's Ratings	.98*	.90*
Barron Test--I.Q.	.08	.06
Play Interview--Teacher's Ratings	.99*	.92*
Teacher's Ratings--I.Q.	.08	.07
Play Interview--I.Q.	.08	.08
Overall Fantasy--Imaginative Play (pre-training)	.81*	.82*

*Significant at the .01 level

and appear to be measuring the same dimension of human functioning. The higher coefficients for the experimental sample, as opposed to the source population, are accounted for by the fact that subjects whose three fantasy measures coincided exactly were chosen for the study over those whose measures were not all in agreement. From these data, it would seem reasonable to conclude that the dimension of fantasy predisposition is a stable, consistent one that can be measured reliably in a number of different ways; a projective technique, an interview about play preferences, and by teachers' ratings of imaginativeness based upon their relatively long-term observations. That fantasy is unrelated to I.Q. and is related to ratings of imaginative play lends support to the

assumption of this study that fantasy is an enduring dimension of human functioning related to imaginativeness of play in young children before internalization of role-playing takes place and that it is independent of intelligence. That fantasy can be measured reliably in such diverse ways as in this study also supports the notion of fantasy predisposition as an enduring personality dimension that manifests itself in qualitatively different behavioral manifestations.

Table 4 is a correlational matrix which presents all the inter-correlations between the twelve variables of this study: Pre-training Imagination Scores; Pre-training Affect Scores; Pre-training Concentration Scores; Post-training Imagination Scores; Post-training Affect Scores; Post-training Concentration Scores; Overall Fantasy Rating; Sex; Mental Age; Barron Test Score; Teacher's Rating of Imaginativeness; and Imaginative Play Interview Score. The correlations in this matrix are point biserial correlation coefficients utilized by the computer program that analyzed these data. Downie and Heath (1965, p. 191) state that the point biserial correlation coefficient is functionally equivalent to the Pearson Product-Moment Correlation but is adapted for use when both dichotomous and continuous data are included in the same correlational process. Notable are the correlation coefficients in the high .90's between the three dependent variables, Imaginativeness, Affect, and Concentration both before and after training. A possible explanation to be explored in the Discussion section is that this study deals with one unified construct--not three--that is characterized by pretense and role-playing, positive affect, and absorption. Another

Table 4

Intercorrelations Between the Twelve Variables of the Study

	Pre-Imag.	Pre-Aff.	Pre-Con.	Post-Imag.	Post-Aff.	Post-Con.	Fantasy	Sex	M.A.	Barron*	T.R.	Inter-view
Pre-Imagination	1.00	.97	.96	.76	.72	.73	.81	.17	.22	- .79	.80	.81
Pre-Affect	.97	1.00	.96	.76	.72	.72	.80	.16	.26	- .78	.76	.78
Pre-Concentration	.97	.95	1.00	.72	.68	.69	.77	.21	.18	- .73	.75	.76
Post-Imagination	.76	.75	.72	1.00	.98	.98	.61	.13	.21	- .61	.65	.64
Post-Affect	.72	.72	.68	.98	1.00	.98	.56	.16	.24	- .56	.62	.61
Post-Concentration	.73	.73	.69	.98	.98	1.00	.57	.14	.22	- .57	.62	.62
Fantasy	.82	.80	.77	.61	.56	.57	1.00	.01	.15	- .88	.87	.87
Sex	.17	.16	.21	.13	.17	.14	.01	1.00	.15	- .02	.13	.13
Mental Age	.22	.26	.18	.21	.24	.22	.15	.15	1.00	- .22	.16	.21
Barron* Test	- .79	- .78	- .73	- .61	- .56	- .57	- .88	- .02	- .22	1.00	- .78	- .81
Teacher's Rating	.80	.76	.75	.64	.62	.62	.87	.13	.16	- .78	1.00	.92
Imaginative Play Interview	.81	.78	.76	.64	.61	.62	.87	.13	.21	- .81	.93	1.00

*All the Barron correlations are negative as, in contrast to the other measures, a low score on the Barron is related to high fantasy and a high score to low fantasy.

possibility that must be considered is that there was some halo effect operating in the rating of the protocols, despite the well-delineated criteria for each of the three variables, Imaginativeness, Affect, and Concentration.

The highly significant correlations between the pre-training and post-training scores for each variable (range of .68 to .76) indicates that a child's post-training score was more influenced by his pre-training score than by any other factor. The significant pre- and post-training correlations of Imaginativeness, Affect, and Concentration with fantasy (range of .56 to .81) again supports the relationship postulated in this investigation between fantasy predisposition and imaginative play. The lower correlations between fantasy and post-training scores (as compared with pre-training scores) reflects the introduction of the training factor in addition to the fantasy predisposition in determining the imaginative behavior.

It should be noted that correlations of all variables with sex are not significant, although in a few cases the coefficients approach significance, owing to the fact that the girls did slightly, but consistently, better than the boys before and after training in all three dependent variables. Likewise, all intercorrelations with Mental Age are not significant. The reason that these correlation coefficients with Mental Age are higher than the phi coefficients between I.Q. and the fantasy measures is that chronological age (which ranged over a span of twelve months among these subjects) was not taken into account when Mental Age was correlated with the other variables. The lower phi

coefficients are therefore more representative of the relationship of intelligence and fantasy predisposition (.08), as chronological age was taken into consideration.

The significant correlations between the three fantasy measures (Barron Test, Imaginative Play Interview, and Teacher's Ratings of Imaginativeness)--range of .56 to .80--with pre-training and post-training scores of Imaginativeness, Affect, and Concentration indicate that these instruments may be used to predict this type of play behavior in young children with considerable accuracy. The postulated relationship between fantasy predisposition and imaginative play is again supported. It should be again noted that the correlations are lower between fantasy and post-training scores (as compared with pre-training scores) because of the introduction of the training factor. All correlations between fantasy predisposition (however measured) and imaginativeness are somewhat higher than the correlations between fantasy predisposition (however measured) and Affect or Concentration. Although the differences are not large, they are consistent throughout the matrix.

In concluding this section, it is important to state that fantasy predisposition was found to be independent of sex and intelligence, is highly related to play that is characterized by pretense and role-playing, positive affect, and concentration in young children, and that it can be reliably measured by a variety of instruments, tapping different behavioral manifestations.

Pre- and Post-training Scores

Table 5 presents the means and standard deviations for Imaginativeness, Affect, and Concentration of the pre-training and post-training scores for both experimental and control groups, as well as the total group. It can be readily seen that for Imaginativeness, Affect, and Concentration the experimental group's post-training means are substantially higher than the pre-training means, while the control group's means remain almost the same. It is also noteworthy that the standard deviations are smaller for the pre-training scores than for the post-training scores, indicating that the training increased variability within both the experimental and control groups, although somewhat more in the former than in the latter. It should also be pointed out that the experimental group improved more in Concentration with training, than in Imaginativeness, or Affect. Lack of training did not lower the control group's scores (on the average) in any of the dependent variables.

Table 6 presents the number of subjects who improved, remained the same, or declined in Imaginativeness, Affect, and Concentration from pre-training to post-training period, broken down into high and low fantasy predisposition and experimental and control groups. As can be seen from this table, the majority of the subjects improved, with smaller numbers remaining the same or declining, with the exception of the low fantasy control group where none of the subjects improved. Most of this latter group remained the same, with a smaller number declining. It should be remembered that, for the purposes of this table, a decline or improvement may represent as little change as one one-hundredth of a

Table 5

Means and Standard Deviations for Imaginativeness, Affect, and Concentration

	Experimental Group N = 40		Control Group N = 40		Combined N = 80	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
		Pre-training				
Imaginativeness	1.80	.84	1.68	.84	1.74	.84
Affect	1.91	.77	1.77	.76	1.84	.76
Concentration	1.73	.66	1.68	.69	1.70	.68
		Post-training				
Imaginativeness	3.03	1.45	1.72	1.34	2.38	1.40
Affect	3.09	1.32	1.90	1.20	2.50	1.26
Concentration	3.15	1.44	1.87	1.33	2.51	1.38

Table 6

Number of Subjects Improving, Remaining the Same, or Declining with Training

	High Fantasy			Low Fantasy		
Group	Improved	Same	Declined	Improved	Same	Declined
			Imaginativeness			
Experimental	18	2	0	13	2	5
Control	14	4	2	0	13	7
			Affect			
Experimental	16	1	3	16	2	2
Control	12	3	5	13	4	3
			Concentration			
Experimental	18	2	0	14	1	5
Control	16	2	2	15	3	2

point. By inspection of the individual subjects' data, it was determined that no decline for any subject in any category ever exceeded what amounted to a lowering of one of twelve ratings by one rank. This is a result easily attributable to the chance sampling of a subject's free-play behavior.

Table 7 presents the number of subjects by sex who improved, remained the same, or declined from pre- to post-training period in Imaginativeness, Affect, and Concentration. As can be seen, the pattern of improvement or lack of improvement is very similar for males and females. From these data, it is justifiable to assume that the training methods used in this study were equally successful with males and females.

Table 8 presents the Pre- and Post-training scores broken down into High and Low Fantasy groups. The high fantasy group appears to have improved more than the low fantasy group in Concentration, Imaginativeness, and Affect in descending order. *t* tests between these means will be presented after the results of the analyses of covariance.

Table 9 presents the pre- and post-training scores of Imaginativeness, Affect, and Concentration broken down by sex. All means favor the girls, but the differences are small enough to justify combining the boys' and girls' data into one analysis of covariance for each dependent variable. It will be remembered that none of the intercorrelations between sex and fantasy (however measured) and sex and pre- and post-training scores of Imaginativeness, Affect, and

Table 7

Number of Subjects by Sex Improving, Remaining the Same, and Declining After Training

Group	High Fantasy			Low Fantasy		
	Improved	Same	Declined	Improved	Same	Declined
Imaginativeness						
Experimental						
Boys	9	1	0	7	1	2
Girls	9	1	0	6	1	3
Control						
Boys	6	4	0	0	6	4
Girls	8	0	2	0	7	3
Affect						
Experimental						
Boys	7	1	2	8	1	1
Girls	9	0	1	8	1	1
Control						
Boys	5	1	4	5	3	2
Girls	7	2	1	8	1	1
Concentration						
Experimental						
Boys	8	2	0	8	0	2
Girls	10	0	0	6	1	3
Control						
Boys	9	0	1	9	1	0
Girls	7	2	1	6	2	2

Table 8

Mean Scores of the High and Low Fantasy Groups

	High Fantasy			Low Fantasy		
	Pre	Post	N	Pre	Post	N
Imaginativeness						
Experimental Group	2.53	4.02	20	1.06	2.04	20
Control Group	2.31	2.46	20	1.05	1.03	20
Affect						
Experimental Group	2.58	3.93	20	1.24	2.26	20
Control Group	2.33	2.49	20	1.21	1.32	20
Concentration						
Experimental Group	2.28	4.12	20	1.17	2.18	20
Control Group	2.17	2.46	20	1.18	1.27	20

Table 9

Mean Scores for Boys and Girls

	Boys (N = 40)		Girls (N = 40)	
	Pre	Post	Pre	Post
Imaginativeness	1.59	2.20	1.88	2.57
Affect	1.72	2.29	1.96	2.71
Concentration	1.56	2.32	1.85	2.69

Concentration were significant. t tests were not computed between the means for boys and girls because the differences were small. It should be noted that the amount of change from pre- to post-training is approximately the same for boys and girls.

Test of Hypothesis 1

Three 2x2 factorial analyses of covariance were computed to analyze the findings of this study, separately for Imaginativeness, Affect, and Concentration. The two factors were Fantasy Level and Training--No Training. The analysis of covariance eliminates the variance due to the individual differences among subjects on the pre-training scores in determining the effects of training on post-training scores. This was important here because the high relationship between the pre- and post-training scores might have masked the training effects. Analysis of covariance was chosen instead of analysis of variance with difference scores because of the existence of some minus scores and because the common regression coefficient (b_w) was greater than 1.00 for Imaginativeness, Affect, and Concentration. Edwards (1950) advises against the use of an analysis of variance with difference scores when b_w is greater than 1.00. Table 10 presents the analysis of covariance for Imaginativeness.

It can be readily seen from Table 10 that the F ratio of .09 for fantasy is not significant, nor is the overall interaction F ratio of .91. This indicates that fantasy predisposition, without regard to training, was not a significant factor in determining the post-training

scores of Imaginativeness, nor was there any significant overall interaction between fantasy predisposition and training vs. no training. The F ratio of 49.10 for training is significant well beyond the .01 level, thus supporting Hypothesis 1 that the experimental group which received training in imaginative play would be rated higher in Imaginativeness than the control group which did not receive this training.

Table 10

Analysis of Covariance for Imaginativeness

Source	Sum of Squares	df	Mean Square	F	
Fantasy	.04838	1	.04838	.09	n.s.
Training	25.74519	1	25.74519	49.10	p = <.01
Interaction	.47856	1	.47856	.91	n.s.
Error	39.32257	75	.52430		
Covariance	91.16217	1			
Total	156.75684	79			

Test of Hypothesis 2

Table 11 presents the analysis of covariance for Affect. From this table it may be seen that the F ratio for fantasy is .33 and for overall interaction .60, both not significant. This means that fantasy predisposition alone, without regard to training, was not significant in determining the post-training scores in Affect, nor was there any overall interaction between fantasy level and training vs. no training. The F ratio of 40.09 for training is significant well beyond the .01 level, thus supporting Hypothesis 2 that the experimental group which received training in imaginative play would be rated higher in Affect

than the control group following the training period.

Table 11

Analysis of Covariance for Affect

Source	Sum of Squares	df	Mean Square	F	
Fantasy	.17151	1	.17151	.33	n.s.
Training	20.84596	1	20.84596	40.09	p = <.01
Interaction	.31287	1	.31287	.60	n.s.
Error	38.99776	75	.51997		
Covariance	66.42586	1			
Total	126.75366	79			

Test of Hypothesis 3

Table 12 presents the analysis of covariance for Concentration. From Table 12 it may be seen that the F ratio of .85 for fantasy and 3.07 for overall interaction are not significant. This means that fantasy predisposition alone (without regard to training) was not significant in determining the post-training scores of Concentration, nor was there any significant overall interaction between fantasy predisposition and training vs. no training. However, the F ratio of 48.13 for training is significant well beyond the .01 level, thus supporting Hypothesis 3 that the experimental group which received training in imaginative play would be rated higher in Concentration than the control group following the training period.

Table 12

Analysis of Covariance for Concentration

Source	Sum of Squares	df	Mean Square	F	
Fantasy	.52786	1	.52786	.85	n.s.
Training	30.03256	1	30.03256	48.13	p = <.01
Interaction	1.91434	1	1.91434	3.07	n.s.
Error	46.79756	75	.62397		
Covariance	71.81877	1	.62397		
Total	151.09082	79			

Test of Hypothesis 4

While the overall interaction effects for Imaginativeness, Affect, and Concentration were not significant, it was decided to perform t tests to determine any differences between individual cell means. Winer (1962) provides a formula to adjust post-treatment means[1] to eliminate the variance due to individual pre-treatment differences to be used after analyses of covariance and a formula[2] to be used for testing the

[1]Formula for adjusting post-treatment means after analysis of covariance:

$\bar{Y}' = \bar{Y}_j - b(\bar{X}_j - \bar{X})$, where $\bar{Y}'$ is the adjusted post-training mean for the particular cell of interest (ex. High Fantasy Experimental Group); $\bar{Y}_j$ is the unadjusted post-training mean of the same cell; b is the common regression factor; $\bar{X}_j$ is the pre-training mean of the same cell; and $\bar{X}$ is the total group pre-training mean.

[2]
$$t = \frac{\bar{Y}_1 - \bar{Y}_2}{\frac{(2 \times MS_{error})}{N} \times 1 + \frac{AB_{xx}/(p-1)(q-1)}{E_{xx}}}$$

where AB_{xx} is the sum of squares for interaction in the analysis of covariance of the covariate; E_{xx} is the error sum of squares in the analysis of covariance of the covariate; and $(p-1)(q-1) = 1$ in a 2x2 analysis of covariance.

differences between individual cell means after analyses of covariance which takes into account the overall error variance. By using the adjusted post-treatment means (with variance due to pre-treatment scores removed) and taking the overall error variance into account in the *t* tests, you eliminate any variance not due to the experimental variable. Table 13 presents the adjusted post-training means and *t* ratios for Imaginativeness, Affect, and Concentration for high and low fantasy groups under both the experimental and control conditions using Winer's formulas.

Table 13

Adjusted Post-training Means for High and Low Fantasy Groups

	High Fantasy	Low Fantasy	*t*
Experimental Group			
Imaginativeness	3.10	2.82	2.35*
Affect	3.13	2.91	1.92 n.s.
Concentration	3.46	2.78	5.44**
Control Group			
Imaginativeness	1.80	1.83	.26 n.s.
Affect	1.96	2.00	.35 n.s.
Concentration	1.92	1.86	.48 n.s.

*Significant at the .05 level

**Significant at the .01 level

It can be seen from Table 13 that none of the small differences between the high and low fantasy control groups are significant. However, the difference between the high and low fantasy groups under the experimental condition in Imaginativeness is significant at the .05 level, but not the .01 level. The difference between the high and low fantasy groups under the experimental condition in Affect is not significant. The difference between the high and low fantasy groups under the experimental condition in Concentration is significant at the .01 level. Thus, the fourth hypothesis that the high fantasy group receiving training would be rated as having improved more than the low fantasy group receiving training is supported for Imaginativeness and Concentration, but not for Affect.

Qualitative Results

The significant statistical results reported above attest to the finding that the experimental group improved more than the control group in Imaginativeness, Affect, and Concentration. However, these statistical results do not give any inkling of the rich clinical data that could be gleaned from the actual behavioral protocols. It is the purpose of this section to give some idea of the qualitative changes that took place in the experimental group children's behavior during the course of the study. The behavior of the control group children changed very little with somewhat more play with puzzles and tinkertoys than before. It is interesting to note that in a small number of instances control group children who were special friends of children

in the experimental group were drawn into imaginative role-playing situations and learned from them how to play more imaginatively. This probably accounts for the finding that a small number of control group children improved considerably from pre- to post-training period.

A major finding that should be noted is that there was very little imaginative play shown by the subjects of this study prior to the training sessions. What imaginative play there was was fleeting and mainly concerned with repetitive and stereotyped themes of eating, driving vehicles, and family illness. There was very little role-playing or elaboration of themes. Seldom was a pretend situation concerned with themes not in the child's direct experience. The only exception was occasional Batman and Superman themes derived from watching these programs on television.

The post-training behavior was dramatically different. Beside the fact that more children were pretending more in their play, the type of imaginative behavior was qualitatively different. There was much more organization in the pretend situations which often involved themes not in the child's direct experience--imaginary trips to the moon and other planets, visits to the hairdresser, hospital operations, boat rides to Africa, etc. Another striking difference in the post-training imaginative play was the greater use of role-playing with changed voices. This was practically non-existent prior to training. There was also simulation of sirens, wind, water, fire engines, etc. which was almost completely absent in the pre-training period. The use of toys and other play equipment involved a considerable amount of originality

in the post-training period--neckties used for a dog's leash, thread spools for salt and pepper shakers, ropes used for firemen's hoses, etc. Before training, there was very little use of toys or play equipment that was not obviously suggested by the objects themselves.

Another change was the great increase in dialogue in the post-training imaginative play. For the most part there had been only fleeting comments tacked onto otherwise unimaginative play in the pre-training period. Conversations were longer, more complex, and sustained over longer periods of play time in the post-training behavior. There was also much more labeling, attention to details, and names of small items woven into the pretend themes (car keys, door bells, seat belts, etc.). The trained children were more absorbed in their play and would often resist interruption when the teacher tried to gain their attention. Their great enjoyment of the role-playing and pretending was obvious to all who came into contact with the children. The teachers of both classes and the observer who did not do the training were often able to pick out the children who had received the training in imaginative play. The play of the experimental group children became consistently imaginative, that is, nearly all their free-play time involved pretending and role-playing.

It is also noteworthy that whenever the experimenter entered the classroom, the experimental group children rushed over to her and pleaded to be taken to play games with her. The control group children would occasionally ask to go with the experimenter, but the difference between the behavior of the two groups in all four classes was marked.

The experimental group children apparently went home and told animated stories about their experiences with the training. Reports came back from the parents to the principal, teachers, and upon a few occasions to the investigator herself when parents would meet her in front of the school or in the neighborhood.

Two short case histories will illustrate the dramatic changes from the pre-training to the post-training period. J. was a pathetic, forlorn little girl who sat in the corner of the room during the entire time of free-play each day, sucking her thumb and staring dully into the room. She was reluctant to leave the room with the investigator at first, but then was very responsive to the individual attention she received in the sessions. She participated in all the training sessions and began hearty laughter and active role-playing in the second session. Thereafter, when the investigator entered the classroom, J. would leap into her arms and plead to be taken to play games. She began to engage regularly in role-playing and pretending in her free-play time, although she never was very original in her themes or in her use of play equipment. She nearly always smiled, talked to the other children much more, and stopped sucking her thumb. J.'s marked change was instrumental in gaining greater cooperation with this investigation from the teachers and principal who had all made efforts to involve this child in activities with her classmates.

D. was one of a set of triplets--all girls--in the same kindergarten class. Before training she nearly always sat with her two sisters, unsmiling and detached as they were. They seldom smiled or

spoke, but would color together or play with construction toys or box games in a very uninvolved, unsustained manner. D. became a member of the experimental group and her two sisters were in the control group. Following training, D. was usually found in the housekeeping corner playing house with several other girls, role-playing and smiling as she spoke in adult-like tones. Her two sisters remained as before, passively and unsmilingly manipulating toys in a desultory, uninvolved manner. One of the other sisters asked the investigator why she had played "better games" with D. than with her. Once D. was pretending to be sitting on a park bench, wearing high heels and a big floppy lady's hat, rocking her baby in the carriage when her two sisters came over to her and asked her to come sit with them. "Can't you see I'm trying to get my baby to sleep. Don't talk so loud," D. said to them with great seriousness and never stepping out of her role. The two sisters shrugged, looked puzzled, and walked off to resume their usual activities. The training resulted in D. separating herself from her sisters to engage in imaginary play with other children who regularly played in that manner.

The overwhelming majority of children in the high fantasy experimental group improved in Imaginativeness, Affect, and Concentration. The majority of the low fantasy experimental group improved also, but there were more in this group who did not improve than in the high group. Those who did not improve were nearly always children who did not fully participate in the training sessions, either because they ran around and could not settle down to the activities of the group, or

because of overpowering passivity and detachment that held them back. Back in the classroom after training, the non-improvers frequently displayed flashes of imaginative play, but in many cases their hyperactivity got the upper hand and they would run and chase and wrestle with other children who regularly engaged in aimless jostling. Some other non-improvers, extremely passive children, just did not seem to have the initiative to begin role-playing or pretending, although they would often stand and observe imaginary play with smiles on their faces.

Test of Hypothesis 5

After the main part of the investigation, the experimenter selected six children with extremely low fantasy scores and six children with fantasy scores at the extreme top of the group, in order to study their family backgrounds. Limitations of time, a very tense interracial situation in the area of the school at the time of the study, and the lack of more than six children who could, even in a relative sense, be considered high in fantasy predisposition were the reasons why a broader sample was not chosen for further study.

The parents of the twelve children were interviewed in their homes by the investigator in an attempt to determine whether there were differences in the family situations of the "high" and "low" fantasy groups. It was hoped that this kind of information would provide some clues about the type of familial environment that best fosters the development of fantasy predisposition. Singer (1961) attempted to assess such factors by asking the children themselves about their

favorite play activities, to whom they were closest in the family, and other questions about their families. He found a tendency for high fantasy children to be oldest or only children, who were closest to their mothers, and who had time and opportunity to be alone in their home.

Table 14 presents the findings of the interviews with the twelve parents. As can be seen from this table, the high fantasy children are more often oldest or only children than the low fantasy children who are usually middle children. The person per room ratio is considerably lower for the high group (1.25) than for the low group (1.80). There were considerably fewer children in each family for the high group (mean = 2.33) than for the low group (5.66), although in both groups children are closely spaced. There were five fathers present and one absent in the high group, while all fathers in the low group live at home. One father in the low group, however, is nearly always at sea. Father's presence does not seem to be a distinguishing factor between the two groups. All parents of both groups were unskilled workers, but the parents of the high group children are more highly educated than the parents of the low group children.

None of the mothers of the low fantasy children worked during the subject's pre-school years. All of them had several very young children to take care of during this period. Four mothers of the high fantasy children worked either full or part time during the child's pre-school years. (One child was placed in a day care center in the mother's absence and the rest were taken care of by relatives.) One high group

Table 14

Results of Interviews with Twelve Parents

High Fantasy (N = 6)	Low Fantasy (N = 6)
1. Ordinal Position	1. Ordinal Position
4 oldest or only children 1 youngest child 1 middle child	4 middle children 2 oldest children
2. Person per room ratio	2. Person per room ratio
4/3; 4/3; 5/4; 4/3; 5/4; 3/3 Overall ratio = 25/20 = 1.25	5/4; 9/4-1/2; 7/4-1/2; 9/4-1/2; 11/5; 5/3 Overall ratio = 46/25-1/2 = 1.80
3. Number of children	3. Number of children
3; 2; 3; 2; 3; 1 Mean = 2.33 children	3; 7; 5; 7; 9; 3 Mean = 5.66 children
4. Father's Presence or Absence	4. Father's Presence or Absence
5 present, 1 absent	6 present,but 1 nearly always at sea
5. Educational and occupational level of parents	5. Educational and occupational level of parents
all parents unskilled workers	all parents unskilled workers
5 sets of parents finished elementary school	None of the parents finished elementary school. Fifth grade was highest grade completed.
1 set--father--8th grade mother--5th grade	

Table 14--Continued

High Fantasy (N = 6)	Low Fantasy (N = 6)
6. Did mother work in child's pre-school years? 3 mothers worked part time 1 mother worked full time 1 mother did not work 1 mother abandoned family	6. Did mother work in child's pre-school years? None of the mothers worked during child's pre-school years
7 & 8. Amount and kind of interaction between parents and child 2 parents report no time spent with child in any activities 4 parents report very little time spent with child, with occasional reading, story-telling, and guessing games	7 & 8. Amount and kind of interaction between parents and child 3 parents report very little time, occasional TV watching together 3 parents report no time at all spent with child
9. Child's usual play activity All 6 parents reported some pretend activity, like playing house, school, or detectives	9. Child's usual play activity 2 parents reported they did not know what child's usual activity was 2 parents reported TV watching 2 parents reported child usually helps with housework
10. Attitude of parent toward imaginativeness all 6 parents expressed some positive attitude	10. Attitude of parent toward imaginativeness 2 parents could not express any attitude 4 parents expressed negative attitudes

Table 14--Continued

	High Fantasy (N = 6)		Low Fantasy (N = 6)
11.	To whom is child closest? 3--to mother 1--to grandmother (mother substitute) 1--to older sister 1--to no one in particular	11.	To whom is child closest? 1--to mother 1--to father 1--to older sister 1--to brothers and sisters 2--to no one in particular
12.	Interest and concern of parent for child as judged by interviewer 4 parents judged as highly interested in and concerned about the child, much awareness of his individuality 2 parents judged to have minimal interest in and concern for child because of own problems	12.	Interest and concern of parent for child as judged by interviewer all 6 parents judged to be only minimally interested in and concerned for child because of own problems

mother did not work in the child's pre-school years, and one abandoned the family when the subject was fifteen months old. Thus, the high group child was more likely to have a working mother during his pre-school years and the low group child a mother tending a large group of young children. This would seem to suggest that it is the quality, not the quantity, of parent-child interaction that is important as it influences the development of fantasy predisposition.

Parents of both groups reported that they were able to spend very little time with their children. Two high group parents reported no time spent in activities with the child and four parents reported little time, with occasional storytelling, reading, and guessing games played together. Three low group parents reported no time spent with child and three reported very little time spent with child, with occasional television watching together.

The parents of all high group subjects reported that their children engaged in some kind of pretend activities (plays house, fireman, detective, etc.), whereas the low group parents reported their children as either helping in the house or watching television. Two low group parents said they did not know what play activities their child usually engaged in. All six high group parents expressed some positive feeling about imaginativeness, while among the low group parents two expressed no feelings and four expressed negative feelings (for example, one parent thought making believe could lead to lying).

The high group children were reported in five of six cases as being closer to some older female, whereas there seemed to be no

particular pattern of closeness for the low fantasy child. The interviewer judged four of the six high group parents as showing considerable interest in and concern for their child, as well as awareness of his individuality. Two high group parents appeared to be too overwhelmed by their own problems to take more than a minimal interest in the child. All six of the low group parents were judged as being too overburdened with their own problems of ill health, finances, and large families to take more than a minimal interest in the child or his activities. All six low group children were reported as being very much on their own. The interviewer's judgments about the parent's concern for the child were based on such things as the amount of time parent addressed himself to talking about the child, as opposed to his or her own problems, awareness of child's interests and activities, and occurrence or non-occurrence of spontaneous expressions of concern about child's present and future school functioning and/or general success in life.

The distinguishing factors between the high and low fantasy groups seemed to be ordinal position, person per room ratio, number of children in the family, parents' educational level, whether mother worked or tended young babies during child's pre-school years, type but not amount of parent-child interaction, child's usual play activity, attitude of parent toward imaginativeness, closeness to mother, and general interest in and concern of parent for child. The most striking differences were in number of children in family, education of parents, usual play activity of child, and attitude of parent toward imaginativeness. The fifth hypothesis that parents of children with high fantasy

predisposition would spend more time with their child, have more playful and imaginative interactions with him, and more encouraging and tolerant attitudes toward imaginativeness than parents of low fantasy children is supported except for the factor of more time spent with the child.

CHAPTER IV

DISCUSSION

The Effects of Training on Imaginative Play

As the result of eight twenty-minute training sessions over a period of one month, the great majority of the children in the experimental group improved significantly in the imaginativeness of their play, as well as in the expression of positive affect, and in the degree of concentration shown in their play. These significant changes in the play behavior were effected with a total of only two hours and forty minutes of training. That these changes were not fleeting is attested to by the fact that the greater imaginativeness of play continued consistently for the next two months, with no decline in the later observations. The existence of the control group with which the investigator engaged in some structured activities with the children, along with friendly conversation, would seem to rule out the factors of warmth, interest, and more individual attention as causes of the experimental group's improvement. The fact that the trained children played more imaginatively in the presence of the co-observer (who did not do any training) would seem to indicate that the children had learned new skills as a result of training that they were able to apply in different situations and that they were not simply imitating the investigator's behavior in a simple, direct way when she was present to serve as a cue.

How could these significant changes in the quality of play have

been brought about with such a brief training period? The answer must certainly be that the children had the potential for more varied and complex play activity than they were displaying. What appears to have been lacking were the specific play techniques or skills to actualize their potential perhaps because of lack of instruction or the lack of adult models after whom they could fashion their imaginative behavior. This would seem to support the speculations of Bandura and Walters (1959) who emphasized the influence of the parents and other adults as models for children in the development of behaviors. Bandura, Ross, and Ross (1961), for instance, found that children witnessing an adult who acted in a violent manner in the classroom engaged in highly similar behavior when they were aroused to anger in a similar situation. Bandura and Walters (1963) report another experiment in which exposure to an adult model with high standards (in a bowling game) influenced the child to hold high standards for himself and a model with low standards influenced the child to set low standards of achievement for himself. Bandura's work on modeling and imitation indicates that we can look to using teachers' actions as models of imaginative-type activities in order to stimulate such behavior in young children. It should be noted here that Smilansky (1968) was also able to bring about increased socio-dramatic play in a relatively short time (67 hours over three weeks for each experimental group of 140 children) using teachers as models of imaginative role-playing behavior.

The relative ease with which the changes were brought about in the present study would seem to point out that, despite lacks in the

richness of experience, some verbal deficiencies, crowded living conditions, overburdened mothers, and other similar factors thought to be associated with lower fantasy predisposition, most of these children were able to learn quickly to engage in role-playing and more imaginative play. As Smilansky points out, perhaps there are certain behaviors that must be learned by means of adult intervention at particular points in a child's development. This training by imitation of models may happen more as a matter of course with middle class than with lower class children because of the value placed on the advice of childcare books in the middle class home, the presence of fewer children, earlier reading experiences, as well as the middle class mother's perception of her role in the training of the child.

These points about the relative ease of changing the children's play are not made in any attempt to minimize the importance of a rich and varied set of experiences which Piaget (1962) has stressed, nor the importance of the facilitating influence of discriminating use of language upon cognitive development to which Deutsch (1963, 1964), John (1963), and Ausubel and Ausubel (1963) refer. Differences in these home factors seem to account for the fact that some of the subjects were able to engage in some imaginative play prior to training, while others were not. From the interview data, it can be seen that differences between children in their fantasy behavior seemed to be related to level of parents' education, size of family, amount of living space, and attitude of parents toward imaginativeness. That there was such a paucity of imaginative play and of such limited variety would seem to

support the ideas of Deutsch and Ausubel and Ausubel that, despite some variation, there is sufficient consistency of experience for urban lower class children to speak of this experience as having some deleterious influence on the cognitive development of such children. There is evidence even in this study that certain cognitive skills showed persistent limitations. The "low" fantasy group after training did not attain the pre-training level of play (and associated cognitive gains) of the "high" fantasy group. It should also be noted that the "high" fantasy group after training did not attain the level of imaginative play of the middle class group (which did not receive any training) studied by Pulaski (1968). Smilansky (1968) found that a group given training in sociodramatic play as well as some experiential enrichment (trips, discussions, etc.) improved more than a group given only training in play techniques. This finding underlines the importance of providing enrichment experience in aiding the cognitive development of poverty children.

There are, then, techniques that can be employed within the school system to enhance abilities that appear related to cognitive development where it has not otherwise reached its potential. As Smilansky's study demonstrates, it would be most efficacious for the training techniques to be incorporated into the regular curriculum of the kindergarten classes. In this way, children may learn to play more imaginatively before formal schooling begins and at a time when this kind of play is, according to Piaget (1962), at its peak. Without follow-up studies, it is only possible to speculate on what the long-range cognitive

benefits of this training may be on the basis of some suggestive evidence. It should be noted, however, that the very nature of make-believe behavior requires the unfolding of longer sequences of activity built around plots and themes. These are more complex schema than many other kinds of play and involve retention of material to be shifted from short-term memory. This is in marked contrast to kaleidoscopic or motoric play which is more dependent on the external environment and kinesthetic cues. It would seem that engaging in activities which in themselves involve longer sequences and more complex schema would be beneficial to cognitive development. It should also be pointed out that the experimental group of this study included more verbal communication, longer and more complex sentences, more sensitive responding to the cues of others, more spontaneity, creativity, more labeling, more discriminating use of language and increased attention span in their post-training play. To the extent that this improvement is maintained, it can probably be expected that these children will function at a higher level than the control subjects in their first grade work. A reason for optimism about the maintenance of gains (and this can also help to explain the persistence of the improved imaginativeness of play) is that the changes in the children seemed to be self-perpetuating. Not all of the trained children initiated imaginative play regularly, but imaginative play situations with all their components always seemed to spring up somewhere in the kindergarten room and, before long, children were drawn into them and stimulated by them. Once the role-playing and pretending began, it inevitably led to inventiveness, more

discriminating use of language, and greater verbal communication, as the demands of the make-believe situations developed.

In summary, it can be stated that modeling effects and direct teaching by adults can be very effective at certain points in children's development in serving as a catalyst to develop skills which are basically within the resources of the child. These modeling and teaching effects can result in marked changes in the child's functioning despite some long-term lacks in the children's experiential background and cognitive development. It should be pointed out that the gains in imaginative play are considered positive developments in this study because of the related cognitive gains that were found following training. In this study, we are dealing with essentially moderate levels of fantasy behavior usually found in the majority of normal children's play. This positive conception of imaginativeness is not intended in any way to dismiss the regressive use of fantasy behaviors among disturbed children. The findings of this investigation cannot be considered as a refutation of the Freudian discharge theory of fantasy, but it does provide strong support for the idea that in normal children moderate amounts of fantasy ability are associated with useful cognitive skills. Children who played more imaginatively after training engaged in longer sequences of behavior, were more absorbed in their activities, engaged in more labeling and verbal communication, and displayed more originality, spontaneity and more sophisticated use of language.

Imaginativeness as a Personality Trait

Prior to training, the children with "low" fantasy predisposition were either extremely apathetic and passive, often staring around the room watching other children play, or extremely hyperactive, engaging in desultory manipulation of play equipment or in overexcited running and jostling behavior. The children with "high" fantasy predisposition, prior to training, engaged in fleeting bits of imaginative play revolving mainly around repetitive and stereotyped themes of eating, driving, and family illness. For instance, a little girl would set the table in the housekeeping corner and then call several children over "to eat dinner," but the theme was not elaborated. Another typical situation involved a group of boys building an enclosure of blocks, sitting inside of it, and making some steering motions for a few moments. Sometimes a little girl would hold a doll in her lap and complain to a friend that "her baby" had a temperature. There were also transitory episodes of several boys running around the room together engaging in a few typical phrases of Batman (ex. "Come on, Robin, let's get the bad guys.").

The low group children who did play more imaginatively following training were able to engage in some pretend episodes, but did not sustain them long or elaborate them. They were not very original in the use of the play equipment. For instance, a little girl would stir in a pot on the stove, call over some children for dinner, sit down with them and pretend to drink from a cup. There was not much verbalization as part of a role among the "low" fantasy children even after training.

The "high" fantasy group after training played imaginatively with great consistency and with highly organized plots. The themes were often quite imaginative and transcended the area of the children's immediate experiences (trips to the moon, having one's hair fixed in the beauty shop, Indian themes, etc.). The children became extremely absorbed in their roles, using simulated voices, and maintaining the roles even when others attempted to relate to them outside of the roles. Play equipment was used creatively and there was greater use of complex sentences, more labeling, and more attention to detail. The children were more responsive to each other and obviously enjoying themselves in play more than they did before training and much more than the "low" fantasy children before and after training. Sequences of imaginative role-playing would sometimes last nearly the whole period of free-play time (forty-five minutes) and fifteen to twenty-minute sequences were very common. To give one example, a group of children would begin to play house, each with his own particular role as mother, father, child, or family pet. A child would become ill and the mother would call the doctor. Father would "drive" mother and child in a pretend car to the hospital. Other children would be drawn in as doctors and nurses and the "sick" child would receive numerous operations and/or injections.

The hypothesis that high fantasy children would improve more with training than low fantasy children was supported for the ratings of Imaginativeness and Concentration. The basis for this hypothesis was that the "high" group was only relatively high in the sense that it was above the mean for this sample. The mean ratings of Imaginativeness,

Affect, and Concentration for the "high" group before training were at or below the midpoint (2.53, 2.58, and 2.28 respectively) of the a priori scales. As a basis of comparison, it should be noted that in a study by Pulaski (1968) middle class children of comparable ages received a mean rating in fantasy play of 2.64 on a scale from 0 to 5 which would be equivalent to 3.64 on a 1 to 5 scale such as the one in this study. Pulaski's "low" group received a mean fantasy rating of .83 or 1.83 on a 1 to 5 scale and the "high" group 3.45 or 4.45 on a 1 to 5 scale. It would seem that the "high" group of the present study was more similar to the "low" group than the "high" group of the Pulaski middle class study, that is, they were children who had developed some fantasy ability, but still had considerable scope for improvement.

The "low" group of the present study received a mean rating prior to training of o.06 in Imaginativeness, nearly as poorly as possible on this scale and slightly higher in Affect and Concentration. The "low" group did improve significantly in all three dependent variables, but they did not improve as much as the "high" group, nor did as many "low" group children improve as "high" group children. As noted previously, the "low" group was substantially below the pre-training scores of the "high" group even after training. From these data, it seems likely that the "high" group of this study is similar to the "low" groups of middle class subjects and that the "low" group probably represents that hard-core subgroup of lower-class children referred to by Deutsch (1964) that lowers average lower class performance in relation to middle class performance and who are considerably more resistant to special

techniques of training.

It was primarily to determine some familial characteristics associated with the "low" subgroup that the interviews with a sample of twelve parents were carried out. As Singer (1961) found, ordinal position differentiated the "high" and "low" groups, with "high" group children more often being the oldest or only child and the "low" group children being more often the middle child. This suggests that, even if it is only for a short time, the "high" group child had more of his parents' at-home time and attention. He also had more space, time, and quiet for a few years in which to play and to engage in some fantasy behavior.

The "high" group child was found to have many fewer siblings and more living space at home than the "low" group child. This again suggests that he has more of his parents' at-home time and more chance of privacy and quiet. Singer (1961) speculated that an important environmental factor in the development of fantasy skill may be the opportunity for regular contact with at least one parent whose actions and speech patterns are available for imitation. Singer goes on to speculate that having parents who are absorbed in many demanding household responsibilities, many closely-spaced siblings, and a lack of physical space in which to be alone would lessen a child's opportunity to develop fantasy predisposition. His speculations and earlier findings seem to be supported by the interview data of this present study.

If the parents are important as models in fantasy development, it is interesting to note that the "high" group parents were more highly

educated than the "low" group parents. This suggests that probably the former were better able to use language as a means of communication and cognitive exploration. It has been pointed out that verbal abilities play an important role in cognitive development. The higher education of the "high" group parents may also be related to their more tolerant and encouraging attitude toward imaginativeness (in comparison to the "low" group parents).

Apparently, the quality of the mother-child relationship is as important or more important than actual time spent with the child. It was found that more of the "high" group mothers worked part-time during the child's pre-school years than the "low" group mothers. The latter, while physically present in the home more than the "high" group mothers, were apparently too preoccupied with their other children to play with the child or to serve as a model for imaginative-type behavior. The "high" group child, who was most often cared for by a relative in the mother's absence, had more of his mother's at-home time and was more often able to engage in reading or storytelling with her than was the "low" group child with his mother. It is also possible that the child whose mother worked spent considerable time looking forward to her return and fantasizing about their reunion. As Singer (1961) also found, the "high" group child (according to mother's report in the present study) was more often closer to his mother or mother substitute than the "low" group child who did not seem to have any particular pattern of family closeness. This reported closeness to the mother on the part of the "high" group child would suggest that this identification

facilitated imitation of the behavior of mothers who were found in this study to be somewhat educated, encouraging of imaginativeness, and willing and able to engage in some inaginative-type activities with the child.

These data about the families of the children with very low and very high (relatively) fantasy predisposition support the notion of limited channel capacity referred to by Singer (1966) and Tomkins (1962). If a child grows up as a middle child in a large family of siblings in few rooms (as the "low" group children of this study appear to have), it would seem impossible for him to have developed the capacity to attend to his inner stimulation, as he must have lived in a constant state of bombardment by outer stimuli in his crowded living conditions.

Interrelationships Between Imaginativeness, Affect, and Concentration

As can be seen in the Table of Intercorrelations of Variables (Table IV), the measures of Imaginativeness, Affect, and Concentration correlate very highly (range from .95 to .98) both before and after training. This high relationship suggests the possibility that what is being measured in this study is a unitary dimension. The fact that there were differential interaction effects for Affect, as opposed to Imaginativeness and Concentration would argue against the notion of a unitary dimension. It is not possible to make a clearcut statement about the relationship of the three variables, however, because there was very poor development of any kind of play skills in the group. If there had been better development of nonimaginative play skills that

also would involve positive affect and concentration, there would have been more opportunity to determine how imaginative play is related to affect and concentration in comparison with other play skills.

Another possibility is that a halo effect was in operation when the raters were making their judgments. While the operation of a halo effect also cannot be completely ruled out, it seems unlikely because of the careful training of raters and the well-defined criteria for each set of ratings. Training of the raters included discussing types of protocols where there was substantial disagreement and the establishment of standards for these situations. An explanation for the high correlations that seems more plausible is that there was a very narrow range of behavior for all three variables, clustered at the low end of the scale. Given a strong relationship between variables, and the relatively gross units of a five-point scale, it is possible that the measurements were not discriminating enough to pick up subtle differences in the operation of the variables. The instruments were simply reflecting the gross movement upward of all variables from uniformly low pre-training levels.

Another possibility that would take into account the high relationship between the variables is one that is suggested by Smilansky's (1968) study. It is suggested that by its very nature imaginative play requires longer-drawn-out sequences, so that there is the impression of greater concentration on the part of the children. Smilansky defines the type of play she is training as "sociodramatic" play although what she means by it is very similar to imaginative play. She thinks of

"sociodramatic" play as consisting of a number of separate but highly related elements such as imitation, make-believe concentration, verbal communication and social interaction. What this suggests in regard to the present study is that perhaps the type of play that was being trained here involved more than just imaginativeness. Perhaps some term like sociodramatic play or dramatic play (the name used by Marshall and Hahn, 1967) or Imaginative Role-playing Behavior might be most appropriate. It would appear likely that make-believe or imaginativeness would be one element in imaginative role-playing behavior and that some kind of persistence or concentration another. There might be a difference between concentration on solving a jigsaw puzzle or making a replica of a geometric pattern and the concentration shown here which implies carrying on a longer sequence along a story line. It does not seem necessary to include verbal behavior as a separate element, as Smilansky does, as there would be no other way for a child of kindergarten age to exhibit role-playing and imaginativeness except by means of verbal exchange. It would be difficult to evaluate the imaginative play of a kindergarten child without assessing his verbal behavior.

While Smilansky regards imitation as the key element in sociodramatic play, it is readily apparent that make-believe or pretense is specifically involved in three of her six components. Therefore, with the exception of interaction with peers, imaginative role-playing and a kind of persistence or concentration would seem to be the basic elements in sociodramatic play, even as Smilansky defines it. The inclusion of interaction with peers would have the effect of excluding

imaginative role-playing some excellent examples of children engaging in some highly imaginative behavior by himself (ex. a child pretending to be riding in a rocket to another planet). These solitary behaviors are the exception, but it is hard to see how they could be classified as less imaginative because another child was not involved, as Smilansky would do.

The disagreement between Smilansky and this investigator about whether the basic element of imaginative role-playing behavior is make-believe or imitation will be further explored in another section of this paper. However, it seems clear that Smilansky and this investigator were training behavior that is highly similar and perhaps best termed Imaginative Role-playing Behavior. It involves make-believe role-playing and a kind of persistence or concentration. The high relationship of Imaginativeness and Concentration and the similar interaction effects for both strongly suggest that they are highly related aspects of a kind of play that is comprised of these two elements and perhaps others. That the correlations were so high is probably due partly to the narrow range of behavior in this group, the use of a rating scale with relatively gross units, and the lack of other skills among these children that also might involve concentration and positive affect.

Smilansky does not include positive affect as an element of sociodramatic play, but states that sociodramatic play leads to deep satisfaction, joy, and delight. She contends that this joy and delight involve a deep sense of well-being at finally possessing the skills to express essential processes that were frustrated in development in the

culturally-deprived child. When the child learns the techniques of play, his psychological structures (skills) are in harmonious adjustment with his stage of development.

Hartley et al. (1952) and Liberman (1964) have both described the joy and delight of children engaging in spontaneous and original play. Erikson (1940) speaks of the pleasure derived from the sense of coping and mastery involved in imaginative role-play behavior of pre-school children. It seems very likely that a cause and effect relationship exists between imaginative role-playing behavior and positive affect. Anyone watching a child playing out a role and making-believe can sense and plainly see his joy at trying out new experiences and having others relate to him in that role and reliving old experiences in play that were pleasurable (such as a pretend birthday party).

That positive affect is a result of imaginative role-playing and not a key element in it gains support from the different interaction effects for Affect. "High" and "low" fantasy children gained equally in positive affect with training. Since this was not true for Imaginativeness and Concentration, it would appear that these two variables were operating in the same manner and Affect operated somewhat differently. The "high" group improved more than the "low" group in imaginative role-playing behavior (Imaginativeness and Concentration) but, despite this, the "low" group's post-training Affect had gained as much as the "high" group's. The overriding solemnity and sullenness (lack of positive effect) of the majority of the children prior to training (assuring that any change could only be in an upward direction)

and the use of a measuring scale with only five units contributed to the high correlations because finer differences in behavior were probably obscured. It is relevant to mention here that Pulaski (1968) found that middle class high fantasy children played more imaginatively and with greater concentration than low fantasy children. The high fantasy subjects, however, did not receive higher affect ratings than the low fantasy subjects. This finding does support the idea that Imaginativeness and Concentration are both aspects of one kind of play behavior. While imaginative behavior usually results in joy and pleasure, apparently other play skills that create positive affect were well developed in Pulaski's middle class subjects and not in the present sample.

In summary, it is likely that the type of play involved in this study and that of Smilansky (1968) is comprised of at least two basic elements, imaginative role-playing and a kind of concentration, and is probably best designated as Imaginative Role-playing Behavior. This behavior results almost invariably in increased positive affect probably because of the pleasure in trying new experiences and reliving old ones that "improve on reality" (Piaget, 1962). Other types of more structured play can also lead to positive affect, but the high relationship between Affect and Imaginativeness was emphasized here because of the extremely uneven distribution of pleasure ratings, the use of a relatively gross measuring instrument, and the paucity of other play skills in this sample that might lead to positive affect.

The Measures of Fantasy Predisposition and Their Relation to Imaginative Play

This investigation provides strong support for Singer's proposal that fantasy predisposition is an enduring personality dimension that may be exhibited in diverse behavioral manifestations. Support for this assumption is gained from the fact that three different types of measures of fantasy predisposition were in very high agreement. One instrument (Barron Movement Threshold Blots) is an inkblot test which measures an individual's ability to project human movement onto ambiguous inanimate objects, the so-called M response. Rorschach (1942), Schachtel (1966) and many others have related this M response to fantasy predisposition, inhibition of overt motility, and introversion. This type of projective test is presumed to tap less conscious levels of functioning and is therefore quite a different measure from the Imaginative Play Interview (Singer, 1961). In this interview, the child is asked direct questions and the measure is presumably tapping more conscious levels of functioning. Yet these two measures were highly related for the subjects of the present study. It is also noteworthy that in the twelve cases where parental interviews were conducted, the child's reported favorite type of play activity agreed in each case with the report of his parent. This implies that direct questioning of children about their play preferences is a valid method of investigation.

A third measure of fantasy predisposition was the teacher's ratings of imaginativeness over a relatively long span of time (three months). That the ratings of naturally-occurring behavior by the teachers over a period of time correlated highly with the projective

test and the objective data from the interview offers strong support for the conceptualization of fantasy as an enduring dimension of personality functioning that is established by the age of five and may be reliably measured in a variety of ways.

The finding that fantasy predisposition is not significantly related to I.Q. is important because there is a verbal component involved in fantasy and in the measurement of fantasy. If it were not clearly established that fantasy predisposition and intelligence were independent, the differences in fantasy might well be explained by differences in verbal ability alone since this ability is an important component of I.Q. It should be noted that Pulaski (1968) and Smilansky (1968) also found that imaginativeness and I.Q. were not related.

Fantasy predisposition was found to be unrelated to sex in this study. The girls, however, scored slightly higher than the boys in all categories. It is important to note that the degree of improvement was approximately the same for each sex, indicating that the training methods were equally effective with boys and girls. Pulaski found no sex differences in fantasy predisposition or in imaginativeness of play, although there were differences in toy choices and degree of motility by sex. Smilansky, on the other hand, found that following training the girls' sociodramatic play had improved significantly more than the boys'.

Smilansky offers three major possible reasons for the sex difference: (1) that the experimenters were women and that therefore the boys had more difficulty in using them as models; (2) that the toys and equipment in their kindergartens were more female-oriented; and (3) that

the lower class boys in general have a more difficult task in sex role identification which, in turn, puts them at a disadvantage in nearly every area of functioning.

In the present study the consistently better performance of the girls in imaginative play may well have been related to the fact that the person who did the training was a woman. Unlike the kindergartens in which Smilansky did her research, however, those involved in the present study seemed as well geared to male as to female interests. The minor differences in performance between girls and boys may be related to the general finding (Deutsch, 1960; Davidson & Greenberg, 1967; Ausubel & Ausubel, 1963; and others) that lower class Negro males have more difficult sex role identification problems and that Negro lower class females have a better personal, social, and emotional adjustment than their male counterparts. It should be noted that over 75 percent of the subjects of this study were Negro, the others being Puerto Rican, Cuban, Chinese and white. Perhaps if there had been an insufficient supply of male-oriented play equipment, as in the Smilansky study, the sex differences might have been larger.

Singer (1961, 1966) hypothesized that fantasy predisposition is related to imaginative play in young children before the age when role-playing and fantasy is internalized. Riess' (1957) finding that children (six to seven years old) who saw more human movement (had higher fantasy predisposition) spent more time in imaginative behavior than children who saw little or no human movement lends support to Singer's speculation. Pulaski's finding that high fantasy children, as measured

by the Barron Test, Singer's Imaginative Play Interview, and a creativity rating of original drawings, played more imaginatively (and with more concentration) than low fantasy children regardless of I.Q., sex, or type of toys offered for play also supports the relationship of fantasy and imaginative play in young children.

In the present study, this postulated relationship is supported by the high correlation between Overall Fantasy (Barron Test, Imaginative Play Interview, and Teacher's Ratings combined) and pretraining scores of Imaginativeness of play (.81). The significant correlations between the three fantasy measures with pre-training and post-training scores of Imaginativeness, Affect, and Concentration support the relation of fantasy and imaginative play for five-year-old children. These correlations also indicate that the Barron Test, the Imaginative Play Interview, and the Teacher's Ratings of Imaginativeness may each be used to predict imaginative play behavior with considerable accuracy. These instruments may also be used to predict which children will profit more from special training in imaginative role-playing behavior.

Behavior Rating Methods

Since in this study there were no objective scores or outside criteria for judging imaginative play, it was necessary to establish rating scales specifically for this purpose. There are obvious risks in this procedure, involving the issues of subjectivity, rater bias, differential cue value of the observers and others that are frequently discussed as psychometric problems in the use of such rating procedures.

Therefore, it seems important that more than one observer be employed in the collection of behavioral data and that at least one of these observers should not know to which experimental groups the subjects belong, as was done in this study. The high correlations between the ratings of the protocols of the two observers in this study indicate that, with proper training of observers, sources of error such as observer bias and differential cue value can be eliminated. It will be remembered that prior to the pre-training observations the observers recorded the behavior of the same children simultaneously and then the protocols were compared and shown to outside judges. This was repeated several times to insure essential agreement between observers. The investigator also made it a point to spend considerable time visiting in the classroom after the training period, so that the children would not associate her only with the training experiences.

The employment of the observers in this study as raters is justified on the basis of their familiarity with the children and their behavior. However, it was believed that the extra precaution of obtaining ratings by an outside person not involved in the study would add to the reliability of the ratings. Prior to the actual ratings, the raters discussed the criteria for each dependent variable and examples of each point on the rating scales were provided by the investigator from observations collected during the pilot period. Then the raters independently rated the protocols, so that the same ten were rated by all three raters. The differences in ratings were discussed and clarified and standards of ratings were established for situations in which

disagreement seemed frequent. The Kendall coefficients of concordance between the raters were high and significant, thus establishing that, with the use of these kinds of safeguards, rating scales designed for use in particular observational studies can be psychometrically sound. These psychometric findings are noteworthy as they establish more justification for the use of these kinds of investigational methods.

Comparisons with Similar Investigations

Marshall and Hahn (1967) attempted to enhance the dramatic (imaginative role-playing) behavior of twelve middle class nursery school and kindergarten children in four fifteen-minute sessions in which the investigator engaged in enacting small imaginative plots with the children, using play equipment as props. The investigator attempted to serve as a model for make-believe behavior including role-playing with voice simulation. The trained children were compared with a matched group of children with whom the investigator did mechanical puzzles, but with whom she engaged in friendly interchanges; and with a matched group of children who had no special contact with the investigator. All children were observed by one person for forty two-minute segments before and after training. The number of segments in which there was some verbalization on the part of the child indicating that he was someone or something other than himself was the child's score for dramatic play.

It should be noted that the length and number of sessions is greater in the present study than in Marshall and Hahn's. The rating system of the present study includes more safeguards against observer

bias and, since it involves more scale units, provides for a more discriminating analysis of the findings. Marshall and Hahn report no group means before or after training, nor any descriptive statistics with which to make comparisons. They do report that all of the experimental group children increased in their dramatic play after training and that most of the children in the two control groups declined, with a smaller number remaining the same. This finding is similar to the performance of the high fantasy experimental group of the present study, that is, nearly all of this group improved with training. It appears that the very low fantasy group of the present study did not have a counterpart in the Marshall and Hahn middle class group. More training sessions were provided in this investigation because of the low pre-training scores in imaginativeness of play. It is interesting to note that Marshall and Hahn use "imaginative" play and "dramatic" play interchangeably, but seem to imply that there are components in the behavior in addition to imaginativeness. Their purpose in enhancing dramatic play was to enhance the associative play with peers. These investigators found that the increased role-playing led to more associative play with other children and thus it was thought that dramatic play could be used to enhance the social development of the children.

The only other investigation located in which training of imaginative play was involved is that of Smilansky (1968) which was conducted in Israel. A detailed comparison with the present study will be made because of their basic similarity. A fundamental difference between Smilansky's study and this one is on a theoretical level.

While the global behaviors under investigation are essentially the same, Smilansky does not attempt to postulate the existence of any underlying psychological process. Her study is an extremely worthwhile piece of research for educational purposes, but it does not make much contribution to psychological theory.

Smilansky defines sociodramatic play as consisting of imitative make-believe role-playing; make-believe in regard to objects; make-believe in regard to actions and situation; persistence and concentration; social interaction; and verbal communication. The author states that imitation of the real world and adaptation to it is the key element in this kind of play. Make-believe is a means to the end of imitation which serves the purpose of helping the child integrate more easily into real-life patterns of their immediate environments. This investigator disagrees with Smilansky's stated purpose of make-believe, that is to aid in the child's adjustment to the real world by imitation of it. Piaget (1962) has stated that inner fantasy is the motivation of symbolic play and he links the latter with general intellectual growth. As the development of language proceeds, the child begins to be able to conjure up mental images related to objects in reality. The mental images can be manipulated so that the child is not limited by reality and can create, explore and try out new roles and new combinations of images. According to Piaget, this inner manipulation of images is essential to cognitive development. This seems similar to Tomkins' image or centrally-emitted blueprint that governs man's purposive behavior. Without some ability to delay immediate responsiveness to

outer stimulation, the child is less able to think and plan and try out new ideas or roles mentally before putting them into action. The lack of some fantasy ability deprives the child of the ability to "improve on reality" when this is appropriate and useful as in enforced delay or waiting periods.

Accordingly, it seems inaccurate to suggest that make-believe serves to help a child adjust to reality by imitating real-life experience, that—in Piaget's terms--it is more accommodation than assimilation. Much of the role-playing behavior observed in both studies, it is true, involved imitation of adult behavior. In the present study, however, there was also considerable behavior that could not have been imitation of observed adult behavior (riding to the moon in a rocket, performing an operation in a hospital, etc.). Too much of the role-playing behavior had to be spontaneous and inventive, as quick responses to other children's cues did not often allow for imitation of well-known behavior patterns. In addition, considerable imaginative behavior involved original combinations of different behaviors apparently witnessed in real life.

Smilansky does not relate make-believe play behavior in any way to fantasy predisposition as a psychological process. Nor does she postulate the underlying process or processes by which the children's experience in greater social interchange, more complex verbal usage, greater persistence and sequence in their play behavior can lead to growth in cognitive skills which is the author's aim. There is no explanation of how imitation could integrate experiences of the child in

some way that would contribute to his intellectual development. As one looks at the components of sociodramatic play, as Smilansky defines it, it would seem quite apparent that even she considers make-believe a much more common aspect of the different components than imitation.

The first phase of Smilansky's study was a comparison of middle class and disadvantaged Israeli children aged three to six years in regard to their sociodramatic play. Five "field workers" observed 36 classes of 35 to 40 pupils (18 middle class and 18 disadvantaged) and obtained observations of the children's play. In contrast to the present study, individual children were not systematically observed. Instead, five centers of interest in the class were identified: block corner, hospital corner, house corner, doll corner, and playground, and ten examples of play were recorded for each of these centers for an unspecified period of time per observation.

The observations were then analyzed and the findings were that middle class children (A group) engaged in more sociodramatic play than the disadvantaged children (D group) with and without play equipment. The themes of play were similar, but the A children displayed more diversity and variety of roles than the D children. These findings support the speculations of this investigator that lower class children on the average tend to play less imaginatively than middle class children.

Smilansky found that most of the D children engaged in desultory manipulation of toys and play equipment or in repetitive use of

miniature adult objects in imitation of adult use, but without any attempt to enact an adult role. It was also found that A children spoke more than D children in play, used more vocabulary words, longer and more complex sentences, more parts of speech, and did more labeling. It should be pointed out that the pre-training play of most of the subjects of the present study was found to involve mostly manipulation of toys and repetitive, stereotyped activities with play equipment. It was also found that, prior to training, these lower class children engaged in very little verbal communication with one another, made minimal use of words in their play, and seemed to do very little labeling or talking about their play activities. As was previously mentioned, this changed considerably following training. Smilansky found hyperactivity, aggression and bossiness more prevalent in the disadvantaged group. This author also found a high degree of aggression, bossiness, running around, overexcitement, as well as extreme passivity among the subjects which was considerably diminished following the increase of imaginative play through training.

For the main part of her investigation, Smilansky had some researchers (number unspecified) observe each child on a maximum of three separate days and record in minute detail his behavior before and after training. The observations were then used to place each child in one of three categories: (1) no dramatic play; (2) dramatic play (solitary sociodramatic play); (3) sociodramatic play. The elements of sociodramatic play needing enhancement were noted for training purposes, but not for statistical outcome purposes.

Four groups of 140 children were then established and matched for age, sex, I.Q. (on the Stanford-Binet test), attainment of play, and family characteristics. One group remained as the control group and received no training whatsoever. Three themes were chosen for training purposes: (1) the clinic; (2) the grocery store; (3) a story well known to the children, "Where's Ruthy?" One experimental group received only enrichment experiences with trips to clinics and grocery stores, and discussions about clinics, stores and the theme of "Where's Ruthy?" Another group received these enrichment experiences plus 67 hours over three weeks (for 140 children) of direct intervention into naturally-occurring classroom play by the experimenter or the teacher who made suggestions in role-playing to the children and demonstrated how to pretend to be a doctor, nurse, grocery clerk, etc. The children were encouraged to continue in the role begun by the experimenter or teacher, using appropriate props. There was no attempt to equate the time spent with each child and, once a child exhibited all elements of socio-dramatic play, he was no longer trained. A third group received only the role-playing training. Smilansky, incidentally, reports considerable teacher resistance to engaging in these techniques, but found discussions useful in gaining their cooperation.

Results were expressed in terms of percent of the group falling into the categories of (1) no dramatic play; (2) dramatic play; and (3) sociodramatic play. Improvement was defined as movement toward the third category. It was found that the group receiving enrichment experiences alone did not improve and was similar to the control group

after training. The group receiving role-playing training improved significantly, but the group receiving role-playing training plus enrichment experiences improved more.

The results agree with and are similar to those of the present study and add considerable support to the idea that disadvantaged children can be aided in their cognitive development through minimal amounts of adult intervention at kindergarten age without extensive one-to-one remediation in specific areas. Both investigators describe specific methods that have been successful for them and may be adopted by school psychologists, teachers, and other educators in their work with disadvantaged children.

The Smilansky study points up the importance of combining enrichment experiences with training in sociodramatic play and the advantages of using teachers as part of the training procedure to insure a more comprehensive and coordinated approach. The fact that observation and training time for each child was not equated, that only one rater for the same children was utilized, and that only three rating categories were employed does not provide as much basis for confidence in the findings as would be desired. The way in which the data were analyzed does not allow for many comparisons to be made or for finer differentiations or subtleties in the operation of sociodramatic play to be discerned. However, the individualization of training, according to specific need, has many obvious advantages and probably should be adopted in educational usage. For evaluation purposes, it would probably have been better to give equal training time to all subjects even if different elements of

sociodramatic play were stressed with different children. It is unfortunate that the data on change in the component elements of sociodramatic play were not analyzed and presented as part of the results.

Implications for Practicing Psychologists

For the practicing psychologist, the implications of this study are that he can serve a useful function in the area of enhancing the cognitive development of young children, as well as in increasing their positive affective experiences. The findings imply that he can hope to achieve this not by means of one-to-one methods based on deficit models, but by working with teachers of the youngest children to help them develop new techniques similar to those of this study (or Smilansky's) to enhance their ability to engage in some imaginative activities. Psychologists can assist teachers in relating the training situations to the children's interests and experiences and to weave the training naturally into the regular curriculum of the class. In this way, experiential enrichment can be coordinated with imaginative play training as Smilansky (1968) did and found so effective. It would also be part of the psychologist's function to evaluate the effectiveness of different methods of training in terms of later cognitive gains, so that the most efficacious techniques may be identified.

The findings of this study are especially relevant for psychologists who are working in the rapidly growing urban ghettos and experiencing difficulties in finding ways to enhance the cognitive skills of the

disadvantaged child. Psychologists will probably be minimally effective in helping to bring about major social changes in conditions that may be causally related to cognitive deficits in lower class children. This study, however, demonstrates ways in which gains in cognitive development can probably be achieved for large numbers of children through the use of new teaching techniques which psychologists can help teachers to develop for use in the classroom.

Smilansky's (1968) study also points to the benefits of combining the new techniques with experiential enrichment. That experiential enrichment alone is not sufficient to bring significant cognitive gains is suggested by Smilansky's findings and by the fact that this has been the approach employed in ghetto schools and Head Start-type programs without impressive results. Apparently, the children from disadvantaged backgrounds are most lacking in the specific skills through which to express their potential. Traditional approaches of remediation or enrichment experiences in specific areas of academic functioning, as Smilansky points out, may exacerbate one of the major difficulties of disadvantaged children, that of conceptual integration of experience. It is here suggested that training of some fantasy ability is important for such children precisely because it provides the means by which greater conceptual integration of the child's experiences is possible.

Suggestions for Related Research

In order to assess the long-term consequences of enhancing imaginative play, it would seem important to follow up children who

were successfully trained to evaluate their subsequent academic performance in comparison with children who were not trained. The assessment of academic achievement could be carried out at certain intervals in the child's school career by means of the following measures, among others: (1) teacher's ratings of academic and behavioral performance; (2) grades; (3) Metropolitan Reading Test scores; (4) Iowa Tests of Basic Skills (Reading, Math, Study Skills). In this way, we could ascertain if there are cognitive benefits from enhanced fantasy ability and how lasting these benefits may be.

Another important point brought out by Smilansky's study is the use of teachers as trainers in the home classroom. In this method the training may incorporate the children's naturally-occurring play themes and interests and also enrichment experiences can be coordinated with the training in play skills. It might be interesting and enlightening to compare improvement in imaginative play when (1) the training is done by an outside experimenter outside the classroom as in the present study and (2) when the training is done in the regular classroom by the teacher. In this way, it can be determined if the use of the more familiar teacher, the familiar classroom, and the advantage of incorporating the training into naturally-occurring play does actually make a significant difference in the level and quality of imaginative play. In both methods, it would seem that enrichment experiences should be added to the imaginative play training, as Smilansky found that this combination results in greater improvement than the use of play training alone. Hopefully, the growing data on the effectiveness of these

methods will help to gain greater cooperation from teachers and principals, so that more comprehensive approaches are possible.

The development of more discriminating rating instruments (employing more scale units) and the breakdown of imaginative play into components for which sub-scales may also be developed would seem to offer the possibility of increasing our understanding of the complexities of this kind of play. In this way, one could develop methods for the individual play needs of each child where performance on components is not even. More comparative studies between lower and middle class children using sub-scales for different components of imaginative play that may be identified might elucidate the special strengths of the lower class child upon which to build. It is possible that the lower class child's strengths in some components may be masked by the use of overall scales of imaginative play.

In order to increase our understanding of the construct of fantasy predisposition and its relationships with other personality dimensions, it would be useful to conduct studies in which we try to relate measures of fantasy and measures of other personality dimensions about which we have some knowledge. It would be enlightening, for instance, to have a better understanding of the relationship of fantasy predisposition and creativity, as both seem to encompass the elements of originality and the ability to attend to and manipulate mental images.

Lieberman (1964) suggests that spontaneous and original playfulness may be used to predict cognitive style and creativity, defined as divergency of thinking. It is clear, however, that "high" fantasy

persons are not always creative in the sense of productivity. The relationship can be investigated by determining if persons "high" on fantasy measures (Barron Inkblot Test, Rorschach M, etc.) are also "high" on standardized tests of creativity (Guilford Test Battery, Torrance Creativity Test Battery, etc.). It may be that fantasy is related to some components of creativity, but not others. Guilford (1956), a leading researcher in the area of creativity, has identified five traits of creativity: fluence of thinking, flexibility, originality, elaboration, and ability to see problems in novel ways. In Singer's (1961) study, the "high" fantasy children showed more creativity in storytelling than the "low" fantasy children. It is possible that some and not all of the traits Guilford defines may be significantly related to fantasy predisposition. Therefore, measures of these separate traits should be developed and related to fantasy measures to explore their relationship.

It would be useful to determine if changes in imaginative play as the result of training are associated with changes in creative ability, as measured by pre- and posttests of creativity. Children could be followed along through elementary school to determine the correlates of "high" and "low" fantasy predisposition, as originally assessed at the kindergarten level. Possible correlates might be artistic creativity, literary creativity, general academic competence, and other school behaviors which could be appropriately evaluated and related to fantasy measures. Proceeding in this manner, we can increase our understanding of the construct of fantasy predisposition, its operation, and its

relation to other personality variables, and thus develop a nomological network of psychological theory as it relates to this area of human functioning.

CHAPTER V

SUMMARY

The purpose of this study was to determine if it was possible to enhance the ability of lower class kindergarten children to play imaginatively. Imaginative play is conceptualized here as the dimension of fantasy ability that is age-appropriate at kindergarten level, before internalization of role-playing and other fantasy behaviors take place. It was speculated on the basis of Singer's (1966) suggestive findings that fantasy ability at moderate levels can be a useful and constructive cognitive skill and, that to the extent that such ability could be enhanced, there might be some long-term cognitive gains. Since traditional methods of bringing the cognitive development of lower class children up to its potential have not been notably successful, it was thought that perhaps training in fantasy ability might aid in the conceptual integration of experiences, an integration that many authorities have identified as lacking in many lower class children.

The subjects of this study were eighty children in four kindergarten classes of a Special Services school in Central Harlem. They were divided into "high" and "low" fantasy groups on the basis of three measures, the Barron Inkblot Test, Singer's Imaginative Play Interview, and Teacher's Ratings of Imaginativeness. A child was placed in the "high" fantasy group if he was above the mean on at least two out of the three measures, and in the "low" group if he was below the mean on

at least two of the three measures. "High" fantasy boys, "low" fantasy boys, "high" fantasy girls, and "low" fantasy girls were randomly assigned to the experimental and the control groups. The experimental and control groups consisted of forty subjects each, including equal numbers of girls and boys and equal numbers of "high" and "low" fantasy children.

The children were observed during their free-play time by two observers (one of whom did not know to which experimental groups the children had been assigned) for six five-minute segments each, for a total of twelve protocols of behavior per child, over a period of seven weeks. Behavior of each child was recorded in minute detail, including physical movements, facial expressions, play equipment used, verbatim verbalizations and tone of voice.

Following these pre-training observations, the experimental group was then taken to a separate room by the investigator in groups of four children for eight twenty-minute sessions of imaginative play training over a period of one month. These sessions consisted of enacting four different imaginative themes with the children, with role-playing and simulated verbalizations initiated by the investigator. Creative use of play material as story props was also stimulated. The control group children were also taken to a separate room in groups of four children for eight twenty-minute sessions, over a period of one month, of play with wooden jigsaw puzzles and structured building with tinkertoy sets. The investigator assisted the children in their tasks, praised their efforts, and engaged in friendly conversation with them.

Following the training period, the children were again systematically observed in exactly the same manner as they were before training.

Three raters (including the two observers) rated the twelve pre-training and the twelve post-training protocols of behavior for each child on five-point scales of Imaginativeness, Affect, and Concentration. After it was determined that the raters were in essential agreement, the ratings of the three raters were averaged so that each child had one score for Pre-training and Post-training Imaginativeness, Affect, and Concentration. Two by two (Fantasy and Training) analyses of covariance were computed separately for the three dependent variables. The hypotheses that the experimental group would improve more than the control group after training in Imaginativeness, Affect, and Concentration were supported. The hypothesis that the "high" fantasy group would improve more than the "low" fantasy group after training was supported for Imaginativeness and Concentration, but not for the factor of Affect.

After the main part of this investigation was completed, six extremely "low" fantasy children were selected, as well as six extremely "high" (relative to the group) fantasy children on the basis of their scores on the Barron Inkblot Test, the Imaginative Play Interview, Teacher's Rating of Imaginativeness, and pre-training score of imaginative play. The parents of these twelve children were interviewed by the investigator in an attempt to identify some familial factors associated with "high" and "low" fantasy predisposition. The most striking differences found were that the "high" fantasy children had many fewer siblings than the "low" fantasy children, the "high" group parents had

more education than the "low" group parents, the "high" group children had a much greater preference for imaginative-type games than the "low" group, and the "high" group parents had more encouraging and tolerant attitudes toward imaginativeness than the "low" group parents. The hypothesis that parents of children with "high" fantasy predisposition would spend more time with their child, have more playful and imaginative interactions with him, and more encouraging and tolerant attitudes toward imaginativeness than parents of "low" fantasy children was supported except for the factor of more time spent with the child.

In conclusion, it may be said that, with eight twenty-minute sessions of training over one month's time in imaginative play, the majority of the children played more imaginatively, with more positive affect, and with a greater degree of concentration. While it is not possible to say what long-term cognitive gains may result from this training without follow-up studies, it can be said that the post-training imaginative play of the experimental group included longer sequences of behavior, more complex and discriminating use of language, more originality, increased attention to detail, more labeling, and more sensitive responding to the cues of others. To the extent that these changes are maintained, there seems good reason to expect that the children who played more imaginatively would exhibit a higher level of cognitive functioning in their ensuing academic performances. It would also seem that the longer sequences of imaginative role-playing behavior would, by their very nature, involve more complex schema requiring more retention of material to be shifted from short-term memory than motoric

or kaleidoscopic play which is more dependent on external cues. The qualitative impressions clearly suggest that the children who learned to play more imaginatively were able to engage in activities which required greater conceptual integration of their experiences than the kind of play in which they formerly engaged.

The implications of this study for psychologists working in the area of the cognitive development of disadvantaged children is that, without major environmental changes or intensive one-to-one remediation, significant changes can be brought about in children's cognitive skills in a relatively short time by techniques which teachers can be trained to employ as part of their regular curriculum. The task of the psychologist here would include the training of teachers in these techniques and the evaluation of their effectiveness in terms of later academic performance.

APPENDIX A

EXAMPLES OF PROTOCOLS OF THE SAME CHILD RECORDED SIMULTANEOUSLY TO ESTABLISH INTER-OBSERVER RELIABILITY

Pre-training Protocol of
Child A. H. by Observer A

S is sitting in a chair at a table near the door. She stretches her arms over her head and backwards. S crosses her legs and looks curiously about the room. She looks like she is talking to herself, moving her mouth, but the sounds are inaudible. She jumps up quickly and marches across the room, with her chest thrust outward, with large, almost marching steps, and her arms swinging back and forth. When the teacher calls out, "Where's Brian?" she calls out "He went for the milk." She has a loud clear voice. She walks around the room stopping to look at other children and asks several times of various children, "Whatcha doing?" She laughs and smiles fairly frequently. She makes some clowning faces. She walks over to the pile of plastic animals and looks them over. She picks up an elephant and a horse and pushes them together as though they were kissing. She shakes her head and smiles. "You kiss each other, you love each other, now come on." Then she holds the elephant in her two hands and says to a girl, "This elephant is your husband, you love her." Then she throws the elephant back to the pile and jumps up giggling. Her whole body is in motion. She turns to the girl next to her and says, "You something else." She picks up a toy from

the floor and says, "You're broken, just have to throw you away." She throws it on the bottom shelf. She walks over to the house corner and puts on a pair of high heels and prances around the room with her chest thrust out and her hands on her hips.

Pre-training Protocol of
Child A. H. by Observer B

This child immediately begins to move around in her chair, stretches her arms over the back of the chair, corsses her legs and then turns her head in various directions looking at all aspects of the room. She makes a few motions with her mouth, but not making sounds, but acting as if she was making sounds. Her whole body moves quickly and agilely. She is somewhat taller and more sturdily built than most of the other children in the room. She marches across the room, making large steps, swinging her arms actively and with great gusto. Whenever questions were asked to the class by the teacher, she peels out the answer in a strong clear voice. During the entire period she smiled rather frequently. Often she opens her eyes wide and eagerly and she reacts to practically everything happening in the room, frequently asking other children how they are doing or what they are doing. She takes a gray molded elephand and a black horse and pushes their faces together, saying with a brisk shaking back and forth of her head, "Now you kiss each other, you love each other, now come on, come on, there." Then she took the elephant and turned to her friend saying, "This elephant is your husband, and you love her." She then gets up swinging her arms back and forth, shaking her head and says to the same little

girl, "You something else, you just something else." She picks up one of the broken wooden toys from the floor and says, "You broken, I just have to throw you away." She gets up and puts on some high heeled shoes in the doll corner and swishes back and forth across the room with her hands on her hips.

Post-training Protocol of
Child J. G. by Observer A

S gets up from her seat by the window with a pleasant little smile on her face and walks over to a group of girls at the housekeeping table. "Come on," she says, holding the other girl's hand and attempting to pull her up. "Let's play house," she says with a smile. She puts on an apron and has a sweet, pleased expression on her face as she ties the apron strings. Then she puts on a necklace from a box that is on the shelf of the housekeeping area. She walks over to the mirror and looks at herself for several moments and smiles broadly. "I'm the mother," she announces brightly. She takes a piece of material from a box on the shelf and says, "Let's make believe this a table cloth," as she spreads it out on the table and smooths it out carefully. She takes a pile of plates from the sink and puts them around on the table. "Let's have dinner now," she suggests to the other girl, beginning to put some cups at each plate. Then she takes some small wooden blocks and puts a few on each plate and says, "Let's make believe this is the food." She sits down and pretends to be putting the blocks (food) in her mouth and she makes chewing motions with her mouth. She has a big smile on her face.

Post-training Protocol of
Child J. G. by Observer B

This little girl is walking across the room with a pleasant look on her face. She goes over to the house area and stands near the kitchen table. Then she takes hold of another little girl's hand and pulls her up from the chair. "Come on, let's play house," she says eagerly to the girl as she puts on an apron. She then goes over to the shelf and takes out a jewelry box and pulls a red beaded necklace from it and replaces the box on the shelf. She puts the beads around her neck, still smiling contentedly. She walks quickly over to the mirror on the wall and looks at herself with a big admiring smile. "I'm the mother," she tells the other children with obvious enjoyment in her voice. Then she picks up a piece of cloth from the shelf and puts it on the table. "Let's make believe this a table cloth," she says to the others, as she straightens out the cloth. She begins to get some plates from the drainer part of the sink and places them on the table. She also gets some cups from the cupboard and places them on the table. She says with some enthusiasm, "Let's have dinner now." She goes to a pail on the shelf and takes some very small wooden blocks in her hands and places some blocks on each plate on the table. "Let's make believe this the food," she says as she sits down. She puts a block to her mouth and pretends to chew on it as though it were some food. She is smiling and obviously enjoying her pretense.

APPENDIX B

DETAILED DESCRIPTIONS OF THE FOUR THEMES USED IN IMAGINATIVE TRAINING

1. The Boat Story

"Now today we are going to play a game about boats. Now where do boats go?" (water) "That's right and since we don't have any real water here, we are going to make believe that this big blue piece of material is the water. Now I'll put it down on the table and I want everyone to help me make the waves." (Demonstrate how to make ripples and encourage children to do so, then praise them.) "Now we don't have any real boats, so we have to make believe about that too. I'm going to use this block as my own boat and each of you can pick anything from that pile to use as your boat. Anything is OK to use, it's up to you, use your imagination. Now put your boats in the water and make them go. Come on, let's hear those motors. BRRRRRRRRR." (Encourage them to make motor sounds and praise.) "Now let's make a bridge and I want all of you to help." (Help children select various types of blocks and wooden shapes to make the bridge.) "And now let's make some big rocks, like the ones you saw on your trip on the Hudson River, along the side of the water. What shall we use for the rocks. I think I'll make some rocks out of clay. You make some rocks, using anything you want to. Don't you think we should have some sailors on the boats?" (yes) "OK, I'm going to use this pipe cleaner to make a sailor man for my boat. You

can use pipe cleaners or anything." (Help the children to make pipe cleaner men.) "Now put your sailors on the boats and now let's hear those motors." (I take my boat up close to another boat and begin to talk in a deep voice as if to the sailor on that boat.) "Hello, sailor, where you going on your boat. The water is rough today. I think there is going to be a big storm." (I would do this with each child and they would invariably change their voices and answer.) "Listen to that wind howling. WHOOOOOO." (Encourage all the children to make the wind sounds and rock the boats from side to side.) (Then I would make my sailor man fall off the boat into the water, make splashing sounds and then cries for help in a deep voice.) (The children would make their boats come over and I would encourage the motor sounds.) "Help me, help me, I'm drowning, the storm knocked over my boat." (The children would be encouraged to offer help and to talk in simulated deep voices.) (One boat was dispatched to get some medicine and a doctor and another was asked to throw me a rope. The child was encouraged to select something for a pretend rope. When the sailor was rescued by the rope, he thanked the others and they made variable conversations with the sailor in deep voices.) "I think my motor is broken and I want all the sailors to help me pull in my boat before the storm throws it against the rocks." (I make wind and splashing sounds and encourage the children to take string or pipe cleaners as ropes to help rescue the boat. The pretend ropes are thrown out to the sailorless boat, the wind and water sounds are continued, the children pretend their boats are pulling in the broken one with the ropes, busily making

their motor sounds. There is variable conversation as being sailors, in deep voices about the close call, the bad storm, taking the sailor who fell in the water to the doctor, etc. which is engaged in and encouraged by the experimenter. After the sailor is taken back to the shore, they are encouraged to go for rides on their boats, making appropriate noises, making their boats rock from side to side. They invariably took up from there themselves, inventing places to ride to and enacting collisions with each other, each time engaging in simulated conversations and supplying appropriate sound effects.)

2. The Family Story

"Today, we are going to have a make-believe game about a family, with a mother, a father and some children (number depending on number of children in the group). I will make believe I am the mother, who wants to be the father, the brother, the sister, etc." While speaking, I am making people out of pipe cleaners. "We can make our people from pipe cleaners or any other material you see on the table." (Each child is given a pipe cleaner doll unless he selects to form one out of clay.) "Now the mother is cooking dinner; what can we use for the stove? _____, you pick something out for us to use as a stove since we don't have a real one here. And _____ you find something that we can make believe is a table, and chairs. Who wants to find a make believe tablecloth and dishes." Putting very small wooden objects on the "table," I say, "This is the hamburgers, this is the potatoes, this is the milk, etc." I place the mother doll (pipe cleaner) between the stove and the

table and in a simulated voice call everyone to dinner and encourage the children to sit their dolls down on the "chairs." Then I as mother ask the father how his work was today and encourage the child pretending to be the father to reply in a deep voice. Then the mother asks the children about school and they reply in somewhat changed voices with made-up events from school. Then the mother says she has a surprise and maintaining their roles and appropriate voices, the father and children ask what it is. The mother says there is going to be a new baby soon and the children in their children and father role ask when it is coming and a conversation about what to name the baby is started by the mother. Each child is encouraged to stay in his role and maintain his particular voice. The mother pretends she is eating food. (E makes the doll lift little blocks to its mouth and make eating noises, saying how good the food is. The children are encouraged to have their own dolls eat and make the associated noises and comments.) After each doll has said he is finished eating the mother tells the children to wash their hands and faces and a make-believe sink (block) is placed next to the stove. The children are encouraged as they continue to maintain their roles and talk in the appropriate manner. Then the mother suggests that they call Grandma to tell her the news about the new baby. The children are asked what we should use as a make-believe telephone since we don't have a real one. The group selects usually a pole-like block for the telephone and first the mother pretends to talk and E also simulates another voice for Grandma. Each family member, father and each child talks to Grandma saying variable things in his own particular voice about the new

baby that is coming soon and E talks for Grandma. After this mother asks the children to help put the dishes from the table into the sink and the children have the pipe cleaner dolls carry over the thin wooden circles to the pretend sink. Then mother tells the children to go off to do their homework and asks the father to put on the TV set. Wooden objects are selected by the children for the TV set and couch. Some final variable comments are made by the children and father at the end of this family game.

3. The School Story

"Today, we are going to have a make-believe story about school. Let's all pick out what we want to use as the teacher's desk, the children's desks, and the chairs. What do you want to use to make our make-believe people?" The teacher and some children (according to the number in the group) are made from clay or pipe cleaners as each child decides. E plays the teacher and changes her voice, asking the children questions, such as "What letter comes after B, what number comes after 6, what month is this, etc.?" Each child holds his make-believe pupil on a chair and answers for him or her with an altered voice. Then the teacher asks the children what games or activities each one would like to do for the afternoon. Each child makes his pupil doll stand up and tell what he or she would like to do, like painting with sponges, etc., or making a collage and what colors he wants to use and why he likes this activity. Then the teacher doll asks each child to tell about his family, how many brothers and sisters he has and what kind of work his

mother or father do and they are encouraged to make up make-believe families for their dolls and to use changed voices. Then the teacher tells them that they are going to talk about the trip to the zoo that they went on yesterday. (This is made up.) Each child gets a turn to talk about what animals he liked best and the teacher tells each child that it just so happens that that animal (an elephant, for instance) has come to visit the class. The group decides on how to make a make-believe elephant (usually it was clay, but sometimes blocks or pipe cleaners). The child is encouraged to pretend now that he or she is the animal and to make the sounds of the animal and do some of the things such an animal would do. Sometimes the children would make the animal walk, give rides to the children, do tricks like roll over and even sing. Each child had a turn at pretending to be an animal, and to make its sounds and make it do certain activities. Then the teacher would ask the children in her simulated voice to tell which animal was the funniest and the children in their simulated voices would talk about the antics of the animals. Then the teacher would make a bell sound and tell the children that school was over and that they should get their coats. Each child was encouraged to pick a piece of material as a pretend jacket or coat and then the teacher made the sounds of opening the classroom door and then said goodbye to the children one by one, with the made-up name each child had picked for himself. The children usually made some variable final comments in their role and simulated voices as they had their dolls leave the classroom.

4. The Magic Genie Story

"Now, tell me, who has heard about the Magic Genie, who can do very special tricks, can do anything at all, as a matter of fact? Well, first I will have to make a Magic Genie; what should I use?" The Genie would be made of whatever the group decided and the children were asked to pick some material for her cape and then a pipe cleaner was put in her hand as the magic wand. Each child was given a turn at being the Magic Genie and was encouraged to use a simulated voice. "Now let us see what tricks this Magic Genie can do. I heard that she can change frankfurters into apples, can you imagine that? Now what can we use to be a frankfurter?" (Usually clay was suggested and E rolled the clay into a frankfurter-shaped piece.) "Now Genie you have to wave your wand over the top of the frankfurter and say 'Abracadabra, change this frank into an apple.' Oh, you didn't say it loud enough. Come on, everyone help the Genie say the magic words louder and everyone close their eyes. When you open your eyes you will see an apple." E replaces the frank with an apple (a round red ball of clay) while the children have their eyes closed. The next child gets a turn at being Genie. "This time the Genie will make someone disappear. Let's make a make-believe person who can disappear." The children make a person out of clay or pipe cleaner and E holds it in front of the Genie and the child says in a simulated voice 'Abracadabra, make this person disappear' and then E says "Oh, you have to say it much louder and close your eyes." While the eyes are closed, E takes away the person. E asks each Genie, "How on earth did you do that?" The next child gets

a turn to make the Genie ride on a Magic Carpet. The group selects a piece of material for the Magic Carpet and the Genie continues to say "Abracadabra" and E tells the child to put the Genie on the carpet and make her fly through the air. All the children and E make swishing, flying sounds. Then E says it is her turn to be the Magic Genie and a simple trick is done with small paper cups. The children are asked to put beans under the cups and E switches them around quickly so that they are never under the same cup where they had been placed. E plays the role of Genie, using a simulated voice and saying the Magic words before the beans disappear. Each child has at least one turn to be Genie and make anything he wants to change or disappear, each time selecting the material to serve as the disappearing object or person.

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